TIBCO® Workspace User's Guide

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Two-Second Advantage®

Important Information

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TIBCO Documentation and Support Services

Documentation for this and other TIBCO products is available on the TIBCO Documentation site. This site is updated more frequently than any documentation that might be included with the product. To ensure that you are accessing the latest available help topics, visit:

https://docs.tibco.com

Product-Specific Documentation

Documentation for TIBCO products is not bundled with the software. Instead, it is available on the TIBCO Documentation site. To directly access documentation for this product, double-click the following file:

TIBCO_HOME/release_notes/TIB_amx-bpm_*version*_docinfo.html

where *TIBCO_HOME* is the top-level directory in which TIBCO products are installed. On Windows, the default *TIBCO_HOME* is `C:\tibco`. On UNIX systems, the default *TIBCO_HOME* is `/opt/tibco`.

The following documents for this product can be found on the TIBCO Documentation site:

- TIBCO ActiveMatrix BPM SOA Concepts
- TIBCO ActiveMatrix BPM Concepts
- TIBCO ActiveMatrix BPM Developer's Guide
- TIBCO ActiveMatrix BPM Web Client Developer's Guide
- TIBCO ActiveMatrix BPM Tutorials
- TIBCO ActiveMatrix BPM Business Data Services Developer Guide
- TIBCO ActiveMatrix BPM Case Data User Guide
- TIBCO ActiveMatrix BPM Event Collector Schema Reference
- TIBCO ActiveMatrix BPM - Integration with Content Management Systems
- TIBCO ActiveMatrix BPM SOA Composite Development
- TIBCO ActiveMatrix BPM Java Component Development
- TIBCO ActiveMatrix BPM Mediation Component Development
- TIBCO ActiveMatrix BPM Mediation API Reference
- TIBCO ActiveMatrix BPM WebApp Component Development
- TIBCO ActiveMatrix BPM Administration
- TIBCO ActiveMatrix BPM Performance Tuning Guide
- TIBCO ActiveMatrix BPM SOA Administration
- TIBCO ActiveMatrix BPM SOA Administration Tutorials
- TIBCO ActiveMatrix BPM SOA Development Tutorials
- TIBCO ActiveMatrix BPM Client Application Management Guide
- TIBCO ActiveMatrix BPM Client Application Developer's Guide
- TIBCO Openspace User's Guide
- TIBCO Openspace Customization Guide
- TIBCO ActiveMatrix BPM Organization Browser User's Guide (Openspace)
- TIBCO ActiveMatrix BPM Organization Browser User's Guide (Workspace)

- TIBCO ActiveMatrix BPM Spotfire Visualizations
- TIBCO Workspace User's Guide
- TIBCO Workspace Configuration and Customization
- TIBCO Workspace Components Developer Guide
- TIBCO ActiveMatrix BPM Troubleshooting Guide
- TIBCO ActiveMatrix BPM Deployment
- TIBCO ActiveMatrix BPM Hawk Plug-in User's Guide
- TIBCO ActiveMatrix BPM Installation: Developer Server
- TIBCO ActiveMatrix BPM Installation and Configuration
- TIBCO ActiveMatrix BPM Log Viewer
- TIBCO ActiveMatrix BPM Single Sign-On
- Using TIBCO JasperReports for ActiveMatrix BPM

How to Contact TIBCO Support

For comments or problems with this manual or the software it addresses, contact TIBCO Support:

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:

  http://www.tibco.com/services/support

- If you already have a valid maintenance or support contract, visit this site:

  https://support.tibco.com

  Entry to this site requires a user name and password. If you do not have a user name, you can request one.

How to Join TIBCO Community

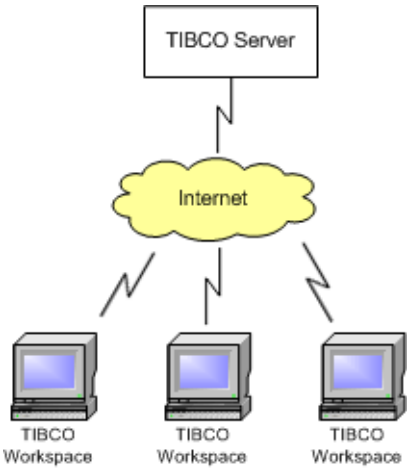
TIBCO Community is an online destination for TIBCO customers, partners, and resident experts. It is a place to share and access the collective experience of the TIBCO community. TIBCO Community offers forums, blogs, and access to a variety of resources. To register, go to the following web address:

https://community.tibco.com

Introduction

TIBCO® Workspace (simply called “Workspace” throughout the documentation) is a Business Process Management (BPM) application that runs over the internet or an intranet.

To run Workspace, you start an Internet browser, then enter a web address that points to the Workspace application.



Workspace interacts with a server to authenticate you (log in) so that you can access the information needed to perform your job. (Descriptions of the server is beyond the scope of this document.)

As a BPM application, Workspace is used to manage your business processes. It allows you to perform the following types of functions:

- View your “work items”. Each work item represents of some sort of function you are responsible for performing. This could consist of things like filling out a form, reviewing information, approving/denying an application, etc. It depends on the design of your application.
  - Your work item list may contain work items that were sent specifically to you. These work items are flagged in the list as “allocated” so that you know they have been allocated specifically to you.
  - Or your work item list may contain work items sent to a “group” of users of which you are a member — all members of the group (for example, “loan reviewer” group) receive the work item in their work item list, and any of the members can work on that work item. These work items are flagged in the list as “offered” so that you know they have been offered to all users in the group.
- Apply filter and/or sort parameters so that only the desired work items are listed in the desired order in your work list (inbox).
- Open individual work items.
- Enter information into forms that are displayed when you open a work item.
- Start a business service.
- View instances of processes that are started by business services.

While these are the primary functions you’ll be performing, there are many additional functions that can be performed with Workspace. These are described in the remainder of this document.

Each company that uses Workspace will customize it to fit their specific needs. Each company defines their own business processes, based on the industry they are in. For instance, one company may have a business process for processing an auto loan, whereas another company amy design one for processing an insurance claim.

Understanding a Business Process

At the heart of Workspace is the "process", which defines the flow of information in your application. Processes are defined with a TIBCO tool called **TIBCO Business Studio™**.

A process consists of a number of "tasks," including manual tasks (which require user action), automatic tasks (which are executed automatically by the server), and conditional tasks, as knows as "gateways" (which branch based on the result of a condition).

An example of a very simple process is shown below.

Someone using Workspace starts an "instance" of a process, which typically causes a form to be displayed, onto which the user enters information. For example, if the process defines the processing of a loan application, the first screen may involve entering demographic information for the applicant. The next task might involve another person reviewing the application — the process would be defined such that the information entered in the application screen is automatically sent to the person(s) responsible for reviewing it. The application will progress through the tasks of the process until it is completed.

The following table provides definitions of terms that are used throughout this document and in your Workspace.

Term	Description
Process	Represents the definition of a business process, which ensures that information flows in a consistent and timely manner through the system. A process is defined using TIBCO Business Studio. An example is shown in the illustration above. Workspace displays a list of all available processes. When you select a process from the list, Workspace displays another list of the instances of that process that had been started in the past.
Process instance	A process instance is created when a process is "started," and remains in existence until that instance of the process is purged from the system. As mentioned above, when you select a process from the list, Workspace displays a list of the instances of that process that had been started in the past. Process instances are typically started when you start a "business service". A business service is a set of actions that accomplishes some sort of business function. For example, a business service could be designed to handle an incoming insurance claim.
Inbox	This is analogous to an Inbox in an email program. It contains work items (see below) that you can open and work on. You can also create additional "views" of your Inbox, which are your Inbox filtered and/or sorted in a different way. Each view contains a subset of the work items in your Inbox.

Term	Description
Work Item	A work item represents an action item. It relates to a task in an active process instance. A user manages the work items in their work list by performing some sort of action upon them, such as entering data on a form, forwarding the item to another user or group, saving it and placing it back in the work list for further action at a later time, or by "submitting" it (completing the required action and sending it on to the next task in the process). Workspace displays a list of all work items that have been allocated specifically to you, or offered to you because you are a member of the group to which the work item was sent. These work items are listed in your Inbox (see above).

You may not necessarily need to understand the entire structure of the process(es) you are working on. Generally, users are focused on performing some sort of work on the work items that appear in their Inbox. The type of work you perform will depend on the type of business you are in and how your process was designed.

The Workspace Screen Layout

Workspace provides a number of layout options, allowing you to choose the orientation and location of components on the screen.

The layout options are as follows:

- **Side-by-side** - All lists are docked on the left and the right, and the view selection buttons are displayed in the lower left part of the screen.

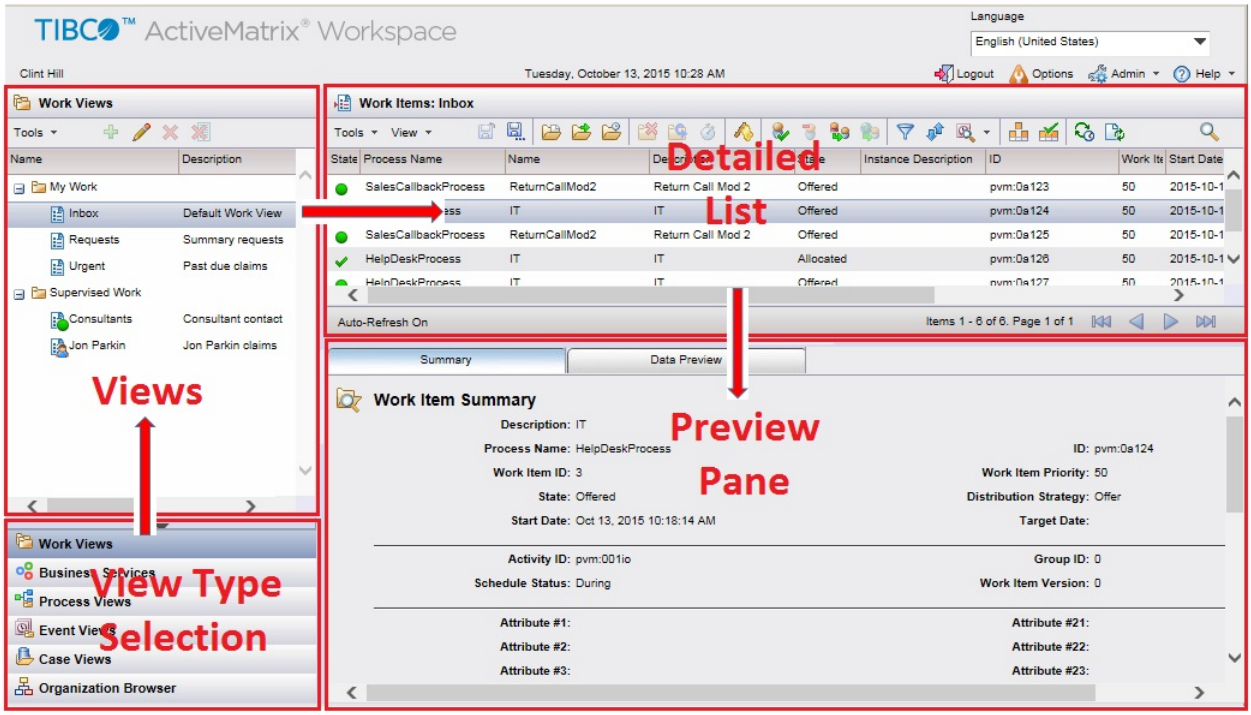
- **Stacked** - All views are displayed on the top of the screen, as tabs, and work item, process instance, and business service lists are displayed on the bottom part of the screen.

- **Floating** - All lists are displayed as floating windows. For each floating window, a button is displayed in the task bar, which when clicked, brings the corresponding window to the front.

Note that the side-by-side layout is the default when Workspace is first started. Therefore, throughout this document, the side-by-side layout is shown when describing the functions in the application.

Screen layout is modified using *user options*. For information about this user option, see Layout.

Using the side-by-side layout option, the following illustrates the primary sections of the Workspace screen:



These sections are described below.

- The **View Type Selection** section contains **Work Views**, **Process Views**, **Case Views,** and **Event Views** buttons that, when clicked, display your personalized *views* (see below) for that type of item in the **Views** section.

  Note that this section also contains two buttons that present "view-like" displays, although that are not technically *views* in the sense that you cannot create custom views of these. They are:

  – **Business Services**: This button presents a file/directory-like display of the business services available to you. For more information, see Accessing Workspace.

  – **Organization Browser**: This button displays a graphical representation of the organization model for the purpose of mapping resources to groups and positions that are available in the organization model. For more information, see the *Organization Browser User's Guide*. (Note that the Organization Browser is inaccessible by default — the appropriate user access control must be enabled for the **Organization Browser** button to appear. For more information, see Accessing the Organization Browser).

- The **Views** section contains one or more *views* of the following types:

  – **Work Views** - When you click a work view, the work items in that view are displayed in the **Details List**. You will always have one view named "Inbox". You can create additional views that list work items filtered and/or sorted in different ways.

  – **Process Views** - When you click a process view, the process instances in that view are listed in the **Details List**.

  Note that by default there are no process views shown. You must create a process view using the provided wizard.

  – **Event Views** - When you click an event view, the list of events stored in that view is displayed.

  – **Case Views** - When you click a case view, the list of case views that have been created is displayed.

  Note that if the **Business Services** button is clicked in the View Type Selection area, the Views area will contain a list of the business services that are available. Technically, this list is not a

view, although it is displayed in the same area as other views. For more information, see Accessing Workspace.

If the **Organization Browser** button is clicked in the View Type Selection area, the Views area will contain a graphical representation of the organization model for the purpose of mapping resources to groups and positions that are available in the organization model. For more information, see the *Organization Browser User's Guide.*

For more information about using and creating views, see Views.

- The **Detailed List** section shows lists of individual work items, process instances, or events, depending on the type of view you had selected. You can select one of the individual work items or process instances in the list to perform some sort of function or view information about it.

  For information about working with each of the types of items that can appear in the **Detailed List** section, see the following:

  – Accessing Workspace
  – Work Items
  – Process Instances

- The **Preview Pane** is an area of the screen in which either summary or detail information is displayed, depending on what you are viewing and how you selected it.

  The preview pane can be turned on or off, as desired. For more information, see Using the Column Selector.

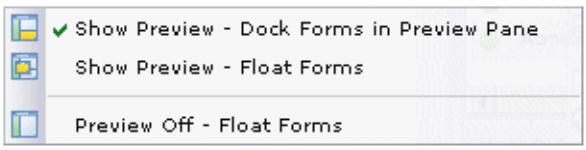
The Preview Pane

The preview pane is the lower right area of the screen, in which you can display summary information about work items or process instances that you have selected in their respective lists. Work item forms can also be opened in the preview pane rather than in a floating window.

Default preview pane settings for both the work item and process instance lists are available in *user options*. The default settings specify in user options are the initial preview settings on all work item and process instance lists until it is changed for a specific list via the procedure described in this section. Once a preview setting is specified for a specific list, that setting is persisted for that list. All other lists will continue to use the default setting in user options until their preview setting is changed using the procedure described in this section.

To change the preview setting for the currently displayed list, select **Preview** from the **View** menu on either the work item list or process instance list. One of the menus shown below is displayed:

Preview menu from the work item list:



Preview menu from the process instance list:

The preview pane options are as follows:

- **Show Preview - Dock Forms/Details in Preview Pane**: When you *select* (single-click) a work item or process instance in their respective list, the work item or process instance summary is displayed in the preview pane.

  When you *open* (double-click) a work item or process instance, the work item form or process instance details are displayed in the preview pane, replacing the summary information.

- **Show Preview - Float Forms/Details**: When you *select* (single-click) a work item or process instance in their respective list, the work item or process instance summary is displayed in the preview pane.

  When you *open* (double-click) a work item or process instance, the work item form or process instance details are displayed in a floating window.

- **Preview Off - Float Forms/Details**: When the preview pane is turned off, single-clicking a work item or process instance in their respective lists has no effect.

  When you *open* (double-click) a work item or process instance, the work item form or process instance details are displayed in a floating window.

Selections you make on the **Preview** menu are applied only to the currently displayed list, and they are persisted for that specific list. Note that persisted settings are saved on the server, so if you log onto a different machine, those settings will be in effect on that machine also.

Resizing the Preview Pane

You can specify that the preview pane automatically resize when you open a work item or a process instance. For instance, you may want the process instance details to open so that the preview pane encompasses 80% of the right side of the dialog. It will then revert to its original size when you close the work item or process instance.

To configure the preview pane to automatically resize, see Work Item Preview and Appearance Options for work item lists and process instance lists, respectively.

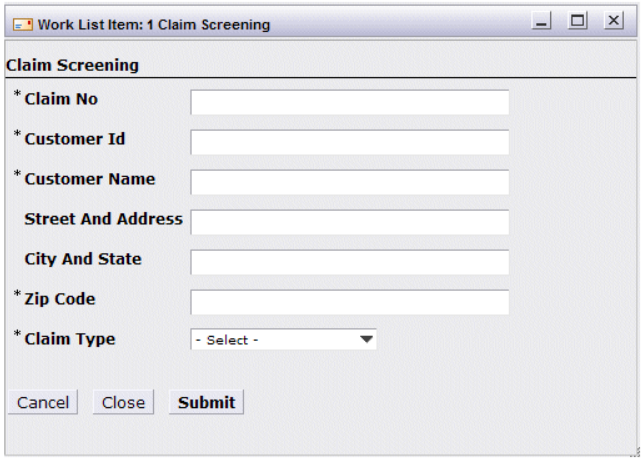
Floating Windows

If you are choosing to display the work item form in a floating window, the floating window may be either a **dialog** or a **separate browser window**, depending on the setting of a *user option* for the logged-in user.

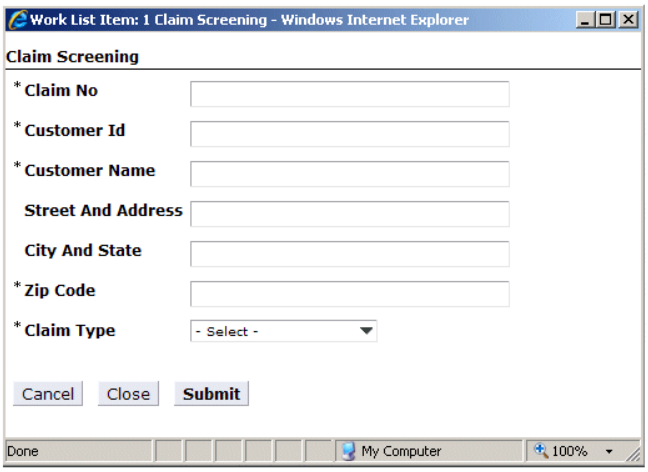
For more information, see Work Item Forms.

The following shows you the general differences in appearance between a dialog and a separate browser window. Note, however, that there are configuration settings available to the system administrator that allows some customization of separate browser windows, such as whether the window is resizable, whether a status line is shown in the window, etc. Therefore, if you are displaying work item forms in separate browser windows, they may appear somewhat different then what is shown below.

Work Item Form in a Dialog:



Work Item Form in a Separate Browser Window:



If you are choosing to display process instance details in a floating window, the floating window will always be a dialog — process instance details cannot be displayed in a separate browser window.

If Workspace is configured to open work item forms in a separate browser window, but a pop-up blocker or an error condition prevents the window from opening, the form will instead automatically be opened in a dialog.

Moving a Floating Window

You can move a floating window around the screen by placing the cursor in the window's header bar, then clicking and holding the left mouse button while moving the window to the desired location.

Resizing a Floating Window

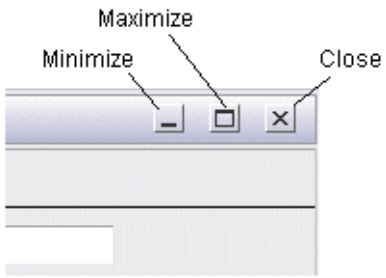
Floating windows provide the following methods of resizing the window.

- **Minimize Toggle** - Clicking this button causes the window to *minimize* — the window is removed from the screen, and a button representing the window appears on the task bar.

Note, however, if you are displaying a dialog, the button representing the window appears in the task bar of the Workspace; if you are displaying a separate browser window, the button appears in the main task bar of your computer.

Click the button on the task bar to cause the window to reappear.

- **Maximize Toggle** - Clicking this button toggles between the window expanding to cover the entire screen, and collapsing to its original size.



Note that the "x" button in the upper-right corner of the floating window is a "close" button.

  - If you are displaying a work item form in a floating window, **do not** close the window using this button — the window will close, but the work item will remain open (and locked), requiring you to use the **Cancel Work Item** function to close it, which will result is a loss of data that had been entered on the form (see Canceling Changes).

    Work item forms should be closed using the buttons provided on the form.

  - If you are displaying process instance details in a floating window, closing the window using the "x" button is acceptable.

- **Dragging to Desired Size** - You can resize a floating window by placing the cursor in the lower right corner of the floating window, pressing and holding the left mouse button, then moving the mouse to resize the window to the desired size. (Note - If you are displaying floating windows in separate browser windows, you may be unable to do this, depending on a configuration setting.)

Lists

Much of the information you work with in Workspace is displayed in lists of various sorts — work item lists, process instance lists, event lists, etc.

There are a number of common functions available from these lists that are described below:

- Selecting items in a list — see Selecting Items in a List
- Refreshing information in a list — see Refreshing Information in a List
- Customizing columns in a list — see Customizing Columns in a List
- Number of items in a list — Number of Items in a List
- List page size — List Page Size

Selecting Items in a List

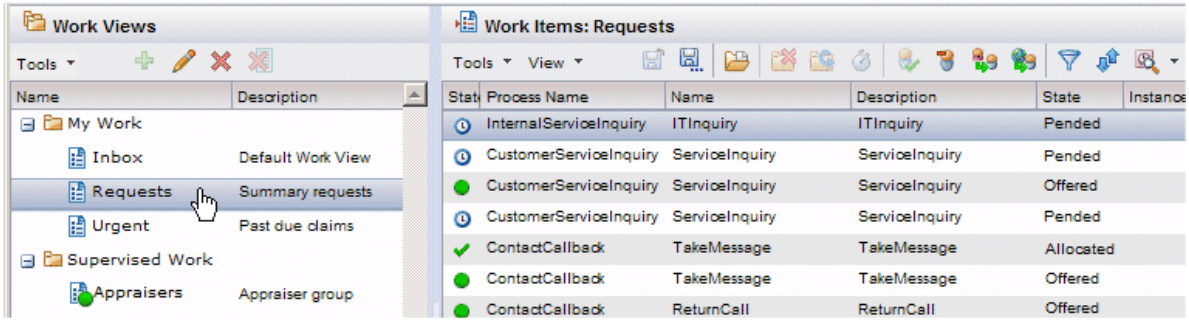
The way in which you select items in a list depends on the type of list you are viewing.

Views List

In the lists of views, you can only select one view at a time. To select a view:

- Click the desired line with the cursor, or
- use the keyboard up/down arrow keys to move the highlight up or down to select the desired item.

Selecting a view causes the work items, process instances, or events that are in that view to be displayed in the **Detailed List** section to the right.



Work Item Lists and Process Instance Lists

The effect of selecting an item from the work item or process instance list depends on whether or not the preview feature is turned on (see Using the Column Selector):

- If preview is turned off, selecting an item from the work item or process instance list has no effect.
- If preview is turned on:
  - selecting a work item from the work item list causes the work item summary to be displayed in the preview pane section.
  - selecting a process instance from the process instance list causes the process instance summary to be displayed in the preview pane section.

Event Lists

Only a single event can be selected at one time in an event list. Selecting an event causes the attributes pertaining to that event to be displayed in the lower right pane.

Case View Lists

Selecting a case view causes a list of the case references that satisfy the filter criteria for the case view to be displayed in the upper-right pane.

Only a single case view can be selected at one time.

Selecting a Single Item

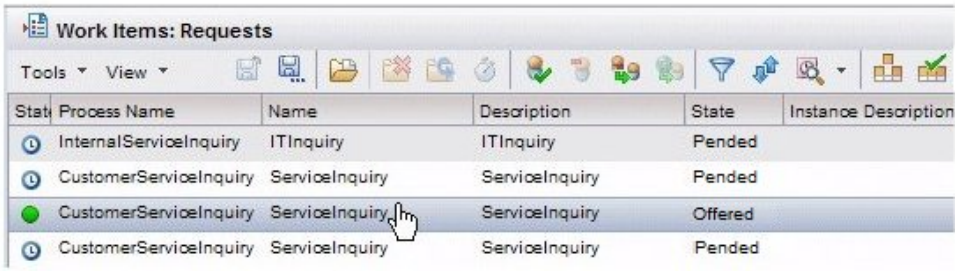
For many functions, you will select a single item in a list.

To select a single item in a list, either:

- click the desired line with the cursor, or
- use the keyboard up/down arrow keys to move the highlight up or down to the desired item.

The selected item is shown in a different color than the rest of the items in the list:

Note that double-clicking an item on a work item or process instance list *opens* that item. When you open a work item, the work item form is displayed. When you open a process instance, the process instance details are displayed in a tabbed window.



For more information about working with work items and process instances, see Work Items and Process Instances, respectively.

Selecting Multiple Items

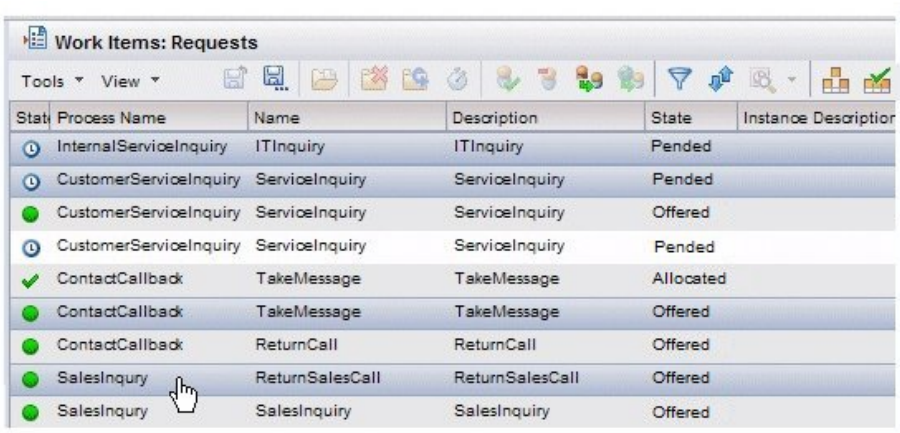
You can also select multiple items at one time on the work item and process instance lists, as some of the functions available from these lists can be applied to more than one item at a time (e.g., Open Selected Work Item(s)).

Note, however, if you select multiple items in a work item list or process instance list, and have the preview feature turned on, the preview pane will show the summary information only for the last work item / process instance selected.

You cannot select multiple views. Each view must be looked at individually.

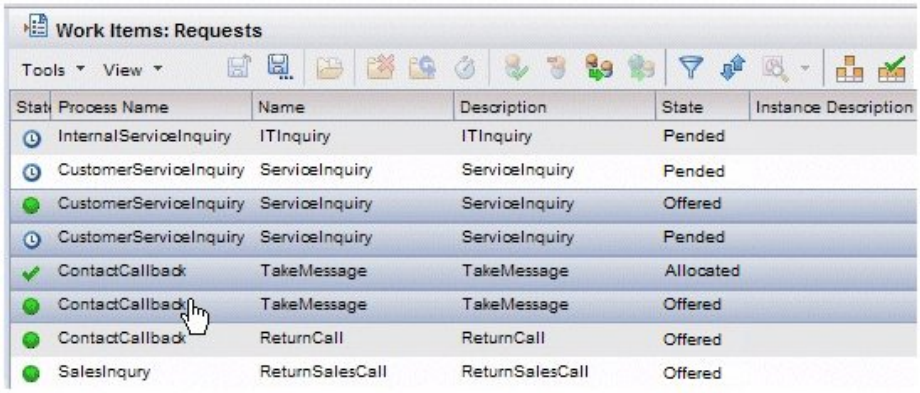
To select multiple items that are not grouped together:

- Select one of the desired items, press and hold the **Ctrl** key, then click the other desired items. All selected items are shown in a different color than the rest of the items in the list.

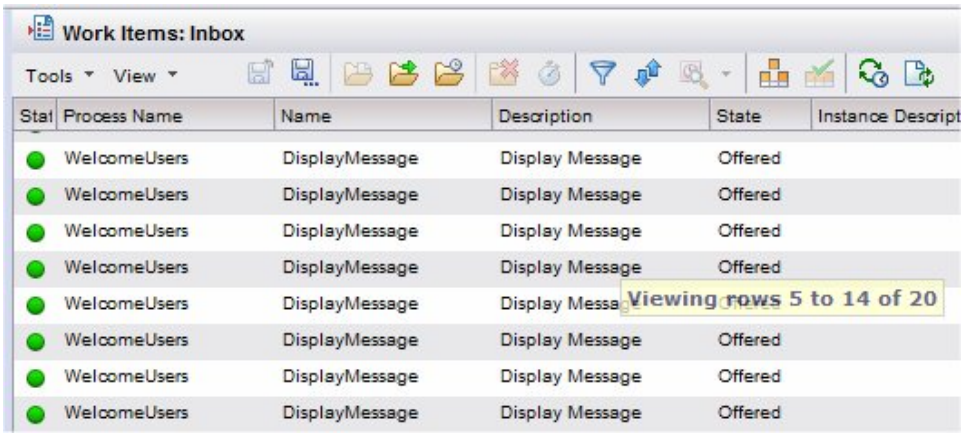


To select multiple items in a list that are grouped together:

- Select the first item in the group, press and hold the **Shift** key, then either click the last item in the group, or move the arrow key until all desired items are selected. All selected items are shown in a different color than the rest of the items in the list.



Also notice that if you move the scroll bar with the cursor to locate an item to select in the list, help text is displayed that tells you which rows in the list are currently being displayed. See the example below:



Refreshing Information in a List

The work item and process instance lists contain a **snapshot** of the information in the list when the list was displayed.

For example, if you click on a work view to display a list of work items, the list contains all of the work items (possibly filtered) at the moment the list was displayed. It is not automatically updated to provide the latest items. You must "refresh" the list to get the latest information from the server.

Refresh a list by clicking the **Refresh** button in the window containing the list, or by selecting **Refresh...** from the **View** menu.

The **Refresh** button is always the right-most button on lists that can be refreshed.

Note that refreshing the list causes Workspace to ask the server to re-send the information in the list. This can take some time, depending on the number of items in the list, the speed of your computer, etc.

If you are working with a work item list, you can also specify that the list automatically refresh at specified intervals. For information see, Auto-Refresh of Work Item Lists.

Customizing Columns in a List

The very first time you display each type of list (work item, process instance, or event list), a pre-determined default set of columns is displayed. This set of columns will continue to be displayed until you change them using the Column Selector.

For information about using the Column Selector, see Using the Column Selector.

The Column Default

Each list type has an initial default set of columns. You can change the default set of columns by

displaying the desired columns, then clicking the  button or selecting **Set as Default Columns** from the **View** menu. This selection causes the set of columns, and their widths and positions, for the currently displayed list, to become the new default for that list type.

After you select **Set as Default Columns**, all new lists of that type, plus all existing lists of that type will now display the columns you specified as the default, *except* lists on which you have specified columns using the Column Selector.

Lists on which you had previously set columns using the Column Selector will continue to use the columns you specified until you explicitly change them again using the Column Selector, or you click the **Use Default** button on the Column Selector, which causes that particular list to use the currently set default.

Using the Column Selector

The Column Selector allows you to customize the columns for a particular list — it does not affect the columns in other lists. For instance, if you customize the columns for your Inbox, the columns in your other work views are not affected.

There is no Column Selector available in case view lists.

Columns displayed via the Column Selector are persisted until you change them again. Note that persisted settings are saved on the server, so if you log onto a different machine, those settings will be in effect on that machine also.

Each column in a list represents an attribute, which holds information about some aspect of the item in the list. Note, however, that there are differences in the way the columns are listed in the Column Selector, as described below:

- **Work item list** - All available columns are listed in alphabetical order — see the illustration in step 1 below.
- **Process instance list** - Both *System* and *Custom* columns are listed in the Column Selector(1). *System* columns/attributes contain information that the system entered in the attribute, such as the instance start date, current status, etc. *Custom* columns/attributes represent customer-specified fields that are added to a process when it is defined. Those fields can then be added to forms. When a user enters information in the fields on a form (e.g., customer name, address, loan amount, etc.), that information is stored in the custom attribute for that field.

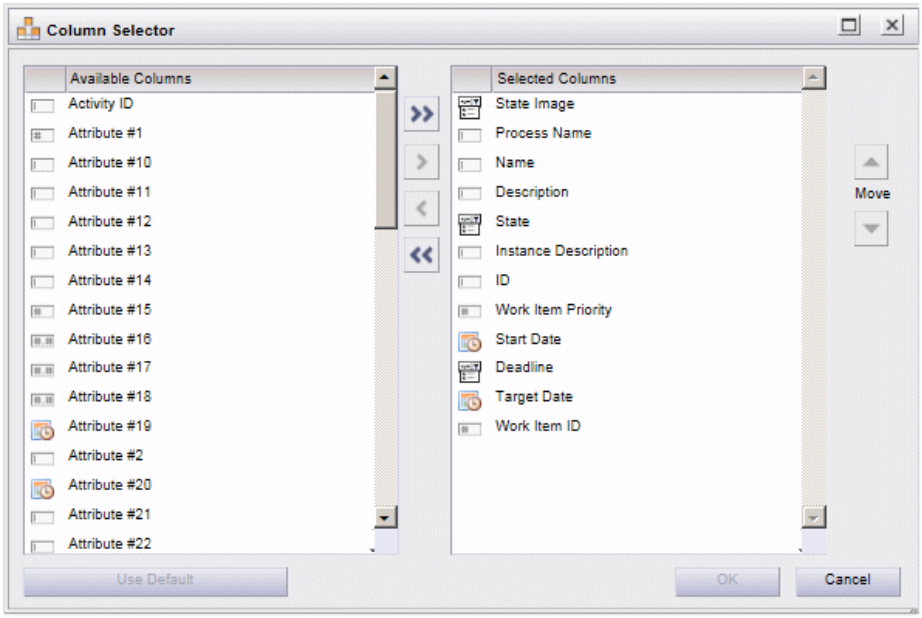
  Note that for process instance lists, the Column Selector will always show all system columns/attributes, because they are available in every process instance. However, it will only show the custom columns/attributes that are common to *all* process instances that were included in the process view.
- **Event lists** - The Column Selector lists the available columns/attributes in a tree structure categorized by the components that write values to the attributes. You can expand or collapse the list below each component name, as needed, by clicking the + or - icon to the left of the component name.

To customize the columns in a list using the Column Selector, follow these steps:

Click the  button or choose **Select Columns** from the **View** menu. The following dialog is displayed (this is an example Column Selector from the work item list — the other lists will offer different available columns):

[1] The listing of custom columns/attributes is controlled via user access profiles. They are shown in the Column Selector only if you have the proper access.

If a Work List Facade is deployed, attributes are displayed showing the display names.



This dialog is used to specify which columns to display. Move the columns that you don't want displayed to the list on the left. Move the columns you do want displayed to the list on the right.

Procedure

1. Select the desired columns, using the following actions:
   - Individual columns can be selected by clicking the desired name.
   - Multiple columns can be selected by holding down the **Ctrl** key while clicking the desired names.
   - A group of columns can be selected by clicking one name, then holding down the **Shift** key and clicking the last name in the desired group.
2. Move columns to the desired list in the Column Selector:
   - Columns can be moved back and forth between lists by selecting the desired column(s), then clicking the "" or "<" buttons.
   - An individual column can be moved from one list to the other by double-clicking the column name.
   - Columns can also be moved from one list to the other by using a "drag and drop" method — click on the desired column name (or group of selected column names), and while holding the mouse button, drag them to the desired list and release the mouse button.
   - All columns can be moved from one list to the other by clicking the " > " or "<<" buttons.

     You can also change the columns to the current default for that list type by clicking the **Use Default** button — for more information, see The Column Default.
3. Once the columns you want displayed are shown in the list on the right, you can change the order in which they will appear on the work item list by doing one of the following:
   - Using the **Order** buttons. Click on the column whose order you would like to change, then click the ▲ or ▼ **Order** button to move the column up or down in the list.

- Using the drag and drop method. Click on a column and drag it to the desired location in the list.

4. Click **OK** when the list on the right contains the columns you would like displayed, in the order you would like them displayed.

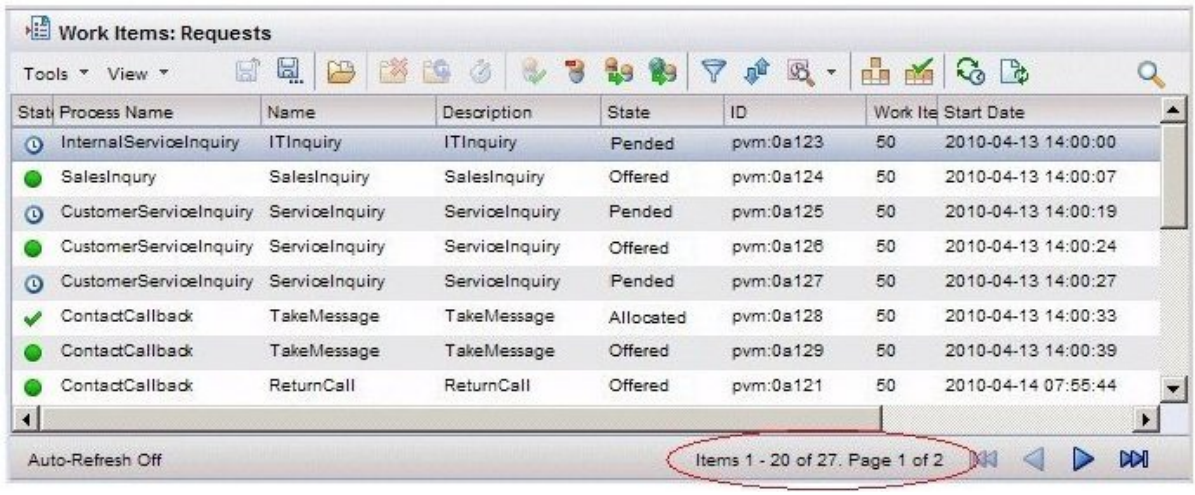
Result

The list is displayed with the chosen columns.

Number of Items in a List

The number of items (work items, process instances, events, etc.) in a list is indicated in the area directly below the list.

In this example, there are 27 work items in the work item list shown; there are 20 displayed on page 1, and 7 on page 2 (for information about "pages", see List Page Size).



Note that this number may indicate the number of items in the list after it has been filtered — for information about filtering lists, see Filtering Lists.

To reduce server overhead, counts are not provided on "All Work Items" views, as well as on case view lists. On these views, only the page number is displayed:

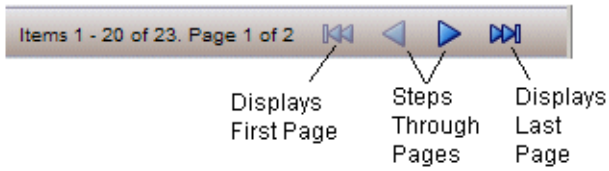
In addition, the "Last Page" button is always disabled. You can page forward until no more items are available in the view, at which point a "You have reached the end of the list" message is displayed.

Your system may also be configured to not display the total number of events when viewing a list of events. This is to improve performance when there are a large number of events.

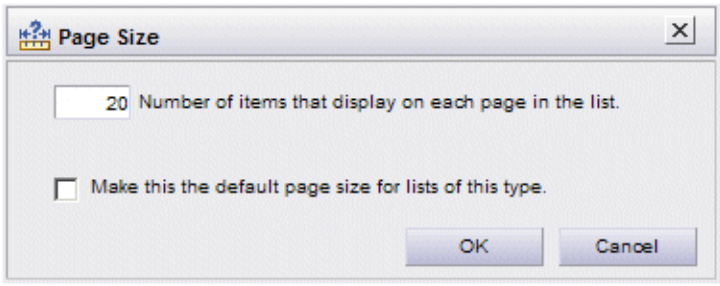
List Page Size

When a list of items (work items, process instances, events, etc.) is displayed on your screen, only a *page* of items is displayed at one time. This is done to speed up the display, especially if there are a very large number of items in the database.

If the list contains more items than the number specified for the page, you can step through the multiple pages by clicking the arrow icons in the lower right corner of the list.



The number of items on a page defaults to 20. You can change this number by selecting **Page Size** from the **View** menu on the work item list. The following dialog is displayed:



Enter the number of items you would like displayed on each page.

If you click **OK** without checking the **Make this the default page size...** box, the new page size setting will be in effect only on the current list for the current login session. Once you log out, then log back in, the page size returns to the previous setting.

You can also make the specified page size persistent on all lists of the type you are currently on (work item list, process instance list, etc.) by checking the **Make this the default page size...** box. If checked, the size specified is persisted and becomes the default page size for all lists of the type you are currently on. Note that persisted settings are saved on the server, so if you log onto a different machine, those settings will be in effect on that machine also.

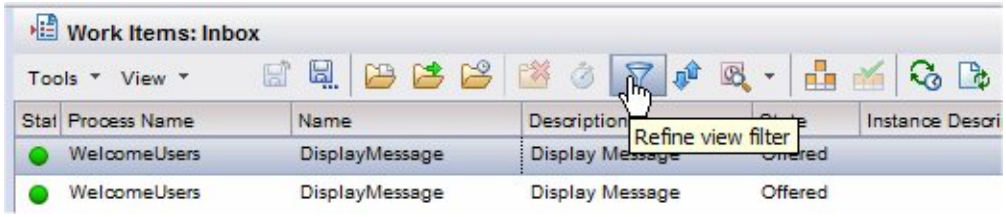
For work item lists and process instance lists in particular, from a performance standpoint it's important that you understand that when a page is displayed, the information about the work items / process instances in the page is downloaded from the server. Because of that, you should keep the page size at a reasonable number. If the page size is a large number, you could experience a delay when displaying a work item or process instance list due to the amount of information that must be downloaded.

If you click a column header to sort the items by that column, the sort may apply to only the currently displayed page, or it may apply to the entire list, even pages that have not been displayed, depending on how your system has been configured. For more information, see Sorting a List Using Column Headers.

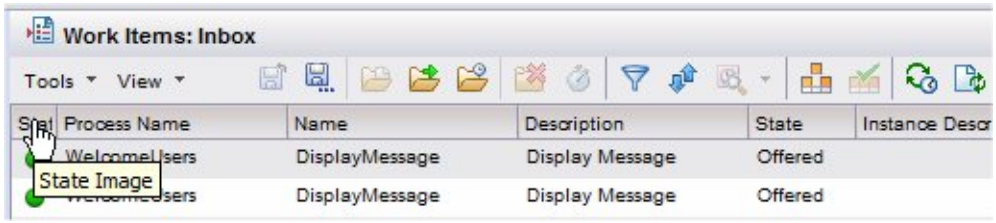
Help

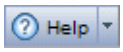
There are two kinds of help available in Workspace: tool-tip and on-line help.

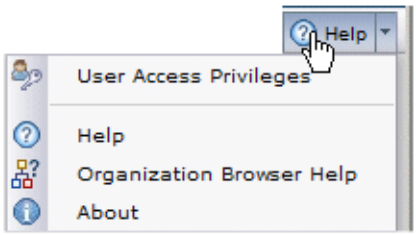
- **Tool-tip Help** - This type of help allows you to place the cursor on a tool icon to cause a box to appear that describes the purpose of the tool.



Tool-tip help can also be helpful to view column header text when the column width is too narrow to see the text. For example:



- **On-line Help** - An on-line help system is available that provides descriptions of the functions available in Workspace, as well as the Organization Browser. This help can be accessed by clicking the  button in the upper right part of the screen. The following menu is displayed:



Access the on-line help using the following selections:

– **Help** - Displays help for Workspace.

– **Organization Browser Help** - Displays help for the Organization Browser.

Access Privileges

Before any user can use Workspace, they must be added to a user database by a system administrator. This database of users is maintained using the Organization Browser.

Using the Organization Browser is described in the *Organization Browser User's Guide*.

System administrators also specify access privileges for each user that uses Workspace. These privileges specify which functions each user is allowed to perform, as well as which icons and menu items are displayed when the user logs in. These access privileges are specified via configuration files.

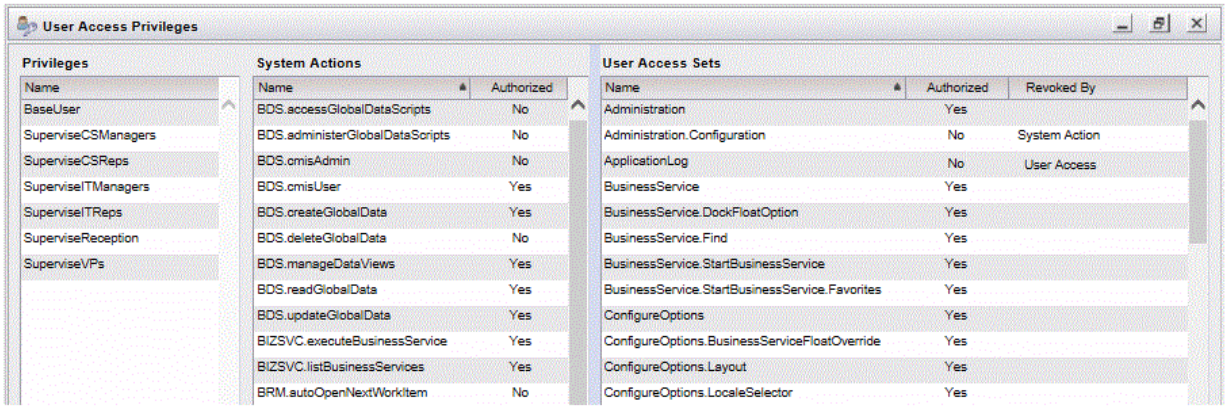
Note that this document describes *all* functions, and shows all buttons and menu selections, that are available in Workspace, even though you may not be able to see/use those functions because of your access privileges.

Determining User Access

A function is provided in Workspace that allows you to determine the access permissions of the currently logged-in user. This would typically be done only at the request of Support personnel.

To display user access information, select **User Access Privileges** from the **Help** button menu on the Workspace main toolbar.

The following dialog is displayed:



This dialog displays the following columns of information:

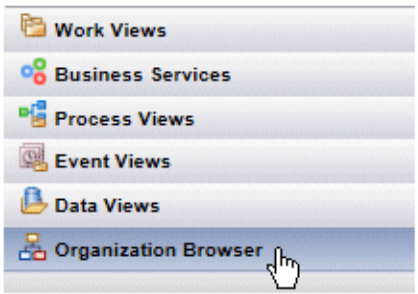
- **Privileges** - These are the privileges held by the logged-in user, based on the groups and/or positions to which the user has been mapped.
- **System Actions** - This is an alphabetical list of all systems actions. The **Authorized** column indicates whether or not the user has that system action.
- **User Access Sets** - This is an alphabetical list of all user access controls. The **Authorized** column indicates whether or not the user has access to the associated function. If the logged-in user does not have access to the associated function, the **Revoked By** column contains one of the following:
  - **User Access** - This indicates that the user does not have access to the associated function because the user does not possess the needed user access control for that function. To cross-check the function that is accessible by having this user access control, use the table in the "Available Functions" section in the *TIBCO Workspace Configuration and Customization* guide.
  - **System Action** This indicates that the user does not have access to the associated function because the user does not possess the needed system action for that function. To cross-check the function that is accessible by having this system access, use the table in the "User Access Control to System Action Mapping" section in the *TIBCO Workspace Configuration and Customization* guide.

Accessing the Organization Browser

The Organization Browser is used to browse the organization model, create LDAP containers to hold resources, map resources to groups or positions so that they receive work items, etc.

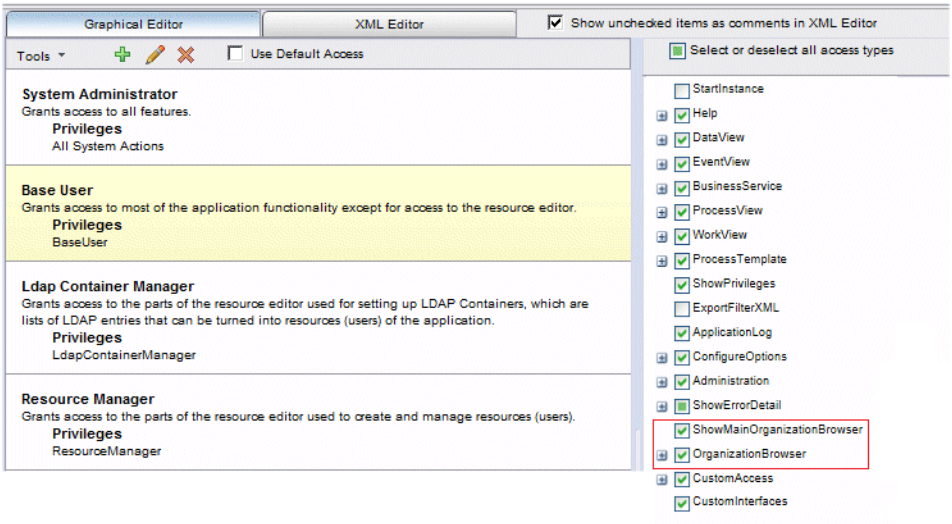
For details about all of the functions available from the Organization Browser, see the *Organization Browser User's Guide*.

The Organization Browser can be accessed from within Workspace using the **Organization Browser** button:



Note, however, that the **Organization Browser** button is not displayed by default. For this button to be displayed, the logged-in user must have the **ShowMainOrganizationBrowser** user access control, as well as the **OrganizationBrowser** user access control to be able to use the functions in the Organization Browser. To gain these user access controls, a user with access to the Configuration Administrator can enable them.

The following shows the aforementioned user access controls in the Configuration Administrator (which is accessed via the **Admin** > **Configuration** selection on the Workspace main toolbar):



For details about using the Configuration Administrator, as well as more about user access controls, see the *TIBCO Workspace Configuration and Customization* guide.

Setting the Language

The header in the Workspace application contains a **Language** selection field that allows you to set the language to display on all of the screens and windows in Workspace.

This performs the same function as the “Language” user option available on the Options dialog. For information about that user option, see Language .

Specify the desired language from the **Language** field on the Workspace header:

A particular language appears in this drop-down list only if the “language pack” for that language has been installed on your system, or the appropriate files have been manually translated (for details, see the *TIBCO Workspace Configuration and Customization* guide).

The language change takes effect immediately, and is persisted (i.e., the application will continue to be displayed in the selected language until it is changed again, either using this function, or the **Language** user option on the Options dialog).

Note that when the language is changed, the names of views *do not* change to the selected language (with the exception of the Inbox). View names are user-specified when the views are created; they do not get translated by language packs. The Inbox name, however, is not user-defined, nor changable by the user, therefore it changes when the language is changed.

Accessing Workspace

Before you can access Workspace, your user name must be *mapped* to groups and/or positions in the organization model. This mapping allows you to log in to the application, as well as causes work items to be sent to you so that you can access them once you've logged in.

Mapping your user name to groups/positions in the organization model will be performed by a System Administrator.

This chapter provides information about the following:

- Logging Into Workspace - Once mapped to a group or position in the organization model, a user can log into Workspace.
- Logging Out of Workspace - Using the **Logout** button is the proper method of leaving Workspace when you are finished with your work.

Logging Into Workspace

Logging in to Workspace validates your user name and password to ensure you are authorized to use the system. It also looks at your access privileges to determine how much functionality you are authorized to perform.

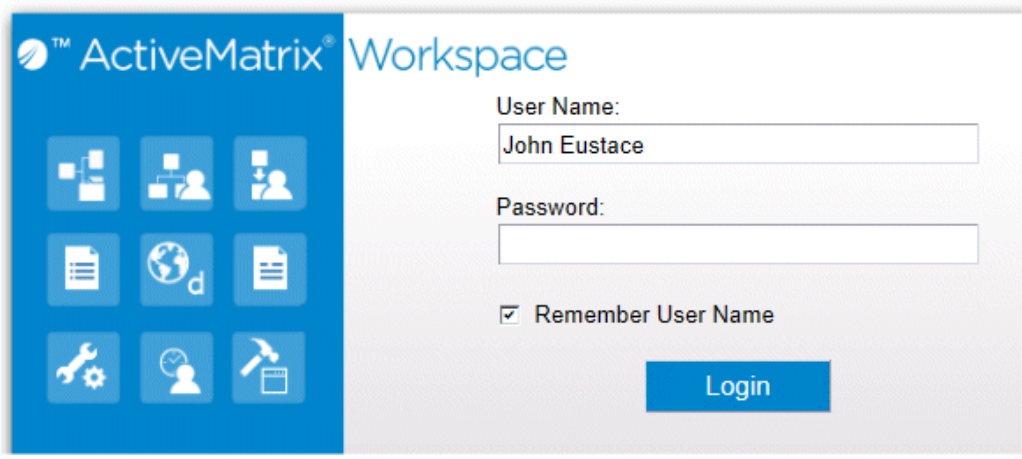
Your system administrator will determine how you actually start Workspace. It may involve starting a browser and entering a URL (Universal Resource Locator, or "website address"), or you may click on a link on a specified web page.

If multiple instances of a WCC application (including the Workspace application) are executed at the same time from a single machine, they must be running in different HTTP sessions. (Note that a WCC application in which work item forms have been opened in separate browser windows is considered a single instance of an application, even though the work item forms are opened in separate browser windows.)

A workaround for this issue is to open multiple instances of a WCC application in different types of browsers (for example, one can be opened in Internet Explorer and another in Firefox).

Another workaround using Internet Explorer is to select **New Session** from the browser **File** menu, then point that browser instance at the WCC application. (Other browsers may offer a similar method of starting multiple instances in different HTTP sessions.)

After the browser connects to the proper web site, you are presented with a login dialog:



Procedure

1. Enter your user name in the **User Name** field.

   The user name may or may not be case sensitive, depending on a property set on the server.

2. Enter your password in the **Password** field.
3. If you would like your user name to be automatically entered in the **User Name** field the next time you login to Workspace on this computer, check the **Remember User Name** box.
4. Click **Login**.

   If the login is successful, the view that has been chosen as the default view is displayed (for information about specifying a default view, see Default View).

   If your password has expired, a Change Password dialog may be displayed (this dialog is displayed only if the appropriate access privilege is enabled for you). If the Change Password dialog is displayed, you must change your password before you can proceed.

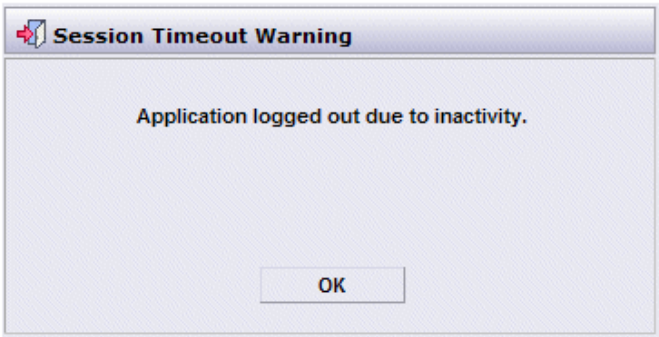
   If there is a problem with the login (e.g., you've entered an invalid user name or password, an error dialog is displayed.

   The Login dialog may also contain a hyperlink that when clicked displays a web page in the browser. This is a custom feature that may or may not be on your Login dialog.

Login Session Timeout

If there is no activity in Workspace for a certain period of time, the login session will timeout, automatically logging you out. The period of time before the timeout is customizable — the default is 30 minutes.

Before it times out, a warning message is displayed telling you that the session is about to timeout. If you do not respond to the warning dialog by clicking **OK**, you are logged out and the following dialog is displayed:



Click **OK** to remove the dialog. You can then log back into the application.

Logging Out of Workspace

When you are finished doing the work you need to do, you should log out of Workspace.

If you just close your browser rather than log out, you will eventually be logged out internally. However, the proper "clean up" is performed internally when you log out, making the most efficient use of resources. Also, if there is no activity in Workspace for a certain period of time, the application will timeout, automatically logging you out. For more information, see Login Session Timeout.

Procedure

1. Close any currently open work items.

2. Click the 

button the upper right part of the Workspace screen.
When you are successfully logged out, the **Login** window is displayed. You can either log in again, go to another web site, or close the browser.

Views

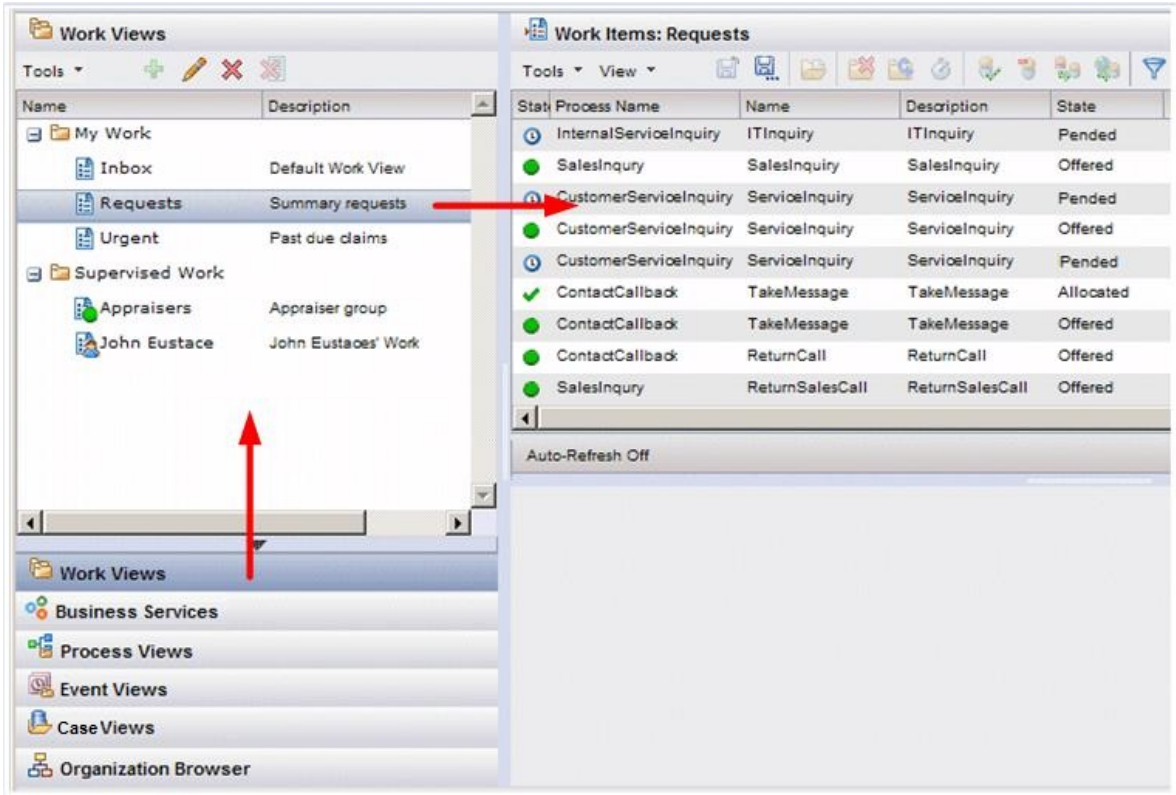
In general, a *view* is merely a way of *viewing* different types of items in Workspace.

There are the following types of views:

- Work Views - These display lists of work items.
- Process Views - These display lists of process instances.
- Event Views - These display lists of events that have taken place in Workspace.
- System Views - These are views that a supervisor defines that will automatically appear in user's view lists.
- Case Views - These views allow you to see global case data, as well as lists of work items, process instances, and events that relate to the case data.

Each view can be filtered and/or sorted in a particular way so that only the items (i.e., work items, process instances, events, or case data) that you are interested in are displayed, in the order in which you want to see them.

The lower left pane of the Workspace screen contains buttons that allow you to access each type of view:

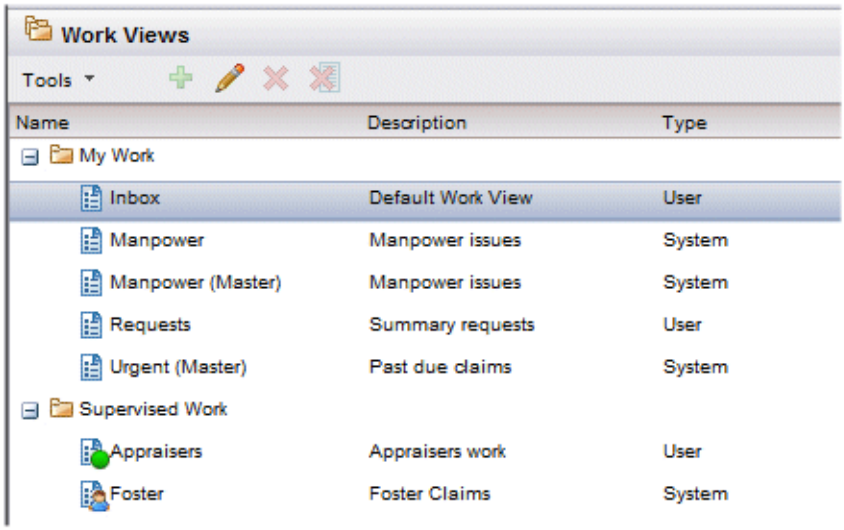


In this example, clicking the **Work Views** button causes the list of available work views to be displayed. Clicking on one of the work views displays the list of work items in that view.

Note that there are two buttons that present “view-like” displays, although they are not technically *views* in the sense that you cannot created custom views of these. They are:

- **Business Services**: This button presents a file/directory-like display of the business services available to you. For more information, see Accessing Workspace .
- **Organization Browser**: This button displays a graphical representation of the organization model for the purpose of mapping resources to the available groups and positions. For more information, see the *Organization Browser User's Guide*. (Note that this button is not displayed by default; for more information, see Accessing the Organization Browser .)

All view lists contain a **Type** column that indicates whether the view is a *User* view or a *System* view:



User views are those that you have created yourself; system views have been created by a supervisor and appear in your view list automatically. For information about system views, see System Views.

Permanent and Temporary Views

Depending on how a view is created, it can be either *permanent* or *temporary*.

- A **permanent view** is saved and will remain in the view list until you explicitly delete it.
- A **temporary view** will be automatically deleted from the view list when you log out. If you want to retain a view that is currently temporary, you must explicitly save it (making it permanent) before logging out, otherwise it is lost.

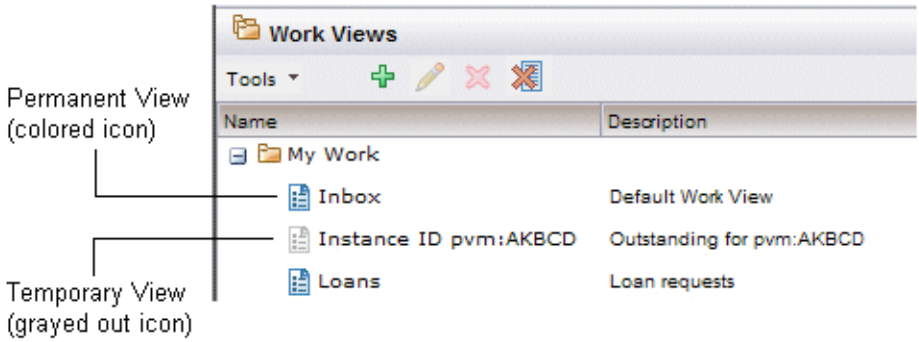
  There is also a **Remove All Temporary Views** button ( )and menu selection on the view lists that allow you to delate all views that are temporary.

  Views that are created in a temporary state are considered the type of view that you would probably not have a desire to save, although you can if you want to. For example, you can quickly create a list of outstanding work items for the selected process instance — the resulting work view is created in a temporary state because it's probably not a view you want to keep.

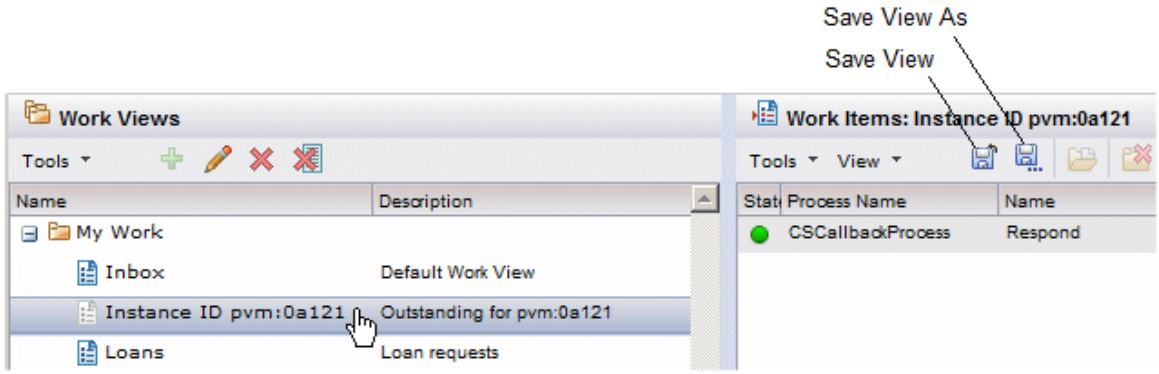
  Creating views in a temporary state allows you to not worry about them building up in your view list — they will be automatically removed when you log out.

  This information is not applicable to case views. Case views are automatically permanent.

You can tell whether a view is permanent or temporary by the icon in the view list; the icons for temporary views are "grayed out", whereas the icons for permanent views are displayed in color:



Also, if a temporary view is selected in the view list, both the **Save View** and **Save View As...** buttons are enabled on the list of items in the view.



For information about saving permanent and temporary views, see Saving Views.

The following summarizes the ways in which permanent and temporary views are created:

- Permanent Views:
  - Any view created using the view wizard.
  - The default views. Each of the view lists have a default view: the **Inbox** in the work view list, the **All Instances** view in the process view list, and the **My Activity Today** view in the event view list. All of these views can be modified. The All Instances and My Activity Today views can be deleted; the Inbox cannot be deleted.

    The **Inbox** in the work view list and the **All Instances** view in the process view list are controlled by user access elements. Therefore, if you do not have the proper user access, you will not have those views.

- **Temporary Views**:
  - Work views created by using either the **Show Outstanding Work Items** or **Show Supervised List of Outstanding Work Items** functions on the process instance list.

    For information about these functions, see Outstanding Work Items.
  - Any *contextual* event view, which displays a list of events from a specific context. For instance, from a work item list you can display a list of events that pertain to a particular work item, or from a process instance list you can create a list of events that pertain to a particular process instance, etc.

    For more information, see Creating a Contextual List of Events.

Saving Views

There are two save functions for saving a view: **Save View** and **Save View As**. These functions are available on the work item list, process instance list, and event list in the form of **Save View** () and **Save View As** () buttons, as well as the same selections on the **Tools** menu.

This information is not applicable to case views. There are no **Save View** and **Save View As** functions available on case views.

These functions are described below:

- **Save View** - This saves the view using the same name that it currently has. This function is *only* available under the following circumstances:
  - When you currently have a temporary view selected. When temporary views are created, they are given a default name. This allows you to save it using this default name.

    For more information about temporary views, see Permanent and Temporary Views.
  - When you have defined a *refined filter* for the current view. This allows you to add the refined filter to the base filter and save the view without changing its name.

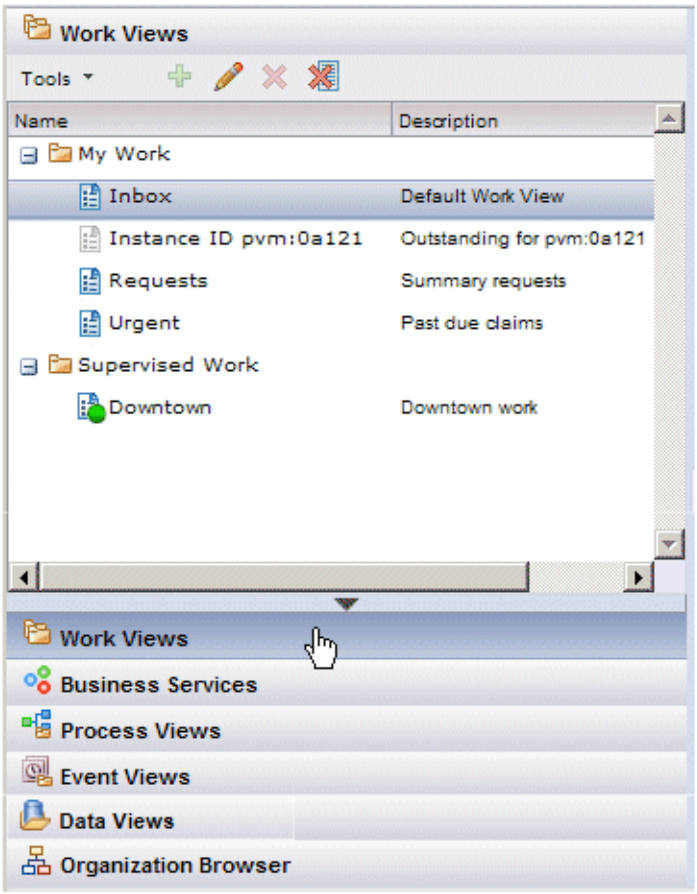
    For more information about refined filters, see Base Filter and Refined Filter.
- **Save View As** - This allows you to save the current view using a different name, *without* affecting the original view. For example, suppose you displayed a work view named “My Work”, then specified a refined filter on the view. Using the Save View As function, you could save the view as “My Work 2” — a new “My Work 2” work view is created in which the refined filter expression is added to the original work view’s base filter (if there was one). The original “My Work” work view is unchanged.

  The Save View As function is available for both temporary and permanent views, meaning you can always save the currently selected view using a new name without affecting the original view.

Work Views

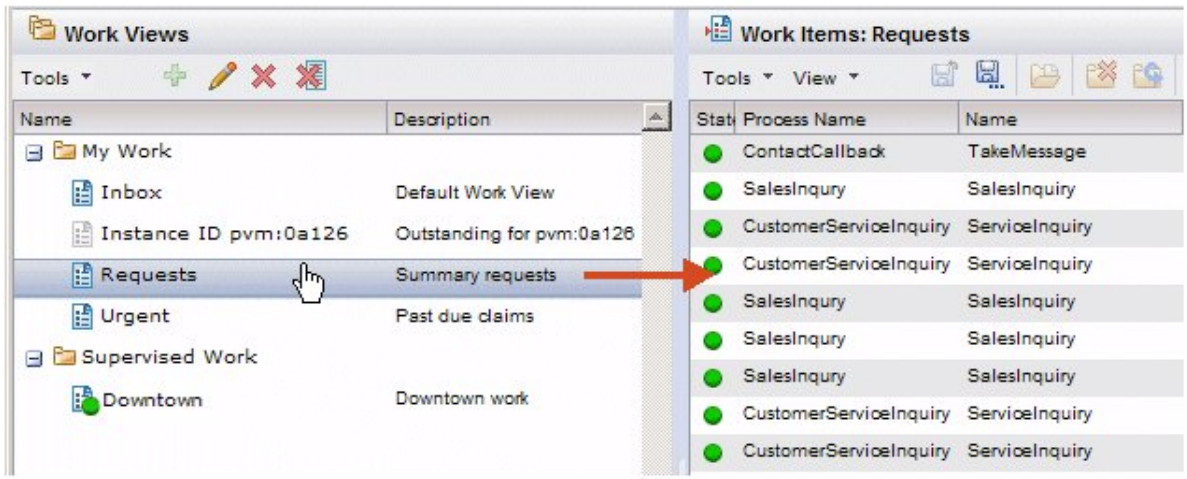
Work views display lists of work items. You can create as many work views as needed, each displaying a list of work items that are possibly filtered and/or sorted in a different way.

To display work views, click the **Work Views** button in the lower left part of the Workspace screen. A list of your work views is displayed. For example:



Notice that work views are presented in a folder/file type of display, where My Work and Supervised Work appear as folders, and work views you create under those categories appear as files. You can expand and collapse the *folders* by clicking the - / + icon to the left of My Work and Supervised Work.

When you click a work view, a list of the work items in that view is displayed. For example:



You can specify which specific work view to display by default when you log in. For instance, using the example above, you could specify that the Requests work view be displayed (selected) whenever you log in and display the work view list (by default, the Inbox is displayed). To set this option, see Default View.

Personal Work Views vs. Supervised Work Views

Work views are subdivided into *personal work views* and *supervised work views*.

- **Personal Work Views** - These work views contain work items that are currently offered or allocated to you. They are shown under the **My Work** folder in the work view list.

  There is always at least one work view listed under My Work: your **Inbox(1)**. The Inbox, by default, is a view of *all* work items that have been offered or allocated to you. It is analogous to an inbox in an email program, which lists all of your emails. The Inbox cannot be removed. Note, however, that you can filter and/or sort your Inbox so that it actually displays a subset of all work items offered or allocated to you.

  You can create additional work views under My Work that contain different views of your work items, that is, they can be filtered and/or sorted different from the work items in your Inbox. This is explained in Creating Work Views.

- **Supervised Work Views** - These work views, which are shown under the **Supervised Work** folder, are of two types:

  – **For an individual resource** - This type of supervised work view contains the work items that are currently in the Inbox (unfiltered) of the resource.

  To supervise work views of other users, you must have been given access permission(2) to view work items in a specific position held by the user.

  – **For an organizational entity** - This type of supervised work view contains the work items that were sent to the selected organizational entity (group, organization unit, or position).

  To supervise work views of specific groups, organization units, or positions, you must have been given access permission1 to view work items in that specific group, organization unit, or position.

  Supervised work views of an organizational entity can contain the following types of work items:

  – **Offered** - These are work items that were offered to the selected organizational entity, and that still have a state of Offered.

  – **Allocated** - These are work items that were offered to the selected organizational entity, that are now allocated to a user (i.e., their state is Allocated).

  When viewing a supervised work view for an organizational entity, you will be able to see work items that are *offered directly to that entity* — it does *not* cause the supervised work view to contain work items that are offered or allocated to all of the *members* of the chosen organization entity.

  – **All Work Items** - This supervised work view shows *all* work items, irrespective of the resource or organizational entity to which the work items are offered or allocated. This type of view contains work items of all states: opened, offered, allocated, pended, etc.

  To create this type of work view, you must have the appropriate user access control (AllWorkItems), as well as the **View Global Work List** (BRM.viewGlobalWorkList) system action.

  Note that for "All Work Items" views, a total work item count value is not provided on the work item list to reduce server overhead. This means that the paging area on the work item list does not provide any work item counts like other work item lists. In addition, the "Last Page" button is always disabled. You can page forward until no more items are available in the "All Work Items" view, at which point a "You have reached the end of the list" message is displayed.

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[2] The **Inbox** view in the work view list is controlled by a user access element. Therefore, if you do not have the proper user access, you will not have this view.

[3] This permission is granted via the **View Work List** (BRM.viewWorkList) *scoped* system action — for information, see the *Configuring User Access* chapter in the *TIBCO Workspace Configuration and Customization* guide).

The icons in the list of supervised work views indicate the type of supervised work view, as follows:

Icon	Meaning
	The supervised work view is for an individual resource.
	The supervised work view is for an organizational entity that contains offered work items.
	The supervised work view is for an organizational entity that contains allocated work items.
	The supervised work view lists all work items.

Also note that the following functions are not available from any type of supervised work view:

- Open Work Item(s) (as well as the associated functions, Open Next Work Item and Auto-Repeat Open)
- Allocate Work Item(s) to Self
- Pend Work Item(s)

By default, there are no work views in the **Supervised Work** folder. You must create them using one of the methods described in Creating Work Views.

Creating Work Views

A work view can be created either by using a wizard or by using the Outstanding Work Items Function.

- **Using the Wizard** - This method steps you through a series of dialogs that allow you to name the work view and specify filter and/or sort criteria.

  When using the wizard, you can choose to create a work view under "My Work" (which will contain work items offered/allocated to you), or under "Supervised Work" (which contain work items that are offered/allocated to a user you supervise, that were sent to a specified organizational entity, or all work items regardless to whom they have been offered or allocated).

  Work views created using the wizard are always permanent, that is, they will remain in your work view list until you explicitly remove them.

  For more information, see:

  – Creating a Personal Work View Using the Wizard
  – Creating a Supervised Work View Using the Wizard

- **Using the Outstanding Work Items Function** - The process instance list contains two functions that allow you to display the currently outstanding work items for the selected process instance:

  – **Show Outstanding Work Item(s) for ID** - This function causes a temporary work view to be created under the **My Work** folder in the work view list. This work view will contain all of the outstanding work items for the selected process instance that are currently offered or allocated to you.
  – **Show Supervised List of Outstanding Work Item(s) for ID** - This function causes a temporary work view to be created under the **Supervised Work** folder in the work view list. This work view will contain all of the outstanding work items for the selected process instance that are currently offered or allocated to the specified user, that were sent to the specified organizational entity, or all work items regardless to whom they have been offered or allocated.

To view a list of outstanding work items of specific groups, organization units, or positions, you must have been given access permission to view work items in that specific group, organization unit, or position (this permission is granted via the **View Work List** (BRM.viewWorkList) *scoped* system action — for information, see the *Configuring User Access* chapter in the *TIBCO Workspace Configuration and Customization* guide).

Because the work view that is created with these functions is temporary, it must be saved, otherwise it will be lost when you log out.

For more information about creating a work view containing outstanding work items, see Outstanding Work Items.

Creating a Personal Work View Using the Wizard

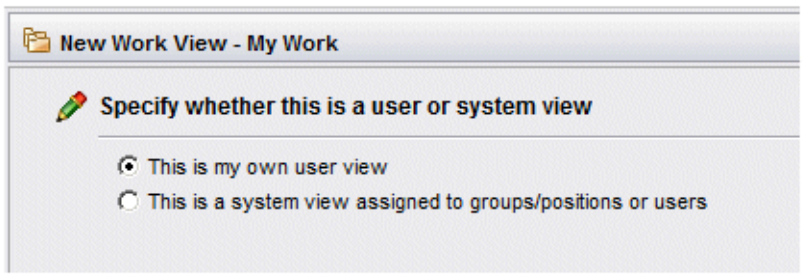
Personal work views can be created using a wizard.

Procedure

1. Click the **My Work** folder in the work view list.
2. Click the **Create New View** button ( ) on the work view list menu bar (or select **New** from the **Tools** menu).

   A dialog is displayed that allows you to specify whether you are creating a user view or a system view.

   This dialog with the user view / system view selections displays only if you have the user access authority to create system views.

3. Choose the type of work view to create, as follows:

   - A *user view* is one that you create to list work items filtered and sorted as desired.

     If you are creating a user view, select **This is my own user view**, then click **Next**.
   - A *system view* is one that is automatically available to specified users, or to users that have been assigned to specific groups or positions.

     Creating a system view is typically a supervisory or administrative function. Therefore, the discussion of creating a system view is provided in a separate section of the documentation.

     If you are creating a system view, select **This is a system view assigned to groups/positions or users**, which causes additional items to be displayed on the dialog. Refer to the information in System Views to complete that dialog, then return to this step to complete the creation of the work view.
4. Enter the desired name for the work view in the **Name** field and an optional description in the **Description** field(1), then click **Next**.

[4] You cannot use any of the four following characters in the view name or description: < (less than), > (greater than), & (ampersand), or " (double quote). The application will not allow you to enter any of these characters.

Note that you could actually click **Finish** at this point, which means you are creating a work view that contains all of the work items that are in your Inbox, not filtered nor sorted — basically resulting in an Inbox with a different name.

5. On the Filter dialog, do one of the following:

   - Enter filter criteria for the view, then click **Next** to advance to the Sort dialog to specify how to sort the work items in the view.
   - Enter filter criteria for the view, then click **Finish** if you have no desire to specify how to sort the work items in the view.
   - Click **Next** to advance directly to the Sort dialog if you have no desire to specify filter criteria.

     Note that any filter criteria you specify through the wizard is considered the "base" filter for the work view (as opposed to a "refined" filter that is set through the **Filter** function on the work item list). For more information, see Base Filter and Refined Filter.

     Because filtering work item lists is basically the same as filtering other types of lists in Workspace (with the exception of the specific fields on which you can filter), details of filtering is explained in a single chapter — see Filtering Lists.

6. On the Sort dialog, do one of the following:

   - Enter sort criteria for the view, then click **Next** to advance to the Column dialog to specify the columns to display in the view.
   - Enter sort criteria for the view, then click **Finish** if you have no desire to specify columns for the view.
   - Click **Next** to advance directly to the Column dialog if you have no desire to specify sort criteria.

     Because sorting work item lists is basically the same as sorting other types of lists in Workspace (with the exception of the specific attributes on which you can sort), details of sorting is explained in a single chapter — see Work Items.

7. From the **Specify Display Columns for the View** dialog, move the columns you would like displayed in the view to the list on the right, then click **Finish** to complete the creation of the view.

   This dialog works in the same way as the Column Selector dialog available from all other lists in Workspace. For information about using the Column Selector, see Customizing Columns in a List.

Result

The new view will appear in the list of work views.

Creating a Supervised Work View Using the Wizard

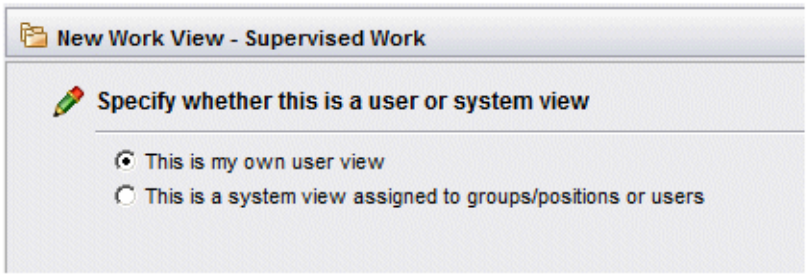
Supervised work views can be created using a wizard.

Procedure

1. Click the **Supervised Work** folder in the work view list.
2. Click the **Create New View** button ( ) on the work view list menu bar (or select **New** from the **Tools** menu).

   A dialog is displayed that allows you to specify whether you are creating a user view or a system view.

This dialog with the user view / system view selections displays only if you have the user access authority to create system views.



3. Choose the type of work view to create by selecting the appropriate option:

   - A *user view* is one that you create to list work items filtered and sorted as desired.

     If you are creating a user view, select **This is my own user view**, then click **Next**.

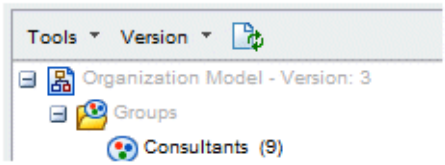
   - A *system view* is one that is automatically available to specified users, or to users that have been assigned to specific groups or positions.

     Creating a system view is typically a supervisory or administrative function. Therefore, the discussion of creating a system view is provided in a separate section of the documentation.

     If you are creating a system view, select **This is a system view assigned to groups/positions or users**, which causes additional items to be displayed on the dialog. Refer to the information in System Views to complete that dialog, then return to this step to complete the creation of the work view.

4. On the next dialog, enter the desired name for the supervised work view in the **Name** field and an optional description in the **Description** field(1).

5. Ensure that the appropriate organization model version is selected. This is shown in the first row of the organization model (Version 3 in the following example):



   Use the **Version** drop-down list to change the version, if required.

6. In the **Select Work List for View** section, choose the type of work items that are to appear in the supervised work view, as follows:

   - **Offered Work Items for an Organizational Entity** - This causes the supervised work view to contain only work items that were sent directly to the selected organizational entity(2), and that still have a state of Offered.
   - **Allocated Work Items for an Organizational Entity** - This causes the supervised work view to contain only work items that were originally sent directly to the selected organizational entity,1 but have since been allocated to a specific resource (their state = Allocated). Note that when viewing this type of supervised work view, it does not show you to whom the work item has been allocated. However, you can easily determine that by selecting a work item, then selecting

[5] You cannot use any of the four following characters in the view name or description: < (less than), > (greater than), & (ampersand), or " (double quote). The application will not allow you to enter any of these characters.

[6] Note that this type of supervised work view will contain work items that are *offered directly to that entity* — it does *not* contain work items that are offered or allocated to all of the *members* of the chosen organization entity.

Open Event Viewer > **This Work Item**. The allocation event shows to whom the work item was allocated (in the **Resource name** attribute). The **Description** column also shows that information if it has not been changed from the default.

- **Work Items for a Resource** - This causes the supervised work view to contain work items that are currently in the Inbox of a specified resource, offered and allocated.

  If the message "Insufficient rights to view the resource list for a group or position" is displayed when you select **Work Items for a Resource**, it means you don't have the appropriate system action. To view the resource list, you must have the **Resource Admin** (DE.resourceAdmin) system action, which is available at the organization model level. For more information, see the *Configuring User Access* chapter in the *TIBCO Workspace Configuration and Customization* guide).

- **All Work Items** - This causes the supervised work view to contain all work items irrespective of the resource or organizational entity to which the work items are offered or allocated (although the list can still be filtered).

  Note that this option appears only if you have the appropriate user access control (AllWorkItems), as well as the **View Global Work List** (BRM.viewGlobalWorkList) system action.

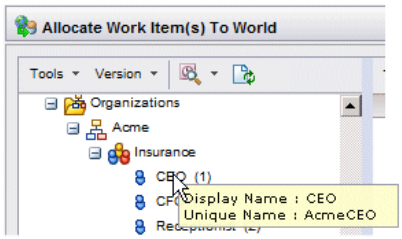
  If you choose the **All Work Items** option, proceed to step 9.

7. Optionally, choose whether unique names or display names are shown in the list of organizational entities.

   When organizational entities are created in TIBCO Business Studio, they are given both "unique names" and "display names" (also called "labels").

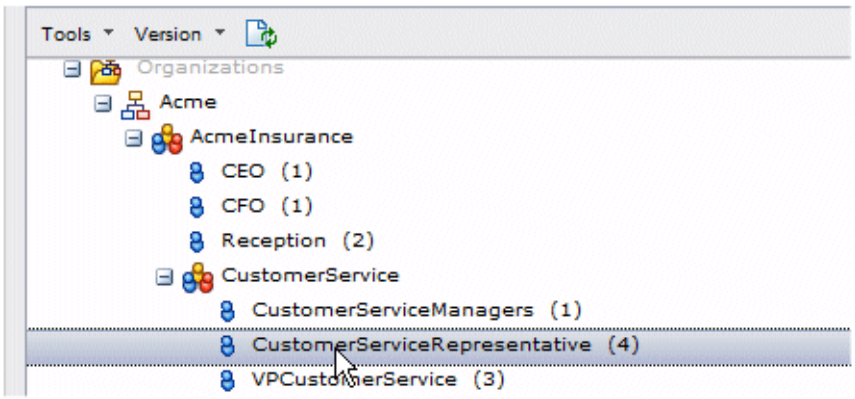
   The **Tools** menu contains a **Show unique names for organizational entities** selection that toggles between the two displays. By default, the display names are shown.

   You can also hover the mouse pointer over an organizational entity to view both names for a particular organizational entity:



8. Select the desired organizational entity or an individual resource:

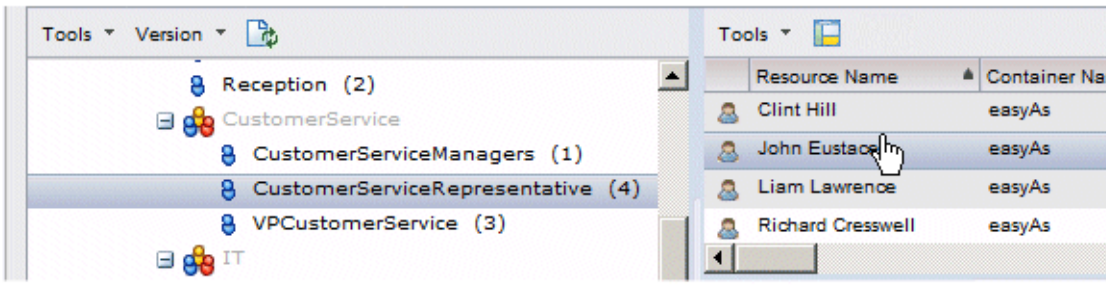
   - If the supervised work view is to contain work items (either offered or allocated) sent to an organizational entity, select the desired organization unit, position, or group. For example:



Note that only organizational entities to which you have been given access permission are selectable — all others are grayed out. This permission is granted via the **View Work List** (BRM.viewWorkList) *scoped* system action. For more information, see the *Configuring User Access* chapter in the *TIBCO Workspace Configuration and Customization* guide.

- If the supervised work view is to contain work items sent to an individual resource, you must first select one of the positions to which that resource has been mapped (you cannot select resources from groups, only from positions), then select the resource in the right pane. For example, if you want to create a supervised work view for a resource that has been mapped to the CustomerServiceRepresentative position, select that position, then select the desired resource. For example:

You *may not* be able to see all resources mapped to a particular position because there are resources mapped to that position that were created in an LDAP container for which you don't have visibility (because of an organization relationship). (This applies only to positions, not to groups.)



Note, however, the counts shown to the right of the position name in the left pane is the *total count* for the resources in the position. From this count, you can determine if there are resources mapped to the position that you cannot see.

For more information, see the *Container Organization Relationships* section in the *Organization Browser User's Guide*.

9. Click either the **Next** button to continue defining the work view, or the **Finish** button to complete the work view:

   - Clicking **Next** allows you to define a filter, sort criteria, and columns for the work view — proceed to step 10.
   - Clicking **Finish** completes the work view without specifying a filter, sort criteria, and columns. You are returned to the **Work View** list.

10. From the Filter dialog, you can do one of the following:

    - Enter filter criteria for the view, then click **Next** to advance to the Sort dialog to specify how to sort the work items in the view.
    - Enter filter criteria for the view, then click **Finish** if you have no desire to specify how to sort the work items in the view.
    - Click **Next** to advance directly to the Sort dialog if you have no desire to specify filter criteria.

      Note that any filter criteria you specify through the wizard is considered the "base" filter for the work view (as opposed to a "refined" filter that is set through the **Filter** function on the work item list). For more information, see Base Filter and Refined Filter.

      Because filtering work item lists is basically the same as filtering other types of lists in Workspace (with the exception of the specific fields on which you can filter), details of filtering is explained in a single chapter — see Filtering Lists.

11. From the Sort dialog, you can do one of the following:

    - Enter sort criteria for the view, then click **Next** to advance to the Column dialog to specify the columns to display in the view.
    - Enter sort criteria for the view, then click **Finish** if you have no desire to specify columns for the view.
    - Click **Next** to advance directly to the Column dialog if you have no desire to specify sort criteria.

      Because sorting work item lists is basically the same as sorting other types of lists in Workspace (with the exception of the specific attributes on which you can sort), details of sorting is explained in a single chapter — see Work Items.

12. From the **Specify Display Columns for the View** dialog, move the columns you would like displayed in the view to the list on the right, then click **Finish** to complete the creation of the view.

    This dialog works in the same way as the Column Selector dialog available from all other lists in Workspace. For information about using the Column Selector, see Customizing Columns in a List.

Result

The new view will appear in the list of work views.

Editing an Existing Work View

You can edit any part of the definition of a work view, i.e., the name, description, filter criteria, or sort criteria. For supervised work views, you can also change the supervised user or organizational entity whose work items are appearing in the work view.

You can also edit your default work view, the Inbox. By default, the Inbox displays all work items offered to you. By editing it, you can filter the list so that only a subset of the work items are listed. (The Inbox cannot be deleted, however.)

Procedure

1. Select the desired work view in the work view list.
2. Click the **Edit Work View** button (), or select **Edit** from the **Tools** menu.

Result

The same dialogs are displayed as when the view was originally created. For information about those dialogs, see Creating Work Views.

Editing a System Work View

The extent to which you can edit a system view depends on whether you are the owner, author, or recipient of the view.

For more information, see System Views.

Deleting a Work View

If you don't need a view any longer, you can delete it from the work view list.

Your default personal work view, the Inbox, cannot be deleted.

Also remember that *temporary* views are automatically deleted when you log out. However, there is a **Remove All Temporary Views** button ( )and menu selection available on the work view list that allows you to delete all temporary work views without having to log out.

Procedure

1. Select the desired work view in the work view list.
2. Click the **Remove View** button ( ), or select **Remove** from the **Tools** menu.
   You will be asked to confirm the deletion before it is removed from the work view list.

Deleting a System Work View

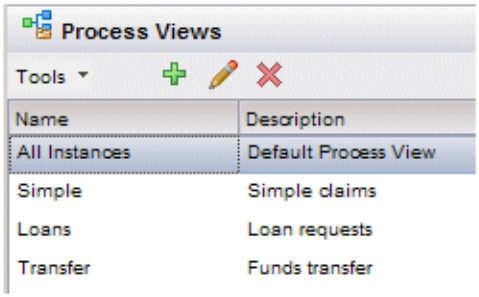
The extent to which you can delete a system view depends on whether you are the owner, author, or recipient of the view.

For more information, see System Views.

Process Views

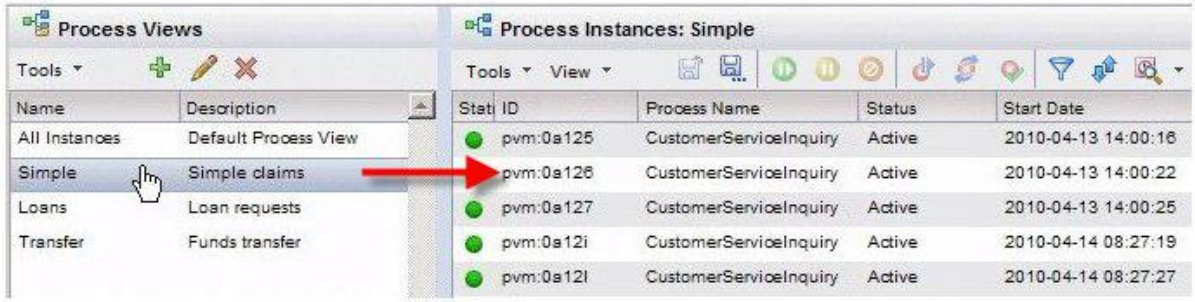
Process views display lists of process instances. You can create as many process views as needed, each displaying a list of process instances that are possibly filtered and/or sorted in a different way.

To display process views, click the **Process Views** button in the lower left part of the Workspace screen. A list of your process views is displayed. For example:



Each process view allows you to display a list of process instances for the process(es) included in the process view, possibly filtered and sorted.

Clicking on the view in the process view list causes the process instances in that view to be displayed in the list on the right. For example:



You can create multiple process views that display process instance lists that are customized in the following ways:

- They can contain process instances from one or more process.
- They can be filtered and/or sorted in different ways.

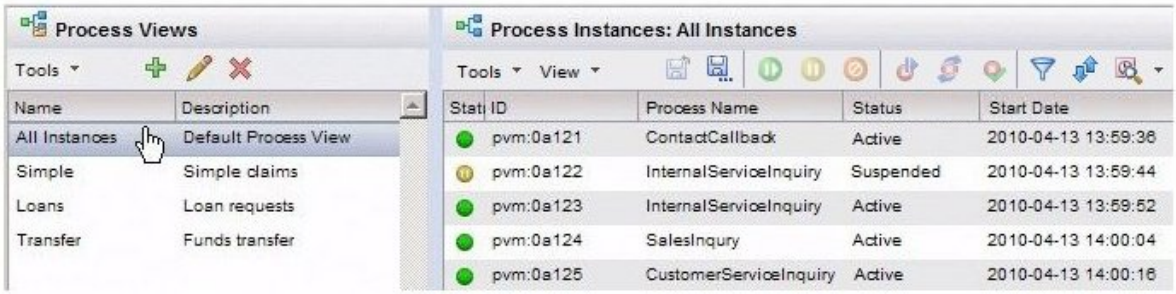
This allows you to create customized process instance lists that display only the process instances you are interested in.

You can also specify which specific process view to display by default when you log in. For instance, using the example above, you could specify that the Loans process view be displayed (selected) whenever you log in and display the process view list. To set this option, see Default View.

The Default Process View

By default, one process view is provided when you first start Workspace for the first time — the **All Instances** view.

The **All Instances** view in the process view list is controlled by a user access element. Therefore, if you do not have the proper user access, you will not have this view.



The All Instances view, by default, contains *all* instances of *all* processes. You can edit this view, however, so that it contains a subset of the available processes, if desired. It can also be deleted (unlike the default work view, Inbox). For information about editing a process view, see Editing an Existing Process View.

Note that the All Instances process view will also contain *future* processes. In other words, whenever you display the All Instances view (assuming you have not edited it), it requests all of the processes that exist at that time, not only the processes that existed at the time the view was created. For more information about including all current and future processes in a process view, see Creating Process Views.

Creating Process Views

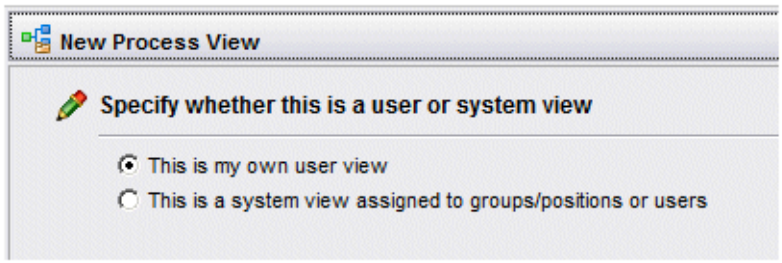
A wizard is provided to create a new process view.

Procedure

1. Click the **Create New View** button ( ) on the process view list menu bar (or select **New** from the **Tools** menu).

   A dialog is displayed that allows you to specify whether you are creating a user view or a system view.

This dialog with the user view / system view selections displays only if you have the user access authority to create system views.



2. Choose the type of process view to create:

   - A *user view* is one that you create to list process instances filtered and sorted as desired.

     If you are creating a user view, select **This is my own user view**, then click **Next**.

   - A *system view* is one that is automatically available to specified users, or to users that have been assigned to specific groups or positions.

     Creating a system view is typically a supervisory or administrative function. Therefore, the discussion of creating a system view is provided in a separate section of the documentation.

     If you are creating a system view, select **This is a system view assigned to groups/positions or users**, which causes additional items to be displayed on the dialog. Refer to the information in System Views to complete that dialog, then return to this step to complete the creation of the process view.

3. Complete the **New Process View** dialog as follows:
   a) Enter the desired name for the process view in the **Name** field.
   b) Optionally enter a description for the process view in the **Description** field[7].
   c) Select one of the following options to specify the process instances that will appear in the view:

      - **Include selected processes** - Selecting this option causes the list of processes that currently exist on the server to be displayed (as in the example above). This allows you to select the desired processes whose instances you want to appear in the process view you are creating.
      - **Include all processes** - Selecting this option causes *all* processes to be included in the view, which in turn causes *all* instances of those processes to appear in the process instance list when the view is selected.

        If you select this option, the process view you are creating will include all instances of all processes that exist when the view is *selected*, not when the view was *created*. Note that this is an important distinction from selecting the **Include selected processes** option and adding all of the processes to the view — when that process view is selected, the process instance list will include the instances from all of the processes that existed when the view was *created*, not when it is *selected*. If new processes are added to the system, a process view created with the **Include all processes** option selected will include those processes as well.

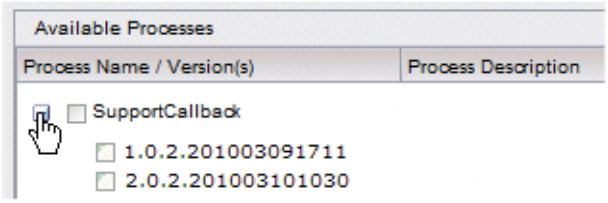
        Note that the default “All Instances” process view has the **Include all processes** option selected by default.

        If you select the **Include all processes** option, the list of processes on the Select Processes to include in the View dialog goes away, since you don’t need the list to select from. If you selected this option, proceed to step 3e.

   d) Select the process(es) whose instances you would like to appear in the process view you are creating.

[7] You cannot use any of the four following characters in the view name or description: < (less than), > (greater than), & (ampersand), or " (double quote). The application will not allow you to enter any of these characters.

You can expand each of the processes to list all of the versions that are available for that process by clicking the ⊞ button:



You can select processes you want to include in the process view in the following ways:

- Clicking the boxes to the left of the version numbers selects only those specific versions.
- Clicking a top-level box (i.e., next to the process name) causes all versions of the process to automatically be selected. Note that if you select the top-level box, it causes all *future* versions of the process to also be included in the process view.

e) Choose whether you are creating a standard instance view or a halted instance view by selecting the appropriate option (note that these options appear on the dialog only if you have the appropriate user access authority):

- A *standard instance view* is one in which you will see the normal information about process instances. This type of process view does *not*, however, include *details* about halted processes instances (although it does list halted instances, just not the detail information).

  This option may also provide (depending on your user access authority) sub-selections to specify that the standard instance view contain only *active* instances, only *terminal state* instances, or both. Terminal state instances are those that have a status of Completed or Cancelled. Note that your system would need to be configured by an Administrator to show Completed and Cancelled process instances; they may be automatically purged, depending on configuration.

- A *halted instance view* contains attributes that provide information about why a process instance has become halted. This is a special-use process view that is typically only used by supervisory personnel for troubleshooting halted process instances.

  For more information about halted process instances, see Halted Process Instances.

4. After selecting the desired processes/versions and choosing the type of process view to create, you can do one of the following:

   - Click the **Finish** button if you have no desire to specify filter, sort, or column criteria for this process view. The **New Process View** dialog is closed and the new view appears in the process view list.
   - Click the **Next** button to display the Filter dialog.

5. From the Filter dialog, you can do one of the following:

   - Enter filter criteria for the view, then click **Next** to advance to the Sort dialog to specify how to sort the process instances in the view, then to the Column dialog to specify the columns to display in the view.
   - Enter filter criteria for the view, then click **Finish** if you have no desire to either specify how to sort the process instances in the view, nor to specify the columns in the view.
   - Click **Next** to advance directly to the Sort dialog if you have no desire to specify filter criteria.

     Note that any filter criteria you specify through the wizard is considered the "base" filter for the process view (as opposed to a "refined" filter that is set through the **Filter** function on the process instance list). For more information, see Base Filter and Refined Filter.

Because filtering process instance lists is basically the same as filtering other types of lists in Workspace (with the exception of the specific attributes on which you can filter), details of filtering is explained in a single chapter — see Filtering Lists.

6. From the Sort dialog, you can do one of the following:
   - Enter sort criteria for the view, then click **Next** to advance to the Column dialog to specify the columns to display in the view.
   - Enter sort criteria for the view, then click **Finish** if you have no desire to specify columns for the view.
   - Click **Next** to advance directly to the Column dialog if you have no desire to specify sort criteria.

     Because sorting process instance lists is basically the same as sorting other types of lists in Workspace (with the exception of the specific attributes on which you can sort), details of sorting is explained in a single chapter — see Work Items.
7. From the **Specify Display Columns for the View** dialog, move the columns you would like displayed in the view to the list on the right, then click **Finish** to complete the creation of the view.

   This dialog works in the same way as the Column Selector dialog available from all other lists in Workspace. For information about using the Column Selector, see Customizing Columns in a List.

   Also note that if multiple processes were selected to be included in the process view, the columns listed on the Specify Display Columns for the View dialog will only include the *intersection* of the columns from all of the selected processes. In other words, it will list only the columns that appear in *every* process included in the view.

Result

The new view will appear in the list of process views.

Editing an Existing Process View

You can edit any part of the definition of an existing process view, that is, the name, description, the processes to include in the view, filter criteria, or sort criteria.

Procedure

1. Select the desired view in the process view list.
2. Click the **Edit Process View** button (), or select **Edit** from the **Tools** menu.

Result

The same dialogs are displayed as when the view was originally created. For information about those dialogs, see Creating Process Views.

Editing a System Process View

The extent to which you can edit a system view depends on whether you are the owner, author, or recipient of the view.

For more information, see System Views.

Deleting a Process View

If you don't need a process view any longer, you can delete it from the process view list.

Procedure

1. Select the desired process view in the process view list.
2. Click the **Remove Process View** button ( ), or select **Remove** from the **Tools** menu.

   You will be asked to confirm the deletion before it is removed from the process view list.

Deleting a System Process View

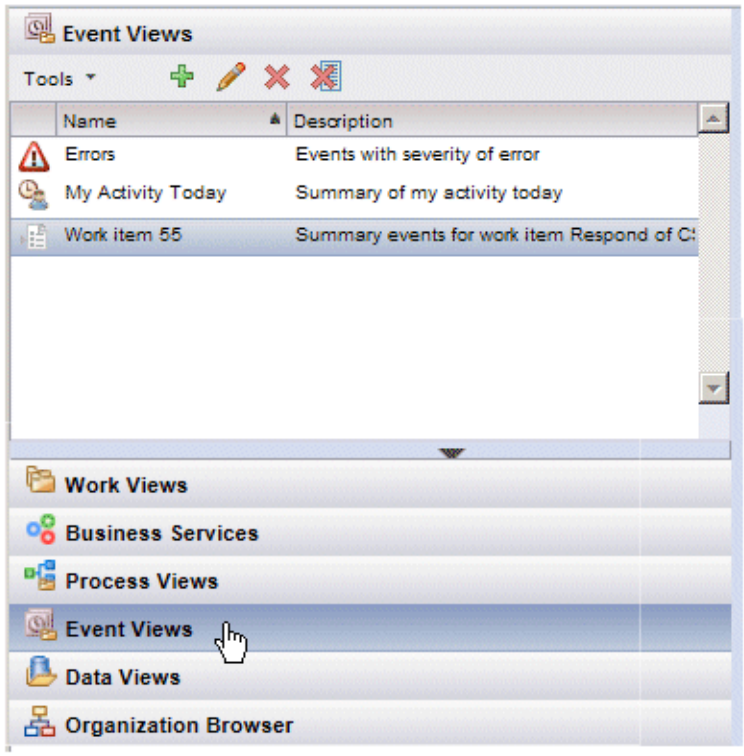
The extent to which you can delete a system process view depends on whether you are the owner, author, or recipient of the view.

For more information, see System Views.

Event Views

Event views display lists of events that have taken place in the application.

To display event views, click the **Event Views** button in the lower left part of the Workspace screen. A list of your event views is displayed. For example:



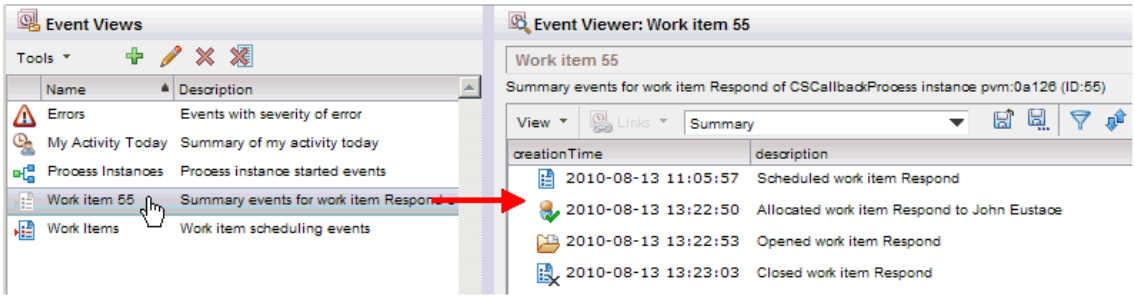
Each event view allows you to display a list of events that are related to some entity in Workspace, such as a work item, process instance, user, etc.

A number of event views may be displayed by default the first time you log into Workspace (the specific event view displayed by default is configurable by the system administrator).

You can create additional event views using one of the methods described in Creating Event Views.

You can also delete event views that you don't need — see Deleting an Event View.

Clicking on the view in the event view list causes the events in that view to be displayed in the list on the right. For example:



For information about the functions you can perform from the event list, see Events.

Creating Event Views

There are a couple of ways in which you can create event views, which provide access to event lists: contextually or by using the wizard.

- **Contextual**ly - This displays a list of events from a specific *context*, such as from a work item, or a process instance, etc.

  For example, from a work item list you can select a work item, then display a list of events that are related to that work item. Or you could choose to display a list of events related to the process instance the selected work item is a part of.

  Note that the specific types of events you can display from a context is customizable. Therefore, the selections you see on your system may vary from those you see in this document.

  You can create a contextual list of events from various locations in Workspace. For more information, see Creating a Contextual List of Events.

- **Using the Wizard** - A wizard is provided that allows you to create a list of events, filtered and/or sorted in whatever way you desire.

  The wizard provides some templates that have preset filters that allow you to quickly create an event list. For more information, see Creating a List of Events Using the Wizard.

Creating a Contextual List of Events

The way in which you create contextual lists of events depends on whether you are creating them from the work item or process instance list in Workspace, or from the organization model or resource list in the Organization Browser.

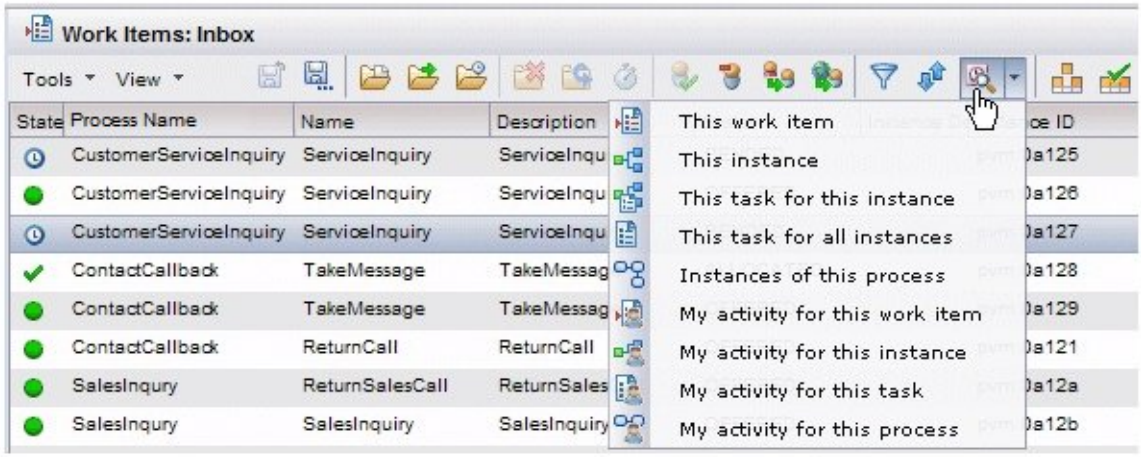
- **Work item list** - From the work item list:

  1. Select the desired work item.

  2. Either click the button on the work item list toolbar, select **Open Event Viewer** from the work item list **Tools** menu, or right-click the selected work item and select **Open Event Viewer**

     All three methods display a drop-down list.

  3. From the drop-down list, select one of the available pre-defined filters. For example:



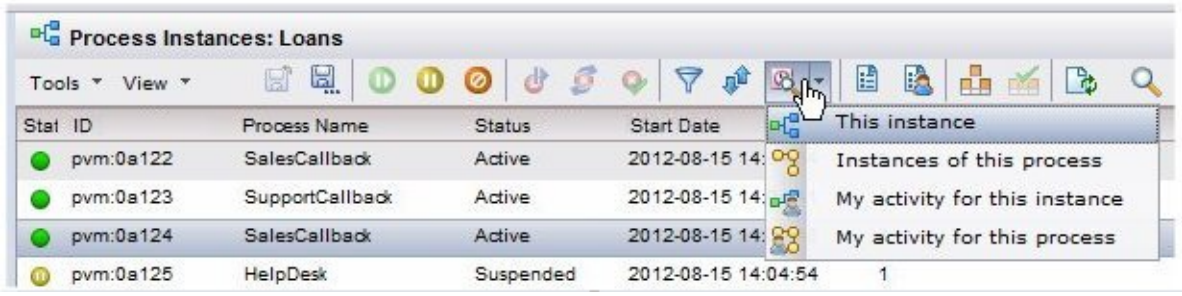
This creates an event view containing events of the type you selected in the drop-down list, that are associated with the selected work item. For example, if you select "This instance", the event list will contain all events pertaining to the process instance that is associated with the selected work item.

Note that the selections in the drop-down list are customizable — those appearing on your system may differ from those shown here.

- **Process instance list** - From the process instance list:

1. Select the desired process instance.
2. Either click the button on the process instance list toolbar, select **Open Event Viewer** from the process instance list **Tools** menu, or right-click the selected process instance and select **Open Event Viewer**.

   All three methods display a drop-down list.
3. From the drop-down list, select one of the available pre-defined filters. For example:



This creates an event view containing events of the type you selected in the drop-down list, that are associated with the selected process instance. For example, if you select "My activity for this instance", the event list will contain all events that were generated by actions you performed pertaining to the selected process instance.

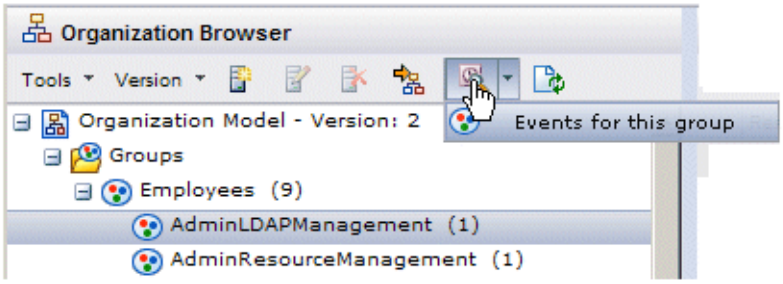
Note that the selections in the drop-down list are customizable — those appearing on your system may differ from those shown here.

- **Organization Model** - From the Organization Browser:

1. Select the desired organizational entity from the organization model graphic.

2. Either click the button on the organization model graphic toolbar, select **Open Event Viewer** from the organization model graphic **Tools** menu, or right-click the selected organizational entity and select **Open Event Viewer**.

   All three methods display a drop-down list.
3. From the drop-down list, select one of the available pre-defined filters. For example:



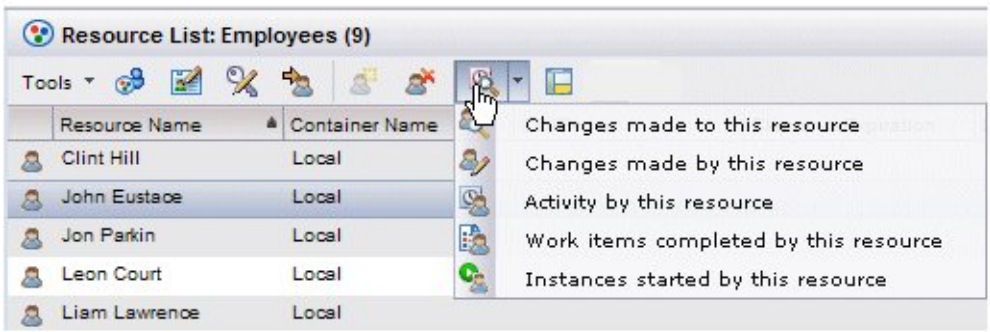
   This creates an event view containing events of the type you selected in the drop-down list, that are associated with the selected organizational entity.

- **Resource list** - From the Organization Browser:

1. In the organization model graphic in the left pane, select a group or position to which the desired resource has been mapped.
2. Select the desired resource from the resource list in the right pane.
3. Either click the button on the resource list toolbar, select **Open Event Viewer** from the resource list **Tools** menu, or right-click the selected resource and select **Open Event Viewer**.

   All three methods display a drop-down list.
4. From the drop-down list, select one of the available pre-defined filters.

   For example:



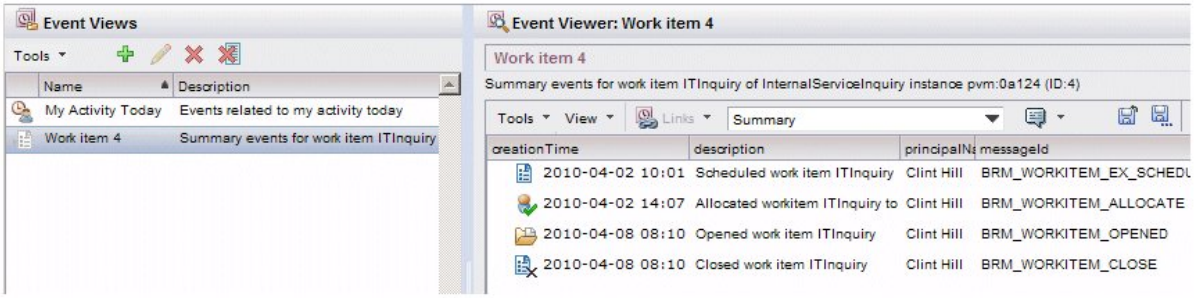
   This creates an event view containing events of the type you selected in the drop-down list, that are associated with the selected resource. For example, if you select “Activity by this resource”, the event list will contain all events that relate to the selected resource.

   The selections in the drop-down list are customizable — those appearing on your system may differ from those shown here.

Result

Note that all of the methods listed above that create a contextual list of events cause a *temporary* event view to be created in the event view list. For example, if work item 4 is selected in the work item list,

then “This work item” is selected from the **Open Event Viewer** drop-down list, the following event view is created:



Notice that the icon for the view in the event view list is grayed out, plus both the **Save** and **Save View As** buttons in the Event Viewer are enabled, indicating that the event is temporary. If you want to save the event view, it must be saved prior to logging out, otherwise it will be lost.

For more information about temporary views, see Saving Views.

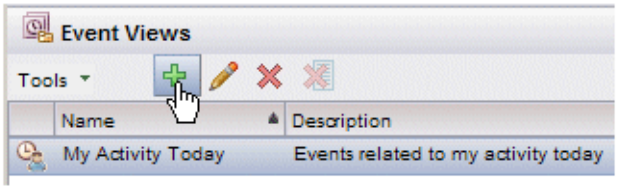
Creating a List of Events Using the Wizard

A wizard is provided that allows you to create a list of events, filtered and/or sorted in whatever way you desire.

The wizard provides some templates that have preset filters that allow you to quickly create an event list.

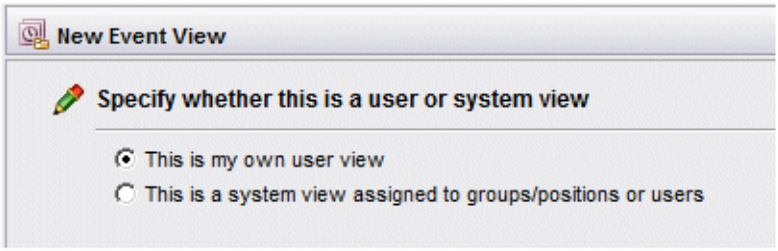
Procedure

1. Display the event view list by clicking the **Event Views** button in the lower-left part of the Workspace screen.
2. Click the button on the event view list toolbar (or select **New** from the **Tools** menu):



A dialog is displayed that allows you to specify whether you are creating a user view or a system view.

This dialog, with the user view / system view selections, displays only if you have the user access authority to create system views.



3. Choose the type of event view to create by selecting the appropriate option:

- A *user view* is one that you create to list events filtered and sorted as desired.

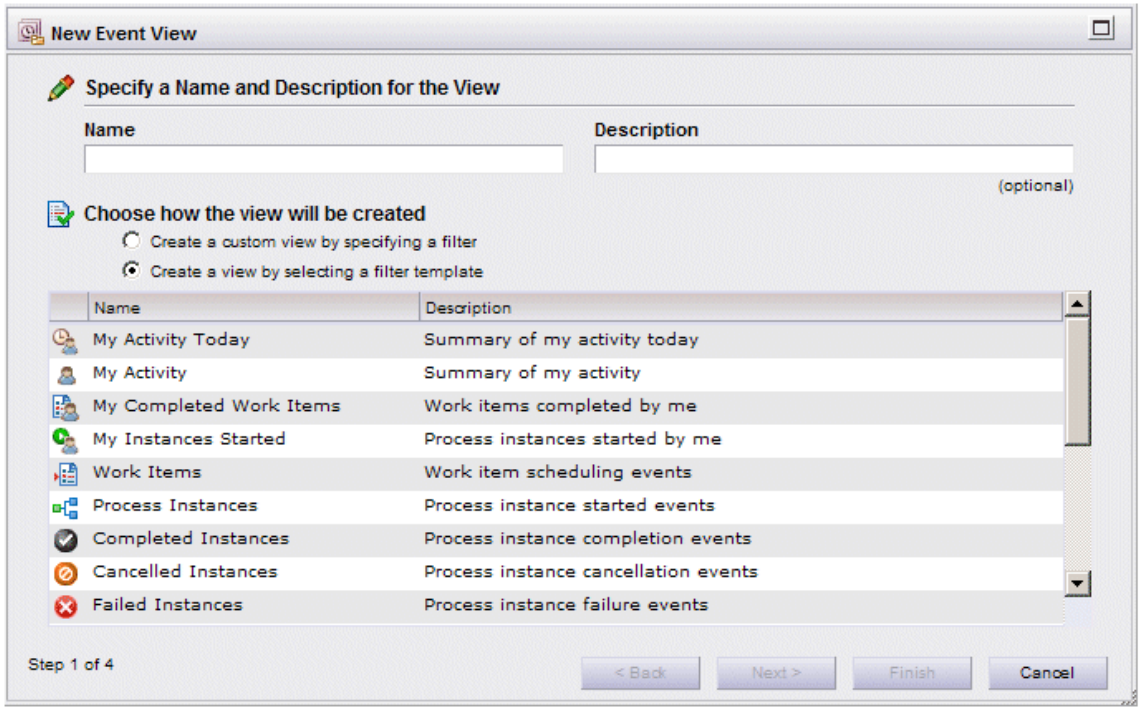
  If you are creating a user view, select **This is my own user view**, then click **Next**.

- A *system view* is one that is automatically available to specified users, or to users that have been assigned to specific groups or positions.

  Creating a system view is typically a supervisory or administrative function. Therefore, the discussion of creating a system view is provided in a separate section of the documentation.

  If you are creating a system view, select **This is a system view assigned to groups/positions or users**, which causes additional items to be displayed on the dialog. Refer to the information in System Views to complete that dialog, then return to this step to complete the creation of the event view.

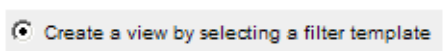
  The New Event View dialog is displayed:



4. Enter the desired name for the event view in the **Name** field, and optionally enter a description for the event view in the **Description** field(1).
5. Choose how you want the event view created by selecting the appropriate option, as follows:

Selecting the **Create a custom view by specifying a filter** option causes the list of filter templates on the dialog to be removed from the dialog. Choose this option if you want to create an event view by specifying your own filter and/or sort criteria.

After choosing the **Create a custom view by specifying a filter** option, clicking **Next** causes the Filter dialog to be displayed — see step 6.



[8] You cannot use any of the four following characters in the view name or description: < (less than), > (greater than), & (ampersand), or " (double quote). The application will not allow you to enter any of these characters.

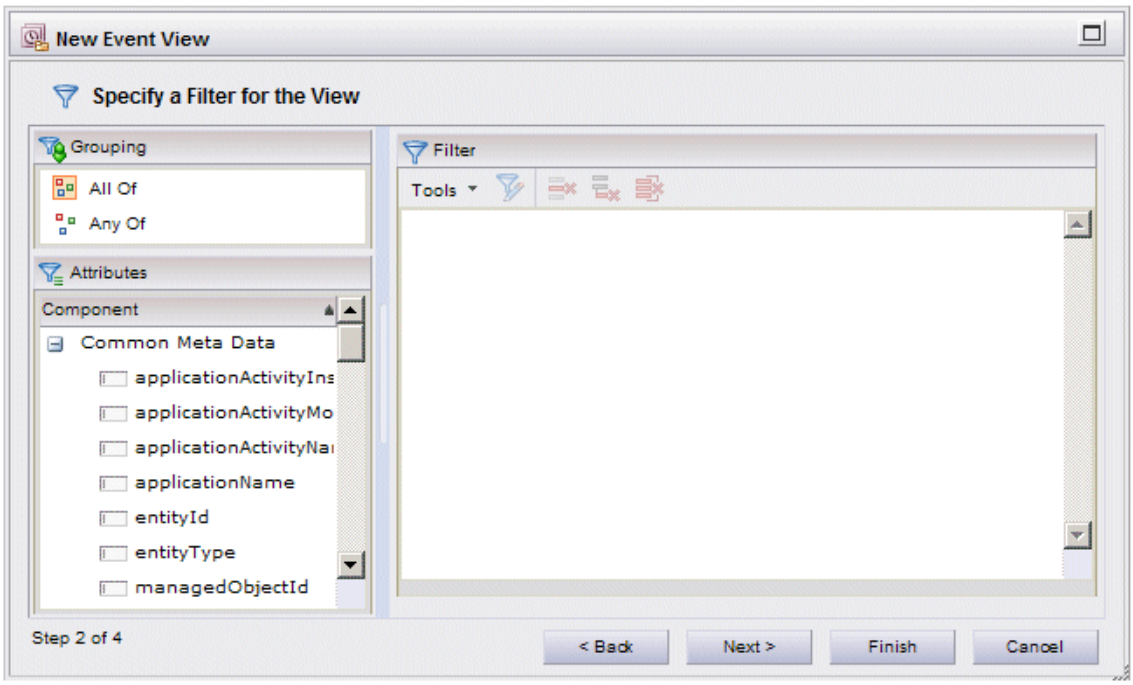
Choose the **Create a view by selecting a filter template** option if you want to use one of the pre-defined filter templates shown in the list below the options.

The templates shown in the illustration above are examples that are provided in Workspace by default. However, the templates are customizable and will likely be different on your system. The **Description** column provides information about the type of filter that is imposed for each template.

If you choose the **Create a view by selecting a filter template** option, select one of the available templates. You can then do one of the following:

- Click **Next** to advance to the Filter and Sort dialogs. This allows you to enter additional filter criteria if desired, or to sort the event list as desired. If you click **Next**, proceed to step 6.
- Click **Finish** to directly create the event view based on the filter template.

6. The Filter dialog allows you to enter criteria so that only the events you are interested in are displayed in the view you are creating:



Note that if you had selected a filter template in step 5, you might expect the filter for that template to appear on the Filter dialog. However, the filters for the available templates are specified through a configuration file by an administrator, not through the Filter dialog.

Also, if you had selected a filter template in step 5, you can enter additional filter criteria to further pare down the event list.

From the Filter dialog, you can do one of the following:

- Enter filter criteria for the event view, then click **Next** to advance to the Sort dialog to specify how to sort the events in the view.
- Enter filter criteria for the view, then click **Finish** if you have no desire to specify how to sort the events in the view.
- Click **Next** to advance directly to the Sort dialog if you have no desire to specify filter criteria.

  Note that any filter criteria you specify through the wizard is considered the "base" filter for the process view (as opposed to a "refined" filter that is set through the **Filter** function on the event list itself). For more information, see Base Filter and Refined Filter.

Because filtering event lists is basically the same as filtering other types of lists in Workspace (with the exception of the specific fields on which you can filter), details of filtering is explained in a single chapter — see Filtering Lists.

7. From the Sort dialog, you can do one of the following:
   - Enter sort criteria for the view, then click **Next** to advance to the Column dialog to specify the columns to display in the view.
   - Enter sort criteria for the view, then click **Finish** if you have no desire to specify columns for the view.
   - Click **Next** to advance directly to the Column dialog if you have no desire to specify sort criteria.

     Because sorting event lists is basically the same as sorting other types of lists in Workspace (with the exception of the specific attributes on which you can sort), details of sorting are explained in a single chapter — see Work Items.
8. From the **Specify Display Columns for the View** dialog, move the columns you would like displayed in the view to the list on the right, then click **Finish** to complete the creation of the view.

   This dialog works in the same way as the Column Selector dialog available from all other lists in Workspace. For information about using the Column Selector, see Customizing Columns in a List.

Result

The new view will appear in the list of event views.

Editing an Existing Event View

You can edit the definition of an existing event view, that is, the name, description, filter template (if applicable), filter criteria, or sort criteria.

Procedure

1. Select the desired view in the event view list.
2. Click the **Edit Event View** button (), or select **Edit** from the **Tools** menu.

   The same dialogs are displayed as when the view was originally created. For information about those dialogs, see Creating Event Views.

Editing a System Event View

The extent to which you can edit a system view depends on whether you are the owner, author, or recipient of the view.

For more information, see System Views.

Deleting an Event View

If you don't need an event view any longer, you can delete it from the event view list.

Procedure

1. Select the desired event view in the event view list.
2. Click the  button, or select **Remove** from the **Tools** menu.

Result

You will be asked to confirm the deletion before it is removed from the event view list.

Also remember that *temporary* views are automatically deleted when you log out. However, there is a

Remove All Temporary Views button ( )and menu selection available on the event view list that allows you to delete all temporary event views without having to log out.

Deleting a System Event View

The extent to which you can delete a system view depends on whether you are the owner, author, or recipient of the view.

For more information, see System Views.

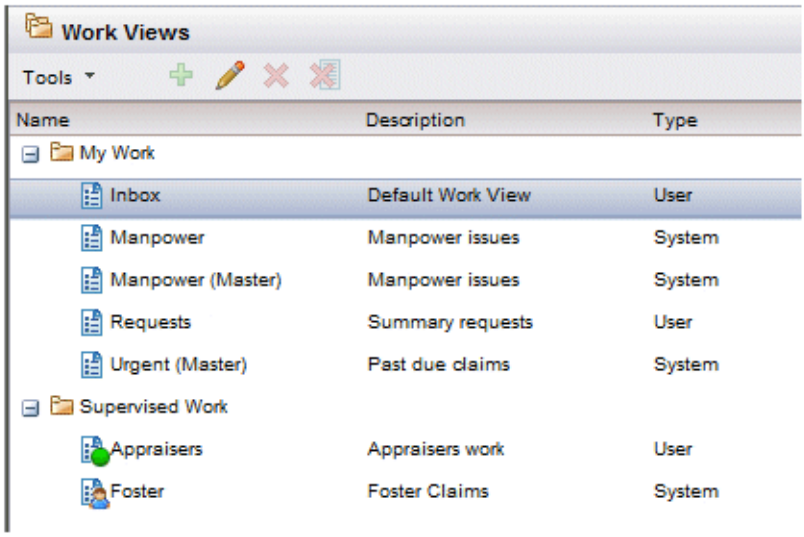
System Views

Supervisors can define a work view, process view, or event view and assign it to individual users, or to members of specified groups and positions; these views are called *system views*. Users that have been assigned system views automatically get a copy of the view in their view list, along with their own user-defined views.

System views are not applicable to case views.

System views are defined with the view wizard, in much the same way as user-defined views are created, by specifying a name, description, filter, sort, columns, etc. The view wizard, however, contains an additional dialog when creating or editing system views, which is used to specify the resources, groups, or positions that will inherit the system view, as well as which characteristics of the system view can be modified by the users that inherit them.

System views are distinguishable from *user* views (that is, user-defined views) by the designation in the **Type** column in the view list:

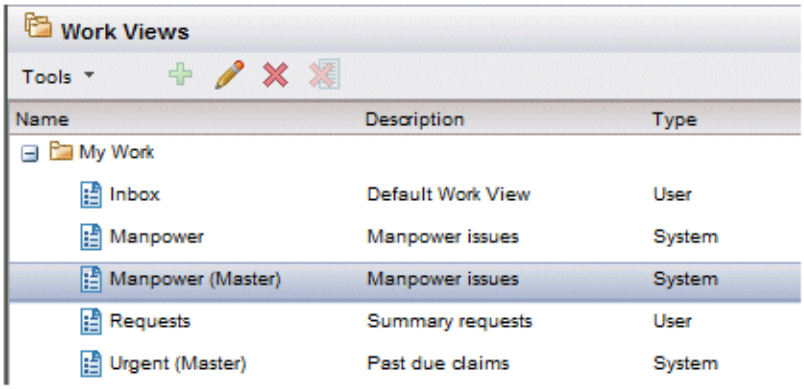


Owners Authors and Recipients

There are three types of users associated with system views: owners, authors, and recipients.

- **Owners** - These are the users who create system views. The system view appears in the owner's view list, and that user has the authority to delete the system view, or edit any aspect of the view.

  The system view that appears in the owner's view list is considered the *master* copy of the view, that is, it is the view definition controlled by the owner (and possibly also by authors — as described below). The master copy of the view is denoted by "(Master)" appearing with the view name, as shown in the following example:



Note that the owner of a system view could also be a *recipient* of the view (recipients are described below), in which case, two system views of the same name appear in the owner's view list, one that contains "(Master)" in the name, and one without. This is the case for the "Manpower" view shown in the illustration above. This occurs if the system view is assigned to a group or position in which the owner is also a member.

For more information about the master copy vs. the recipient copy of the view, see Editing a System View.

The system view definition can contain effective dates for the view. If the system view is no longer in effect because of a specified effective end date, the view is removed from the recipient's view list, but the Master view still appears in the owner's view list (as well as the author's view list) until it is explicitly deleted by the owner (or author).

- **Authors** - When owners create system views, they can optionally designate one or more *authors* for the view. Authors are typically team members that the owner wants to have control over the system view definition. When an owner specifies an author for a system view, the author will also receive a *master* copy of the view, just like the owner.

  Because the author has a master copy, the author also has the authority to delete the view, or edit any aspect of the view, including specifying recipients, additional authors, effective dates, and the properties of the view that recipients can modify.

  And like owners, authors may see two copies of the system view in their view list: the master copy, plus the recipient's copy if the author happens to be a member of a group or position to which the system view is assigned.

  Authors can be specified to be either individual resources, or the members of groups and positions.

  Users that possess the "All System Actions" privilege are automatically assigned as an author, and given a Master copy, of all system views that are created. This is to prevent the situation where no one can access a system view Master copy because the system view owner and any designated authors are no longer available.

- **Recipients** - These are the users to which the system view is being targeted. The recipients automatically receive the system view in their view list.

  Recipients cannot delete system views from their view lists, nor can they edit some properties of the system view, such as the recipients and authors of the view, or the effective dates of the view.

  Recipients may, however, be able to modify some properties of the view, such as the description, filter, sort specification, and columns in the view, depending on how the view was defined by the owner or an author.

User Access

The ability to manage system views is controlled by user access elements, and may be restricted to certain organizational entities or individuals.

The following user access elements are used to control system view access:

- **CreateSystemView** - This user access element is required to create a system view for a particular view type (work view, process view, or event view).
- **AuthorSystemView** - This user access element is required to author a system view for a particular view type (work view, process view, or event view).

For more information about user access elements, see the *TIBCO Workspace Configuration and Customization* guide.

Creating a System View

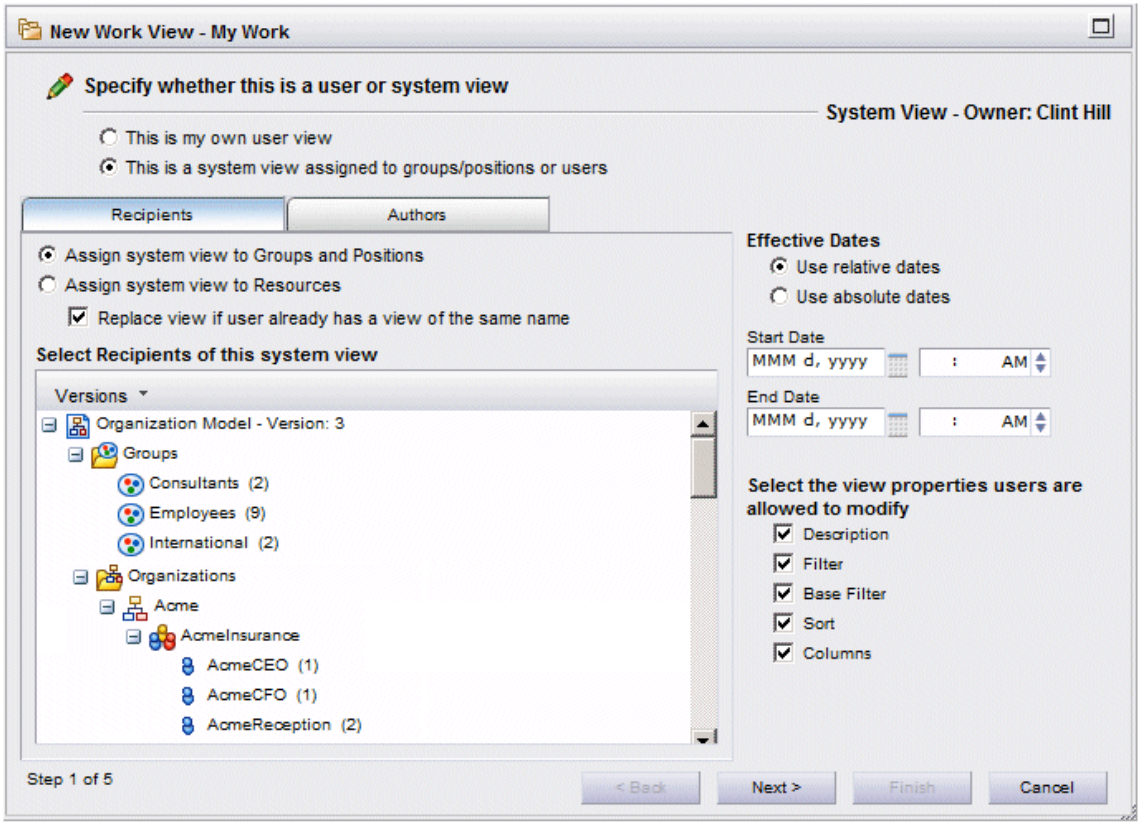
System views are created with the view wizard.

Note that work views are used throughout this procedure to show how system views are created. Note, however, the same procedure is used to create system views for process and event views.

Procedure

1. Begin the process of creating a work, process, or event view, as described in the following sections:
   - Work view - Creating Work Views
   - Process view - Creating Process Views
   - Event view - Creating Event Views
2. In the first step of the procedure to create a view, select the **This is a system view assigned to groups/positions or user** option.

   The following dialog is displayed:



This dialog displays only if you have the user access authority to create system views.

3. Specify the recipients of the system view. These users will automatically receive the view in their view list.
   a) Ensure that the **Recipients** tab is selected.
   b) Choose whether members of groups and positions will receive the view, or whether individual resources will receive the view:

- To send the view to members of groups and positions, select **Assign system view to Groups and Positions**, then select one or more groups and positions in the **Select Recipients of this system view** pane. Also ensure that the correct organization model version is displayed; it can be changed using the **Versions** drop-down list.

  Note that selecting a group or position in the organizational tree automatically selects all of its subordinate elements. The system view is assigned to all subordinate groups or positions as well.

  If you assign the system view to a group or position, users that are assigned to the group or position must have the DE.browsemodel system action, otherwise they will not see the system view.

- To send the view to individual resources, select **Assign system view to Resources**, then move one or more resources from the **Available Resources** list to the **Recipients** list.

  The number of resources that can be selected to receive a system view is limited to 200; if more than 200 is needed, the resources should be assigned to a group, then assign the system view to a group.

  System views cannot be assigned to both groups/positions *and* individual resources.

4. If you want the newly created system view to replace a view of the same name in the recipient's view list, select the **Replace view if user already has a view of the same name** check box.

This check box can have two purposes: to overwrite a user-defined view of the same name, or to specify whether or not to update a recipient's existing system view.

For the initial creation, you will probably want to ensure this box is selected to push the system view out to all recipients. However, for subsequent changes to the system view, you may not want to update the recipient's copy of the view. For more information, see Editing a System View.

5. Optionally, specify one or more authors for the system view. These users get a Master copy of the system view in their view list.
   a) Ensure that the **Authors** tab is selected.
   b) Choose whether members of groups and positions, or individual resources, will receive a Master copy of the system view:

- To assign a Master copy of the view to members of groups and positions, select **Select Authors from Groups and Positions**, then select one or more groups and positions in the **Select Authors** pane. Also ensure that the correct organization model version is displayed; it can be changed using the **Versions** drop-down list.

  Note that selecting a group or position in the organizational tree automatically selects all of its subordinate elements. The Master system view is assigned to all subordinate groups or positions as well.

  If you assign the system view to a group or position, users that are assigned to the group or position must have the DE.browsemodel system action, otherwise they will not see the system view.

- To assign a Master copy of the view to individual resources, select **Select Authors from Resources**, then move one or more resources from the **Available Resources** list to the **Authors** list.

6. Optionally, specify the effective dates of the system view.

   If no start date is specified, the system view takes effect immediately, that is, it appears immediately in your view list; it will appear in the author's and recipient's view list the next time they log in. If a start date is specified, the system view appears immediately in your view list as well as any author's view list, and will appear in the recipients view list the next time they log in after the effective date and time.

   If no end date is specified, the system view is in effect indefinitely. If an end date is specified, when it is reached, the system view no longer appears in the recipient's view list the next time the recipient logs in after the specified date and time, but the Master view will remain in your view list as well as any author's view list.

   To specify effective dates:

   a) Choose whether the effective dates will be relative or absolute:

- **Relative** - The specified dates and times take effect at that date\time in each client's local time. That is, the effective date is *relative* to the client's local time. For example, a system view set to start on "Oct. 30, 2012 8:00 a.m." will start at that specific local time for every client, regardless the time zone the client is located.
- **Absolute** - The specified dates and times must be entered in UTC time, and will take effect at that absolute point in time for all time zones. For example, if a UTC time of "Oct. 30, 2012 8:00 a.m." is specified, all users around the world will receive the system view at 8:00 a.m. October 30, 2012 GMT. The start and end time calculations for absolute dates and times are based on the date/time setting of the server, which is converted to UTC and compared against the effective UTC dates.

  The following website can be used to determine your current time in UTC:

  http://www.worldtimeserver.com/current_time_in_UTC.aspx

  This website can be used convert time zones:

http://www.timezoneconverter.com/cgi-bin/tzc.tzc

b) Enter the desired start and end dates/times; you can use the calendar icon to the right of the date fields.

7. Using the check boxes in the lower right part of the dialog, select the properties you want recipients to be able to modify in their copy of the system view.

   If you clear a check box, the recipient loses the ability to modify that property of the view.

   Note that owners and authors always have the ability to modify properties of the Master view; these check boxes control the ability to modify the recipient copy.

   The available properties are:

   - **Description** - This controls whether the recipient can modify the system view description in the view wizard.
   - **Filter** - This controls whether the recipient can modify the *refined* filter for the system view, which is the filter defined using the Filter function from the work item list, process instance list, or event list.
   - **Base Filter** - This controls whether the recipient can modify the *base* filter for the system view, which is the filter defined using the view wizard.

     If this property is turned off, the Save View function is also removed from the work item list, process instance list, or event list. That's because the Save View function is used to add a refined filter to the view base filter, which is not allowed if this property is turned off.
   - **Sort** - This controls whether the recipient can modify the sort order for the system view. This affects using the Sort function from the work item list, process instance list, or event list, as well as using the view wizard.
   - **Columns** - This controls whether the recipient can define which columns to display in the view using the Column Selector from the work item list, process instance list, or event list, as well as using the view wizard.
   - **Select Process** [process system views only] - This controls whether the recipient can modify which processes are included in the process system view, using the view wizard.
   - **Select Template** [event system views only] - This controls whether the recipient can modify which filter template is used to create the event system view, using the view wizard.
   - **Select Work List** [supervised system work views only] - This controls whether the recipient can modify the selection of work lists for organizational entities or resources.

     Note that many of these functions are also controlled via user access controls. Therefore, even though the system view definition gives the recipient the ability to modify the view in some way, the recipient must also possess the appropriate user access.

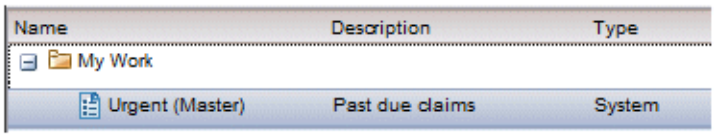
8. Click **Next** to proceed to the next dialog in the view creation procedure. Refer to one of the following steps, depending on the type of view you are creating:

   - Work view:
     — personal work view: Creating a Personal Work View - step 4
     — supervised work view: Creating a Supervised Work View - step 4
   - Process view: Creating a Process View - step 3
   - Event view: Creating an Event View - step 4

Editing a System View

If you are a recipient of a system view, you can edit the copy of the view to the extent allowed by the view definition; the view definition specifies which properties are editable by recipients (filter, sort, columns, and so on.).

If you are the owner or author of a system view, you can edit the *master* view definition:



Editing the master system view definition allows you to change aspects of the system view, such as the recipients, authors, effective dates, and which properties the recipients can modify in their view copy.

There may be occasions when you want to edit a system view definition, but you *don't* want to modify the view definition for recipients that already have the system view in their view list. In these cases, you can clear the **Replace View if user already has a view of the same name** check box when you edit the view. Then if you add additional recipients to the view definition while you are editing it, that view definition is *not* pushed out to the recipients that already had it; their view definition remains what it was. The new definition is pushed out only to the new recipients you added to the view definition.

Procedure

1. Select the view in the view list.
2. Click the **Edit View** button ( ), or select **Edit** from the **Tools** menu.

Deleting a System View

System views can be deleted only by the owner or a designated author; the recipients of a system view cannot delete the system view from their view list.

Procedure

1. Select the view in the view list.
2. Click the button, or select **Remove** from the **Tools** menu.

   You are asked to confirm the deletion before it is removed from the view list.

   If a user is currently logged in when a system view for which they are the recipient is deleted, the view is removed from their view list the next time they log out and log back in.

Case Views

Case views are filtered and sorted views of *global case data*.

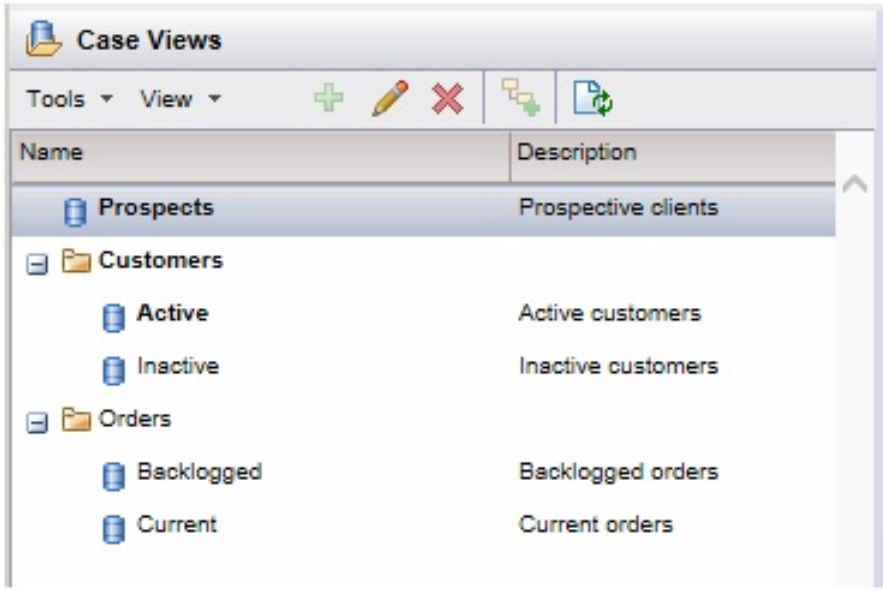
Global case data represents data that is defined as global in scope, and that can be accessed and updated by multiple BPM applications. It is defined in a Business Object Model (BOM) using TIBCO Business Studio.

Global case data is defined as a *case class*, with attributes that contain specific pieces of information about the class. For example, there could be a Customer class, with attributes for first name, last name, social security number, date of birth, and so on. A process can create an instance of the Customer class for each customer. Then other processes can access, and possibly update, that same instance of the Customer class.

In Workspace you can create views that allow you to see the instances of global case data that have been created, as well as see the work items, process instances, and events that reference each instance of case data.

Creating Case Views

A case view wizard is provided to create case views.
When creating a case view, you can choose to place the view in a *category*, or make it *uncategorized*. Placing a case view in a category is like placing a file in a folder. For example, in the following, the "Prospects" case view is uncategorized (because it is not under a folder icon), and the other case views are in two categories: Customers and Orders:



Procedure

1. Display the case views list by clicking the **Case Views** button in Workspace.
   The way in which you proceed depends on whether you want to create an uncategorized or categorized case view:

   - To create an uncategorized case view:

     1. Click anywhere in the white space of the Case Views list so that nothing is selected in the list.
     2. Click the button, or select **New** from the **Tools** menu
     3. Proceed to Step 2.

   - To create a case view in a category that already exists:

     1. Select the existing category.
     2. Click the button, or select **New** from the **Tools** menu
     3. Proceed to Step 2.

   - To create a case view in a category that does not yet exist:

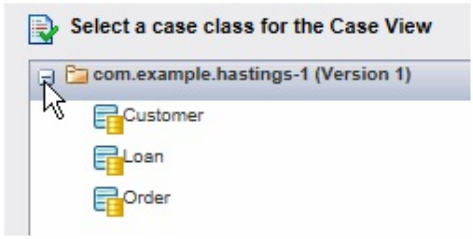
1. Create the category: either click anywhere in the white space (to create the category at the top level), or select an existing category (to create a subordinate category), then click the button.
2. On the Add Category dialog, name the category, then click **OK**.

   The category name can be any arbitrary name desired; just like a folder name. However, all category names at the same level in the tree must be unique.
3. Select the category you just created.
4. Click the button, or select **New** from the **Tools** menu.
5. Proceed to Step 2.

2. On the **New Case View** dialog, specify the name and an optional description for the case view.

   All case view names must be unique, even at different levels in the tree.
3. Optionally select a category by clicking the **Category** selection, then choose a category from the list.

   This is more applicable to editing an existing case view; it allows you to move a case view to another category.
4. In the **Select a case class for the Case View** section, expand the object model reference to expose the case classes:



5. Select the case class for which you want to create a case view, then click **Next**, or double-click the case class to proceed.
6. Specify a filter for the case view so that only the cases that satisfy the filter are displayed.

   Filtering the case view consists of the following sub-tasks:

   a) Choose the grouping for the filter.

      For general information about choosing a filter grouping, see Choosing a Filter Grouping.

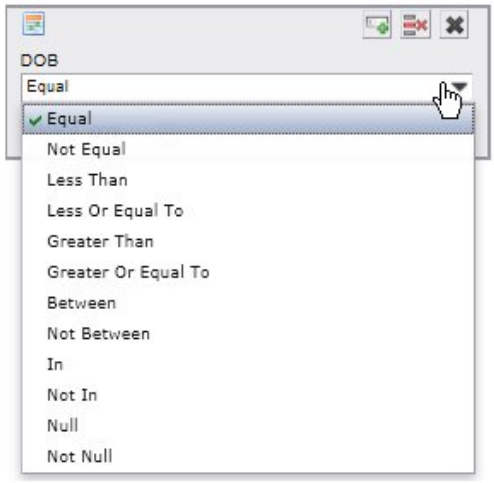
   b) Select the filter attributes.

      For general information about selecting filter attributes, see Selecting Filter Attributes.

      The attributes available for filtering case views are those that were specified as *searchable* when the selected data class that was selected was defined in TIBCO Business Studio. For information about the attribute types used with case data, see Case View Filter Attribute Types.

   c) Specify a logical operator and value on which to filter.

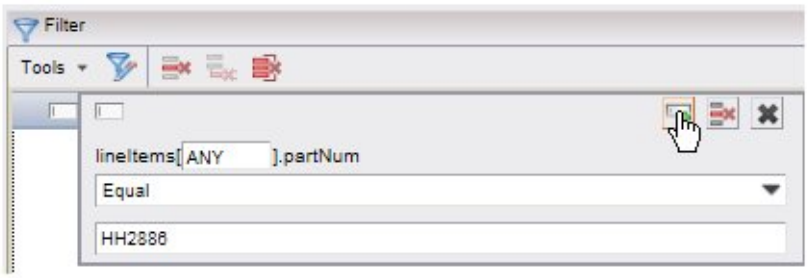
      The logical operators available depends on the data type of the attribute on which you are filtering. For example:



Most of the operators are the same as those available when filtering other types of views, as described in Filtering Lists. However, there are a few operators that are unique to filtering case views. For information about these, see Logical Operators for Filtering Case Views.

Also note that some attributes may be arrays. Filtering array values is described in Filtering Array Attributes in Case Views.

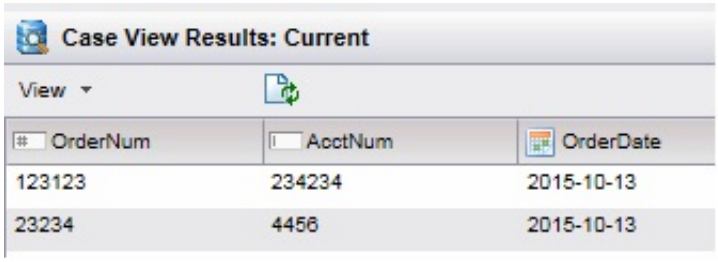
7. After choosing a logical operator and entering a value, you can add the filter attribute to the filter expression by clicking the **Add** button:



8. Optionally add additional attributes to the filter expression, then either click **Next** to specify a sort for the case view or click **Finish** to view the results.

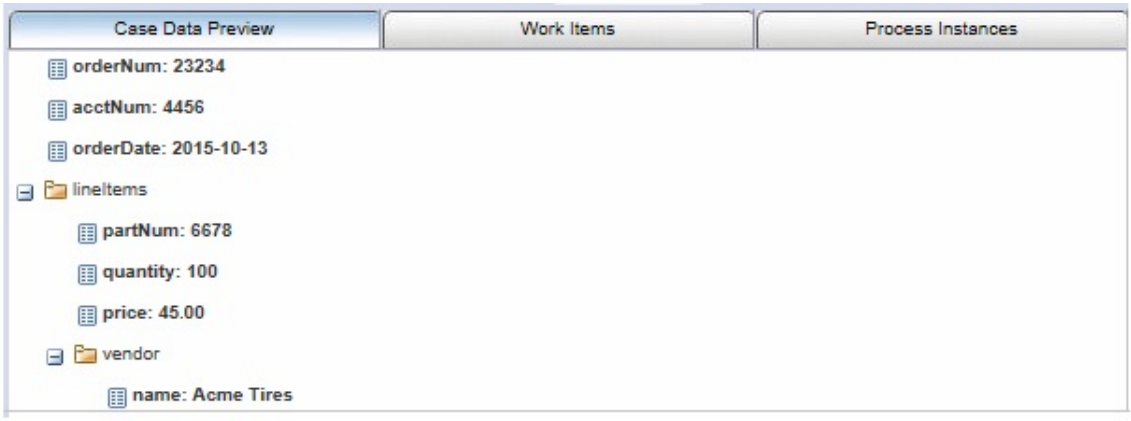
   For information about specifying a sort, see Work Items.

   The list of cases that satisfy the filter expression is displayed in the upper-right pane. For example:



   You can also optionally display the case references that represent the cases by selecting **Show Case Reference** from the **View** menu. This selection works as a toggle.

9. Select one of the case entries to display details of the case in the lower-right pane. For example:

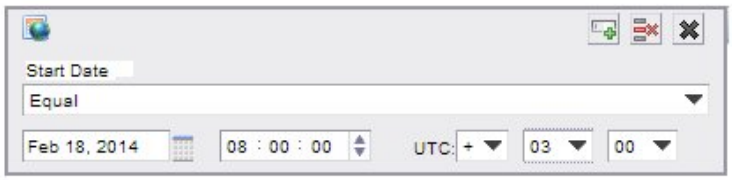


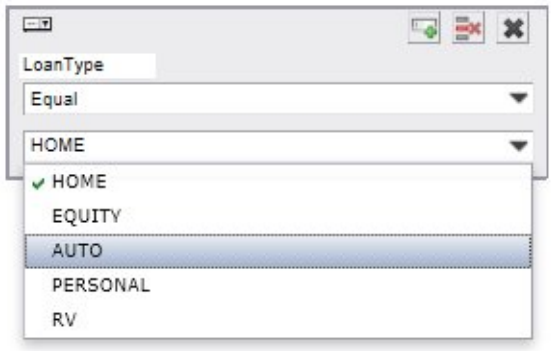
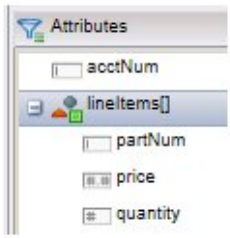
The **Case Data Preview** tab shows the data in each of the attributes of the case.

The **Work Items** and **Process Instances** tabs list the work items and process instances associated with the selected case. These tabs allow you to perform the usual functions available for those types of items.

Case View Filter Attribute Types

The attributes that can be used in filter expressions when creating case views are of specific *types*, which allows only certain types of values.

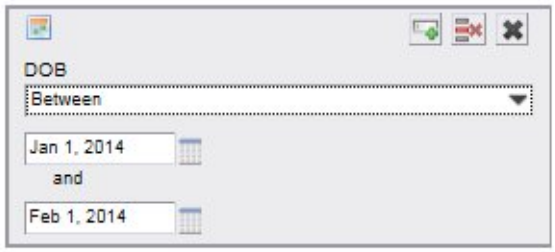
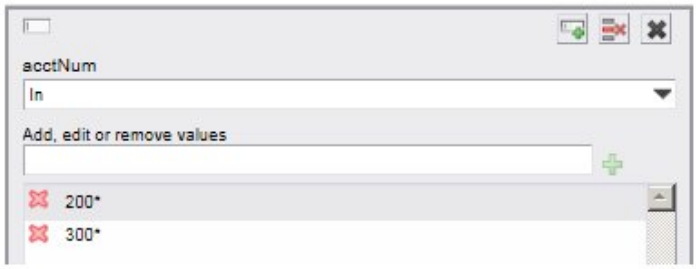
Attribute Type	Description
Boolean	True or false. You can test whether the attribute value is equal to true or false, or whether or not it contains a value (Null or Not Null).
Date	The Filter dialog provides a date picker to choose date.
Date Time	The Filter dialog provides a date and time picker to choose a date and time.
Date Time and Time Zone	The Filter dialog provides a date and time picker, plus fields in which you can specify the *time zone offset*, which is the number of hours you are located, plus or minus, from UTC (Coordinated Universal Time): 
Decimal	Consists of numbers with decimals.
Duration	The Filter dialog provides fields (Years, Months, Days, Hours, Minutes, and Seconds) to specify a duration of time.

Attribute Type	Description
Enumeration	Attributes of this type allow you to only choose among a list of valid entries. For example: 
Integer	Consists of one or more of the numbers 0-9.
Object	An entity that contains its own attributes. For example, `lineItems` is an object: 
Text	Consists of any number of letters, numbers, or special characters (e.g., #, $, etc.) Filtering on text is case sensitive. Note that text attributes are the only attributes for which you can use wildcard characters. See Wildcard Characters . And if you are filtering on text that contains any of these special characters in a case view, they must be “escaped”: *, ?, ‘, _, % or \ For more information, Filtering on Special Characters .
Time	The Filter dialog provides a time picker.
URI	Consists of text in the format of a Universal Resource Identifier (URI).

Logical Operators for Filtering Case Views

There are a few logical operators that are unique to filtering case views.

These operators are described in the following table.

Between Not Between	Returns true if the attribute value is between (or not between) *value1* and *value2* (inclusive). These operators are available for integer and date attributes. For example: 
In Not In	Returns true if the attribute value is one of the specified values (or not one of the specified values). For example:  This returns true if the acctNum attribute value begins with 200 or 300 (note that the wildcard character can only be used if the attribute data type is text). Add values by entering them in the field, then clicking the icon. Remove values from the list by clicking the red X icon to the left of the value.
Null Not Null	Returns true if the attribute does not contain a value (Null); or it does contain a value (Not Null).
Size Equal Size Not Equal Size Greater Than . . .	These operators are used to return cases based on the number of entries in the array. For more information, see Returning Cases Based on Number of Members in an Array .

Wildcard Characters

There are a couple of wildcard characters that are unique to filtering case views.

They are:

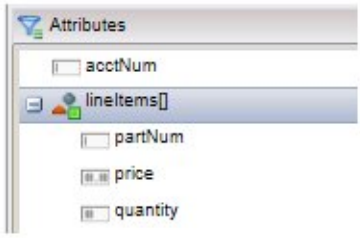
- % (percent) - Matches zero or more of any character. This works the same as an asterisk (*).
- _ (underscore) - Matches any single character. This works the same as a question mark (?).

For general information about using wildcard characters, see Using Wild Card Characters.

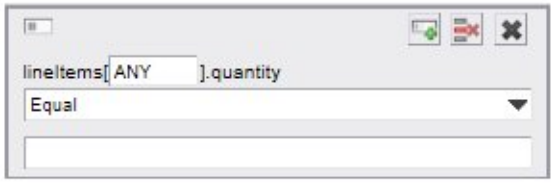
Filtering Array Attributes in Case Views

When filtering case views, some of the attributes in the case class may be arrays.

If the attribute is an array, its name is followed by [ ] characters in the case view list. For example:



When you are filtering an array, or an item in an array, a field appears next to the array name on the Filter dialog. For example:

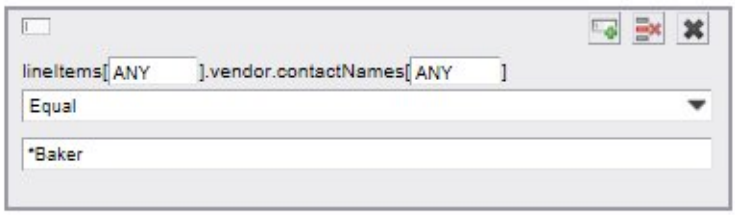


The field appears for most operators, like Equal, Not Equal, Greater Than, Null, and so on (there are some exceptions that are described below). The valid entries for this field are:

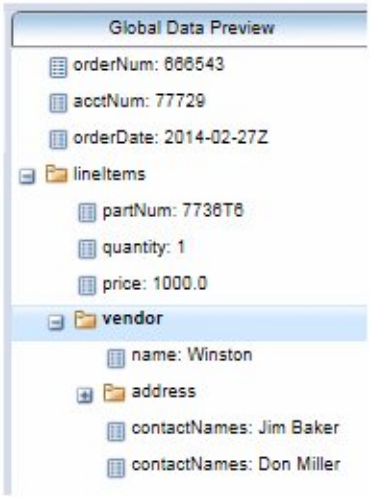
- ANY - This causes the filter to return the cases in which *any* of the items in the array match the specified criteria.
- ALL - This causes the filter to return the cases in which *all* of the items in the array match the specified criteria.
- An index number - This causes the filter to return the cases that match the specified criteria at that index number (zero based).

Nested Arrays

A case view filter can also included nested arrays. For example:

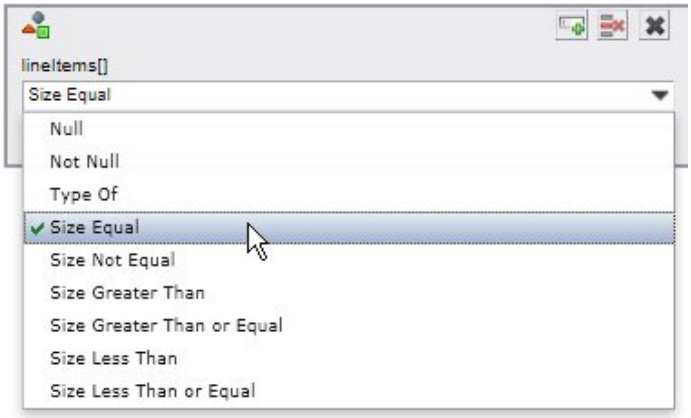


This nested-array filter returns the cases in which any `contactNames` array, in any `lineItems` array, contains the name “Baker”. For example:



Returning Cases Based on Number of Members in an Array

When you are filtering on an array attribute, a number of **Size...** operators are available:



These operators allow you to specify that cases be returned that have a certain number of members in the array.

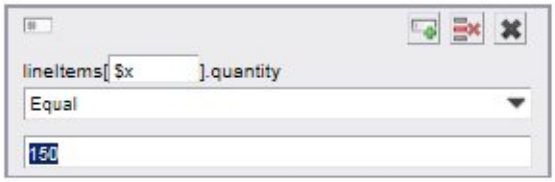
For example, this filter returns the cases for which the `lineItems` array contains more than 10 members:

Using Tags in Compound Expressions for an Array

You can use *tags* in filter expressions to build more complex compound expressions. Tags are used when you want to stipulate that one or more of the compound expressions are to evaluate *the same* members of the array, or *different* members of the array.

Tags only make sense when you are building compound expressions.

A tag is entered in the array field on the Filter dialog by entering a **$** character followed by a letter (a-z), optionally followed by additional letters or integers. For example:



The tag value following the **$** is arbitrary, although each tag value represents a unique member of the array.

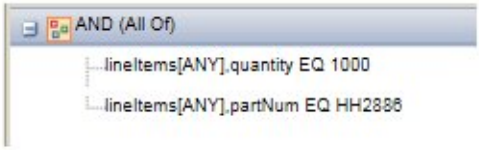
Examples best illustrate this.

Assume the following represents a single case, which represents an order. The order contains two items, each represented by a `lineItems` array:

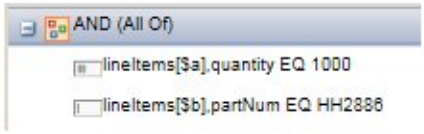
	quantity	partNum
lineItems[0]	1000	8829-PPP
lineItems[1]	12	HH2886

And you want a filter that returns cases in which one lineItem has `quantity` = 1000 and a *different* lineItem has `partNum` = HH2886.

If you built the following filter, it would not return the case (order) because it would require a single lineItem to match both conditions:



You could, however, use tags in the following way:



Because each of these expressions have different tags ($a and $b), the `quantity` attribute must equal 1000 in one member of the array, and the `partNum` attribute must equal HH2886 in a *different* member of the array, *all within the same case* for the case to be returned.

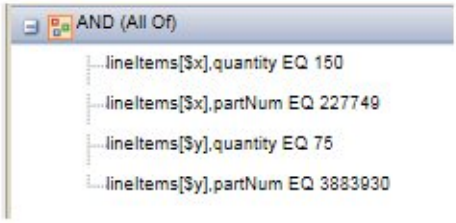
To extend the previous example, assume you want the cases returned in which one `lineItem` matches:

- `lineItems.quantity` = 150 and `lineItems.partNum` = 227749

and another `lineItem` matches:

- `lineItems.quantity` = 75 and `lineItems.partNum` = 3883930

You would use the following filter expression:



Notice that the first two expressions contain "$x" as the tag, which means that those must match in the same lineItem. And the second two expressions contain "$y" as the tag, which means that those two must match in the same lineItem.

Editing an Existing Case View

You can edit any part of the definition of a case view, that is, the name, description, filter criteria, or sort criteria.

Procedure

1. Select the desired case view in the case view list.
2. Click the icon, or select **Edit** from the **Tools** menu.

Result

The same dialogs are displayed as when the view was originally created. For information about those dialogs, see Creating Case Views.

Deleting a Case View

If you don't need a case view any longer, you can delete it from the case view list.

Procedure

1. Select the desired case view in the case view list.
2. Click the icon, or select **Remove** from the **Tools** menu.

   You will be asked to confirm the deletion before it is removed from the case view list.

Result

If you remove a case view, and it is the only view in a category, the category is automatically removed.

Business Services

Workspace can be used to start and process business services.

A business service is a set of actions that accomplishes some sort of business function. For example, a business service could be designed to handle an incoming insurance claim. This business service may consist of the following actions:

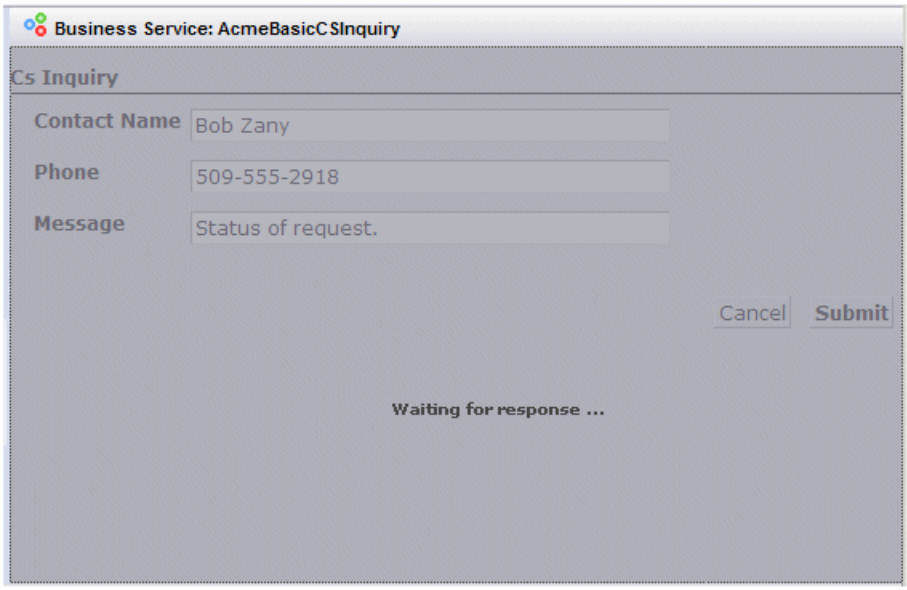
- When the business service is started, a form is displayed that allows you to enter the claimant's policy number.
- When the form with the policy number is submitted, a database is accessed to retrieve the claimant's policy information.
- Another form is displayed that contains the policy information.
- After reviewing the policy information, and deciding it is a valid claim, submitting the form may start an instance of a process that is used to process the claim.
- The process instance that is started causes a work item to be sent to the appropriate user, who must open it and work on it.

Note that business services are *stateless*, meaning that if it consists of a number of forms, and you enter data into some forms, then cancel the business service (by clicking the **Cancel** button on a form) before completing the business service, none of the data you entered on the previous forms is saved.

If a business performs a *stateful* action, that is, something that cannot be reversed (e.g., writing to a database, starting a process instance, etc.), typically it will be the last action performed by the business service.

The example business service described above is just one simple example. Depending on how it is designed, a business service may consist of the following types of actions:

- **Display forms** - Multiple forms may be displayed in sequence. When a business service includes multiple forms, the user that starts the business service will be the one to work through all of the forms — as soon as the user submits one form, the next one in the sequence is displayed. Note, however, that if there is an action of some sort in-between forms (database access, script execution, etc.), there may be a delay in displaying the next form. If this occurs, a shaded mask is shown over the previous form, and a "Waiting for response" message is displayed. For example:



- **Start process instances** - One or more instances of processes may be started by a business service, resulting in one or more work items being sent to the appropriate users to process them.

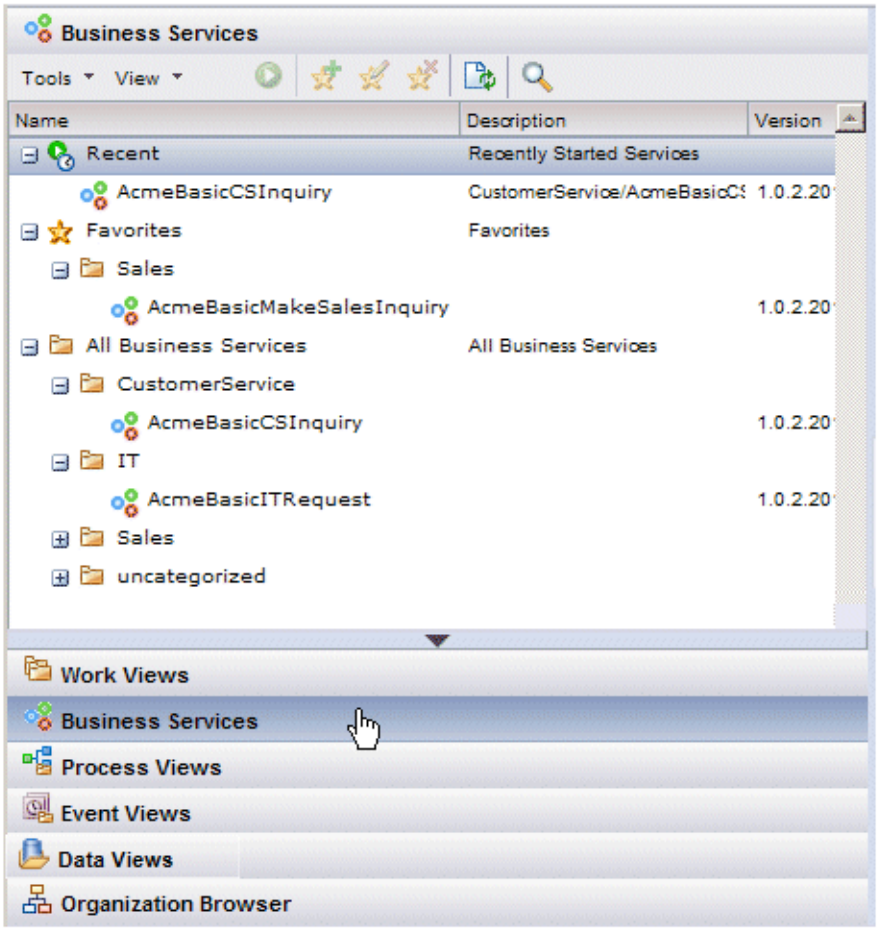
  If the business service starts process instances, and results in work items, you can see those in the process instance and work item lists, respectively.

  This stateful type of action would typically be done as the last action in the business service.
- **Access databases** - The business service may access a database to read or write information.
- **Scripts** - Scripts can perform various functions, such as calculations, validation, etc.
- **Web services** - External web service may also be called to perform some custom function.
- **Logical branching** - The flow of the business service may branch in various ways, depending on its design.

Displaying the Available Business Services

To display the available business services, click the **Business Services** button in the lower-left pane.

The list of business services that are available to you (because of your access privileges) are displayed in an expandable/collapsible folder/file structure.



There are three main sections in the business service list:

- **Recent** - These are the business services that you started recently. It allows you to quickly access those that you start frequently.

  The number of business services that are listed in the **Recent** section is customizable on the Options dialog, from 0 to 10 (see Business Service Options).

- **Favorites** - This is analogous to Favorites in a web browser. You can add, edit, or remove business services from the **Favorites** section, as follows:
  - **Add to Favorites** - Click on a business service in the **All Business Services** section, then click the button on business service list toolbar.
  - **Edit Description** - This is used to edit the description of a business service in the **Favorites** section. Click on a business service in the **Favorites** section whose description you want to edit, then click the button on business service list toolbar.
  - **Remove from Favorites** - Click on a business service in the **Favorites** section, then click the button on business service list toolbar.
- **All Business Services** - This is a categorized list of all business services to which you have access. The categorization is specified when the business service is created using TIBCO Business Studio.

  There is special folder/category in this section named **uncategorized** that includes any business services that were not given categories when they were created.

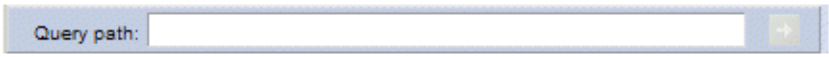
  There is also a forth section (**Query Business Services**) that is added once you use the Find function — see Finding a Business Service .

You can refresh the list at any time to get the most recent business services from the server by clicking the button or selecting **Refresh Business Services** on the **View** menu.

Finding a Business Service

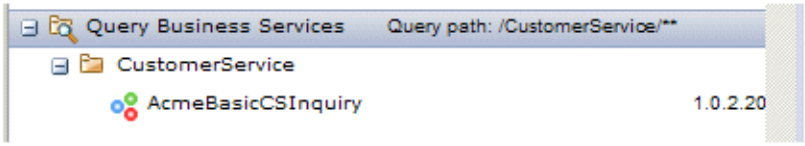
A Find function is provided to help you locate a business service in the business service list.

To use the Find function, click the button, or select **Find Business Services** from the **Tools** menu. The following field is displayed in the business service list toolbar.



Enter a query path, then click the button (which is activated when you enter a path in the **Query path** field).

The results of the query are displayed in a new a **Query Business Services** category in the business service list. For example:



The query path must be in one of the following forms:

- `/Category/**`
- `*/Category/**`

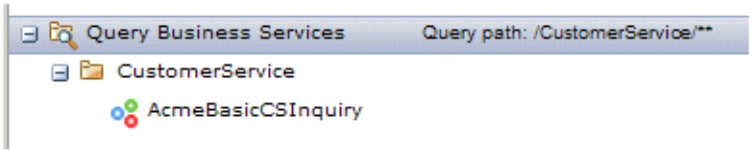
where *Category* is one or more category names. If you start the query with a / character, the category you name must be at the root level, which is **All Business Services**. If you start the query with a * (wildcard) character, the category you name can be subordinate to categories in the root level.

The following shows two example queries:

Query 1:

```
/CustomerService/**
```

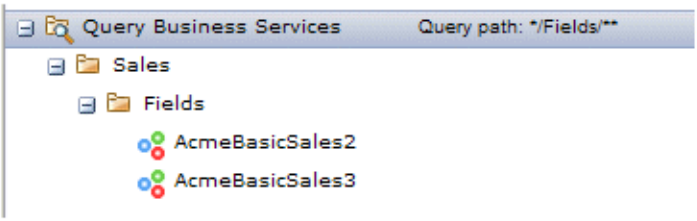
Returns all business services in the **CustomerService** category that is in the root directory (it must be in the root folder since there is no leading * in the query string):



Query 2:

```
*/Fields/**
```

Returns all business services in the **Fields** category (which must be a subordinate category because of the leading * in the query string):



Starting a Business Service

There are a number of ways in which a business service can be started.

To start a business service, make a selection in the business service list, then do one of the following:

- Click the button,
- double-click on the business service name,
- press **Enter**, or
- select **Start Business Service** from the **Tools** menu.

The business service will start and display a form. Fill in the form and complete the business service according to the instructions for the particular business service you are using.

Business Service Forms

The forms that are displayed when you start a business service can be displayed either in the Preview Pane or in a floating dialog.

To specify the placement of business service forms, select either **Dock Forms** or **Float Forms** from the business service list **View** menu.

Note, however, that selecting the placement of forms in this way is only applied during the current login session. To specify the default business service form placement, set it on the Options dialog — see Business Service Options.

Work Items

A work item represents an action item. It relates to a task in an active process instance. A user manages the work items in their work list by performing some sort of action upon them, such as entering data on a form, forwarding the item to another user or group, saving it and placing it back in the work list for further action at a later time, or by "submitting" it (completing the required action and sending it on to the next task in the process).

Work Item Lists

A work item list presents all of the work items that are in a particular work view.

To display a work item list, select (single click) a work view in the work view list. Initially, the default work view — the **Inbox** — displays *all* work items that you can work on. Although you can modify the filter and sort specifications for the Inbox so that it displays a subset of those work items.

The **Inbox** in the work view list is controlled by a user access element. Therefore, if you do not have the proper user access, you will not have this view.

There may also be other work views available that display the work item list filtered and sorted in different ways. For more information about using views, see Views.

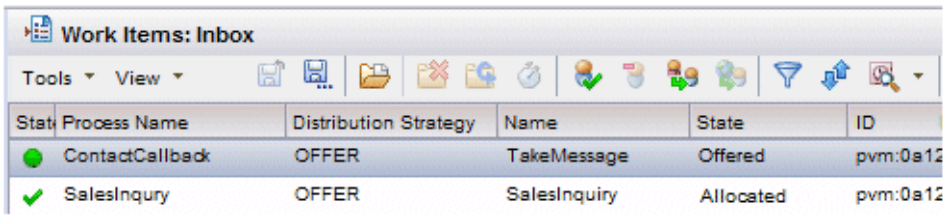
Information about each work item is provided in the columns of the work item list. The specific information that is displayed on your system will depend on how your system was set up — see Work Item List Columns.

Why Are Work Items Sent to Your Work Item List

When a business process is being defined, a "distribution strategy" is specified for each user task (each work item results from a user task in a business process). The distribution strategy specifies how to distribute, at runtime, a work item that is generated from the user task.

The distribution strategy is shown in the **Distribution Strategy** column in the work item list. For example:

The order of your columns may appear different than what is shown here. Use the Column Selector to change them — see Customizing Columns in a List .



The distribution strategy will be one of the following:

- **Offer** - This means the work item is being *offered* to you to work on. Note that depending on how the user task that resulted in the work item was defined, the work item may be offered exclusively to you, or it may be offered to a group of users, any of which can open and work on it.

  If a work item is offered to a group of users, and you open and work on it (i.e., you enter or change some data in the work item), the work item is removed from the work list of all other users.
- **Allocate** - This means the work item was given only to you to work on.

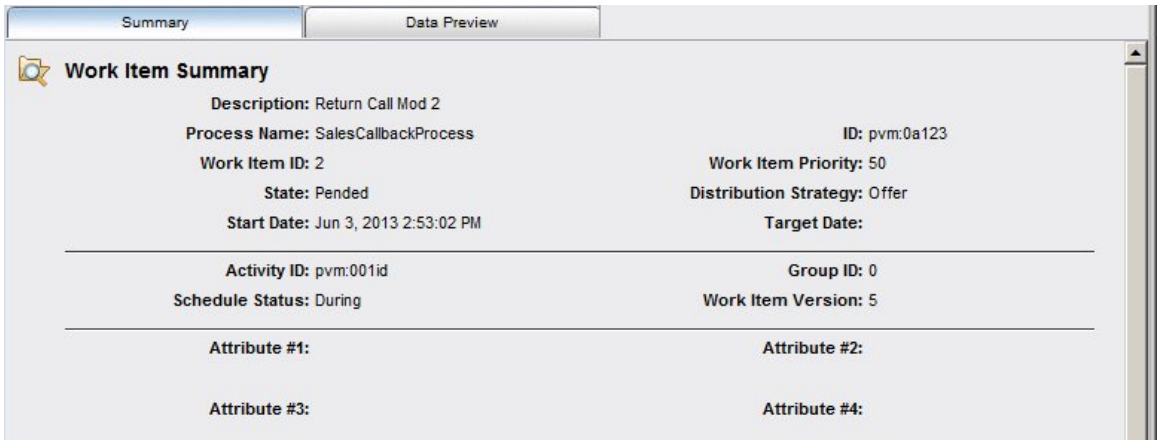
Don't confuse distribution strategy with work item state. The distribution strategy never changes — it stays either "offer" or "allocate", indicating whether the work item was initially offered or allocated to you. Whereas the work item's state changes throughout the work item's lifetime (note, however, that two of the possible work item states are "offered" and "allocated"). For more information about work item state, see Displaying Visible Hidden Work Items.

Selecting Items in a Work Item List

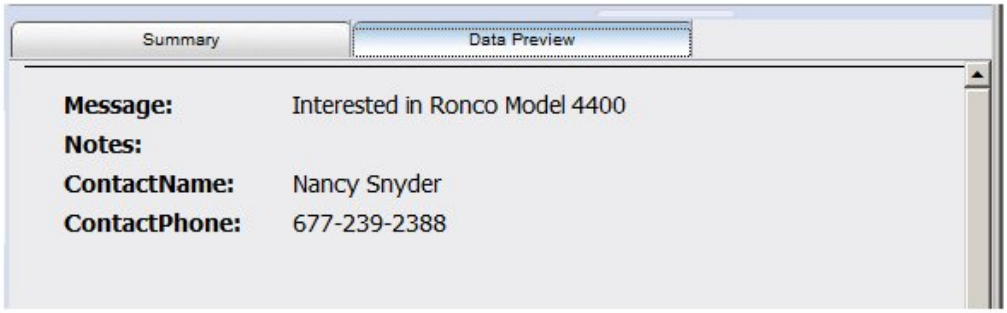
The effect of *selecting* an item from the work item list (i.e., single-clicking an item, or moving the highlight bar with the keyboard arrow keys) depends on whether or not the *preview* feature is turned on.

Note that *double-clicking* a work item in the work item list constitutes *opening* the work item. Opening the work item causes the form for that work item to be displayed. For information about opening work items, see Opening Work Items.

- If preview is turned off, selecting an item from the work item list has no effect.
- If preview is turned on, a "preview pane" is displayed below the work item list. The preview pane presents two tabs:
  - **Summary** - This tab provides all of the available information about the work item (whereas the columns in the work item list may not provide all information because the columns that are displayed can be customized). For example:

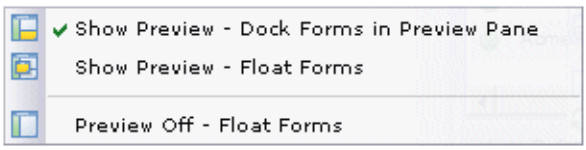


  - **Data Preview** - This tab provides a preview of the data for the selected work item. It allows you to see any data that has been saved without having to open the work item. For example:



    Note that if you do not have the necessary access privileges to preview work item data, the **Data Preview** tab is not displayed (in this case, neither "tab" is displayed; the work item summary data is shown with no tabs in the preview pane).

The preview pane can be turned on and off by selecting **Preview** from the **View** menu on the work item list. The following drop-down menu is displayed:



You can turn preview on by selecting either of the first two selections — the difference between the two is where the work item form will be displayed when you open (double-click) the work item in the work item list. You can turn off the preview feature by selecting the **Preview Off** selection. For more information about the preview feature, see The Preview Pane.

For additional information about selecting items in general from lists, see Selecting Items in a List.

Refreshing the Work Item List

When a work item list is initially displayed, it is a **snap shot** of the work items at that point in time. You can refresh the list to get the most recent list of work items from the server.

Select **Refresh Work Items** from the **View** menu, or click the button on the work item list.

If you have defined filter and/or sort criteria for the work item list, they will be applied on the refreshed list of work items.

If you have a work item selected in the work item list when you refresh the list, that same work item will be selected after the list is refreshed — assuming that that work item is still in the list (it could have been allocated to another user since the last time your list was refreshed, in which case, it will no longer appear in your list). If the work item you had selected is no longer in the list, the work item in that physical location in the list will be selected after the list is refreshed (e.g., if you have the third work item on page 3 selected, but that particular work item is no longer in the list, the third work item on the page 3 will still be selected after you refresh the list — it will just be a different work item).

Auto-Refresh of Work Item Lists

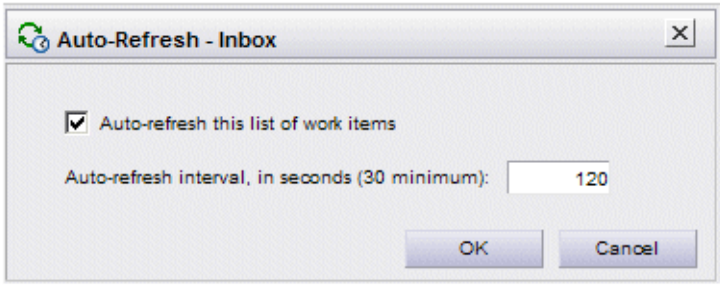
Work item lists also have an "auto-refresh" feature that, when enabled, causes the work item list to be automatically refreshed at specified intervals.

When auto-refresh is either turned on or off using this feature from a work item list, it applies *only* to the list from which you set it. You can also turn auto-refresh on or off globally so that it affects all work item lists (except the individual lists on which it was set) using a setting in user options (for information, see Auto-Refresh).

To enable or disable the auto-refresh feature for the currently displayed work item list, either select

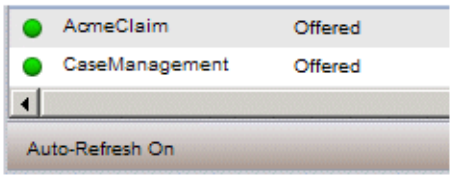
Auto-Refresh from the work item list **View** menu, or click the button on the work item list.

The following dialog is displayed:



To enable auto-refresh, check the **Auto-refresh** check box, specify the number of seconds you would like between refreshes (the minimum you can specify is 30 seconds), then click **OK.**

There is an indicator on the left side of the work item list status bar that tells you the current state of the auto-refresh feature:



This indicator will change to “Refreshing...” when the list is in the process of being refreshed.

The auto-refresh setting for an individual list is persisted, that is, it is remembered between logins. Note that persisted settings are saved on the server, so if you log onto a different machine, those settings will be in effect on that machine also.

Filtering a Work Item List

Filtering a list of work items involves entering *filter criteria* so that only some of the work items are shown in the list, rather than all of them. Filtering a list of work items allows you to display only the work items you are interested in.

For example, you may only be interested in work items that arrived in the work item list after Dec. 15, 2007. You can filter the list so that only those work items are shown.

The filtering function allows you to build a “filter expression” that is applied to all work items in the list. If the work item satisfies the filter expression (e.g., it arrived after Dec. 15, 2007), it is shown in the work item list; if it does not satisfy the filter expression, it is not shown in the list (and is not downloaded from the server).

Because filtering work item lists is basically the same as filtering other types of lists in Workspace (with the exception of the specific fields on which you can filter), details of filtering is explained in a single chapter — see Filtering Lists.

Sorting a Work Item List

Workspace allows you to sort the information in the work item list so that work items are listed in the desired order.

For example, you may want to list all work items by priority number, then sort those by work item ID. The sort function allows you to choose which columns on the work item list to sort on.

Because sorting work item lists is basically the same as sorting other types of lists in Workspace (with the exception of the specific fields on which you can sort), details of sorting is explained in a single chapter — see Work Items.

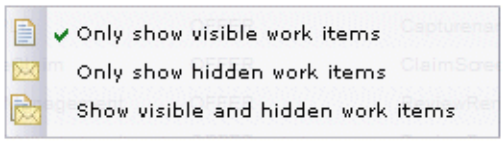
Displaying Visible Hidden Work Items

There may be work items in your work item list that are actually *hidden*.

The reasons they may be hidden are:

- They are work items that are associated with a process instance that has been suspended (see Suspending a Process Instance).
- They are work items that have been *pended*, that is, a timer has been set to make them hidden until a specified date/time, or for a specified period of time (see Pending Work Items).

You can display hidden work items in your work item list by selecting either **Only show hidden work items** or **Show visible and hidden work items** from the **View** menu on the work item list:



There is also a **Visibility** column you can display (it's not displayed by default) using the Column Selector that indicates whether or not each work item in the list is visible or hidden.

Work Item List Columns

By default, certain columns are displayed in a work item list. You can easily customize the columns that are displayed by either using the Column Selector, or manually.

For information, see Customizing Columns in a List.

The following table describes the columns of information that can be displayed on the work item list:

Column	Description
Activity ID	Identifies the user activity within the process that generated the work item. This number can be used in the event viewer to identify the work item across all components.
Attribute #1 - #40	These attributes, which can be populated via a script in the process, can contain various information.
Deadline	Contains a clock icon if the work item has a deadline by which the work item must be worked on and submitted.
Description	A description of the user task associated with the work item. This is specified in TIBCO Business Studio when the process / user task is defined.
Distribution Strategy	Describes the method used to distribute the work item when it was originally created, either offered or allocated. For more information, see Why Are Work Items Sent to Your Work Item List .
Target Date	A date and time in this column indicates the work item has a deadline. For more information, see Work Item Deadlines .
Group ID	This identifies a number of work items that are grouped together in the process definition for some purpose.
Instance Description	A description of the process instance. This may or may not have been specified, depending on how the process was defined.
ID	A unique alphanumeric value identifying the process instance from which the work item was created.
Name	The name of the user task associated with the work item.
Process Name	The name of process that was started to create this work item.
Schedule Status	This indicates if the work item is inside its schedule period, which is considered from the start date/time (**Start Date** column) to the target date/time (**Target Date** column). The possible values are: BEFORE, DURING, AFTER and NO_SCHEDULE.
Start Date	The date and time the work item is *scheduled* to start. If a scheduled start date/time was not defined, this column is empty.
State	The work item's current state. For more information, see Work Item State .

Column	Description
State Image	An icon that indicates the work item's current state. For more information, see Work Item State .
Visibility	Indicates whether or not the work item is visible. For information, see Displaying Visible Hidden Work Items .
Work Item ID	A unique number identifying the work item.
Work Item Priority	A numeric value indicating the relative importance of the work item. This defaults to 50, but can be modified; see Setting Work Item Priority .
Work Item Version	Indicates how many times the work item has changed state. The version number starts at 0 when the work item is created, and is incremented by one each time it changes state.

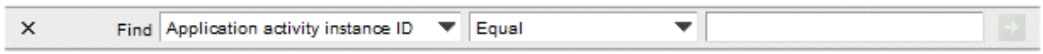
Finding a Work Item

A Find function is provided to help you locate a work item in the work item list.

Note that this function searches through the entire work item list, not just the currently displayed page. However, if there is a filter currently applied to the list, it only searches through the work items that satisfy the filter.

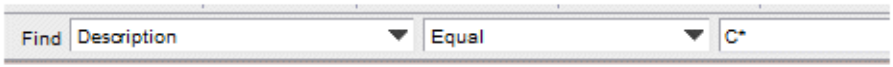
Procedure

1. Click the button on the work item list toolbar, or select **Find Work Items** from the **Tools** menu. The following fields are displayed in the work item list toolbar.



2. From the drop-down list in the first field, choose an attribute that you want to search on. For example, to find a work item that has a certain description, choose "Description".
3. From the drop-down list in the second field, choose the operator that is appropriate for your search.
4. In the last field, enter the value you want to search for.

   You can use the * character as a wildcard. For example, the following finds all work items whose description begins with "C":



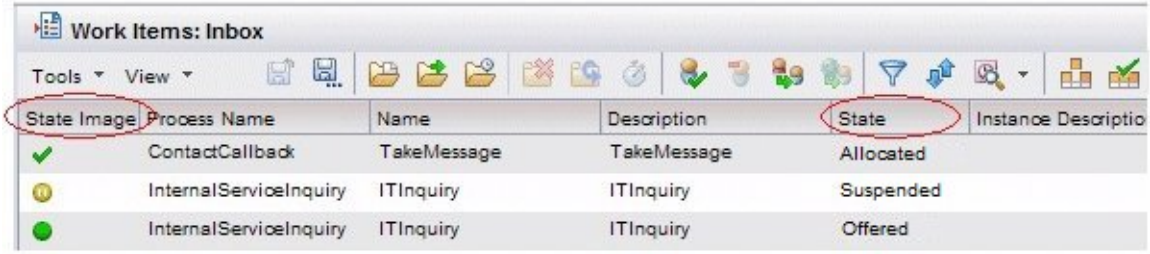
   If you select a date attribute to search on, a calendar icon is displayed from which you can select a date, plus fields are displayed to the right of the calendar icon in which you can enter a time.

5. Click the button (which is activated when you enter a value to search on) to display the find results.

   The Find fields can be closed by either clicking the X to the left of the fields, or by clicking the button again.

Work Item State

There are two columns available on the work item list that indicate the work item's current state: **State Image** and **State**. The only difference is that one is an image and the other is text.



By default, the first column in the work item list displays icons that indicate the work item's status. The following table shows the possible icons and their meanings:

State Image	State	Description
	Offered	The work item is being *offered* to you to work on. When a work item is in an Offered state, you can: • open and work on the work item (while it is open, its state changes to Opened), • allocate the work item to yourself, causing it to be removed from all other user's work lists, • allocate the work item to another user, causing it to be removed from all work lists other than the user's to which it was allocated, or • skip the work item, causing it to be submitted and the process to advance to the next task (all required fields must be filled in. For more information, see Allocating Work Items and Skipping Work Items .
	Allocated	A work item with an allocated state appears only in your work list. Work items can be allocated to a specific user in the following ways: • by the system when it is initially distributed, • you can allocate a work item to yourself, or • you can allocate a work item to another user. For more information, see Allocating Work Items.
	Created	The work item has been created, but not yet enabled. The functionality needed to get a work item to this state has not been implemented.

State Image	State	Description
	Opened	The work item is currently open by the logged-in user. Opening a work item implicitly allocates it to the user who opened it. The work item is removed from the work lists of other users to whom the work item had been offered.
	Pended	This occurs when you open a work item, perform some work on it, then close it without submitting it. Once it is in this state, the work item will appear only in your Inbox.
	Pend Hidden	The work item has been pended until a specific date/time, or for a specified period of time. (Note that to see this state, you must be viewing hidden work items — see Displaying Visible Hidden Work Items .) For more information, see Pending Work Items .
	Suspended	The process instance to which this work item is associated is currently suspended. (Note that to see this state, you must be viewing hidden work items — see Displaying Visible Hidden Work Items .)

Allocating Work Items

A work item can be *allocated* to a specific user. This means that the work item is supposed to be worked on by that specific user — the work item appears only in that user's Inbox, with a state of Allocated.

A work item can be allocated to a specific user by the system when the work item is created (for more information, see Why Are Work Items Sent to Your Work Item List).

There are also functions available from the work item list that allow you to allocate a work item to yourself or to another user.

You can also change a work item that is allocated to you back to an Offered state, so that other users can work on it.

These functions are described in the following subsections.

Allocate Work Item(s) To Yourself

This function allows you to allocate one or more work items to yourself. It changes the state of the work items to Allocated so that only you can work on them. The work items are removed from the Inbox of all other users.

This function can be used only if the work items are currently being offered to you; i.e., their state = Offered.

Also note that if you want to allocate work items to yourself from a supervised work view, the work items must also be offered to you (the creator of the supervised work view), that is, the work items must be listed in your Inbox with a state of Offered.

Procedure

1. Select one or more work items in the work item list that currently have a state of Offered.
2. Click the  button, or select **Allocate Work Item(s) To Self** from the **Tools** menu on the work item list.

Result

The work items are now allocated only to you, and are removed from all other user's Inboxes.

Re-Offering Work Item(s)

This function allows you to change work items that are currently allocated to you (state = Allocated) or that you have modified (state = Pended), back to an Offered state. They are offered to the users to whom they were originally offered.

Procedure

1. Select one or more work items in the work item list that currently have a state of Allocated or Pended.
2. Click the button, or select **Re-Offer Work Item(s)** from the **Tools** menu on the work item list.

   The work item's state changes to Offered, and it reappears in the Inbox of the users to whom it was originally offered.

Result

Note that if the work item's state is Pended, and data had been added/changed on the form when it was open, that data is retained in the work item when it is re-offered.

Allocate Work Item(s) to Another User

This function allows you to allocate work items to another user. It removes the work items from your work item list, then adds them to the Inbox of the user to whom you have allocated them, with a state of Allocated.

You can choose the user to whom you want the work items to be allocated, as follows:

- the original "offer set", that is, the group of users to whom the work item was originally offered — see Allocate Work Item(s) To Offer Set.
- the "world", that is, all available users — see Allocate Work Item(s) To World.

Allocate Work Item(s) To Offer Set

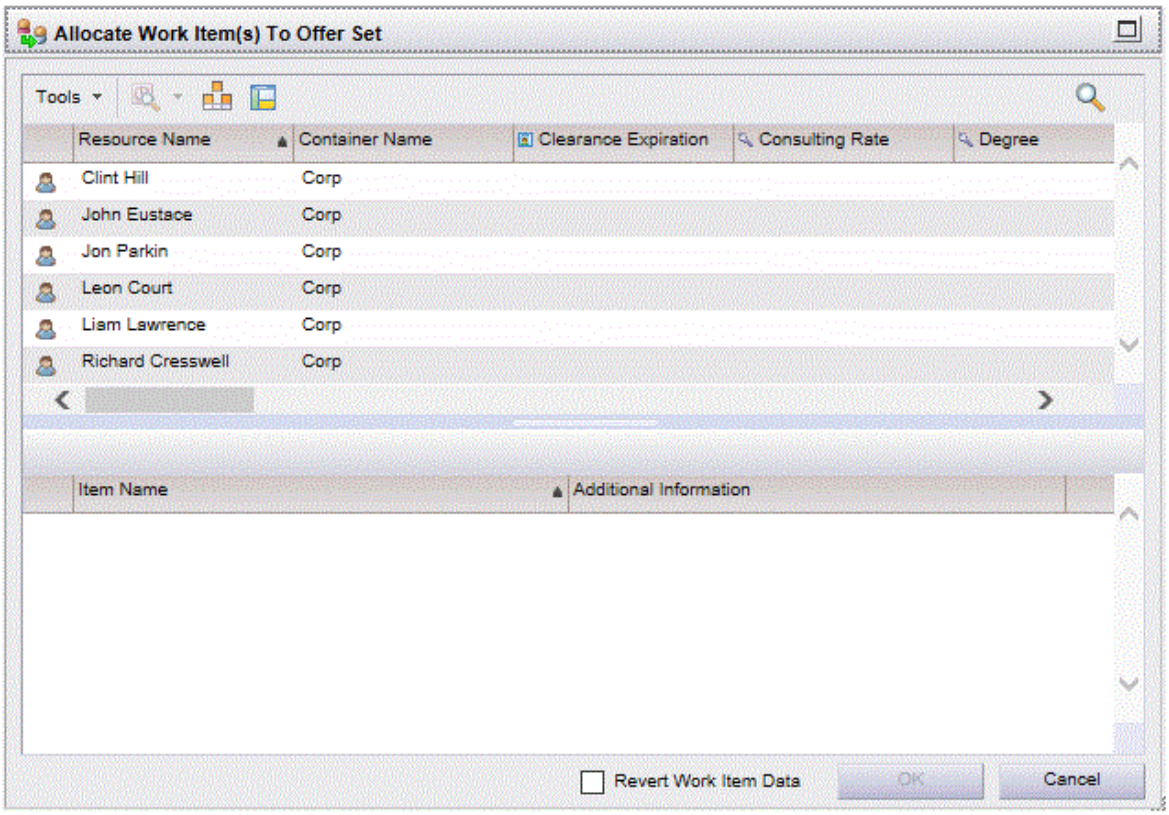
This function allows you to allocate one or more work items to a user from the original offer set, that is, the group of users to which the work items were originally offered.

Work items allocated to the original offer set can have a state of Offered, Allocated, or Pended.

Procedure

1. Select one or more work items in your work item list.
2. Click the button, or the **Allocate Work Item(s) To Offer Set** menu selection from the **Tools** menu on the work item list.

   A screen similar to the following is displayed:



This screen allows you to choose the user to whom you would like to allocate the work item(s).

3. Click on the user to whom you would like to allocate the work item(s).

   You can optionally use the **Find** button ( ), or select **Find Resource(s)** from the **Tools** menu, to help locate the desired resource. For information about using the Find function, see Finding a Resource.

   If desired, you can either display or hide the resource details in the lower details pane by clicking the **Hide/show resource details** button ( ), or by selecting **Show Resource Details** from the **Tools** menu — this selection is a toggle.

   You can also choose which attributes and capabilities to display in the columns by clicking the **Select Columns** button ( ), or by selecting **Select Columns** from the **Tools** menu. For more information, see Using the Column Selector.

4. Optionally check the **Revert Work Item Data** check box. If this box is checked, it causes any data that had been entered/modified in the work item prior to allocating it to revert to its original value. (If any data in the work item had been entered/modified, the work item will have a state of Pended.)
5. Click the **OK** button.

Result

The work item(s) will appear in the Inbox of the user that you selected, with a state of Allocated.

Allocate Work Item(s) To World

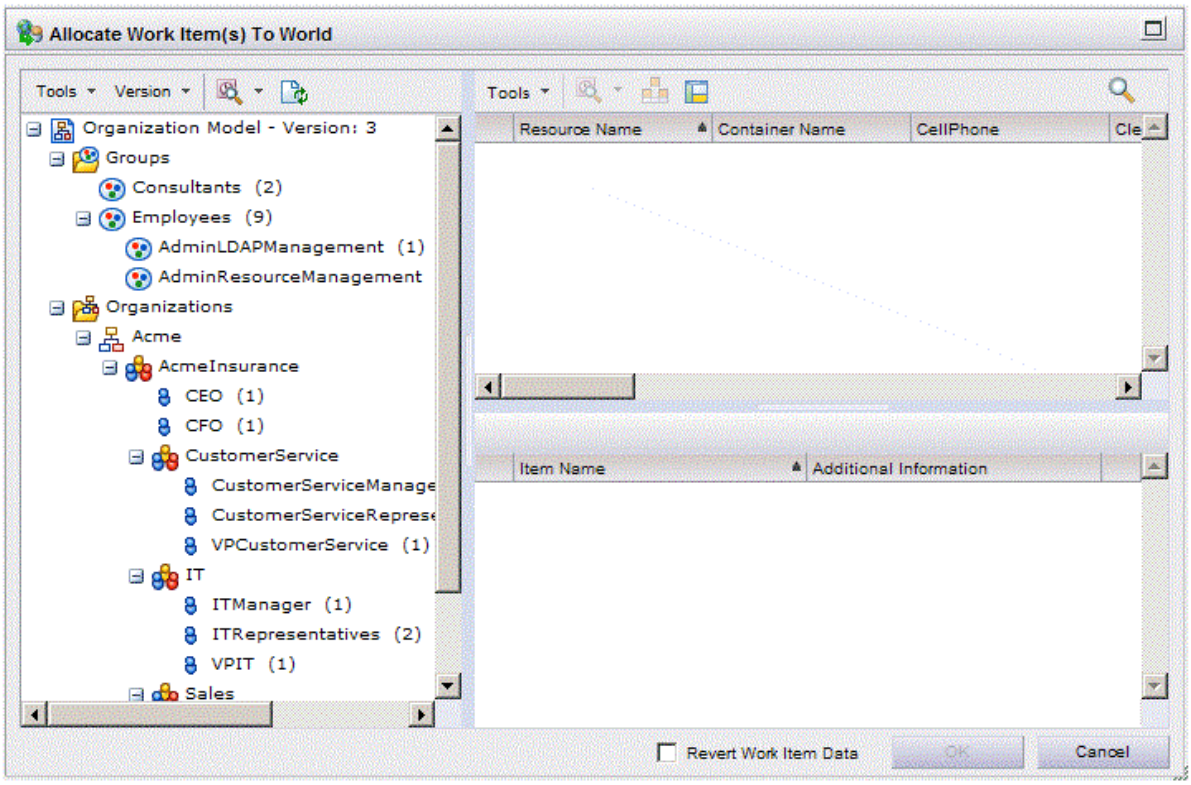
This function allows you to allocate one or more work items to any available user.

Procedure

1. Select one or more work items in your work item list.

2. Click the button, or the **Allocate Work Item(s) To World** menu selection from the **Tools** menu on the work item list.

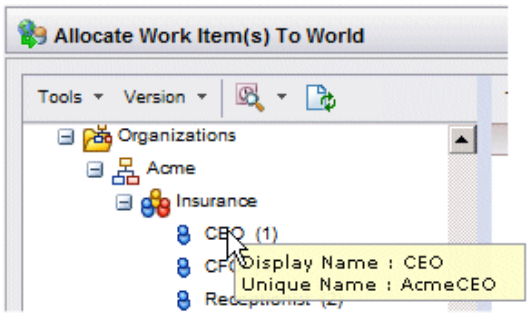
   A screen similar to the following is displayed:



   This screen allows you to choose the user to whom you would like to allocate the work item(s).

3. Optionally, choose whether unique names or display names are shown in the list of organizational entities.

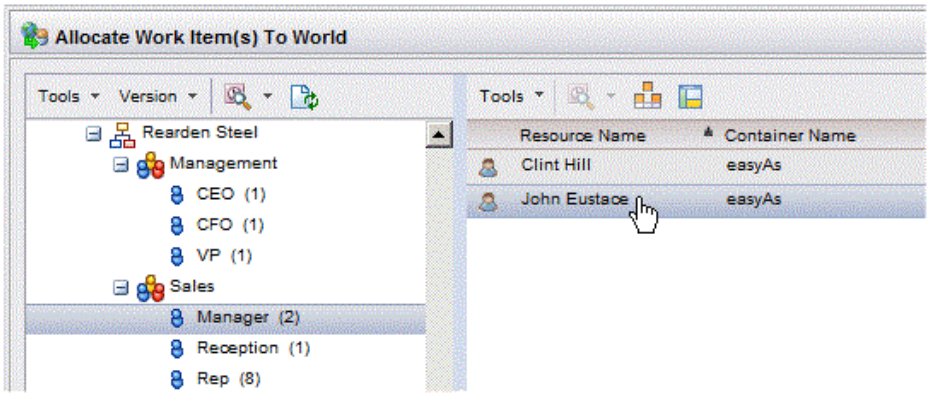
   When organizational entities are created in TIBCO Business Studio, they are given both "unique names" and "display names" (also called "labels"). The **Tools** menu contains a **Show unique names for organizational entities** selection that toggles between the two displays. By default, the display names are shown. Hover the mouse pointer over an organizational entity to view both names for a particular organizational entity:



You can also choose which attributes and capabilities to display in the columns by clicking the **Select Columns** button ( ), or by selecting **Select Columns** from the **Tools** menu. For more information, see Using the Column Selector.

4. Select an organizational entity to which the user has been mapped, in the left pane.

   The users that have mapped to the selected entity are listed in the resource list in the upper-right pane.



You *may not* be able to see all resources mapped to a particular position because there are resources mapped to that position that were created in an LDAP container for which you don't have visibility (because of an organization relationship). (This applies only to positions, not to groups.)

Note, however, the counts shown to the right of the position name in the left pane is the *total count* for the resources in the position. From this count, you can determine if there are resources mapped to the position that you cannot see.

For more information, see the *Container Organization Relationships* section in the *Organization Browser User's Guide*.

Also, if a resource has been mapped to a position or group with a *start date* that has not yet occurred, or an *end date* that has passed, that resource will not appear in the resource list. However, the total count of resources shown to the right of the group or position name in the left pane also reflects those resources that are not yet "effective" because their start date has not occurred.

5. From the resource list, select the user to whom you would like to allocate the work item(s).

   You can optionally use the **Find** button ( ), or select **Find Resource(s)** from the **Tools** menu on the resource list, to help locate the desired resource. For information about using the Find function, see Finding a Resource.

   If desired, you can either display or hide the resource details in the lower details pane by clicking the **Hide/show resource details** button ( ) or by selecting **Show Resource Details** from the **Tools** menu — this selection is a toggle.

   Refresh the list at any time my clicking the **Refresh** button ( ) or my selecting **Refresh List** from the **Tools** menu on the resource list.

   You can also choose which attributes and capabilities to display in the columns by clicking the **Select Columns** button ( ), or by selecting **Select Columns** from the **Tools** menu. For more information, see Using the Column Selector.

6. Optionally check the **Revert Work Item Data** check box. If this box is checked, it causes any data that had been entered/modified in the work item prior to allocating it to revert to its original value. (If any data in the work item had been entered/modified, the work item will have a state of Pended.)
7. Click the **OK** button.

Result

The work item(s) will appear in the Inbox of the user that you selected, with a state of Allocated.

Finding a Resource

A **Find** function is available from the **Allocate Work Item(s) To Offer Set** and Allocate Work Item(s) To World dialogs.

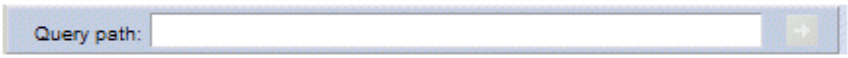
Also see Allocate Work Item(s) To Offer Set and Allocate Work Item(s) To World, respectively.

The Find function allows you to find the desired resource(s) in a list of resources. Using the Find function, you can search for any matching text in any of the columns on the list of resources. For example, you can search for all resources who have a resource name containing "Johnson" by searching on the Resource Name column.

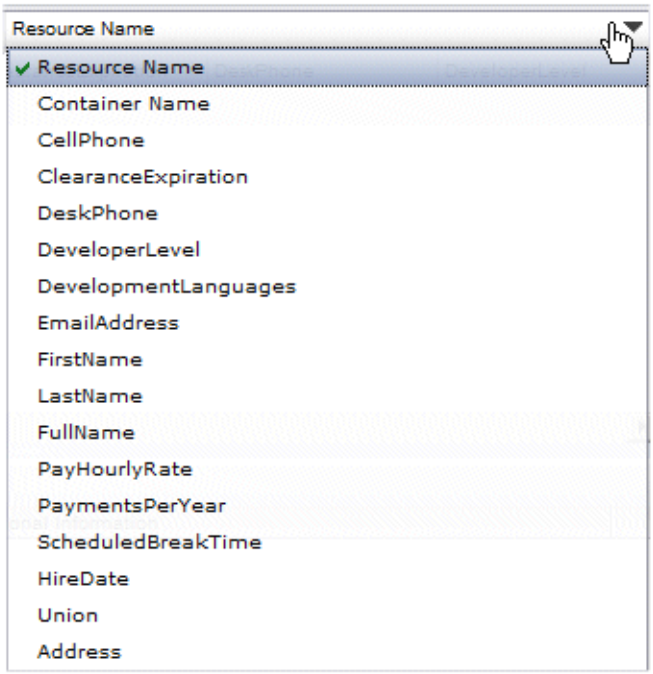
Procedure

1. On the Allocate Work Item(s) To Offer Set or Allocate Work Item(s) To World dialog toolbar, click the button, or select **Find Resource(s)** from the **Tools** menu.

   This causes the **Find** fields to be displayed above the list of resources:



2. From the drop-down list on the second Find function field, select the column on which you want to search:

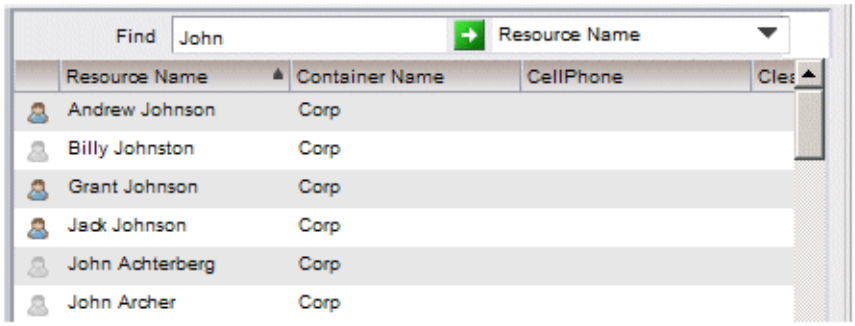


This list contains the following:

- Resource Name
- Container Name
- Resource attribute fields - These are used to store information about resources. For example, a “Cellphone” resource attribute (as in the example above) can be used to store each resource’s cell phone number.

  The resource attributes available on each system is different, depending on how the organization model was designed. For more information about resource attributes, see the *Organization Browser User’s Guide*.

3. Enter the text you want to search for, then click the icon to the right of the **Find** field. For example, if you selected “Resource Name” in the second Find function field, then entered “John” in the **Find** field, the Find function will return all resources whose Resource Name contains “John” anywhere in the Resource Name value:



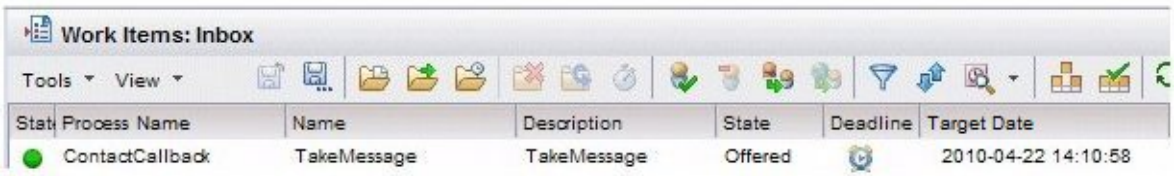
4. After finding the desired resource, you can perform any of the available functions as described in this document.

   The Find function can be turned off by clicking the button.

Work Item Deadlines

When a user task is defined in a process, a *deadline* may be specified on that task. Work items that are created as a result of the user task will have a deadline, which is specified either as a certain date, or a period of time from when the work item was created.

If a work item has a deadline, a clock icon is shown in the **Deadline** column, and the deadline date is shown in the **Target Date** column:



If the deadline expires while the work item is still in the list, the deadline icon turns red.

Note that when calculating deadlines that are defined to expire in a specified period of time, only *working days and times* are used to determine when a deadline should expire. Working days and times are specified in one or more TIBCO ActiveMatrix BPM *calendars* that are defined on your system. For information about TIBCO ActiveMatrix BPM calendars, see the *TIBCO Openspace User’s Guide*.

Outstanding Work Items

The "outstanding work items" for a process instance are all of the work items associated with that process instance that are sitting in users work item lists, waiting to be completed and submitted. They represent the user task(s) at which the process flow is currently sitting.

An active process instance may have only a single outstanding work item, or it might have many because the process flow may have taken multiple paths, depending on how it was designed.

The process instance list contains two functions that allow you to display the currently outstanding work items for the selected process instance:

- **Show Outstanding Work Items** - This function causes a temporary work view to be created under the **My Work** folder in the work view list. This work view will contain all of the outstanding work items for the selected process instance that are currently offered or allocated to you.

  For more information see, Show Outstanding Work Items.

- **Show Supervised List of Outstanding Work Items** - This function causes a temporary work view to be created under the **Supervised Work** folder that contains one of the following:

  – Outstanding work items that were sent to selected organizational entities (groups, organization units, or positions) that are associated with the selected process instance.

    To view work items that were sent to specific groups, organization units, or positions, you must have been given access permission(1) to view work items in that specific group, organization unit, or position.

  – Outstanding work items in that are currently in the Inbox of another user that you supervise.

    To view outstanding work items of other users, you must have been given access permission1 to view work items in a specific position held by the user.

  – All work items, for the selected process instance, irrespective of the resource or organizational entity to which the work items are offered or allocated.

    For more information see, Show Supervised List of Outstanding Work Items.

Show Outstanding Work Items

This function causes a temporary work view to be created under the **My Work** folder in the work view list. This work view will contain all of the outstanding work items for the selected process instance that are currently offered or allocated to you.

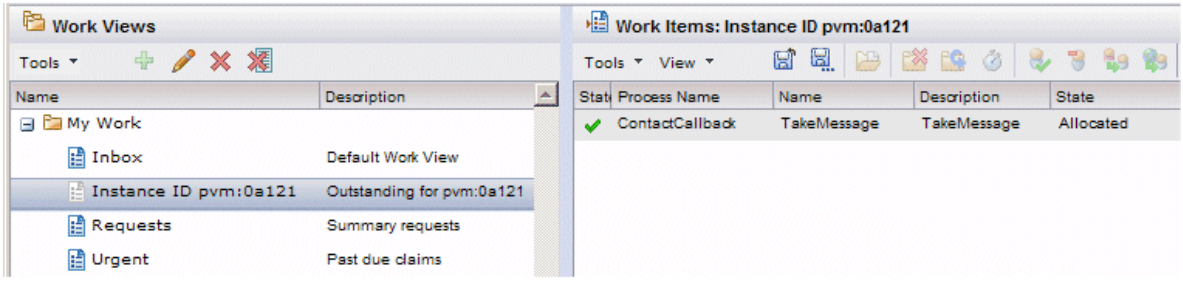
To display a process instance's outstanding work items that have been offered or allocated to you, select

the process instance whose outstanding work items you are interested in, then click the  button, or select **Show Outstanding Work Item(s)** from the **Tools** menu on the process instance list.

This causes a temporary work view to be created in the **My Work** folder in the work view list.

After selecting **Show Outstanding Work Item(s)**, the work view list is automatically displayed, with the newly created work view selected. For example:

[9] This permission is granted via the **View Work List** (BRM.viewWorkList) *scoped* system action — for information, see the *Configuring User Access* chapter in the *TIBCO Workspace Configuration and Customization* guide).



From the work item list containing the outstanding work items, you can perform any of the available functions, just like on any other work item list.

Remember that this work view is temporary — if you do not save it, it is automatically removed when you log out (you can also manually remove using the **Remove** button or menu selection on the work view list).

You can save the temporary work view in the following ways:

- From the work item list, click the **Save View** button ( ) or select **Save View** from the **View** menu. This saves the work view using its current name as shown in the work view list.
- From the work item list, click the **Save View As** button ( ) or select **Save View As** from the **View** menu. This displays a dialog that allows you to enter a new name and/or description for the work view. After entering a new name and/or description, click the **OK** button to save the work view.
- From the work view list, click the **Edit View** button or select **Edit** from the **Tools** menu. This opens a wizard, which allows you to change the name, description, filter criteria, or sort criteria for the work view. (Note that if you change the filter criteria using the wizard, you are changing the "base" filter for the work view, as opposed to changing it through the work item list, which is the "refined" filter — for more information, see Accessing the Filter Function.)

After saving the temporary work view, it is considered permanent, meaning it will remain in your work view list until you explicitly remove it.

Show Supervised List of Outstanding Work Items

This function causes a temporary work view to be created under the **Supervised Work** folder.

This temporaty folder contains one of the following:

- Outstanding work items, associated with the selected process instance, that are currently in the Inbox of a user that you supervise.

  To view outstanding work items of other users, you must have been given access permission(2) to view work items in a specific position held by the user.
- Outstanding work items, associated with the selected process instance, that were sent to a selected organizational entity (group, organization unit, or position).

  To view work items that were sent to specific groups, organization units, or positions, you must have been given access permission1 to view work items in that specific group, organization unit, or position.

  When viewing a supervised list of outstanding work items for an organizational entity, you can specify that it contain one of the following types of work items:

  – **Offered** - These are work items that were offered *directly to* the selected organizational entity, and that still have a state of Offered.

[10] This permission is granted via the **View Work List** (BRM.viewWorkList) *scoped* system action — for information, see the *Configuring User Access* chapter in the *TIBCO Workspace Configuration and Customization* guide).

  - **Allocated** - These are work items that were offered *directly to* the selected organizational entity, that are now allocated to one or more users (i.e., their state is Allocated).
- All work items, for the selected process instance, irrespective of the resource or organizational entity to which the work items are offered or allocated.

The icons shown in the work view list for newly created lists of outstanding work items indicate which type of view it is, as follows:

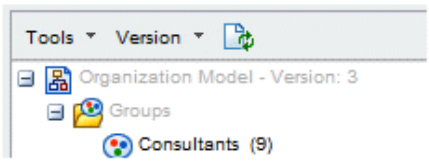
Icon	Meaning
	The supervised list of outstanding work items is for an individual resource.
	The supervised list of outstanding work items is for an organizational entity that contains offered work items.
	The supervised list of outstanding work items is for an organizational entity that contains allocated work items.
	The supervised list of outstanding work items contains all work items associated with the process instance whose name appears in the supervised work view.

These icons become non-grayed-out once you save the view — see the table in Personal Work Views vs. Supervised Work Views.

Select the process instance whose outstanding work items you are interested in, then click the  button, or select **Show Supervised List Outstanding Work Item(s)** from the **Tools** menu on the process instance list.

Procedure

1. On the **New Work View - Supervised Work** dialog, ensure that the appropriate organization model version is selected. This is shown in the first row of the organization model (Version 3 in the following example):



   Use the **Version** drop-down list to change the version, if required.
2. In the **Select Work List for View** section, choose the type of work items that are to appear in the supervised work view that contains outstanding work items, as follows:

   - **Offered Work Items for an Organizational Entity** - This causes the supervised work view to contain only work items that were sent directly to the selected organizational entity(1), and that still have a state of Offered.
   - **Allocated Work Items for an Organizational Entity** - This causes the supervised work view to contain only work items that were originally sent directly to the selected organizational entity,1 but have since been allocated to a specific resource (their state = Allocated). Note that when

[11] Note that this type of supervised work view will contain work items that are *offered directly to that entity* — it does *not* contain work items that are offered or allocated to all of the *members* of the chosen organization entity.

viewing this type of supervised work view, it does not show you to whom the work item has been allocated. However, you can easily determine that by selecting a work item, then selecting **Open Event Viewer** > **This Work Item**. The allocation event shows to whom the work item was allocated (in the **Resource name** attribute). The **Description** column also shows that information if it has not been changed from the default.

- **Work Items for a Resource** - This causes the supervised work view to contain work items that are currently in the Inbox of a specified resource, offered and allocated.

  If the message "Insufficient rights to view the resource list for a group or position" is displayed when you select **Work Items for a Resource**, it means you don't have the appropriate system action. To view the resource list, you must have the **Resource Admin** (DE.resourceAdmin) system action, which is available at the organization model level. For more information, see the *Configuring User Access* chapter in the *TIBCO Workspace Configuration and Customization* guide).

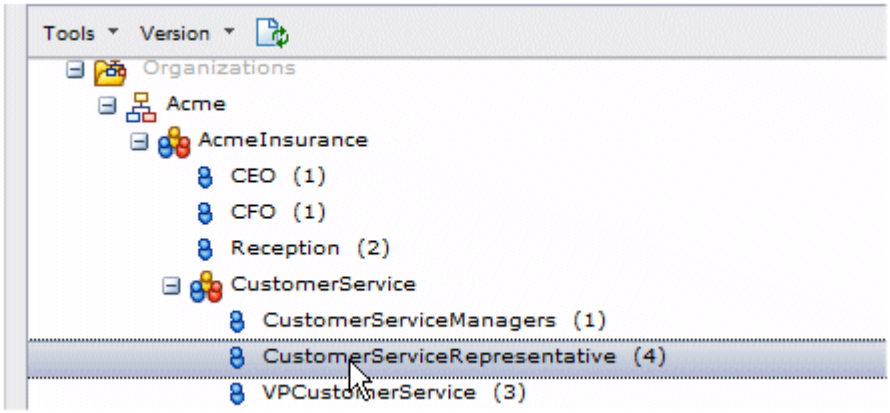
- **All Work Items** - This causes the supervised work view to contain all work items irrespective of the resource or organizational entity to which the work items are offered or allocated (although the list can still be filtered).

  Note that this option appears only if you have the appropriate user access control (AllWorkItems), as well as the **View Global Work List** (BRM.viewGlobalWorkList) system action.

  If you choose the **All Work Items** option, proceed to step 5.

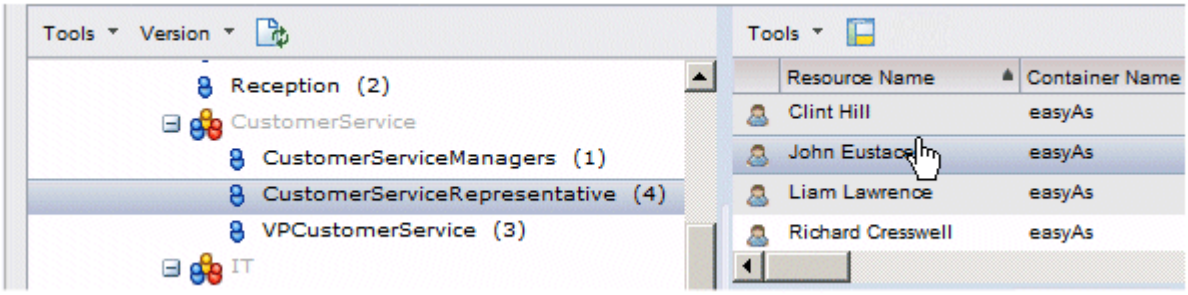
3. Select the desired organizational entity or an individual resource:

   - If the supervised work view is to contain work items (either offered or allocated) sent to an organizational entity, select the desired organization unit, position, or group. For example:



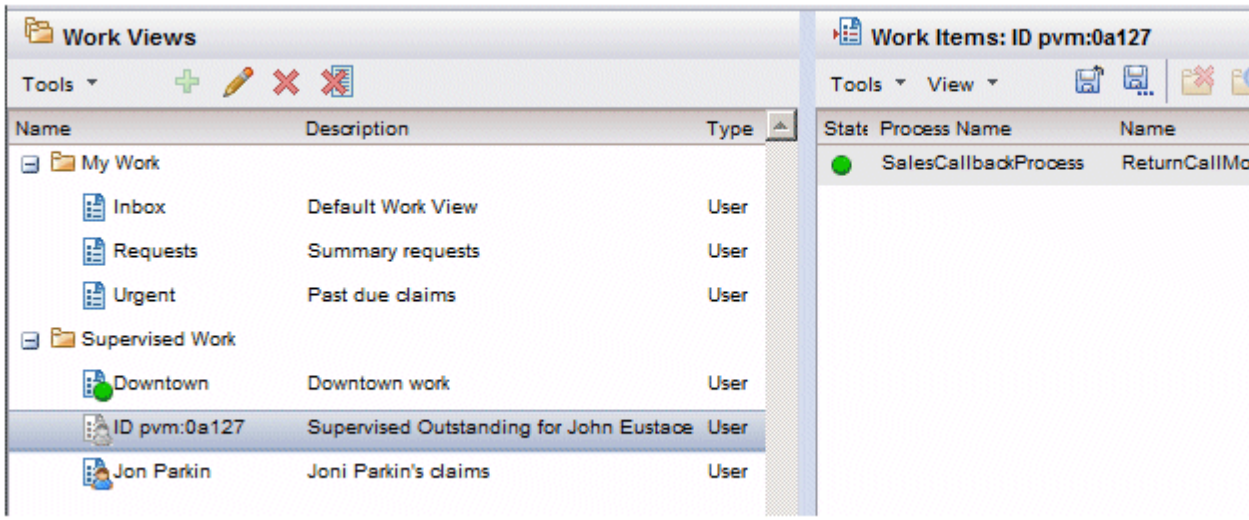
   Note that only organizational entities to which you have been given access permission are selectable — all others are grayed out. This permission is granted via the **View Work List** (BRM.viewWorkList) *scoped* system action. For more information, see the *Configuring User Access* chapter in the *TIBCO Workspace Configuration and Customization* guide.

   - If the supervised work view is to contain work items sent to an individual resource, you must first select one of the positions to which that resource has been mapped (you cannot select resources from groups, only from positions), then select the resource in the right pane. For example, if you want to create a supervised work view for a resource that has been mapped to the CustomerServiceRepresentative position, select that position, then select the desired resource. For example:



4. Click **OK**.

   This causes a temporary work view to be created in the **Supervised Work** folder in the work view list, and the work view list is automatically displayed, with the newly created work view selected. For example:



From the work item list containing the outstanding work items, you can perform any of the available functions, just like on any other work item list.

Remember that this work view is temporary (denoted by a grayed-out icon and text in the work view list) — if you do not save it, it is automatically removed when you log out (you can also manually remove it using the **Remove** button or menu selection on the work view list). (See the table on page 134 for information about the icons in this list.)

You can save the temporary work view in the following ways:

- From the work item list, click the **Save View** button ( ) or select **Save View** from the **View** menu. This saves the work view using its current name as shown in the work view list.
- From the work item list, click the **Save View As** button ( ) or select **Save View As** from the **View** menu. This displays a dialog that allows you to enter a new name and/or description for the work view. After entering a new name and/or description, click the **OK** button to save the work view.
- From the work view list, click the **Edit View** button or select **Edit** from the **Tools** menu. This opens a wizard, which allows you to change the name, description, filter criteria, or sort criteria for the work view. (Note that if you change the filter criteria using the wizard, you are changing the "base" filter for the work view, as opposed to changing it through the work item list, which is the "refined" filter — for more information, see Accessing the Filter Function.)

After saving the temporary work view, it is considered permanent, meaning it will remain in your work view list until you explicitly remove it.

Viewing Events Related to a Work Item

Every action that takes place concerning a work item (e.g., creating, allocating, opening, submitting, and so on) is recorded in the database as an *event*.

From the work item list, you can select a work item and view the list of events related to that work item.

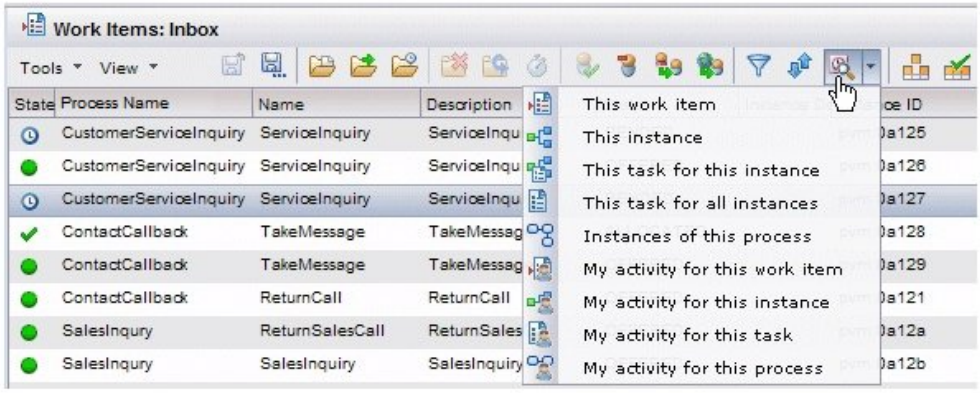
Procedure

1. Select the desired work item.

   Either click the button on the work item list toolbar, select **Open Event Viewer** from the work item list **Tools** menu, or right-click the selected work item and select **Open Event Viewer**.

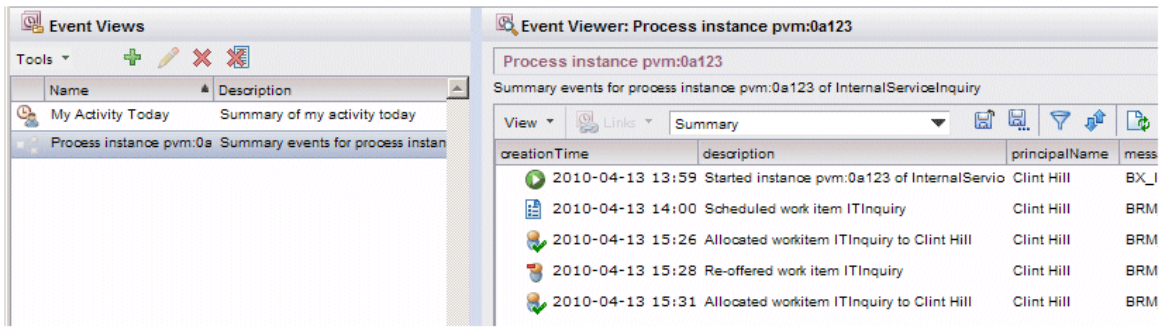
   All three methods display a drop-down list.

2. From the drop-down list, select one of the available pre-defined filters. For example:



   This creates a *temporary* event view containing events of the type you selected in the drop-down list, that are associated with the selected work item. For example, if you select “This instance”, the event list will contain all events pertaining to the process instance that is associated with the selected work item. (Note that the selections in the drop-down list are customizable — those appearing on your system may differ from those shown here.)

   It also causes the event view list to be displayed with the newly created temporary event view selected. For example:



3. From the list of events for the work item, perform any of the desired functions that are available — for information, see Events.

Result

Also, for more information about the temporary nature of the event view that is created, see Creating Event Views.

Processing Work Items

A work item represents a task in a process. Typically, a work item has an electronic form associated with it that must be **opened** and filled out (some forms may only display information and will not have fields to fill out).

You can then **save** the work item in your work item list so that it can be opened again and completed at a later time. When the form is completed, the work item is **submitted** so that the process instance can progress, possibly resulting in another work item that represents the next task in the process.

Note that you can also select one or more work items in your work item list, and tell the system to mark them as complete and submit them. This is called the *skip* function. For more information, see Skipping Work Items.

Pageflow definitions can include branching that would require the simultaneous handling of multiple user tasks, each requiring the display of a form (this same scenario could also occur in embedded sub-processes set up for chained execution).

Workspace cannot currently display multiple forms resulting from these *parallel pageflows*. If one is encountered in Workspace, a warning message is displayed. In some situations, none of the forms can be displayed and execution of the pageflow (or chaining in the sub-process) cannot proceed. If a parallel pageflow is encountered inside of a business service, it may be able to arbitrarily display one of the forms, but an exception may occur later when the form is submitted.

Opening Work Items

Opening a work item causes the form associated with that work item to be displayed.

You can open work items in the following ways:

- Double-click the desired work item in the work item list.
- Select one or more work items in the work item list, then:
  - press the **Enter** key,
  - select **Open Selected Work Item(s)**[12] from the **Tools** menu on the work item list,
  - right-click the mouse button on the desired work item(s) and select **Open Selected Work Item(s)** from the drop-down menu, or
  - click the  button on the work item list.
- Click the  button on the work item list, or select **Open Next Work Item** from the **Tools** menu. This causes the first available work item in the list to be opened, where "available" means a work item that is not locked nor suspended.

  If you select the Open Next Work Item function, and there are no available work items, a "No available work items to open" message is displayed.

  Work items cannot be opened from supervised work views.

[12] You cannot open multiple work items if you are displaying the work item forms in the preview pane. If you are opening forms in the preview pane, and you select multiple work items, the Open Selected Work Item(s) function is disabled.

There is also a way to cause work items to automatically open when you are viewing your Inbox. For information about this, see Automatically Opening Work Items.

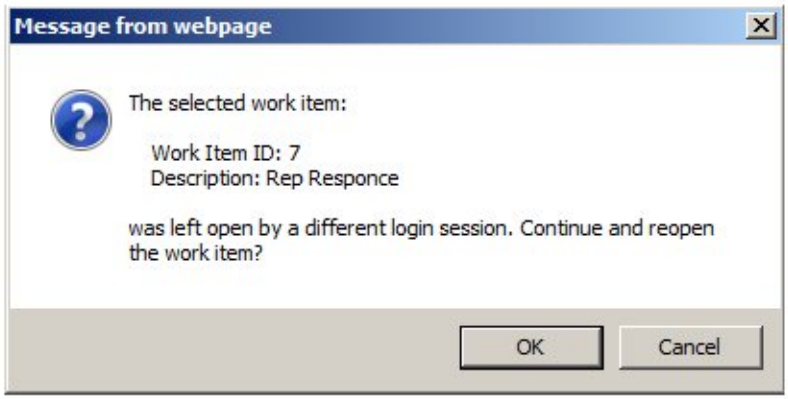
Opening a work item causes "Opened" to be shown in the **State** column, as well as an "open file folder" image to appear in the **State Image** column on the work item list:

Opening a work item implicitly allocates the work item to the user that opened it. The work item is removed from the work item lists of other users to whom the work item had been offered.

Re-Opening a Work Item

If you have a work item opened, and the application is closed (for example, the browser is closed) without first closing the work item, the work item remains open.

When you restart the application, and attempt to open the work item that is already open, the following message is displayed:



To re-open the work item, click **OK**.

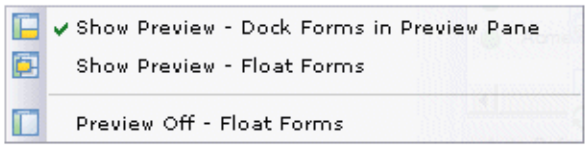
The only other option to close the work item is to use the **Cancel** function (see Canceling Changes).

Work Item Form Location

The location at which the work item form is displayed when you open a work item depends on whether or not the *preview* feature is turned on.

- If preview is turned off, the work item form is always opened in a separate floating window. Note that the window in which the form opens may be either a dialog or a new browser window, depending on a *user options* setting — for more information, see Work Item Preview.
- If preview is turned on, the work item form may be opened either in the preview pane or a separate floating window, depending on the current preview setting.

  The preview setting can be viewed or set by selecting **Preview** from the work item list **View** menu. The following drop-down menu is displayed:



The check mark indicates the currently selected preview option.

- If the **Show Preview - Open Forms in Preview Pane** selection is checked, the work item form is opened in the preview pane.

  Note that the preview pane may be set to automatically resize when a work item is opened, then return to the previous size when the work item is closed. For information about how this is done, see Work Item Preview.

- If the **Show Preview - Float Forms** selection is checked, the work item form is opened in a separate floating window. Note that the window in which the form opens may be either a dialog or a new browser window, depending on a *user options* setting — for more information, see Work Item Forms.

  When you have a work item form open in the preview pane, all functions available from the work item list become disabled. This is because you cannot perform any of those functions until the form is closed, by clicking one of the buttons on the form: **Cancel**, **Close**, or **Submit**.

If you have chosen to display the work item forms in floating windows, and there are multiple work items selected when you open them, a floating window for each selected work item is displayed.

But if you have chosen to display the work item forms in the preview pane, you cannot open multiple work items at one time — if you select more than one work item, the **Open Selected Work Item(s)** function becomes disabled.

Automatically Opening Work Items

Work items may be opened automatically.

This can occur because of one of the following reasons:

- **Auto-Repeat** - This is a feature you can select from the work item list that causes the next available work item to be opened automatically after you've cancelled, closed, or submitted a work item. For more information, see Auto-Repeat.
- **Piling** - Work item *piling* (or *piled execution*) is a feature that is designed into the process and user task that causes work items generated by the same user task to be opened automatically. For more information, see Piling.
- **Chaining** - Work items can also be *chained* together when the process is defined. When two or more user tasks are chained together in the process, the work items that result from those user tasks must be processed by the same user. For more information, see Chaining.

Auto-Repeat

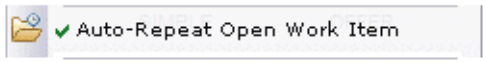
The work item list provides an *auto-repeat* feature that causes the next available work item to be automatically opened after you've cancelled, closed, or submitted a work item, where "available" means a work item that is not locked nor suspended. This allows you to process work items in succession without manually opening each one.

To turn on the auto-repeat feature, click the  button on the work item list, or select **Auto-Repeat Open Work Item** from the **Tools** menu.

If you select the Auto-Repeat Open Work Item function, and there are no available work items to open, the function is automatically turned off.

The auto-repeat feature works as a toggle — successive clicks of the **Auto-Repeat Open Work Item** button turns it on and off. When the feature is turned on, the **Auto-Repeat Open Work Item** button is highlighted, as follows:

The **Auto-Repeat Open Work Item** selection on the **Tools** menu also contains a check mark when this feature is turned on:



The auto-repeat toggle is persistent — it remains in its current state and is remembered between logins. Note that persisted settings are saved on the server, so if you log onto a different machine, those settings will be in effect on that machine also.

When the auto-repeat feature is turned on, the next available work item will automatically display after you cancel, close, or submit the previously open work item.

Piling

When a user task is defined in a process, the designer specifies whether or not work items generated from that user task should be *piled*. If they are piled, when you cancel, close, or submit a work item generated by that user task, the system will search through your work list to see if there are any other work items from that user task. If it finds one, it automatically, opens it.

For example, if the "Claim Screening" user task is set up to be piled, when you cancel, close, or submit a Claim Screening work item, the next Claim Screening work item in your work list is immediately opened. If there are no more Claim Screening work items, you are returned to your Inbox.

This feature allows the system to be designed so that if your job entails processing a certain type of work item, the system will automatically open work items of that type, without requiring you to continually select work items from your work item list — it's as if you are working on a *pile* of work items.

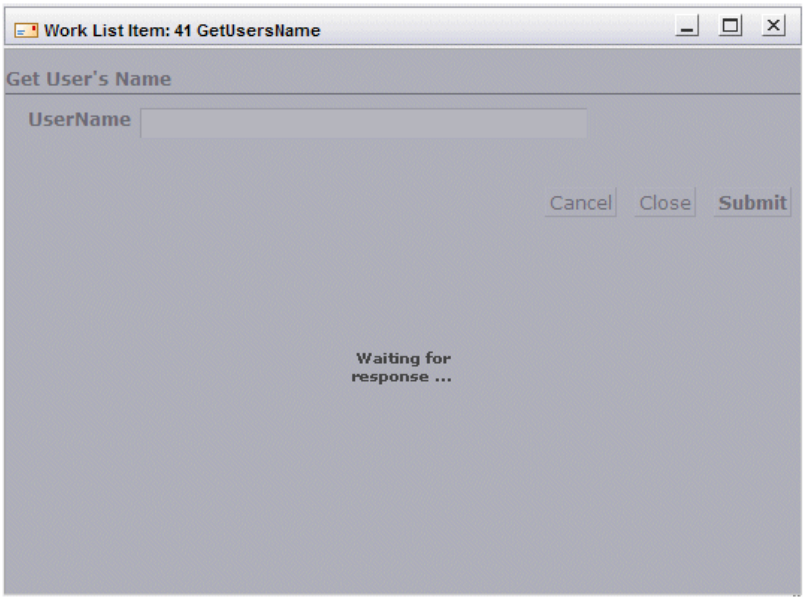
The order in which piled items are presented in the user's work queue is based on the sort order of the work list. Setting a default sort order will dictate the order of the work list and, therefore, the order of piled items.

The order of piled items cannot be configured with Work Views.

Chaining

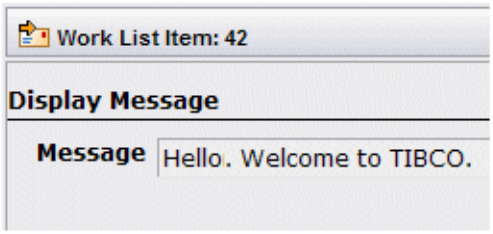
When a process is defined, the designer can *chain* together multiple user tasks. This specifies that the user who opens the first work item in the chain, and submits it, must then process *all* work items in the chain.

When you submit the first work item in a chain, the form from the first work item is overlaid with a shaded mask, with a "Waiting for response..." message displayed. For example:



When the first work item is finished processing, the second work item in the chain is automatically displayed. This will continue until all work items in the chain have been processed.

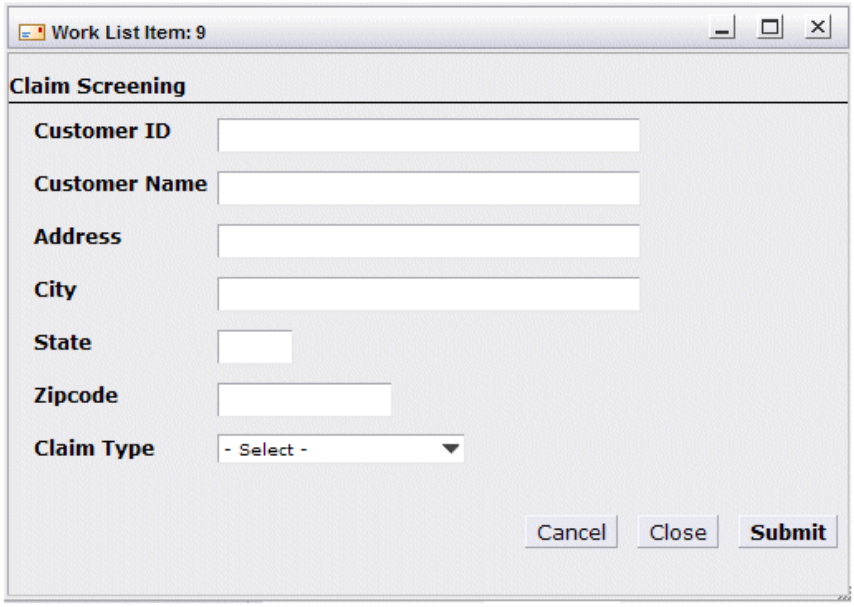
Also note that the form for the second work item, as well as all subsequent work items in the chain, is displayed, the icon in the upper-left part of the form will show an arrow on the normal "letter/envelope" icon:



Filling in a Work Item Form

The form that appears when you open a work item is specific to your Workspace. Each company that uses Workspace will create their own forms that relate to the specific business they are in.

Your company will instruct you in properly filling out the forms that they have designed for Workspace. The following is an example of what a form may look like:



Note that the form may open in the preview pane, a separate dialog, or a separate browser window, depending on how your system is set up. For more information, see The Preview Pane.

Use the **Tab** key to move from field to field on the form.

Some fields may include a drop-down menu from which you can select the valid options — they contain "- Select -" and an arrow head (see the **Claim Type** field above). Click on the field to display the options you can choose from.

A "date picker" may be available to enter dates in date fields. Click the calendar icon next to the date field. A calendar is displayed from which you can choose a date; clicking a date in the calendar causes it to be entered in the field.

Saving Work Items

Saving a work item causes any information you have entered in the form to be saved, then the work item is closed (and unlocked) and placed back in the work item list with a state of Pended. The work item is then available to be opened and completed at a later time.

To save and close a work item, click the **Close** button on the work item form.

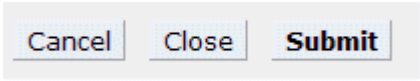
Note, however, even though you have saved a work item, and it appears only in your work item list, it is possible for the system or another application to make changes to the pended work item. This can include changes to data in fields, or other aspects of the work item, such as a deadline date. For more information, see Work Items Modified by the System of Another Application.

Submitting Work Items

Submitting a work item means that you are done with that work item. If there are any fields on the form designated as "required" when the form was created, they must be filled in before the system will allow you to submit the work item.

Submitting the work item causes any information you've entered to be saved, then the work item is closed (and unlocked) and it is removed from the work item list. The process instance advances to the next task in the process, possibly resulting in another work item appearing in someone's work item list.

To submit a work item from the work item form, click the **Submit** button on the form:



Work Items Modified by the System of Another Application

It is possible for a work item to be modified by the system or another application.

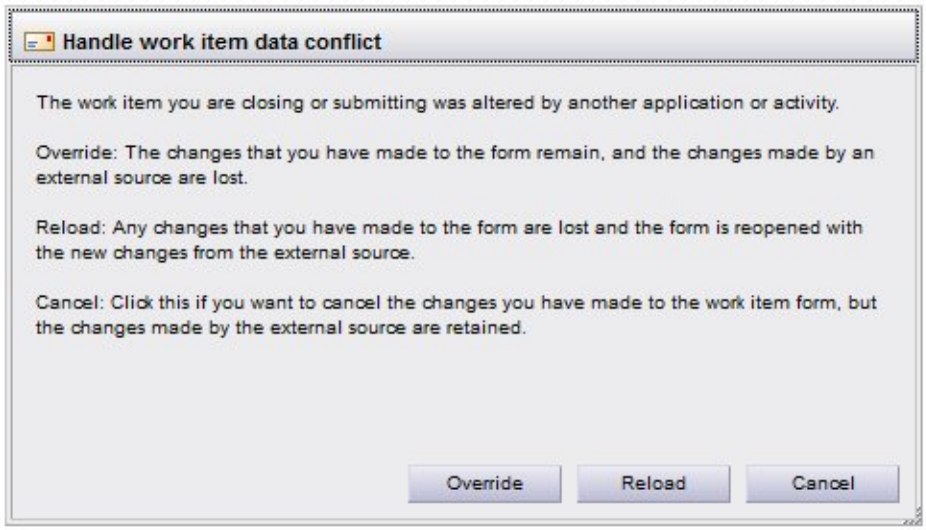
This can occur either:

- after you have opened the work item, made some changes, then closed it; that is, it is currently in your work item list with a state of Pended.
- while you currently have the work item open.

The change made by the system or another application can include changes to data in fields, or other aspects of the work item, such as a deadline date.

If the system or another application modifies the work item while it is in your work item list with a state of Pended, you will see the changes made to it when you reopen it. In this situation, the changes made by the system or another application *may* overwrite data that you had previously entered into the data fields of the work item.

If the system or another application modifies the work item while you have it open, when you click the **Close** or **Submit** button, the following dialog is displayed:



This dialog gives you the following choices:

- **Override** - This causes any changes made to the work item by the system or another application to be overridden by the data on the work item form you are closing or submitting.

  The **Override** button is not displayed if the process definition does not allow you to override data changes made by the system or another application.

- **Reload** - This causes the work item form to be reloaded so that it will contain any changes that were made to the work item by the system or another application. Any data you had entered on the form is lost.
- **Cancel** - This closes the work item form, cancelling any data you had entered on the form. Changes that had been made by the system or another application are retained.

Pending Work Items

Work items can be *pended*, which causes them to be hidden in the work item list until a specified date/time, or period of time has expired. The work item becomes visible again when the date/time occurs, or period of time expires.

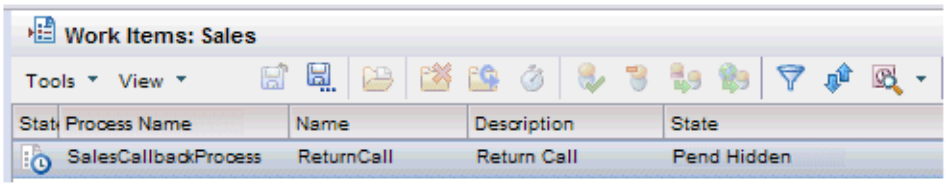
Work items can be pended only if they have a state of Allocated, Pended, or Pend Hidden.

This function is not available from supervised work views.

Note that even though pended work items are hidden by default, you can view pended work items, if desired (see Displaying Visible Hidden Work Items). If you do view pended work items, those that have been pended have a state of

Do not confuse pended work items (which have a state of Pend Hidden), with work items that you have worked on and saved (by clicking the **Close** button on the form) — those work items have a state of *Pended*. For more information, see Saving Work Items .

Pend Hidden and a state icon of . For example:

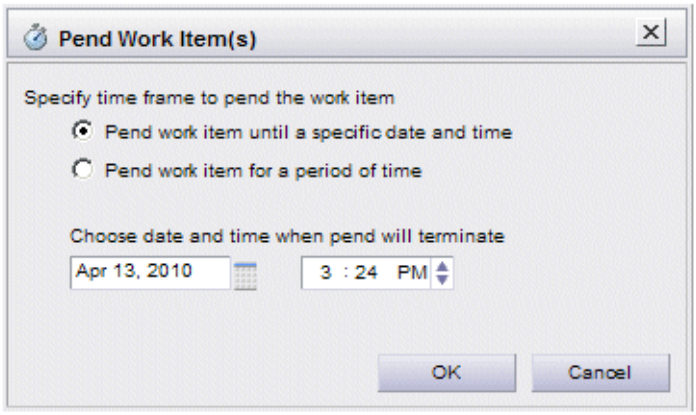


You can also cancel a pend period (see the steps below). If the pend period is cancelled, the work item becomes visible and its state returns to the state it was prior to it being pended.

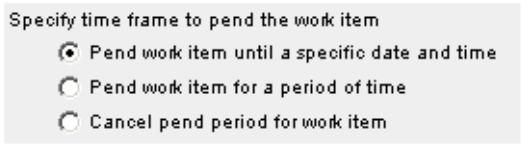
Procedure

1. From a work item list, select one or more work items that have a state of Allocated, Pended, or Pend Hidden.
2. Click the button, or select **Pend Work Item(s)** from the **Tools** menu on the work item list.

   If the work item currently has a state of Allocated or Pended, the following dialog is displayed:



   If the work item currently has a state of Pend Hidden, an additional selection is displayed:



3. Choose the appropriate selection:
   a) **Pend work item until a specific date and time** - Select this to specify a date/time for the new pend period, or to set a current pend period to a different date/time.
   b) **Pend work item for a period of time** - Select this to specify a period of time for the new pend period, or to set a current pend period to a different period of time.
   c) **Cancel pend period for work item** - Select this to cancel the currently specified pend period.
4. Specify the new pend period using the fields on the **Pend Work Item(s)** dialog, then click **OK**, or just click **OK** if you are cancelling a current pend period.

Setting Work Item Priority

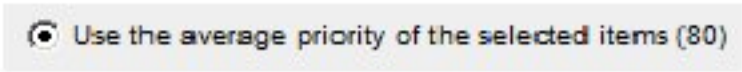
All work items are assigned a numeric priority, which can be used to indicate the work item's relative importance. You can use the priority to filter or sort a list of work items.

Work item priority defaults to 50, but you can modify the value for one or more work items.

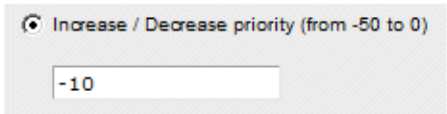
Procedure

1. Select one or more work items in a work item list.
2. Either click the **Set Priority** button on the work item list toolbar, or select **Prioritize Work Item(s)** from the work item list **Tools** menu.
3. On the Prioritize Work Item(s) dialog, select one of the following:

   - **Use the default priority** - This sets the selected work item(s) priority to the default value of 50.
   - **Use the average priority of the selected items** - This is really only applicable if you have multiple work items selected. It averages the current priority of all selected work items, and sets all of them to the average value. The average value of the selected work items is shown in parentheses:

   - **Set a custom priority** - This allows you to enter a desired priority value, which is given to the selected work item(s). The valid values are from 0 - 100.
   - **Increase / Decrease priority by an offset** - This either increases or decreases the priority of all selected work items by the value specified. To decrease the priority, enter a negative value. For example:

     The range of valid offset values is shown in parentheses. You cannot enter an offset value outside this range.
4. Click **OK** on the Prioritize Work Item(s) dialog to set the specified priorities.

Skipping Work Items

The **skip** function allows you to select one or more work items in your work item list and "skip" them. This marks the work item(s) as complete, removes them from the work item list, and causes the process to advance. It has the same affect as opening the work items and submitting them.

To be able to skip a work item, the following must all be true:

- the work item cannot have any required data fields that are not filled in, and
- the work item's state must currently be Allocated.

Procedure

- From a work item list, select one or more work items that can be skipped according to the requirements stated above.

  Click the  button, or select **Skip Work Item(s)** from the **Tools** menu on the work item list.

  Note that if the work item cannot be skipped because it does not exist anymore (i.e., your work item list has not been refreshed since the work item was submitted by someone else), the following dialog is displayed:

Result

When the work item is successfully skipped, it is submitted and removed from your work item list.

Canceling Changes

Once a work item is opened and data is entered or changed on the work item form, you can cancel those entries/changes and return the work item to the state it was in when the work item was opened.

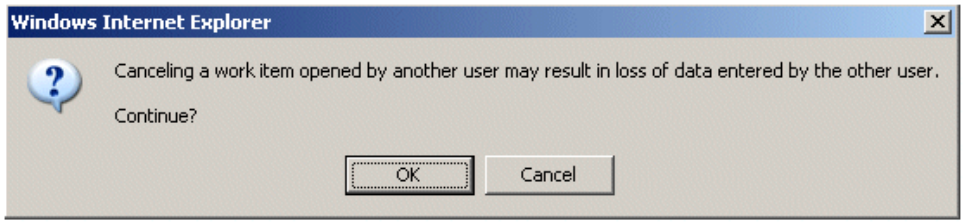
This can be done in two ways:

- **From the work item form** - This is typically the way in which most users will cancel changes on a work item form that they don't want to save. To cancel changes in this way, click the **Cancel** button on the work item form. The work item is closed and returned to the work item list without saving changes that had been made.
- **From the work item list** - The intention of the cancel function via the work item list is for an administrator-type user to be able to forcibly close a work item left open by another user. This causes any data that had been entered or changed by the user who opened the work item to be lost.

  Typically, this function would be used with a supervised work view, where you can view work items in the Inbox of users you supervise. For information about supervised work views, see Work Views.

  To close a work item from the work item list, select the opened work item in the work item list, then either click the  button, or select **Cancel Work Item(s)** from the **Tools** menu.

  The following dialog is displayed, warning you about the possible loss of data:



Note that the work item form that was opened by the user who originally opened the work item is *not* closed by the cancel function. The form must be manually closed from the workstation from which it was opened.

Process Instances

A process instance is created when a process is "started," and remains in existence until that instance of the process is purged from the system.

Process instances are typically started when you start a "business service". A business service is a set of actions that accomplishes some sort of business function. For example, a business service could be designed to handle an incoming insurance claim.

Starting an Instance of a Process

Processes are not explicitly started by a user. They are started as part of a *business service*. When you start a business service, one or more processes may be started by the service, resulting in process instances appearing in the process instance list.

For information about starting business services, see Accessing Workspace.

Workspace also provides a Start Process Instance function that allows an authorized user to explicitly start an instance of a process. A Start Process Instance button is displayed in Workspace for administrator-type users who have to proper authority. For information about using the Start Process Instance function, see Starting a Process.

Process Instance List

A process instance list presents all of the process instances that are in a particular process view.

To display a process instance list, click the **Process Views** button in the lower-left part of the screen, then select (single click) a process view in the process view list.

Initially, the default process view — **All Instances** — displays a list of the process instances for *all* processes available on your system. Although you can modify the filter and sort specifications for that view so that it displays a subset of those process instances.

The **All Instances** view in the process view list is controlled by a user access element. Therefore, if you do not have the proper user access, you will not have this view.

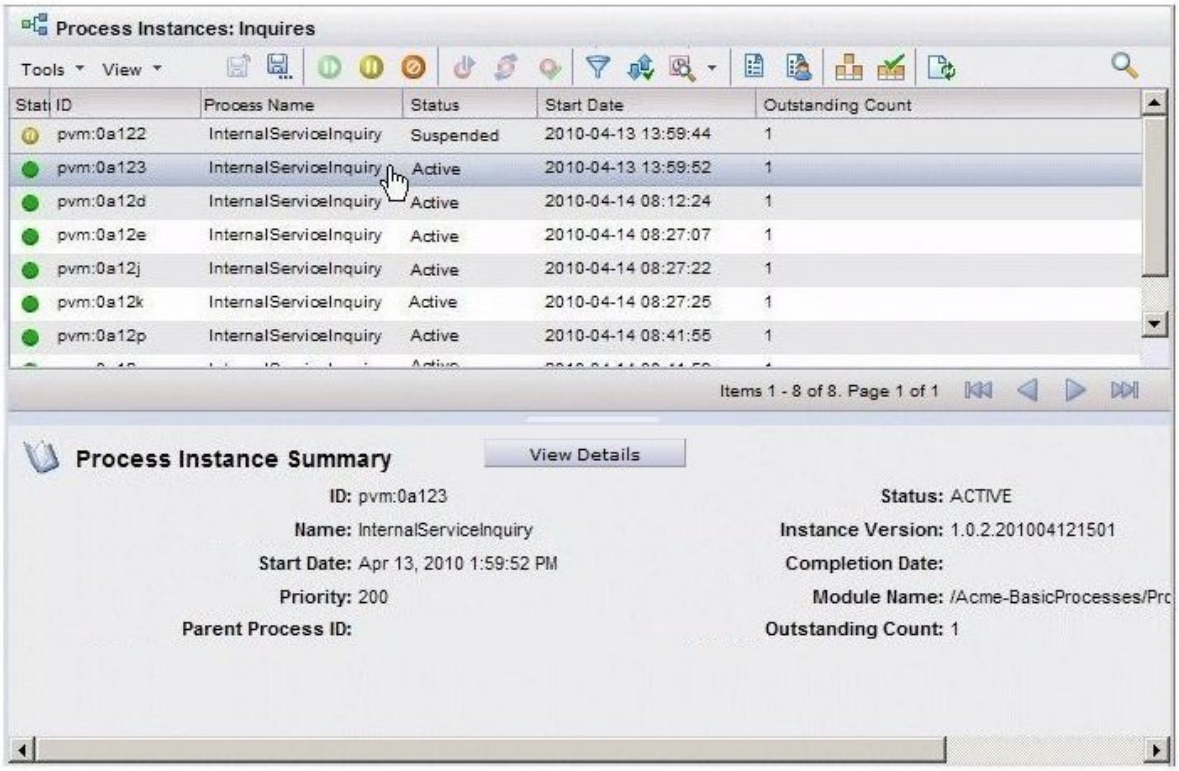
There may also be other process views available that display the process instance list filtered and sorted in different ways. For more information about using views, see Views.

Information about each process instance is provided in the columns of the process instance list. The specific information that is displayed on your system will depend on how your system was set up — see Process Instance List Columns.

Selecting Process Instances

Selecting a process instance (i.e., single-clicking an item, or moving the highlight bar with the keyboard arrow keys) from the process instance list causes the process instance summary to be displayed in the preview pane section.

For example:



If you select multiple process instances, the last one you select is the one displayed in the preview pane.

For additional information about selecting items in general from lists, see Selecting Items in a List.

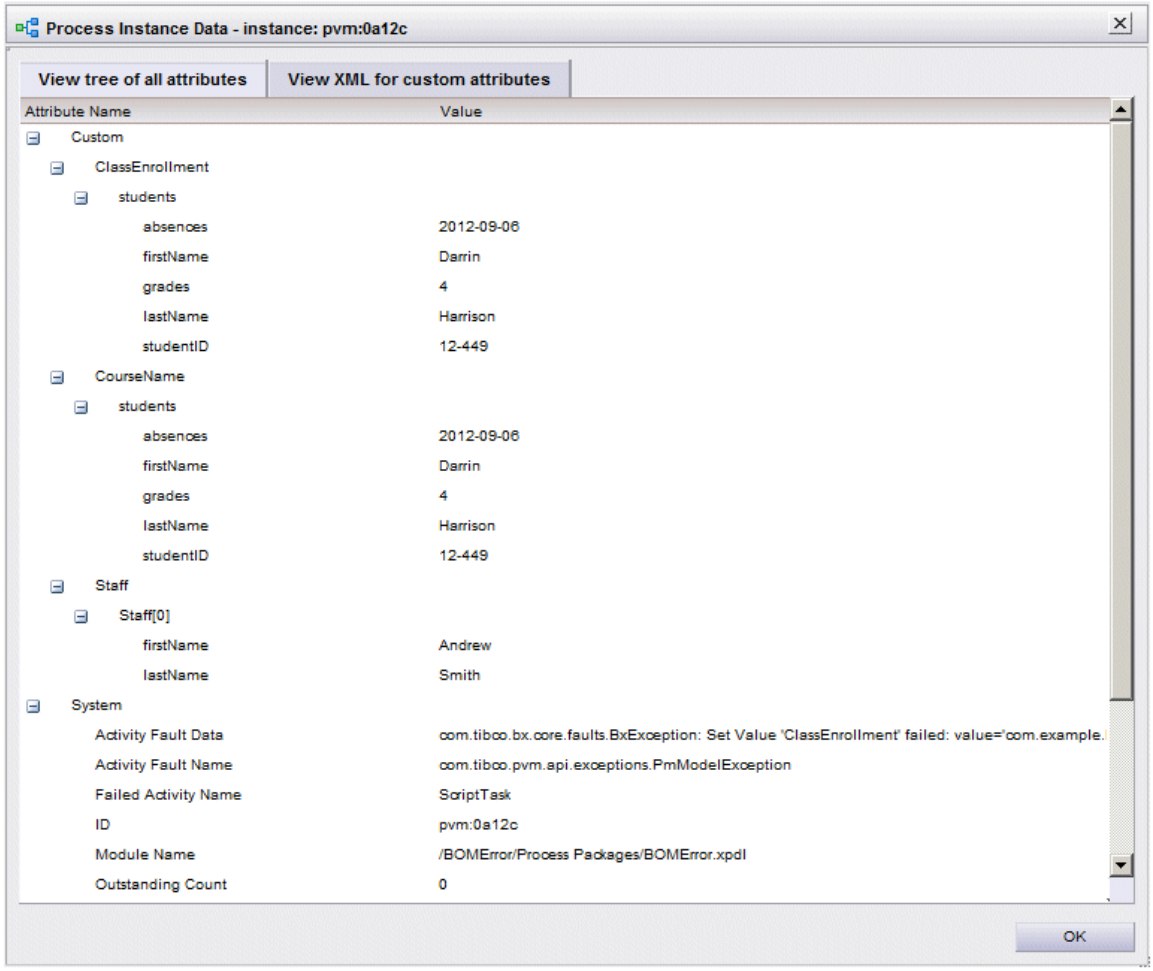
Process Instance Details

From the Process Instance Summary, you can also view additional details about the process instance. This includes values in custom attributes in the process instance (custom attributes represent customer-specified data fields that are added to a process when it is defined).

Those fields can then be added to forms. When a user enters information in the fields on a form (for example, customer name, address, loan amount, etc.) in an instance of the process, that information is stored in the custom attribute for that field, in that process instance. For more information about custom attributes, see Custom Attributes in Process Instance Lists.

To display process instance details, click the **View Details** button(1) on the Process Instance Summary. A dialog similar to the following is displayed:

[13] You must have the ShowCustomAttributes user access control for the **View Details** button to be displayed on the Process Instance Summary.

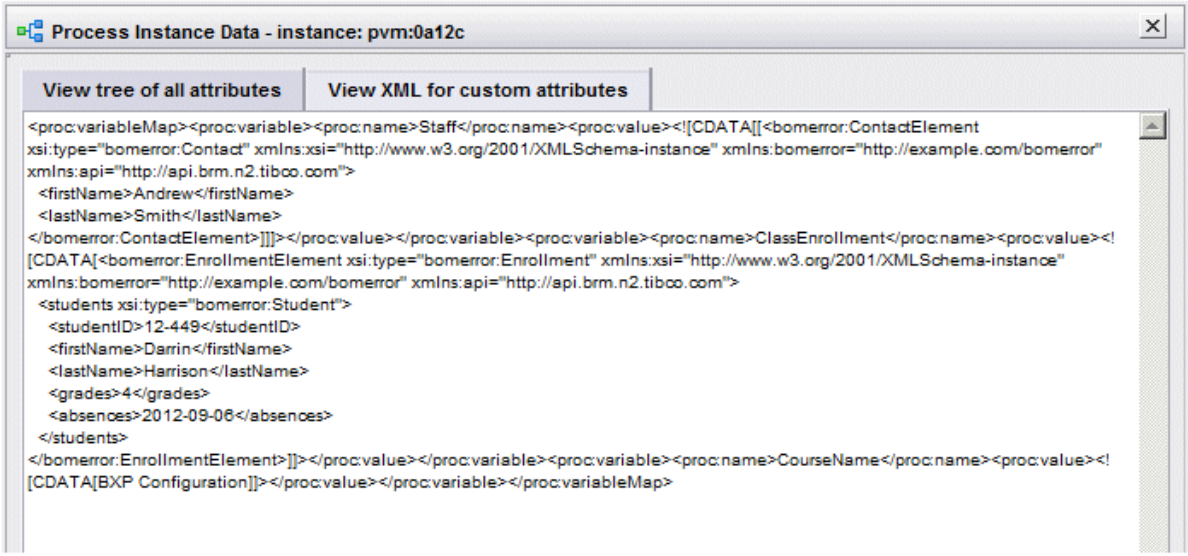


The Process Instance Data dialog contains two tabs:

- **View tree of all attributes** - This tab, which is displayed by default, contains a tree-view of all attributes for the process instance, both custom attributes and system attributes.

  Notice that this tab also contains the **Activity Fault Data**, **Activity Fault Name**, and **Failed Activity Name** attributes. These attributes are only applicable to *halted process instances*; the values in these attributes can help determine why a process instance has halted.

- **View XML for custom attributes** - This tab contains the XML for only the custom attributes in the process instance. For example:



The XML on this tab can be used in conjunction with the AXM BPM web service API operation, `setAvailableProcessInstanceVariables`. Its primary use is in cases of halted process instances. The XML can be copied from this tab, then used as input to the `setAvailableProcessInstanceVariables` operation; this allows you to make changes to the values in the required attributes in an attempt to get the process instance out of a halted state.

For information about the `setAvailableProcessInstanceVariables` operation, see the *TIBCO ActiveMatrix BPM Developer's Guide*.

For more information about halted process instances, see Halted Process Instances.

To close the Process Instance Data dialog, click **OK**.

Refreshing a Process Instance List

When a list of process instances is initially displayed, it is a **snap shot** of the process instances at that point in time. You can refresh the list to get the most recent list of process instances from the server by selecting **Refresh Process Instances** from the **View** menu, or by clicking the button.

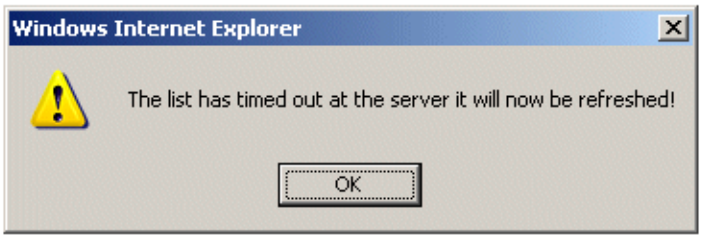
If you have defined filter and/or sort criteria for the process instance list, they will be applied on the refreshed list of process instances.

Note that when the process instance is refreshed, it always returns to page 1 of the list, regardless the page that was displayed when you refreshed the list. The first process instance in the list will be selected.

Process Instance List Timeout

The process instance list has a hard-coded timeout value of 30 minutes set on the server.

Anytime you display a process instance list, and don't do anything with it for 30 minutes or more, then access the list in any way (select an instance, attempt to refresh it, etc.), the following dialog is displayed:



This just means that the server determined that it's been such a long period of time since you did anything with the list, it should be refreshed.

Click **OK** to refresh the list. It is redisplayed at page 1 of the list (regardless the page you were on before it timed out).

Process Instance List Columns

By default, certain columns are displayed in a process instance list. You can easily customize the columns that are displayed by either using the Column Selector, or manually.

For information, see Customizing Columns in a List.

The following table describes the columns of information that can be displayed on the process instance list:

Column	Description
ID	A unique number identifying the process instance.
Outstanding Count	This is the number of outstanding work items in this process instance. Also see, Outstanding Work Items .
Parent Process ID	The instance ID of the parent process — only applicable for re-usable sub-processes.
Priority	This is a numeric value that has been assigned to the process instance by an administrator. The numeric value assigns a relative importance to the process instance, which allows users to prioritize their work.
Start Date	The date and time the process instance was started.
Status	Indicates the current status of the process instance. For a list of the possible statuses, see Process Instance Status .
Version	Identifies the version of the process from which the instance was started.
Module Name	This is the path to the XPDL file that defines the "process package".
Process Name	The name of the process, of which this is an instance.
Status Image	An image that indicates the current status of the process instance. For a list of the possible status images, see Process Instance Status .

Each column in the process instance list represents an attribute, which holds information about the process instance.

When you use the Column Selector to specify the columns to display, both *System* and *Custom* columns are listed(1). *System* columns/attributes contain information that the system entered in the attribute, such as the instance start date, current status, etc. *Custom* columns/attributes represent customer-specified fields that are added to a process when it is defined. Those fields can then be added to forms. When a user enters information in the fields on a form (e.g., customer name, address, loan amount, etc.), that information is stored in the custom attribute for that field.

Note that the Column Selector will always show all of the system columns/attributes listed in the table above, because those are available in every process instance. However, it will only show the custom columns/attributes that are common to *all* process instances that were included in the process view.

Filtering a Process Instance List

Filtering a list of process instances involves entering *filter criteria* so that only some of the process instances are shown in the list, rather than all of them. Filtering a list of process instances allows you to display only the process instances you are interested in.

For example, you may only be interested in process instances that were started earlier then Dec. 15, 2008 You can filter the list so only those process instances are shown.

The filtering function allows you to build a "filter expression" that is applied to all process instances. If a process instance satisfies the filter expression (e.g., it was started earlier than Dec. 15, 2008), it is shown in the process instance list; if it does not satisfy the filter expression, it is not shown in the list.

Because filtering process instance lists is basically the same as filtering other types of lists in Workspace (with the exception of the specific fields on which you can filter), details of filtering is explained in a single chapter — see Filtering Lists.

Sorting a Process Instance List

Workspace allows you to sort the information in a process instance list so they are in the order you would like them listed.

For example, you may want to list all process instances that are currently "Active" first, then sort those by started date/time, from oldest to most recent. The sort function allows you to choose which columns on the process instance list to sort on.

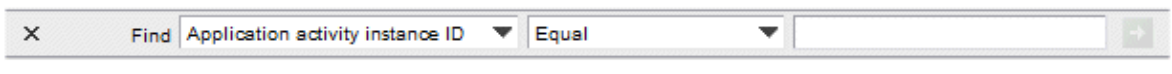
Because sorting process instance lists is basically the same as sorting other types of lists in Workspace (with the exception of the specific fields on which you can sort), details of sorting is explained in a single chapter — see Work Items.

Finding a Process Instance

A Find function is provided to help you locate a process instance in the process instance list. Note that this function searches through the entire process instance list, not just the currently displayed page. However, if there is a filter currently applied to the list, it only searches through the process instances that satisfy the filter.

Procedure

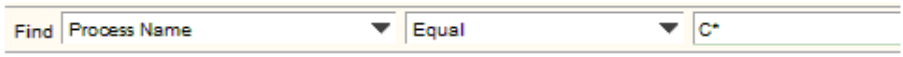
1. Click the button on the process instances list toolbar, or select **Find Process Instances** from the **Tools** menu.
   The following fields are displayed in the work item list toolbar.



[14] The listing of custom columns/attributes is controlled via user access profiles. They are shown in the Column Selector only if you have the proper access.

2. From the drop-down list in the first field, choose an attribute that you want to search on. For example, to find a process instance that has a certain process name, choose “Process Name”.
3. From the drop-down list in the second field, choose the operator that is appropriate for your search.
4. In the last field, enter the value you want to search for.

   You can use the * character as a wildcard. For example, the following finds all process instances whose process name begins with “C”:



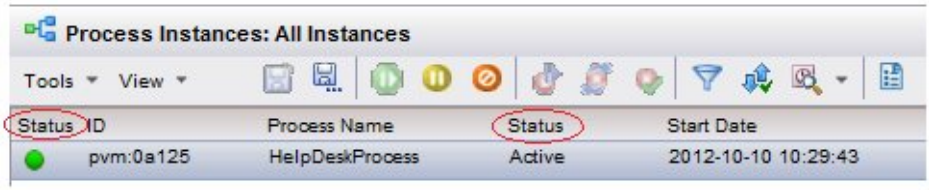
   If you select a date attribute to search on, a calendar icon is displayed from which you can select a date, plus fields are displayed to the right of the calendar icon in which you can enter a time.

5. Click the button (which is activated when you enter a value to search on) to display the find results.

   The Find fields can be closed by either clicking the X to the left of the fields, or by clicking the button again.

Process Instance Status

There are two **Status** columns available on the process instance list that indicate the process instance’s current state: one is an image and the other is text.



By default, the first column in the process instance list displays icons that indicate the process instance’s status.

The following table shows the possible icons and their meanings.

Status Image	Status Text	Meaning
	Active	The process instance is in progress.
	Cancelled	The process instance has been cancelled. Note that once the list is refreshed, process instances with a status of cancelled are removed from the list. For more information, see Cancelling a Process Instance .
	Canceling	This is a transitory state where a user has cancelled the process instance, but the cancel function has not been completed yet. The amount of time it takes to cancel a process instance depends on the amount of system resources available and the current load on the system.

Status Image	Status Text	Meaning
	Active while Canceling*	The sub-process instance was active when its cancellation was initiated by a cancellation event handler, and is now waiting for the cancellation to complete. (There may also be compensation handlers that are reversing or undoing previously executed activities before the status can be changed to Cancelled.)
	Suspended while Canceling*	The sub-process instance was suspended while it was being cancelled by a cancellation event handler. Typically, a sub-process instance has a state of Active while Canceling upon initiation of the cancellation event handler, but at that point you can suspend the sub-process instance with the intention of fixing a possible error before the sub-process instance changes to the Halted while Canceling state (see below). And of course, if the sub-process instance is suspended (and an issue resolved), it must be resumed so the graceful cancellation of the sub-process can continue to completion.
	Halted while Canceling*	The sub-process instance was halted due to a failure in the cancellation event handler business logic. Typically, a sub-process instance has a state of Active while Canceling upon initiation of the cancellation event handler, but then may fail (for example, the handler cannot find an external resource or a dynamic sub-process), at which point its state changes to Halted while Canceling. If the state changes to Halted while Canceling, you can use one of the available functions to progress a halted process instance (for information about those functions, see Halted Process Instances), and ideally get back to a Active while Canceling state so that the graceful cancellation of the sub-process can continue to completion.
	Completing	This is a transitory state between the time that final work item for the process instance has been submitted and the process instance being set to a Completed status. The amount of time it takes to complete a process instance depends on the amount of system resources available and the current load on the system.
	Completed	The process instance has completed. Depending on how your system was configured, process instances with a status of Completed may appear in the process instance list, or they may be automatically purged as soon as they complete, and do not appear in the list. And if your system is configured to show Completed instances, it may be configured to list them for a specific period of time, then they are purged.
	Failing	This is a transitory state where the system has detected an error, but the state has not yet been set to Failed. The amount of time it takes to set the status to Failed depends on the amount of system resources available and the current load on the system.

Status Image	Status Text	Meaning
	Halted	A task in the process instance has failed, causing the process instance to be halted. For information, see Halted Process Instances .
	Halting	This is a transitory state — the process instance is being halted because of a failed task.
	Not Started	This is a transitory state — the process instance has not started yet.
	Restarting	This is a transitory state — the process instance is being restarted.
	Resuming	This is a transitory state where a user has selected to resume a suspended process instance, but the Resume function has not been completed yet. The amount of time it takes to resume a suspended process instance depends on the amount of system resources available and the current load on the system.
	Starting	This is a transitory state between the time a process instance start has been initiated and the actual starting of the process instance. The amount of time it takes to start a process instance depends on the amount of system resources available and the current load on the system.
	Suspended	The process instance has been suspended. For information, see Suspending a Process Instance .
	Suspending	This is a transitory state where a user has suspended the process instance, but the Suspend function has not been completed yet. The amount of time it takes to suspend a process instance depends on the amount of system resources available and the current load on the system.

* Sub-processes instances can be cancelled in a "cascading" fashion, which causes them to be cancelled from the "bottom up". This is done using a "cancellation event handler." When cancelled in this way, the sub-process instances can take on one of the following states as described above. For more information about cancellation event handlers, see the *TIBCO Business Studio Modeling User's Guide*.

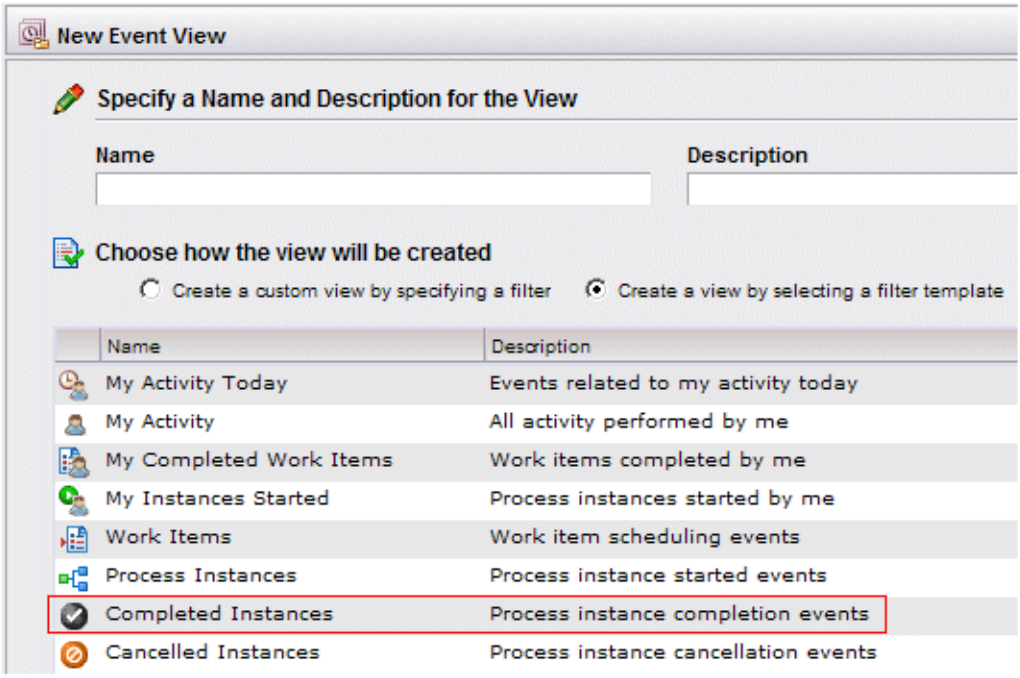
- Active while Canceling
- Suspended while Canceling
- Halted while Canceling

Completing a Process Instance

A process instance is completed when the last work item (user task) in the process has been submitted.

Depending on how your system was configured, process instances with a status of Completed may appear in the process instance list, or they may be automatically purged as soon as they complete, and do not appear in the list. And if your system is configured to show Completed instances, it may be configured to list them for a specific period of time, then they are purged.

If your system purges completed process instances, you can still view information about those instances via the Event Viewer using the pre-defined "Completed Instances" event view template:



For more information, see Event Views.

Displaying Outstanding Work Items

The "outstanding work items" for a process instance are all of the work items associated with that process instance that are sitting in users work item lists, waiting to be completed and submitted. They represent the user task(s) at which the process flow is currently sitting.

An active process instance may have only a single outstanding work item, or it might have many because the process flow may have taken multiple paths, depending on how it was designed.

The process instance list contains two functions that allow you to view the outstanding work items for a process instance. They are:

- **Show Outstanding Work Item(s) for ID** - This function causes a temporary work view to be created under the **My Work** folder in the work view list. This work view will contain all of the outstanding work items for the selected process instance that are currently offered or allocated to you.
- **Show Supervised List of Outstanding Work Item(s) for ID** - This function causes a temporary work view to be created under the **Supervised Work** folder in the work view list. This work view will contain outstanding work items for the selected process instance that are currently offered or allocated to the specified user, or that were sent to the specified organizational entity.

For details about these functions, see Outstanding Work Items.

Suspending a Process Instance

You can *suspend* activity in a process instance, which causes all work items that are associated with that process instance to also become suspended, and the process flow is halted at that point. Work items that are suspended cannot be worked on, that is, they cannot be opened, allocated, re-offered, nor cancelled.

Also note that work items that are suspended become *hidden* in the work item list. You can display hidden work items by selecting either **Only show hidden work items** or **Show visible and hidden work items** from the **View** menu on the work item list.

If a work item is already open when the process instance is suspended, the work item can still be cancelled, closed or submitted:

- If cancelled, any changes made on the work item form are discarded and the work item is returned to the work item list with a Suspended state.
- If closed, any changes made on the work item form are saved, and the work item is returned to the work item list with a state of Suspended.
- If submitted, any new work items that result from the process flow appear in the appropriate work item lists, but they will have a Suspended state.

The suspended work items cannot be worked on until the process instance is resumed — see Resuming a Suspended Process Instance.

Also note that if you have:

- work items that have a timer event configured, or
- timer events defined within the process,

and the timer event is reached while the process instance is suspended, the timer event is still processed. However, you will not see activity until the process instance has resumed. For example:

- If the process is configured to move to the next task when the timer event has processed, the process moves to the next task when the process resumes.
- If the task that has a timer event is set to withdraw upon expiration, the task is withdrawn when the process resumes.

Procedure

1. From the process instance list, select one or more process instances, then click the button, or select **Suspend Process Instance(s)** on the **Tools** menu.

   A dialog is displayed to confirm that you want to suspend the selected process instance(s).
2. Click **OK** to confirm.

Result

When the process instance becomes suspended, the process instance list is automatically refreshed to update the instance status. This always causes the process instance list to return to page 1 of the list, regardless the page that was displayed when you suspended the instance.

Suspension Status

A process instance's suspension status can be viewed in the process instance list either as an image, or text.

- **Status Image Column** - When a process instance is suspended, the image in the **Status Image** column shows a icon (which is the same as the **Suspend** button).
- **Status Text Column** - When a process instance is suspended, the **Instance Text** column contains "Suspended".

The same image and text is displayed in the **State Image** and **State** columns, respectively, on the work item list for work items that are part of a process instance that is suspended. For example:

Note that suspended work items are *hidden* by default. Therefore, you must select either **Only show hidden work items** or **Show visible and hidden work items** from the work item list **View** menu to be able to see them in your work item list.

Resuming a Suspended Process Instance

Resuming a suspended process instance causes the process to flow as usual. Work items that were suspended because their process instance was suspended can now be opened and processed normally.

Procedure

1. From the process instance list, select one or more suspended process instances to resume, then click the button, or select **Resume Process Instance(s)** from the **Tools** menu.

   A dialog is displayed to confirm that you want to resume the selected suspended process instance(s).
2. Click **OK** to confirm.

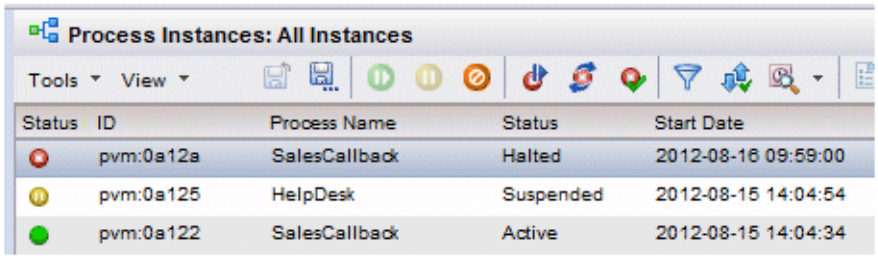
Result

When the process instance is resumed, the process instance list is automatically refreshed to update the instance status. This always causes the process instance list to return to page 1 of the list, regardless the page that was displayed when you resumed the instance.

Halted Process Instances

If a task in a process instance fails, it may cause the process instance that is associated with that task to be *halted* (depending on how the process was designed; the design may cause the process to immediately fail if a task fails).

If a process instance is halted for this reason, its status in the process instance list is shown as “Halted”:



You can view additional information about a halted process instance to help determine the cause of the failure:

- By creating a *halted process view*, which is a special-use view that displays some attributes specific to halted process instances. For information about creating this type of view, see Creating a Halted Process View.

- By viewing details of the halted process instance, which contains the same attributes that are in the special-use halted process view. For information about viewing process instance details, see Process Instance Details.

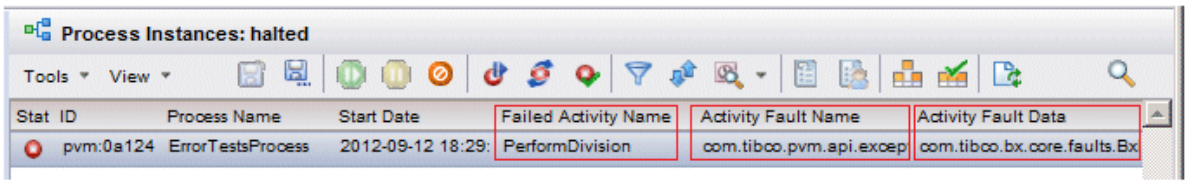
There are also functions available on the process instance list to progress a process instance that has halted. These functions can be accessed from the **Tools** menu or from icons on the process instance list toolbar:

The available halted process instance functions are:

	**Resume Halted Process Instance(s)** This resumes the process instance so that the instance itself goes into a failed state because of the failed task. This would typically be used if the reason for the failed task cannot be resolved.
	**Retry Halted Process Instance(s)** This causes the previously failed task to be retried so that the halted process instance can progress normally. This function is used if the reason for the failed task has been resolved, for example, if it failed because a database connection had been lost, but has now been restored.
	**Ignore Fault For Halted Process Instance(s)** This causes the failed task to be skipped in the halted process instance. The process instance continues processing from the point in the process after the failed task. This option only makes sense if the process is capable of continuing successfully without the skipped task having been performed.

Creating a Halted Process View

A special process view is available that displays process attributes containing information to help determine the reason a task failed, causing a process instance to be halted.



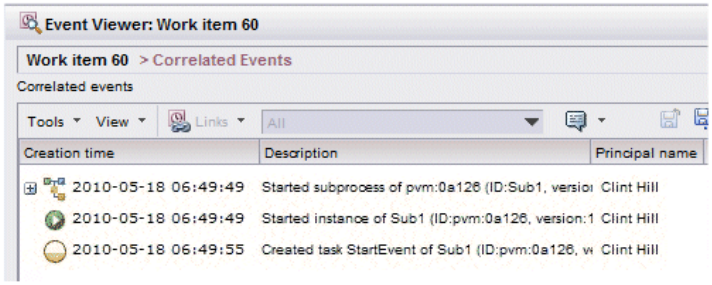
To create a halted process view, follow the normal procedure to create a process view as described in Creating Process Views. In step 3e of the procedure, choose the **Halted instance view with fault details** selection. This causes the new process view to contain the halted instance-specific attributes as shown in the illustration above.

Sub-Processes

Sub-processes are simply processes that are started by a task in another process. And sub-processes can be many levels deep, that is, a task in one process can start another process, which can contain a task that starts another process, and so on.

From the process instance list, you cannot distinguish which process instances are from a *main* process or from a sub-process.

You can, however, see when a task starts a sub-process using the Event Viewer. If an event in the Event Viewer has a ⊞ character to the left of the event, it means it is a sub-process start event:



Clicking on the ⊞ character expands the list to include the events related to the sub-process that was started.

For more information, see Sub-Process Events.

Viewing Events Related to a Process Instance

Every action that takes place concerning a process instance (e.g., starting, suspending, cancelling, and so on) is recorded in the database as an *event*.

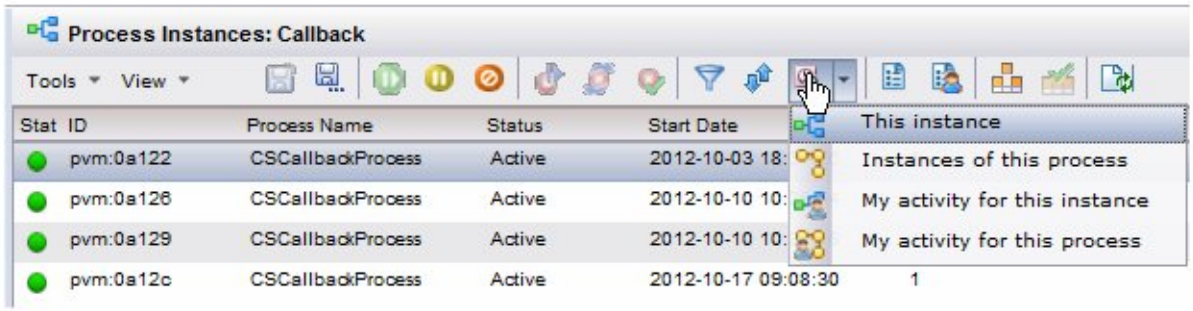
From the process instance list, you can select a process instance and view the list of events related to that process instance.

Also, for more information about the temporary nature of the event view that is created, see Creating Event Views.

Procedure

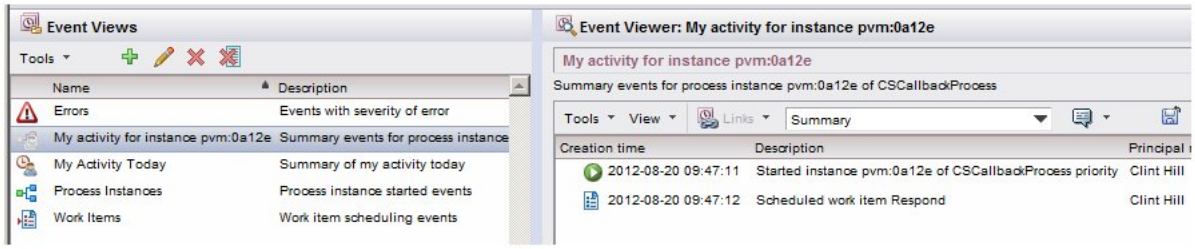
1. Select the desired process instance.
2. Either click the button on the process instance list toolbar, select **Open Event Viewer** from the process instance list **Tools** menu, or right-click the selected process instance and select **Open Event Viewer**.

   All three methods display a drop-down list.
3. From the drop-down list, select one of the available pre-defined filters. For example:



This creates a *temporary* event view containing events of the type you selected in the drop-down list, that are associated with the selected process instance. For example, if you select "My activity for this instance", the event list will contain all events that were generated by actions you performed pertaining to the selected process instance. (Note that the selections in the drop-down list are customizable — those appearing on your system may differ from those shown here.)

It also causes the event view list to be displayed with the newly created temporary event view selected. For example:



4. From the list of events for the process instance, perform any of the desired functions that are available — for information, see Events.

Cancelling a Process Instance

You can cancel a process instance, which stops the process flow and deletes all work items that are associated with that process instance.

Work items that are associated with a cancelled process instance are removed from the work item lists of the user to whom the work items were offered/allocated the next time their work item lists are refreshed.

If a user has a work item open when its associated process instance is cancelled, a message is displayed when the user attempts to cancel, close, or submit the work item form informing the user that the process instance has been cancelled.

Procedure

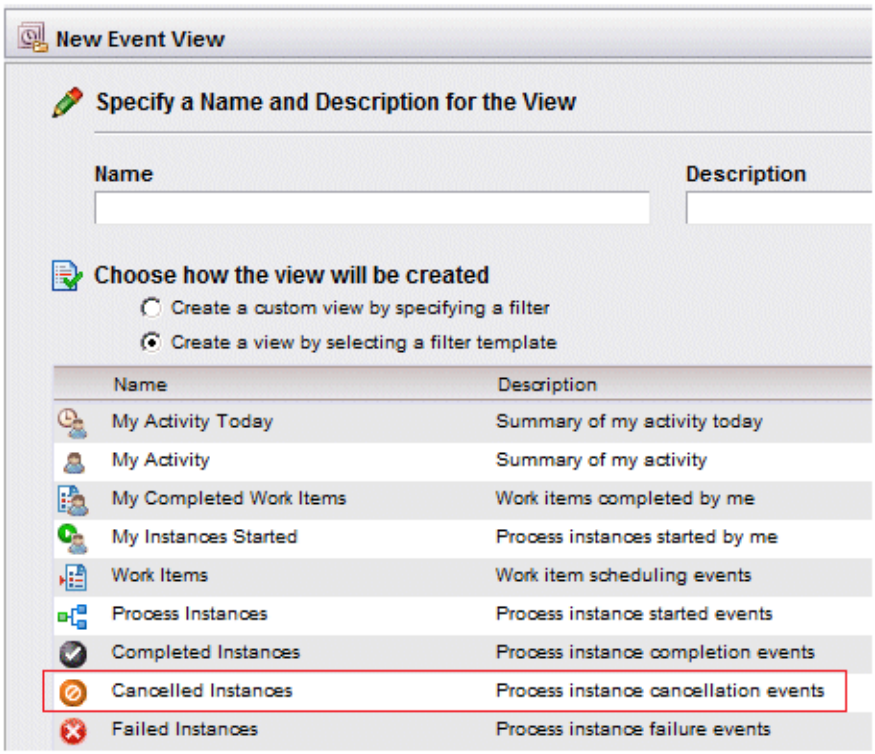
1. From the process instance list, select one or more process instances, then click the button, or select **Cancel Process Instance(s)** from the **Tools** menu.

   A dialog is displayed to confirm that you want to cancel the selected process instance(s).
2. Click **OK** to confirm.

Result

When a process instance is cancelled, the status changes to Cancelled. Note, however, that depending on how your system was configured, process instances with a status of Cancelled may remain in the process instance list after the list is refreshed, or they may be automatically purged from the system and removed from the list. And if your system is configured to show Cancelled process instances, it may be configured to list them for a specific period of time, then they are purged.

If your system purges cancelled process instances, you can still view information about cancelled process instances via the Event Viewer using the pre-defined “Cancelled Instances” event view template:

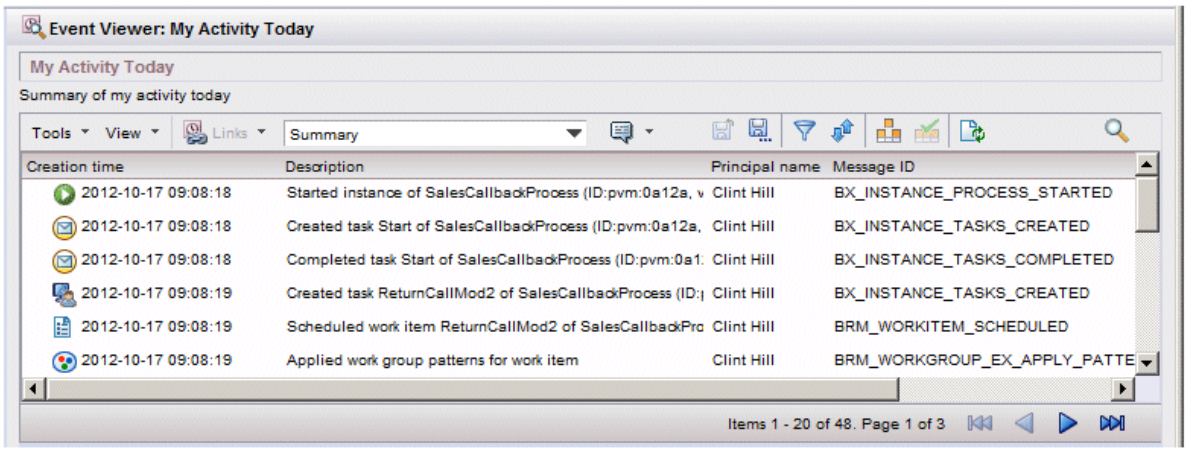


For more information, see Event Views.

Events

Actions that take place in Workspace are recorded as *events*. These include things like logging in, opening a work item, submitting a work item, suspending a process instance, etc.

Workspace allows you to display lists of events so that you can see what has occurred with a particular work item, process instance, user, etc. For example, the following shows events for a work item — it allows you to see the events that have taken place pertaining to that work item since it was created (scheduled):



The **Event Viewer** displays an event list that contains the events in the currently selected event view — see Event Views. An event list is sometimes referred to as an *audit trail* because it allows you to audit the trail of actions that have taken place for a particular thing.

Like other lists in Workspace, you can filter and sort the list of events. For information, see Filtering an Event List and Sorting an Event List.

Also, some events provide links to related lists of events. For example, from a list of events for a work item, you can link to a list of events for the process instance to which the work item is related, or to a list of events pertaining to the user who allocated the work item. For information about using these links, see Viewing an Additional Event List Using Event Links.

The example list of events above shows that there are a total of 48 events in this list. Note, however, that the system can be configured to not display the total number of events. This is to improve performance when there are a large number of events. If your system has been configured to not display the total count, and you "page" to the end of the list, a "You have reached the end of the list" message is displayed when you reach the last page.

Event Lists

To display an event list, click the **Event Views** button in the lower-left part of the screen, then select the desired view in the event view list.

By default, the event list displays a chronological list of events for the entity in question, in the example shown above, a work item.

After displaying the event list, you may filter and/or sort the list so that only the events you are interested in are displayed, in the desired order. For more information, see Filtering an Event List and Sorting an Event List.

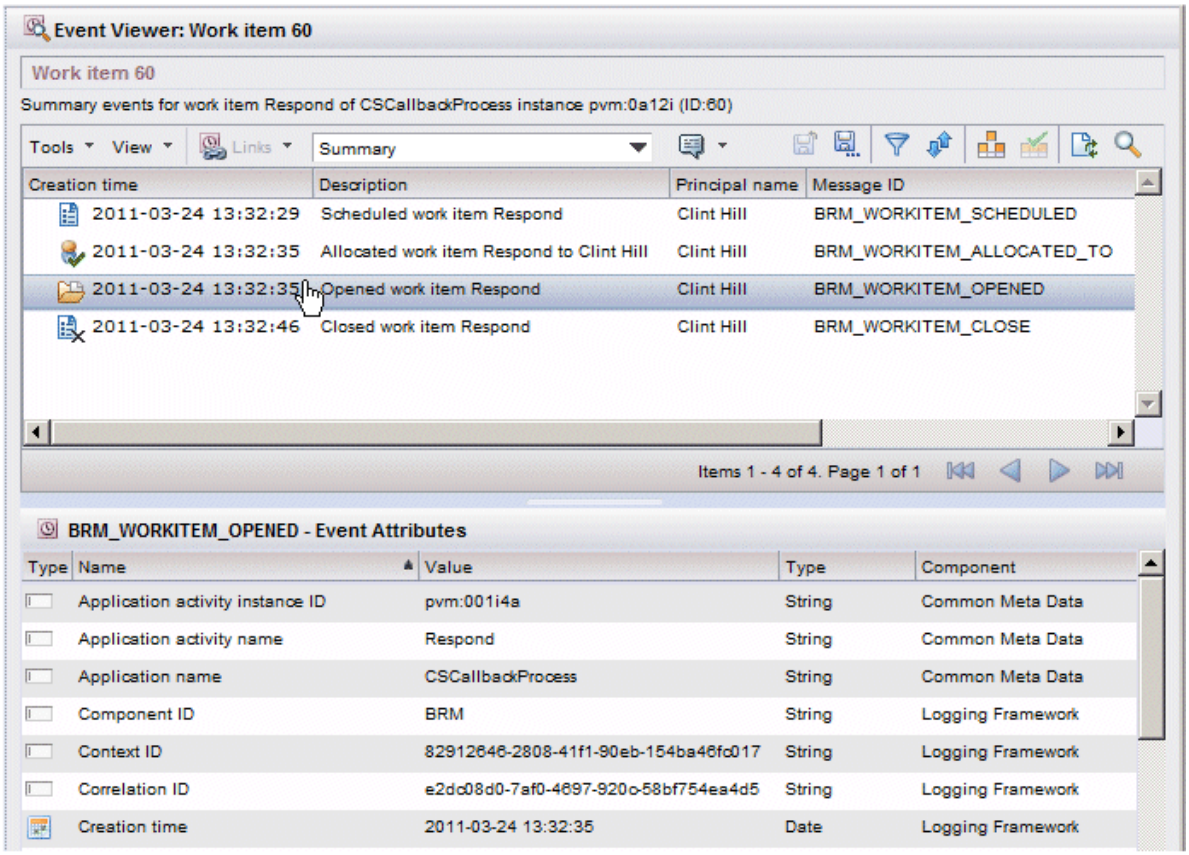
When you start Workspace for the first time, there is a single default event view called **My Activity Today**. This view displays all events related to activity you have performed today. You can modify or deleted this default event view, if desired.

You can also create additional event views that display events related to a variety of activity in Workspace. For information about creating new event views, see Creating Event Views.

Selecting Items in an Event List

You can only select a single event at one time in an event list.

Selecting an event causes the *attributes* associated with that event to be displayed in the preview pane. For example:



The available columns in the event list provide information that is common to all event types. Whereas, the attributes provide additional information that is specific to the type of event selected.

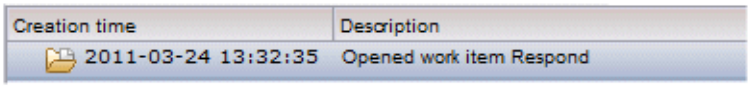
The attribute list is for informational purposes only — there are no functions associated with it. For more information about event columns and attributes, see Event List Columns Attributes.

Event Descriptions

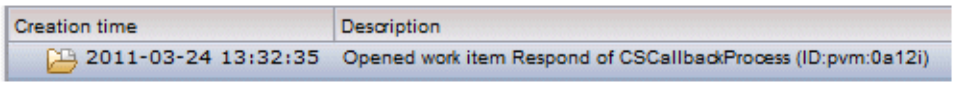
Each event has two descriptions defined: a detailed description and a summarized description.

For example, for the “Open work item” event:

Summarized Description



Detailed Description



The detailed descriptions provide more information, but you may find that the summarized descriptions make it easier to scan the event list.

You can easily switch between the two descriptions by either clicking the button on the event list, or by selecting **Event Descriptions** from the event list **View** menu. Both methods display a drop-down from which you can select the description type.

The descriptions for events are also customizable by an administrator, therefore, you may see different descriptions than those shown in the documentation.

Filtering an Event List

Filtering a list of events involves entering *filter criteria* so that only some of the events are shown in the list, rather than all of them. Filtering a list of events allows you to display only the events you are interested in.

For example, you may only be interested in events that occurred between 10 A.M. and 2 P.M. on Jan. 4, 2010, or you may only be interested in seeing certain types of events. You can filter the list so that only those events are shown.

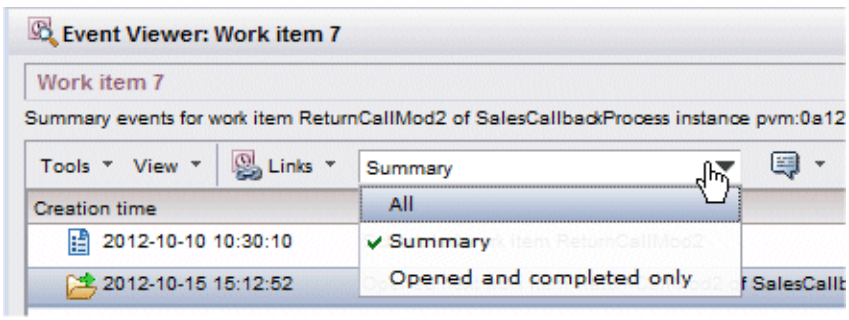
The filtering function allows you to build a "filter expression" that is applied to all events in the list. If the event satisfies the filter expression (e.g., the Time Stamp is greater than 10 A.M. on Jan. 4, 2010 and less than 2 P.M. on Jan. 4, 2010), it is shown in the event list; if it does not satisfy the filter expression, it is not shown in the list.

Because filtering event lists is basically the same as filtering other types of lists in Workspace (with the exception of the specific attribute on which you can filter), details of filtering is explained in a single chapter — see Filtering Lists.

Pre-defined Filters

The event list provides some pre-defined filters that allow you to display a subset of all available events without requiring you to define a filter.

The available pre-defined filters are selectable from the drop-down list on the toolbar of the Event Viewer:



The available pre-defined filters differ, depending on the type of entity for which you are displaying events. For instance, the list of pre-defined filters for work item events (as shown above) differs from the list of pre-defined filters for process instance events.

Selecting one of the pre-defined filters causes the event list to be filtered according to the pre-defined filter. The pre-defined filter is actually specified using configuration files. Therefore, if you select one of the pre-defined filters, then display the Filter dialog, you will *not* see the filter expression that is causing the list to be filtered — it can be seen only by an administrator who opens the configuration file in which the pre-defined filters are specified.

You are free to further refine any of the pre-defined filters. For example, you could select the "Opened and completed only" pre-defined filter (as shown in the example above), then open the Filter dialog and refine the list further. Once you refine a filter, you can save the newly specified refined filter, causing it to be added to the "base" filter — for more information about refined and base filters, see Base Filter and Refined Filter.

By default, there is an "All" pre-defined filter for all event types, which displays *all* of the events for the entity type whose events are being displayed.

Pre-defined Filter Definitions

Note that the definitions of the pre-defined filters are customizable by an administrator. Therefore, those on your system may be different than those shown in the documentation.

Because of this, the documentation also does not provide descriptions of each of the default pre-defined filters, as an administrator may have changed the filter definition in the configuration file.

However, the following provides guidelines about what you can expect from a pre-defined filter, based on the filter's name in the drop-down list:

- **All** - As mentioned earlier, there is an "All" pre-defined filter for all event types. This filter contains *all* events related to the entity.
- **Summary** - Generally, this filter displays all events, except for those that are considered low-level, or probably not of interest. The events that are excluded through this filter depends on the entity type whose events you are viewing, as follows:
  - **Work items** - Excludes all Process Engine-related user task events. (Note that "Process Engine" is denoted as "BX" in event IDs and descriptions.)
  - **Process instances** - Excludes all Process Engine-related user task, event (e.g., throw and catch events), and gateway events.
  - **Resources** - Excludes all events related to saving user settings, logging in, and logging out.
- All other pre-defined filters, other than "All" and "Summary" have names that are self-descriptive. For example, "Opened and completed" only displays work item opened and completed events, "Started Instances" only displays start-instance events for the process, etc.

Sorting an Event List

The Event Viewer allows you to sort the information in the event list so that events are listed in the desired order.

For example, you may want to list all events by priority number, then sort those by Time Stamp, from oldest to most recent. The sort function allows you to choose which columns on the event list to sort on.

Because sorting event lists is basically the same as sorting other types of lists in Workspace (with the exception of the specific attributes on which you can sort), details of sorting is explained in a single chapter — see Work Items.

Event List Column Attributes

Events have *attributes* that contain information about the event.

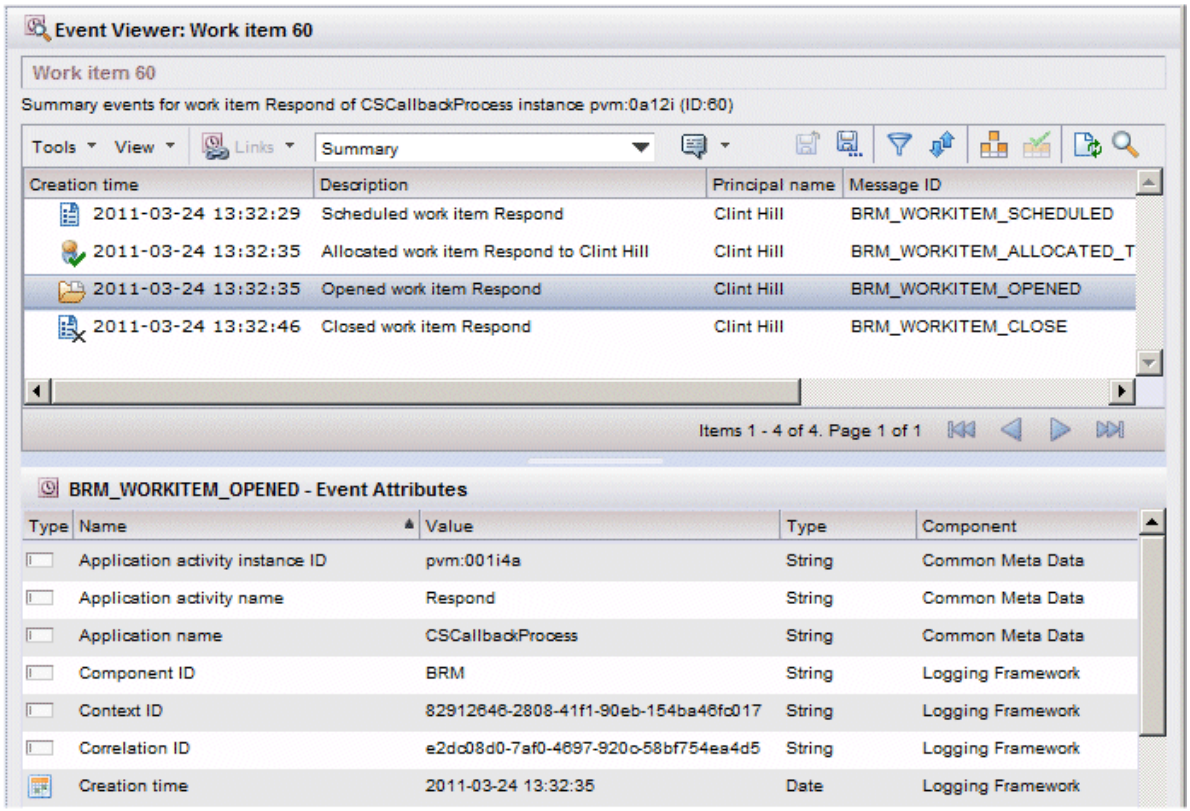
Some example attributes are:

- **Creation time** - The date and time the event occurred.
- **Description** - Describes the action that triggered the event.
- **Principal name** - The name of the resource who performed the action.
- **Message ID** - A unique identifier for the event.

The columns that are displayed in the event list represent event attributes; the column headers are attribute names, and the values in the columns are the values in the attributes.

Some attributes are common to all event types, whereas some are unique to a particular type of event.

The columns that are shown by default in the event list are those that are common to *all* event types.



In other words, every event has a **Creation Time** attribute, and a **Description** attribute, and a **Principal name** attribute, etc.

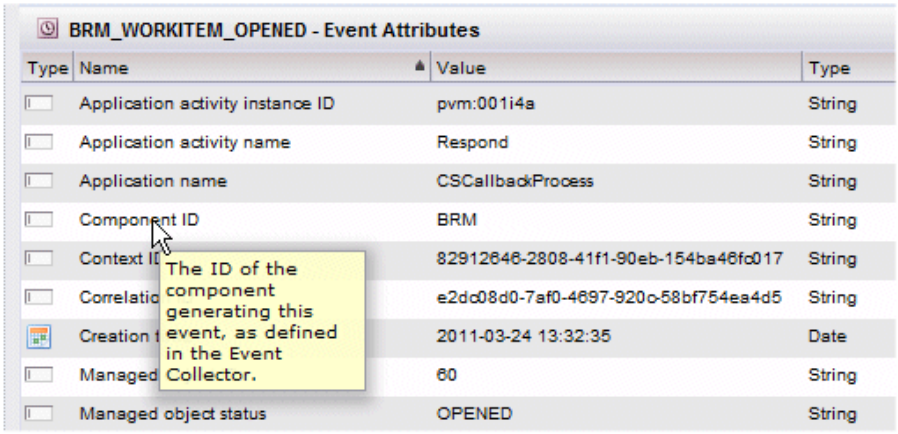
And when you select an event in an event list, attributes that are applicable to that specific event type are displayed in the event attribute list below the event list. In the example above, the BRM_WORKITEM_ALLOCATE event contains the attributes shown in the event attribute list. For each attribute in the list, you are shown the current value of the attribute, as well as the type of data in the attribute (e.g., string, date, etc.), and the component in the system that generated the event.

Note that the specific attributes that display in the event attribute list can be specified in two ways:

- a system administrator can specify, via a configuration file, which attributes to display.
- you can specify which to display using the **Attribute Selector** — for information about the Attribute Selector, see Specifying the Attributes to Display in Event Attribute Lists.

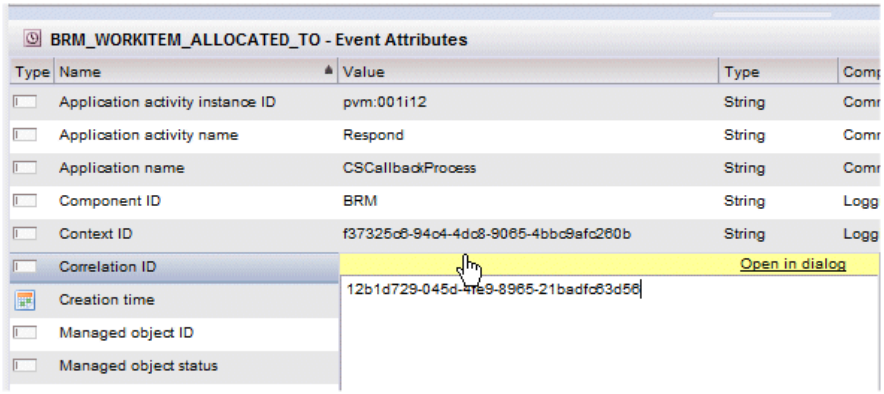
The event attribute list also has a couple of features that allow you to view/get information about a particular attribute:

- **Viewing the attribute description** - Hovering the mouse pointer over a value in any of the columns in the event attribute list causes a description of that attribute to be displayed. For example:



  Note that the description that is displayed is customizable by your system administrator. Your system may show a different description than what is shown here.

- **Copying the attribute value** - Clicking on a value in the **Value** column causes a text box to be displayed that contains the value:



  You can highlight the value and press Ctrl+C to copy it so that it can be pasted wherever it is needed.

  You can also click the **Open in dialog** link to open a separate dialog that contains the attribute value. This is helpful if the value is very long.

Specifying the Columns to Display in Event Lists

The columns that display by default in event lists represent the attributes that are common to *all* event types. However, you can customize event lists to display the desired columns.

To do this, click the  button on the event list toolbar, or choose **Select Columns** from the event list **View** menu. The Column Selector dialog is displayed.

The Column Selector lists the available columns/attributes in a tree structure categorized by the components that write values to the attributes. You can expand or collapse the list below each component name, as needed, by clicking the + or - icon to the left of the component name.

Use the Column Selector to choose which columns to display among the available columns. Note that when you customize columns for an event list, it applies only to that particular event list, not to any of the others. Customized columns for an event list are persisted, however, i.e., they will stay customized for that specific event list until you change them again with the Column Selector, or manually. Also, note that persisted settings are saved on the server, so if you log onto a different machine, those settings will be in effect on that machine also.

As mentioned above, the default out-of-the-box columns in the event list are those that are common to all event types. However, you can specify a *new* default by clicking the button on the event list toolbar, or by selecting **Set as Default Columns** from the event list **View** menu. For more information, see The Column Default.

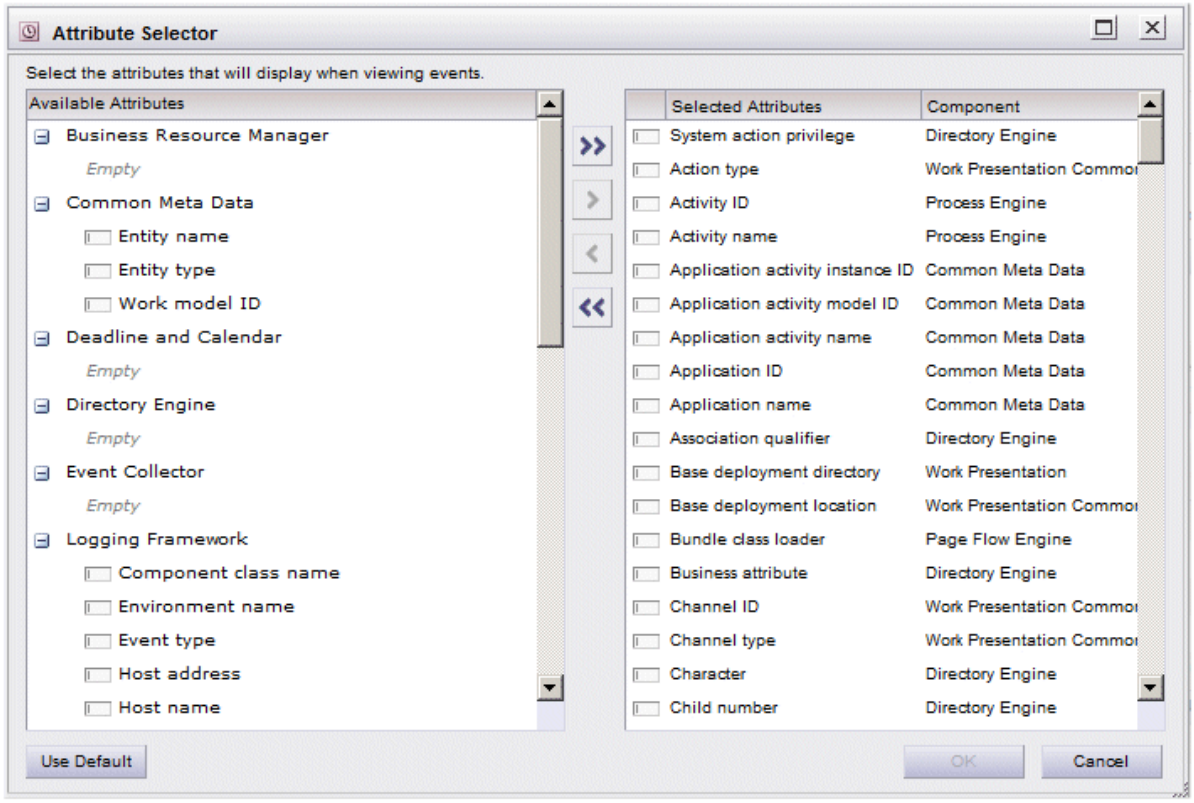
For more information about specifying columns, see Customizing Columns in a List.

Specifying the Attributes to Display in Event Attribute Lists

The event list contains an **Attribute Selector** that allows you to specify which attributes to display in the event attribute list.

Procedure

1. Choose **Select Attributes** from the event list **View** menu. The following dialog is displayed:



The specific attributes that are listed in the Attribute Selector is customizable by the system administrator. Therefore, you may see different attributes than are shown in the example above. You can view a description of an attribute on the Attribute Selector by hovering the mouse pointer over the attribute name.

This dialog is used to specify which attributes to display in the attribute list.

- Attributes listed in the **Available Attributes** list on the left are available, but have not been designated to display in the event attribute list. The attributes listed in the **Available Attributes** section are categorized by the components that write the value to the attribute. Notice that if all of a particular component's attributes are moved to the **Selected Attributes** section on the right, the component name is still shown in the **Available Attributes** section, with "empty" shown below the component name (as is the case for Business Resource Manager, Directory Engine, and Event Collector in the example above).
- Attributes listed in the **Selected Attributes** list on the right are the attributes that will be displayed in the event attribute list. Note, however, that all of the attributes listed are not applicable to all event types. The attributes in the **Selected Attributes** list are shown in the event attribute list only if they are applicable to the type of event selected in the event list.

2. Select the desired attributes, using the following actions:
   - Individual attributes can be selected by clicking the desired name.
   - Multiple attributes can be selected by holding down the **Ctrl** key while clicking the desired names.
   - A group of attributes can be selected by clicking one name, then holding down the **Shift** key and clicking the last name in the desired group.
3. Move attributes to the desired list in the Attribute Selector:
   - Attributes can be moved back and forth between lists by selecting the desired attribute(s), then clicking the "" or "<" buttons.
   - An individual attribute can be moved from one list to the other by double-clicking the attribute name.
   - Attributes can also be moved from one list to the other by using a "drag and drop" method — click the desired attribute name (or group of selected attribute names), and while holding the mouse button, drag them to the desired list and release the mouse button.
   - All attributes can be moved from one list to the other by clicking the " > " or "<<" buttons.

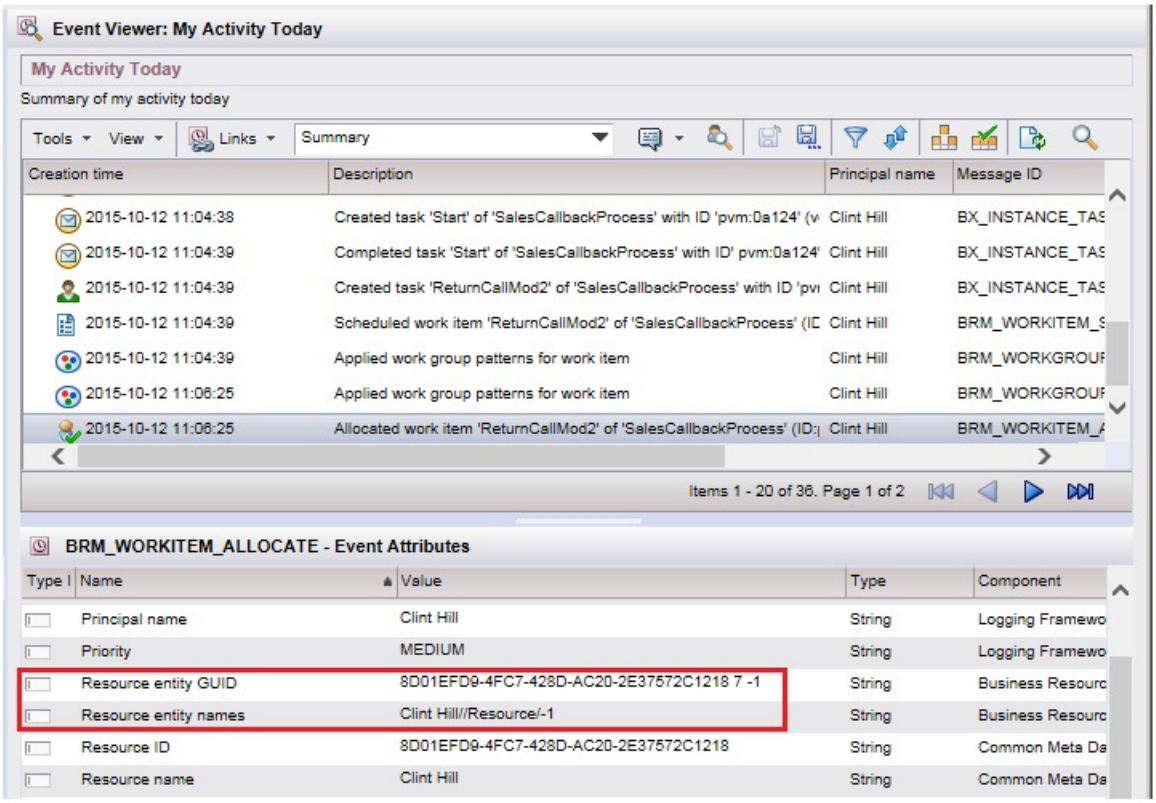
     You can also change the attributes to the system defaults by clicking the **Use Default** button.
4. Click **OK** when the list on the right contains the attributes you would like displayed in the attribute list.

Viewing Work Item Participants

For events that contain **Resource entity GUID** and **Resource entity names** attributes, you can view the participants for the work item to which the event pertains.

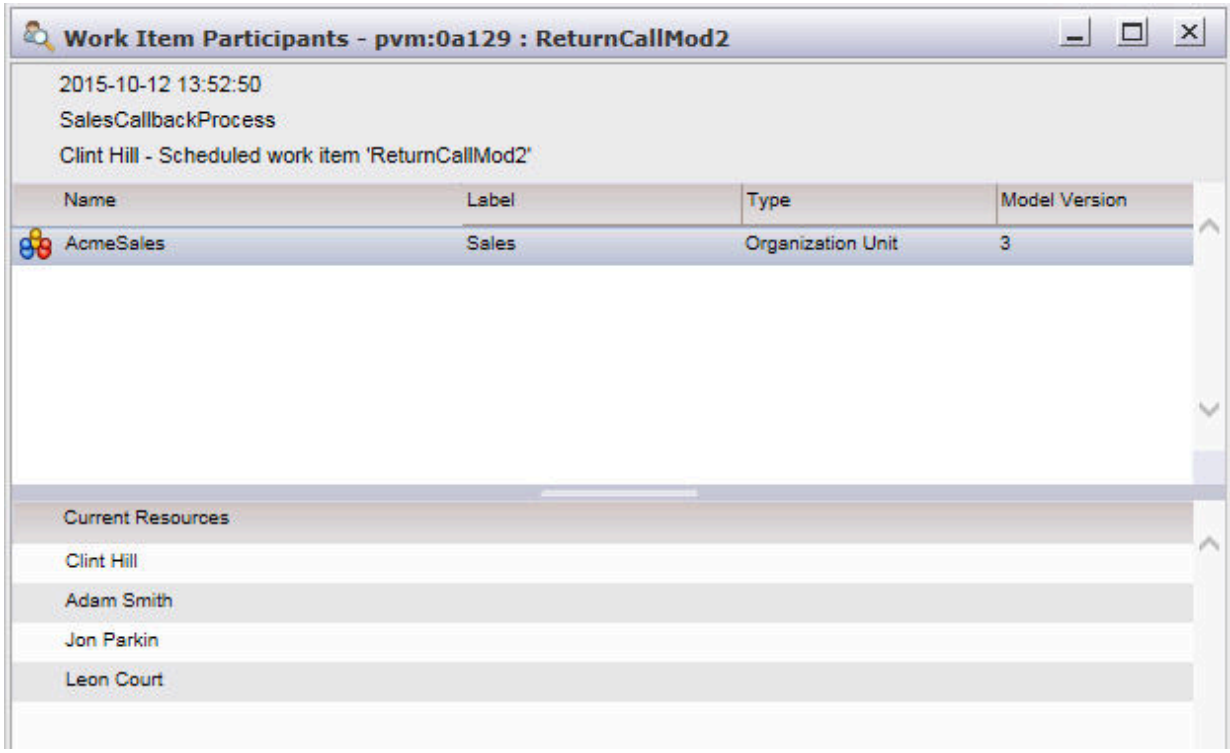
Procedure

1. In the Event Viewer, select an event that contains the **Resource entity GUID** and **Resource entity names** attributes.
   For example, an "allocate work item" event contains those attributes:



2. From the **View** menu, select **Work Item Participants**.
   The Work Item Participants dialog lists the participants for the work item associated with the selected event.

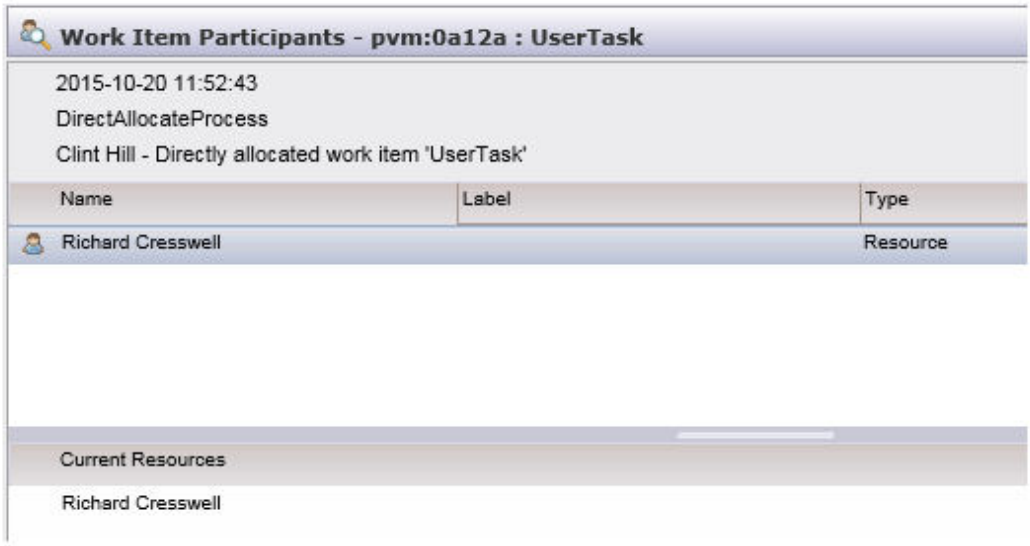
   If the participant is an organizational entity other than a resource, selecting the entity on the Work Item Participants dialog lists all of the resources that are currently mapped to that entity. For example:



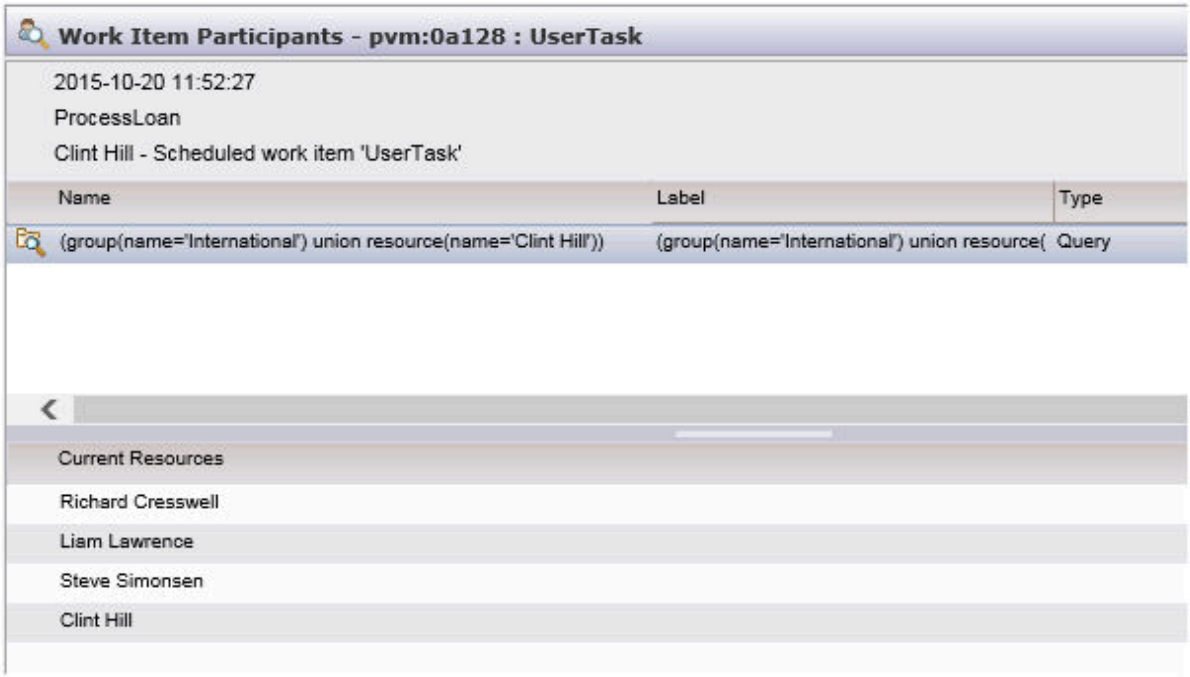
The Work Item Participants dialog includes paging controls that can be used if there are a large number of resources in the list.

Note that a participant can also be a resource (through direct allocation), a group, a position or an RQL query. The following are a couple other examples:

The participant is a resource:



The participant is an RQL query:



3. Click the **X** in the upper-right corner of the Work Item Participants dialog to close the dialog.

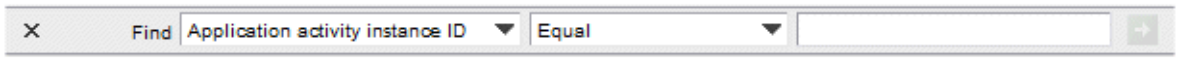
Finding an Event

A Find function is provided to help you locate an event in the event list. Note that this function searches through the entire event list, not just the currently displayed page.

However, if there is a filter currently applied to the list, it only searches through the events that satisfy the filter.

Procedure

1. Click the button on the event list toolbar, or select **Find Events** from the **Tools** menu. The following fields are displayed in the event list toolbar.



2. From the drop-down list in the first field, choose an attribute that you want to search on. For example, to find an event that was initiated by a certain user, choose “Principal name”.
3. From the drop-down list in the second field, choose the operator that is appropriate for your search.
4. In the last field, enter the value you want to search for.

   You can use the * character as a wildcard. For example, the following finds all events that were initiated by a user whose name begins with “C”:

   If you select a date attribute to search on, a calendar icon is displayed from which you can select a date, plus fields are displayed to the right of the calendar icon in which you can enter a time.

5. Click the button (which is activated when you enter a value to search on) to display the find results.

The Find fields can be closed by either clicking the X to the left of the fields, or by clicking the button again.

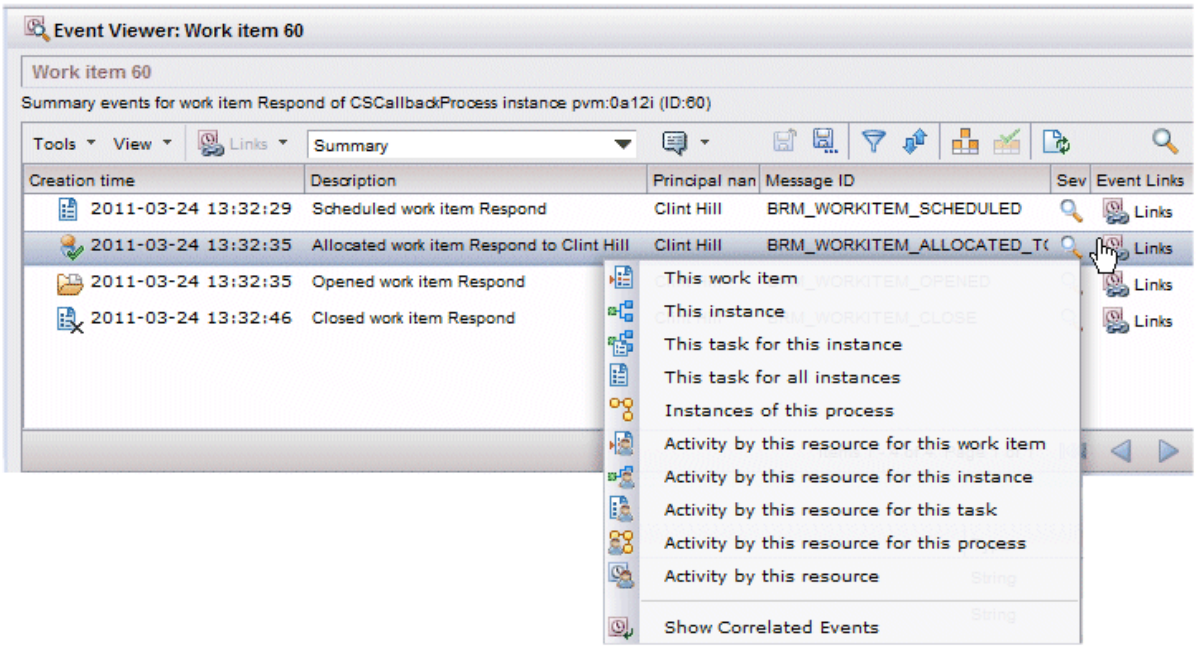
Viewing an Additional Event List Using Event Links

Events in an event list may provide event **Links** that allow you to *link* to additional event lists that are related to the event that contains the link.

For example, an "allocated work item" event may have a link to an event list containing all events related to that work item, all events related to the process instance from which the allocated work item was generated, all events related to the resource (user) who allocated the work item, etc. See the example below.

Procedure

1. Select the desired event, then click the **Links** button either in the toolbar or in the **Event Links** column:



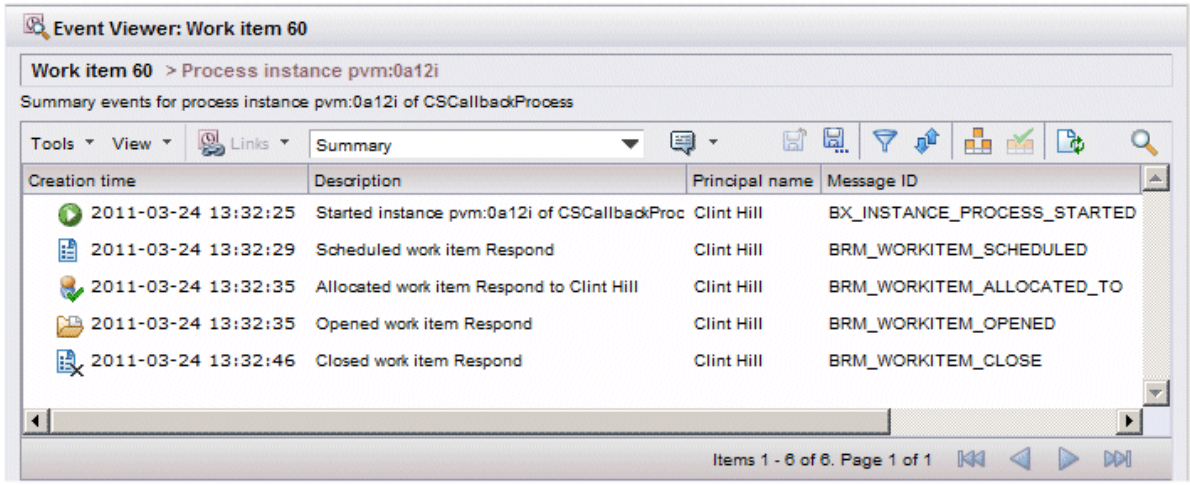
A drop-down menu is displayed that provides selections that create event lists that show you the events that have been recorded for the related item.

Note that the drop-down menu is customizable, and may contain different types of related items than are shown in this example.

2. Select the desired item from the drop-down menu.

   This causes a new event list to be displayed that contains all events that are associated with the item selected from the drop-down menu.

   For example, if "This instance" is selected from the drop-down menu shown in step 1, the following event list is displayed:

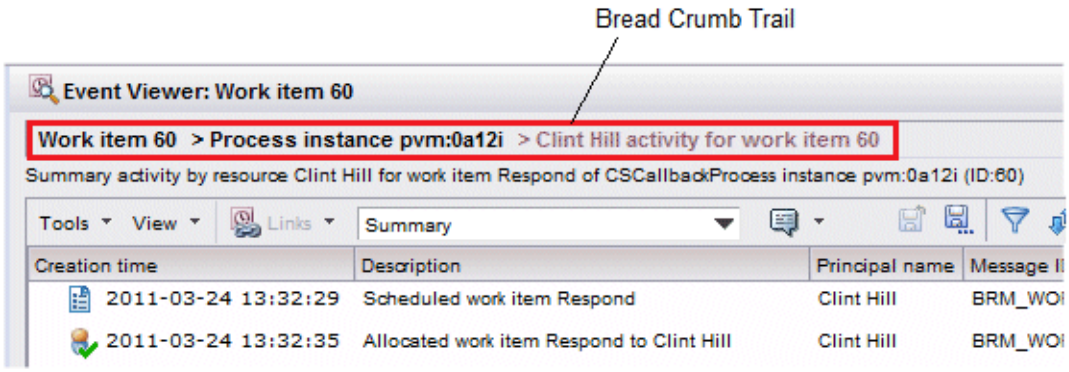


This new event list contains the events related to the process instance that generated Work Item 60.

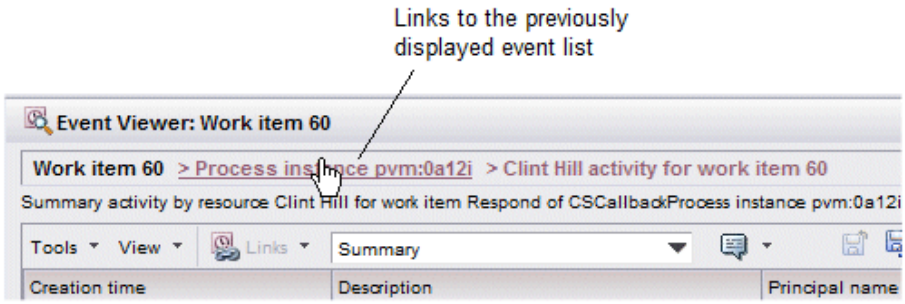
Bread Crumb Trail

A "bread crumb trail" is created as you click event links.

For example, suppose you had the "Work Item 60" event view displayed, then you selected a "This instance" link, then selected an "Activity by this resource for this work item" link. In this case, the bread crumb trail might look like the following:



Each of the entries in the bread crumb trail is a link that returns you to that event list:



You can continue to click the **Links** button in the toolbar or in the **Event Links** column to display additional related event lists — as you do this, the bread crumb trail continues to grow, allowing you to return to any of the previously displayed event lists in that series.

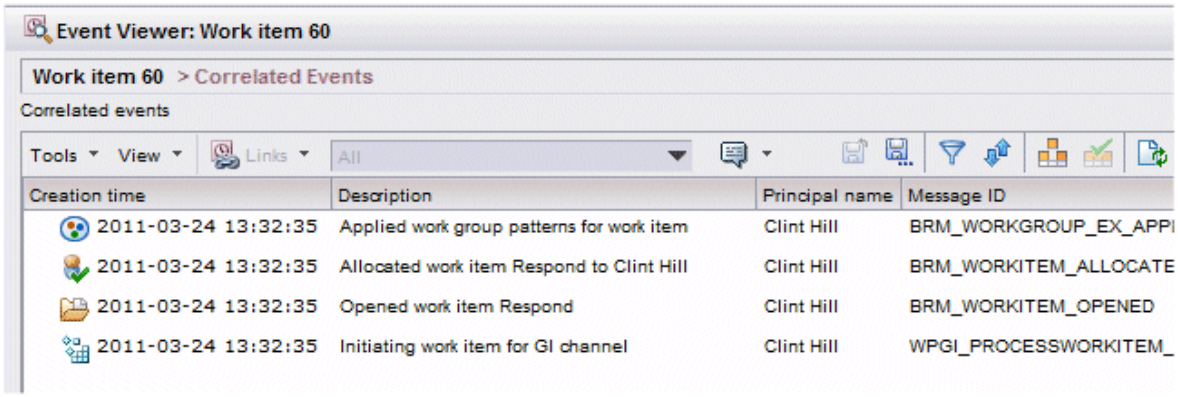
Viewing Correlated Events

Correlated events are all of the events with the same correlation ID (which can be seen in the **Correlation ID** event attribute). And all of the events with the same correlation ID are part of the same transaction.

Procedure

1. In the Event Viewer, select the event whose correlated events you would like to view.
2. Click either the **links** button in the event list toolbar, or the **Links** button in the **Event Links** column for the selected event.
3. Select **Show Correlated Events** from the drop-down menu. (If the drop-down menu does not contain a **Show Correlated Events** selection, the selected event does not have a correlation ID, i.e., it is not part of a transaction.)

   A new event list is displayed that contains the events that are correlated to the event that was selected. For example:



   Note that some correlated event lists may only contain the event that you selected in the original event list, which means that there are no other events with the same correlation ID.

   A bread-crumb trail is also created above the toolbar that allows you to easily return to the original event list:

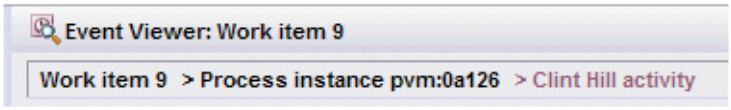
   You can treat a list of correlated events just like any other event list. That is, you can filter and sort the correlated events, save the event list if desired, or click individual events in the list to display the attributes for that event in the **Event Attributes** section. You can also link to additional event lists using the **Link** tool (for information, see Viewing an Additional Event List Using Event Links).

Saving an Event View Created Through Event Links

Once you display an additional event list by making a selection from the **Links** drop-down menu, you can save this new event list/view by using the **Save View As** button or menu selection.

If you do not save an event list that is the result of clicking a **Links** drop-down menu, that event list is lost when you log out. For example, if you had clicked on an event link twice to produce the following

event list, then you logged out without saving it, when you log back in, only the original "Work Item 9" event view will still exist (assuming that that was a permanent view):

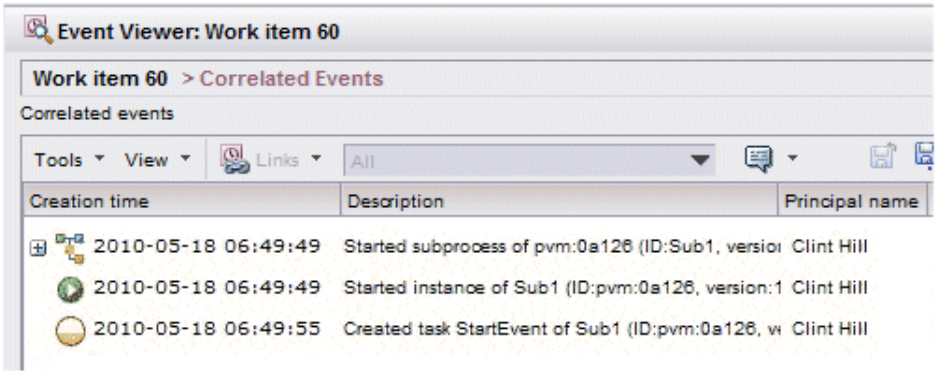


Also note that if you specify a filter on an event list anywhere in the bread crumb trail, that filter is retained as you display additional event lists (by making another selection from the **Links** drop-down menu). This allows you to go back to any spot in the bread crumb trail and view that event list as you left it.

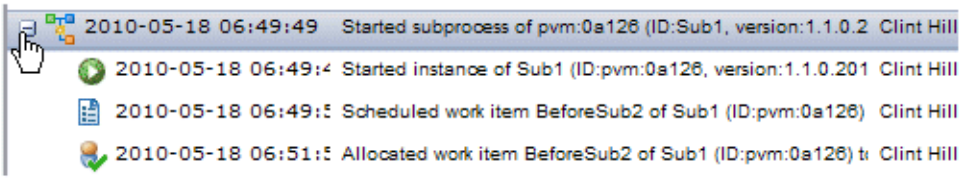
Sub-Process Events

If an event in the Event Viewer has a ⊞ character to the left of the event, it means it is a sub-process start event.

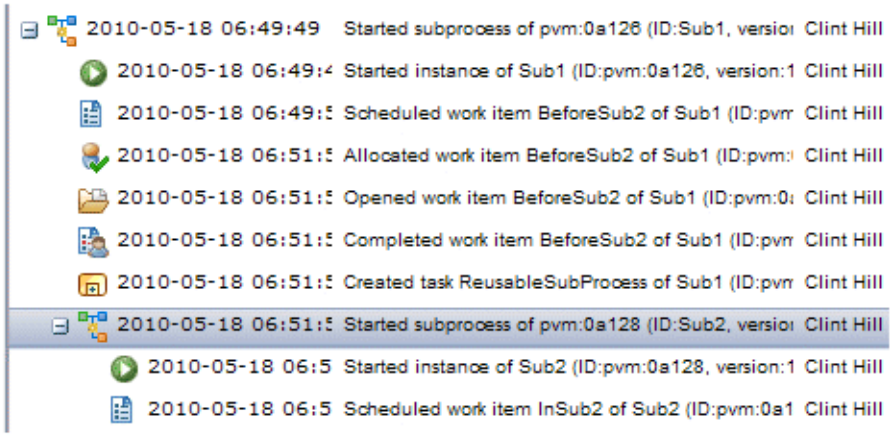
For example:



Clicking on the ⊞ character expands the list to include the events related to the sub-process that was started. The events related to the sub-process are shown indented below the sub-process start event:



Sub-processes can be many levels deep, that is, a task in one process can start another process, which can contain a task that starts another process, and so on. Each time another sub-process is started, the event hierarchy is shown with additional ⊞ characters that can be expanded. For example:



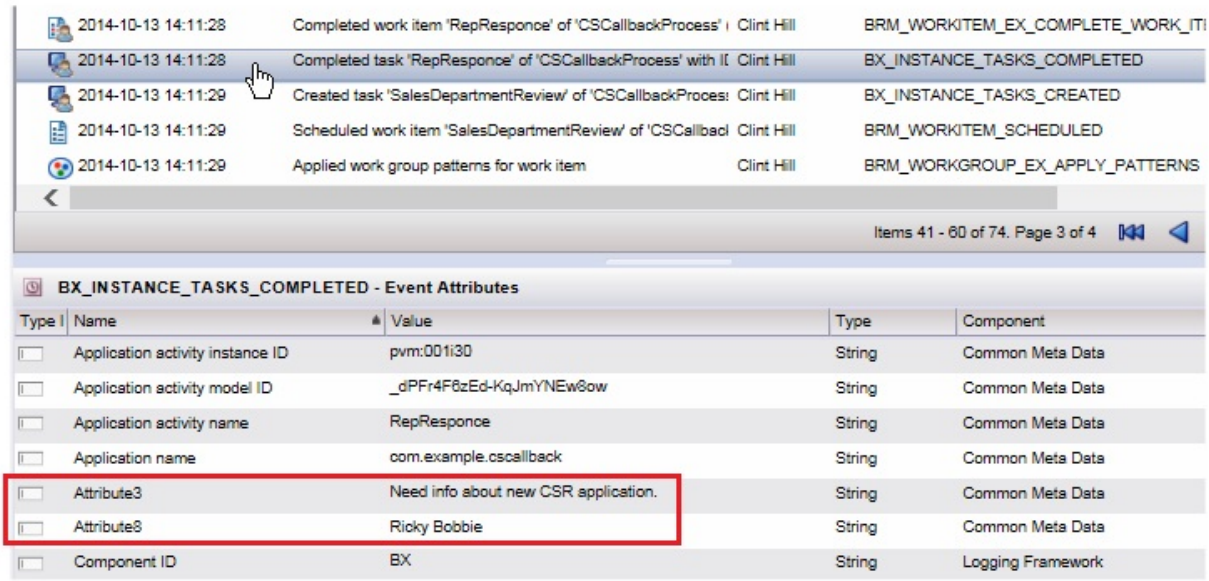
By default, a maximum of 100 events will be shown under a sub-process start event (although this number is configurable by a system administrator). Which means that if there are more than 100 events related to the expanded sub-process, you will not be able to see them by expanding the list in this way. An alternative is to select the "Started instance" event, then select "This instance" from the **Links** menu to create a new event list containing *all* of the events related to the sub-process instance that was started.

Auditing Process Data

Process data may appear in the Event Viewer if your system has been configured to audit process data.

Auditing of process data must be configured at design-time using TIBCO Business Studio (see the *TIBCO Business Studio Modeling Guide*).

If your system has been configured to audit process data, you will see the values from data fields in the Event Viewer. For example:



In this example, two data fields have been mapped to two work item attributes -- Attribute3 and Attribute8. The values that were entered into those data fields appear in the audit trail (Event Viewer).

If a *work list facade* has been defined on your system, and display labels have been assigned to Attributes 3 and 8, the labels are shown in the Event Viewer rather than "Attribute3" and "Attribute8". (Work list

facades are defined in TIBCO Business Studio; for information, see the *TIBCO Business Studio Modeling Guide*.)

Also note that if process data is being audited, you may see an entry like the following in the Event Viewer:

This indicates that the value in the attribute has been truncated because the value entered in the data field is too long to fit in the attribute to which the data field was mapped. The ***nn*** indicates that the value has been truncated, where **nn** is the number of characters that were entered into the data field.

Filtering Lists

Filtering a list involves entering *filter criteria* so that only some of the items are shown in the list, rather than all of them. Filtering a list allows you to display only the items you are interested in.

For example, you may only be interested in work items that arrived in the work item list after Dec. 15, 2008. You can filter the list so that only those work items are shown.

Workspace allows you to filter the following types of lists:

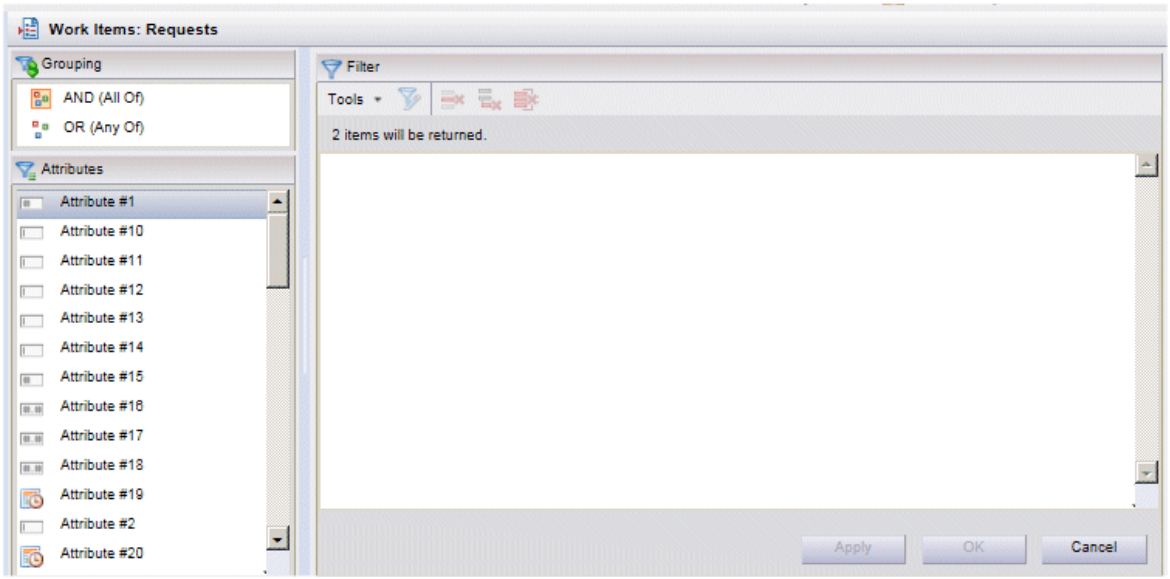
- work item list
- process instance list
- event list
- case reference list

This chapter describes filtering in general — with the exception of the specific attributes you can filter on, filtering each type of list is essentially the same.

This chapter uses the term "items" at times to refer to either work items, process instances, processes, or events when describing filtering functions that apply to all list types.

Regardless the type of list, all filter criteria is specified using the Filter dialog:

If a Work List Facade is deployed, attributes are displayed showing the display names.



The only difference in the Filter dialog between the list types is the list of attributes that you can filter on that is shown in the **Attributes** section, plus some list types provide a second column in the **Attributes** section that provides additional information about the attributes.

For information about how to display the Filter dialog, see Accessing the Filter Function.

Base Filter and Refined Filter

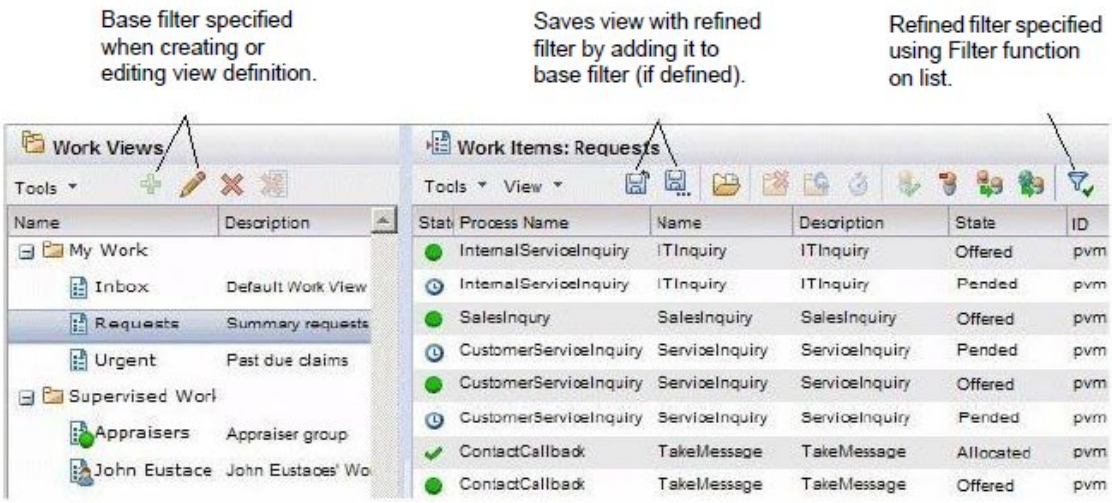
Lists allow you to specify a *base* filter and a *refined* filter.

An exception to this is the case reference list; it does not have base and refined filters.

- **Base filter** - This is a filter that has been permanently saved in the view definition. You can specify a base filter through the view wizard when creating a view, or later by editing the view. The base filter

can also be modified by specifying a *refined* filter (see below), then adding that filter to the base filter by saving the view after specifying the refined filter.

- **Refined filter** - This is a filter that is specified through the Filter function on the work item list, process instance list, or event list. It allows you to *refine* the base filter if there is one specified.



Defining a Base Filter

A base filter can be specified for a work, process, or event view in one of the following ways:

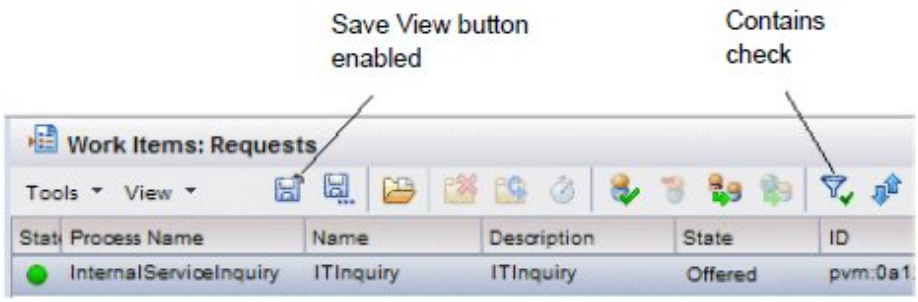
- By specifying a filter when the view is created.
- By editing an existing view, and specifying/modifying the filter.
- By specifying a refined filter, then saving the view. This causes the refined filter to be added to the base filter (if one exists), creating a new base filter.

Currently, the only way to tell if there is a base filter defined for a view is to open the view wizard and look on the Filter dialog.

Defining a Refined Filter

A refined filter can be specified for a work, process, or event view by using the Filter function on the work item, process instance, or event list, respectively.

Once you specify a refined filter, the **Filter** button will contain a green check to indicate that a refined filter is in effect. Also, the **Save View** button/menu selection becomes enabled, as follows:



You can save a refined filter in one of two ways:

- **Save View** - This button/menu selection on the list *adds* the refined filter to the base filter, creating a new base filter (if there was no base filter defined previously, the refined filter becomes the base filter).

- **Save View As** - This allows you to save the view with a new name. The original view is not changed. The new view will have the original base filter (if defined) and the refined filter.

  If the view is a *system view*, selecting **Save View As** causes the view to be saved as a *user-defined view*.

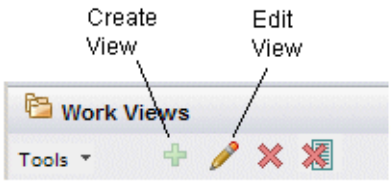
When you specify a refined filter, then save the view (with either **Save View** or **Save View As**), the refined filter is added to the base filter, then removed from the work item, process instance, or event list. This results in the **Save View** button being disabled, and the check no longer appears next to the **Filter** button. So if you open the Filter dialog from the list after saving the view, it will not show a filter. However, if you open the Filter dialog using the view wizard, you will see that the refined filter has been added to the base filter.

Refined filters are persisted between log outs and application restarts. If you define a refined filter on a list, then either log out or restart the application, the refined filter will still appear when you view the list.

Accessing the Filter Function

The filter function for work item, event, and process instance lists can be accessed either from the view definition, or from the list itself.

- From the view definition - When you are creating or editing a work view, event view, process view, or data view using the view wizard, a Filter dialog is displayed from which you can filter the contents of the view (for information about creating/editing views, see Views). Note that if you specify a filter in this way, it becomes the *base* filter for the view — for more information, see Base Filter and Refined Filter.



- **From the list itself** - Click the button, or select **Filter** from the **View** menu on the work item, event, or process instance list (when viewing a case reference list, there is no filter available; they can only be filtered from the data view definition). Note that if you specify a filter in this way, it is considered a *refined* filter for the view — for more information, see Base Filter and Refined Filter.

Filter Expression Examples

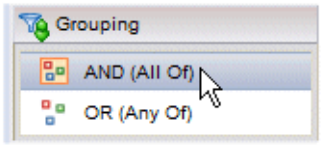
Basic filter expressions are very easy to specify in Workspace. Showing how easy it is to create a filter expression is best done with a couple of examples, then if you need more information, you can read the rest of this chapter.

Example 1

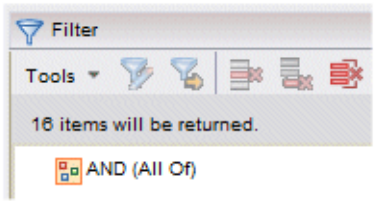
This example shows how to display all work items that have a work item ID that is less than “2000”, AND whose priority is set to 1.

Note that this same example can also be used if you need to filter on only a single criteria. In which case, just skip steps 4 and 5.

1. Display the work item **Filter** dialog by clicking the **Filter** button on the work item list.
2. From the **Grouping** section on the **Filter** dialog, double-click the **AND (All Of)** entry:



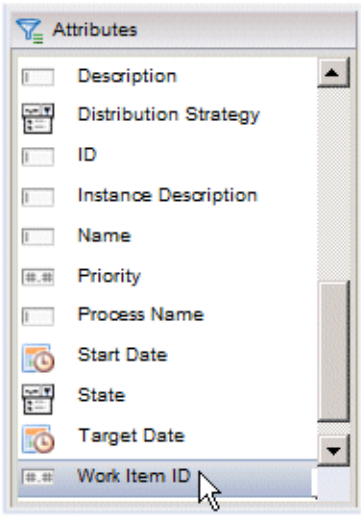
The **AND (All Of)** entry is added to the **Filter** section:



AND (All Of indicates that if "all of" the filter criteria that is specified below that icon is true for a work item, the work item is returned from the server and displayed in the work item list.

The filter expression defaults to an "all of" expression. Therefore, this step is technically not necessary for this type of expression. It is being added here for completeness.

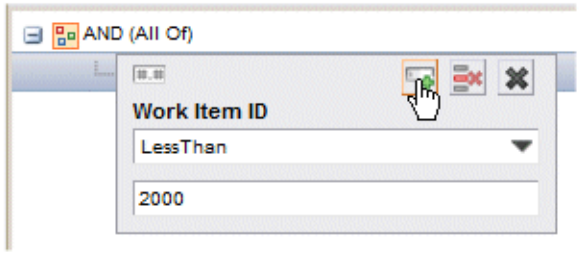
3. From the **Attributes** section on the **Filter** dialog, double-click the **Work Item ID** attribute:



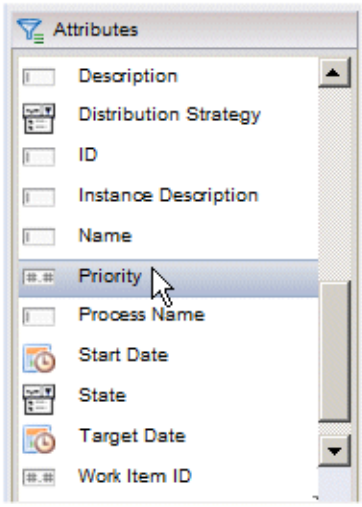
Note that you can also "drag and drop" the **Work Item ID** attribute into the **Filter** section, or right click and select **Insert Item**.

The **Work Item ID** data-entry dialog is displayed in the **Filter** section. This is the first criteria that must be true for the work item to be displayed in the list.

4. In the **Work Item ID** data-entry dialog, select "LessThan" from the drop-down list, enter "2000" in the second field (without the quotes), then click the **Add** button:

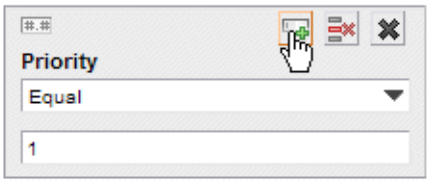


5. From the **Attributes** section on the **Filter** dialog, double-click the **Priority** attribute:

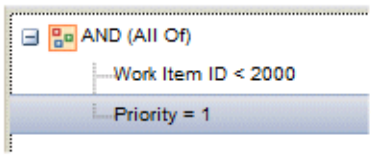


The **Priority** data-entry dialog is displayed in the **Filter** section. This is the second criteria that must be true for the work item to be displayed in the list.

6. In the **Priority** data-entry dialog, leave "Equal" selected from the drop-down list, enter "1" (without the quotes) in the data-entry field, then click the **Add** button:



The "filter expression" for the two criteria you entered is now shown in a graphical format in the **Filter** section:



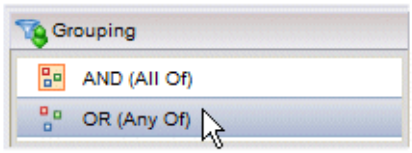
This specifies that the work items that satisfy "all of" the filter criteria (that is, have a work item ID of less than 2000 AND have a priority of 1) are returned from the server and displayed in the list.

7. Click the **Apply** button. The "# items will be returned" text in the upper left part of the **Filter** section tells you how many work items satisfied the filter expression.
8. Click **OK** to display the work item list.

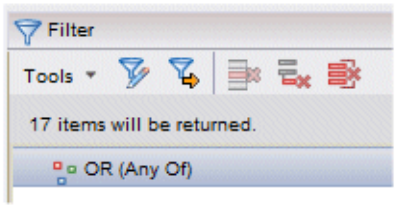
Example 2

This example shows how to display all process instances that were started on or before May 1, 2009, OR that have been suspended (i.e., Status = Suspended).

1. Display the process instance **Filter** dialog by clicking the **Filter** button on the process instance list.
2. From the **Grouping** section on the **Filter** dialog, double-click the **OR (Any Of)** entry:

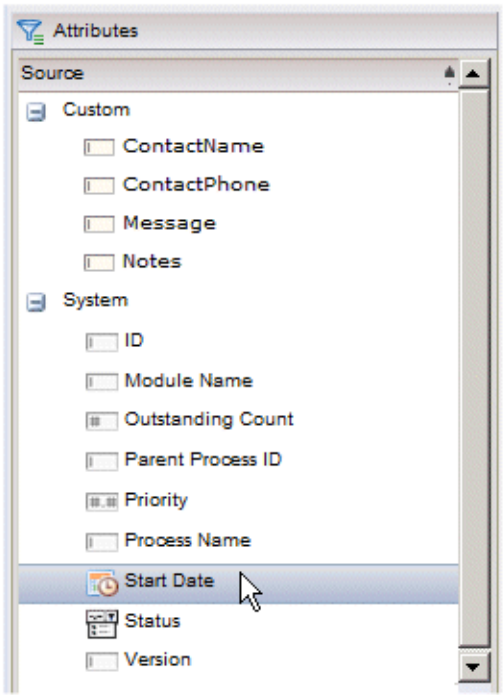


The **OR (Any Of)** entry is added to the **Filter** section:



The **OR (Any Of)** icon indicates that if "any of" the filter criteria that is specified below that icon are true for a process instance, the process instance is returned from the server and displayed in the process instance list.

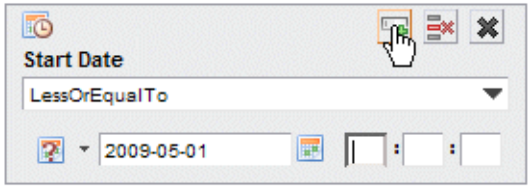
3. From the **Attributes** section on the **Filter** dialog, double-click the **Start Date** attribute:



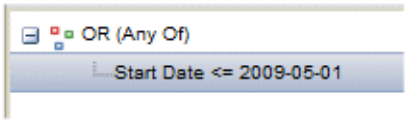
Note that you can also "drag and drop" the **Start Date** attribute into the **Filter** section, or right click and select **Insert Item**.

The **Start Date** data-entry dialog is displayed in the **Filter** section. This is the first criteria that can be true for the process instance to be displayed in the list.

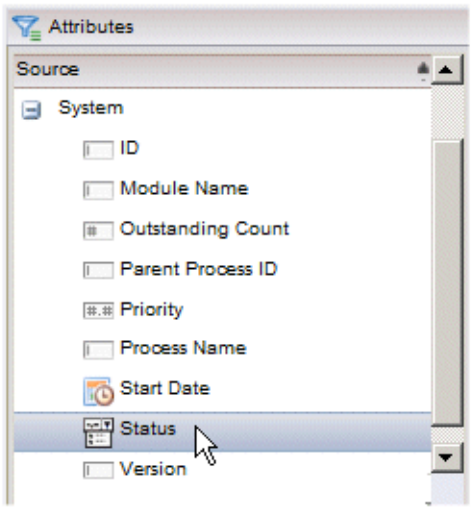
4. In the **Start Date** data-entry dialog, select “LessOrEqualTo” from the drop-down list, click the "date picker" icon to the right of the date field and select May 1, 2009 from the calendar that is displayed, then click the **Add** button:



The “filter expression” for what you have entered so far is added to the **Filter** section:

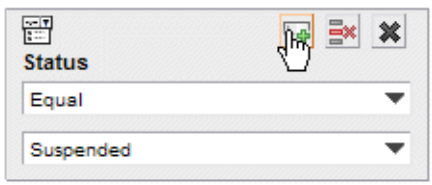


5. From the **Attributes** section on the **Filter** dialog, double-click the **Status** attribute:

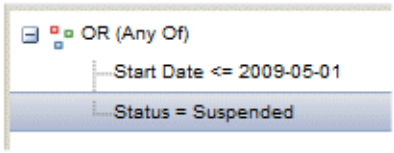


The **Status** data-entry dialog is displayed in the **Filter** section. This is the second criteria that can be true for the process instance to be displayed in the list.

6. In the **Status** data-entry dialog, leave “Equal” selected in the first drop-down list, select "Suspended" from the second drop-down list, then click the **Add** button:



The “filter expression” for the two criteria you entered is now shown in a graphical format in the **Filter** section:



This specifies that the process instances that satisfy “any of” the filter criteria (that is, has a start date on or before May 1, 2009 OR has an instance status of "Suspended") are returned from the server and displayed in the list.

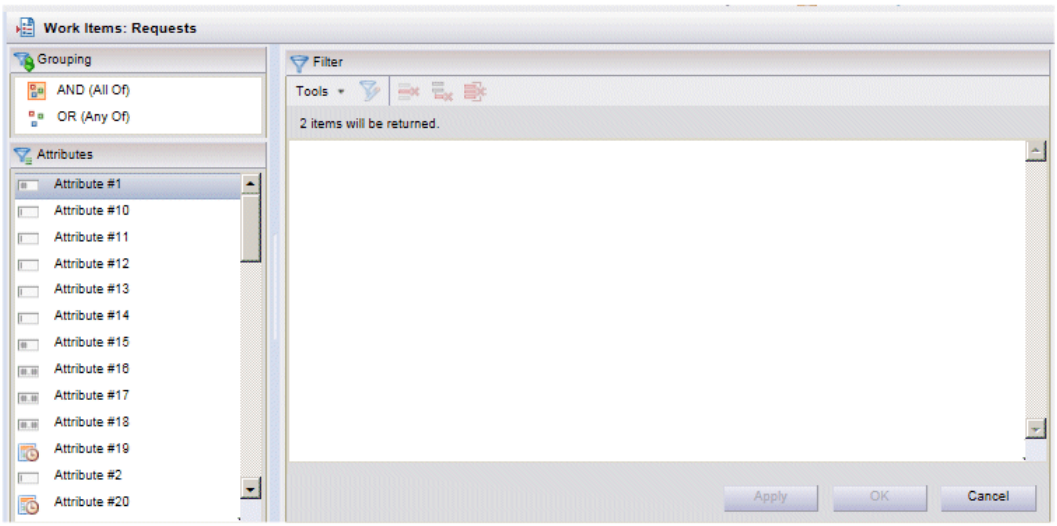
7. Click the **Apply** button. The “# item will be returned” text in the upper left part of the **Filter** section tells you how many work items satisfied the filter expression.
8. Click **OK** to display the work item list.

The two preceding examples are considered simple examples because they specify either “All Of” or “Any Of”, but not both. You can construct filter expressions that are a mixture of “All Of” and “Any Of”. This is described in Combining “AND (All Of)” and “OR (Any Of)”.

Specifying a Filter Expression

The filtering function allows you to build a “filter expression” that is applied to all items that could potentially be in the list. If an item satisfies the filter expression, it is shown in the list; if it does not satisfy the filter expression, it is not shown in the list.

Specifying a filter expression is done using the Filter dialog:



This dialog may be displayed in a number of ways: by clicking the **Filter** button, by selecting **Filter** from the **View** menu on the list menu bar, or when creating a view with the view wizard.

Specifying a filter expression is done from the Filter dialog. It involves doing the following:

Procedure

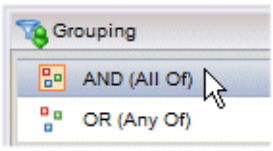
1. **Choosing a Filter Grouping** - This specifies “All Of” or “Any Of” — see Choosing a Filter Grouping.
2. **Selecting Filter Attributes** - The values in the attributes you choose determine whether or not each item is included in the list — see Selecting Filter Attributes.

3. **Applying the Filter Expression** - This tells you how many items will be returned from the server and shown in the list — see Applying the Filter Expression.

Choosing a Filter Grouping

Choosing a *filter grouping* specifies that you want the list to include the items for which "all of", "any of", or "none of" the specified filter criteria are true.

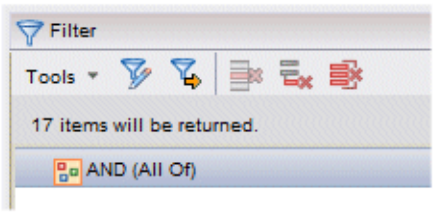
Note that the "none of" setting is available only when filtering data views; for information, see Creating Data Views).



Choose the grouping in one of the following ways:

- Double-click the desired entry in the **Grouping** section,
- click the desired entry and drag it into the **Filter** section, or
- right-click the desired entry and select **Insert Item** from the context menu.

This causes the selected entry to appear in the **Filter** section. For example:

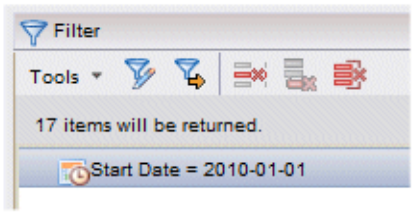


You can specify multiple "AND (All Of)" and "OR (Any Of)" entries in the **Filter** section. For more information, see Combining "AND (All Of)" and "OR (Any Of)".

Default Filter Grouping

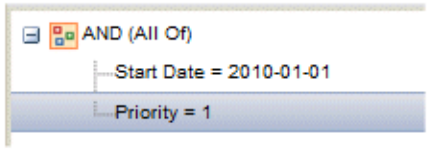
The default filter grouping is "AND (All Of)". If you don't explicitly add a filter grouping to the **Filter** section, then add an attribute, it is displayed without a filter grouping.

For example:



If you apply this filter expression, it will display all items that satisfy the single criteria.

Then if you add another attribute to the **Filter** section, the system will automatically add the default "All Of" group. For example:

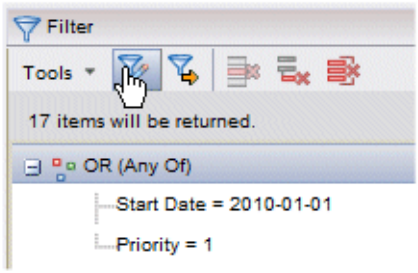


Modifying the Filter Grouping

The system also allows you to change an "AND (All Of)" to an "OR (Any Of)", or vice versa, in the **Filter** section in a number of different ways.

You can use theses methods to toggle the grouping:

- double-clicking the entry in the **Filter** section,
- right-clicking the entry, then selecting **Modify Item**,
- selecting the entry, then clicking the **Modify Expression** button in the menu bar, or
- selecting the entry, then selecting the **Modify** selection on the **Tools** menu in the **Filter** section:



Combining "AND (All Of)" and "OR (Any Of)"

Most filter expressions will include a single "AND (All Of)" or "OR (Any Of)" filter grouping. However, you can also combine them in a single expression to create more complex expressions.

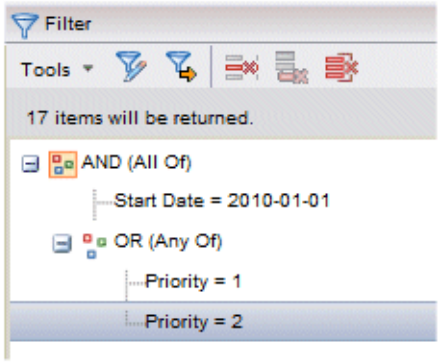
When combining "AND (All Of)" and "OR (Any Of)" you are essentially combining logical ANDs and ORs in a single expression. Therefore, this will normally only be done by users who have an understanding of more complex logical expressions.

When combining filter groupings, it is helpful to view the filter syntax as you build the filter expression, as parentheses are placed in the appropriate location in the syntax as you add groups. To view the filter syntax, select **Show Expression** from the **Tools** menu in the **Filter** section.

A filter grouping that is added subordinate to another filter grouping is enclosed in parentheses when the system builds the filter syntax; this means that the subordinate grouping is evaluated separately, then its result is used to evaluate the parent grouping. See the following examples.

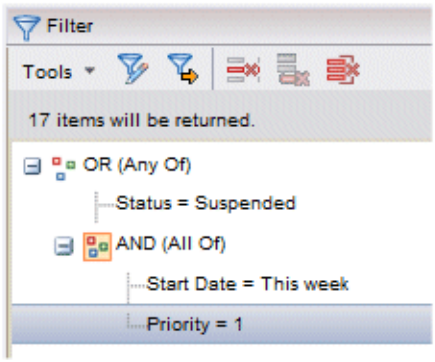
Example 1

To view work items that have a start date earlier than Jan. 1, 2010, *and* have a priority of 1 *or* 2, build the following filter expression:



Example 2

To view process instances that have been suspended, *or* that were started this week *and* have a priority of 1, build the following filter expression:



Selecting Filter Attributes

Selecting filter attributes involves choosing the attributes upon which you want to filter the items, then entering a value for each attribute.

For example, you could select the **Priority** attribute when filtering work items, then enter a value of 1 — all work items with a priority of 1 are returned from the server and displayed in the work item list.

The following table lists the available attributes on which you can filter work items.

Filter Attributes for Work Item Lists		
Attribute Name	**Description**	**Data Type**
Attribute #1 - #40	These attributes, which can be populated via a script in the process, can contain various information.	#1, #15: Integer #5: #16: #17: -#18: Decimal #6, #7: #19: #20: DateTime All others: Text
Description	The description of the task associated with the work item.	Text

Filter Attributes for Work Item Lists		
Attribute Name	**Description**	**Data Type**
Distribution Strategy	Describes the way in which a work item was distributed to users. The possible entries are: • **Allocate** - The work item was sent to a specific user's work list. • **Offer** - This means the work item was *offered* to either an individual user, or to a group of users. Any user to whom the work item was offered can open the work item and work on it. For more information, see Why Are Work Items Sent to Your Work Item List .	Enumeration(1)
Target Date	A deadline date/time for the work item. For more information, see Work Item Deadlines .	DateTime
Instance Description	A description of the process instance. This may or may not have been specified, depending on how the process was defined.	Text
ID	A unique alphanumeric value identifying the process instance from which the work item was created.	Text
Name	The name of the user task associated with the work item.	Text
Priority	Denotes the importance of the work item. This value is assigned to the user task (which results in a work item) when the process is defined. Example: 1	Numeric
Process Name	The name of the process that was started to create this work item.	Text
Start Date	The date and time the work item is *scheduled* to start. Example: 2010-08-25 14:30:00	DateTime

Filter Attributes for Work Item Lists		
Attribute Name	**Description**	**Data Type**
State	The current state of the work item in your work item list. The possible entries are: • Offered • Allocated • Created • Opened • Pended • Pend Hidden • Suspended For more information, see Work Item State .	Enumeration1
Work Item ID	A unique identifier for the work item. This is generated by the system when the work item is created. Example: 608	Numeric

(1) For enumerations, you can only select from the possible entries on the Filter dialog

The following table lists the available attributes on which you can filter process instances:

Filter Attributes for Process Instance Lists		
Attribute Name(1)	**Description**	**Data Type**
ID	Uniquely identifies the process instance.	Text
Process Name	The name of the process that was started to create this instance.	Text
Outstanding Count	This is the number of outstanding work items in this process instance. Also see, Outstanding Work Items .	Numeric
Parent Process ID	The instance ID of the parent process — only applicable for re-usable sub-processes.	Text
Priority	This is a numeric value that has been assigned to the process instance by an administrator. The numeric value assigns a relative importance to the process instance, which allows users to prioritize their work.	Numeric
Start Date	The date and time the process instance was started. Example: 2008-08-25 14:30:00	DateTime

Filter Attributes for Process Instance Lists		
Attribute Name(1)	**Description**	**Data Type**
Status	The current status of the process instance. The possible statuses are: • Active • Completing • Canceling • Halted • Halting • Suspended • Suspending • Resuming • Failing • Starting • Restarting • Not Started For information, see Process Instance Status .	Text
Version	The version number of the process from which the instance was started.	Numeric
Module Name	This is the path to the XPDL file that defines the "process package".	Text

(1) The attributes shown on the Filter dialog for process instances are listed in a tree structure, categorized by “System” and “Custom”. *System* attributes contain information that the system entered in the attribute, such as start date, current status, etc. *Custom* attributes represent customer-specified fields that are added to a process when it is defined. Those fields can then be added to forms. When a user enters information in the fields on a form (e.g., customer name, address, loan amount, etc.), that information is stored in the custom attribute for that field. For more information, see Custom Attributes in Process Instance Lists .

When filtering event lists, the **Attributes** section on the Filter dialog lists all of the *filterable* attributes, which is a subset of all available event attributes. They are displayed in a tree structure categorized by the component that writes values to each attribute. You can expand or collapse the list below each component name, as needed, by clicking the + or - icon to the left of the component name.

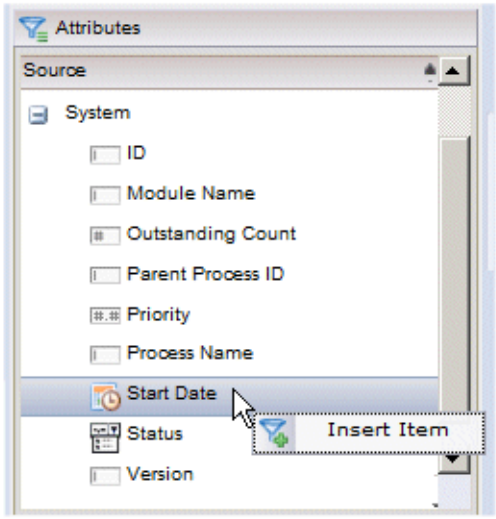
When filtering data views, the **Attributes** section on the Filter dialog lists all of the attributes that were specified as *searchable* when the case class was defined in TIBCO Business Studio. For information about filtering on case data attributes, see Creating Data Views .

The filter string that is displayed is the filter string that will be sent to the server, using the physical names of the attributes and not the façade display names.

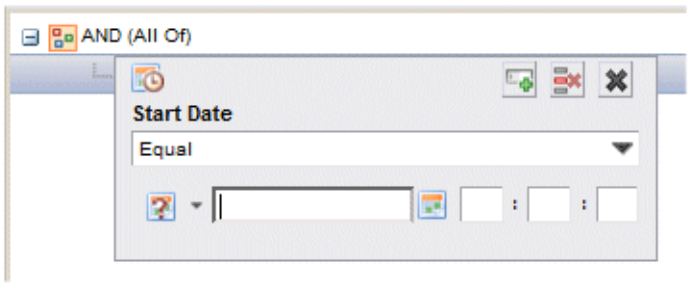
The **Attributes** section on the Filter dialog lists all of the attributes on which you can filter.

To specify an attribute to filter on, do one of the following:

- Double-click the desired attribute in the **Attributes** section,
- click the desired attribute and drag it into the **Filter** section, or
- right-click the desired attribute and select **Insert Item** from the context menu.



This causes the data-entry dialog for the selected attribute to appear in the **Filter** section. For example:



The data-entry dialog for every attribute contains the following data-entry fields:

- **Logical operator** - This is a drop-down list that allows you to choose how the specified value is to be compared to the actual values in the attributes of the item. You can specify “equal to”, “not equal to”, “less than”, etc.

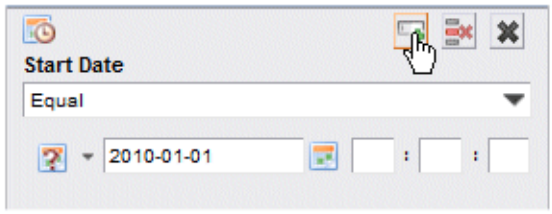
  For example, to display all work items whose start date is prior to Jan. 1, 2010, select the **Start Date** attribute, choose the “LessThan” logical operator, then choose Jan. 1, 2010 from the value field date picker.

  The logical operator drop-down list also includes a “Range” selection for DateTime attributes, which allows you to specify a range of dates/times for which you would like work items or process instances returned. For information about using the Range operator, see DateTime Ranges.

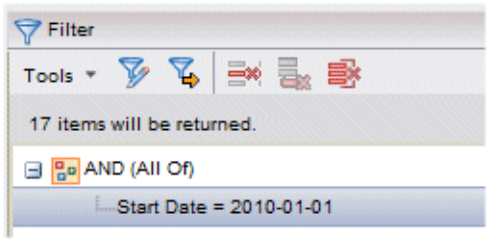
- **Value field(s)** - Each data-entry dialog contains one or more value fields in which you enter the value for the items you want returned.

  The way in which you enter a value depends on the data type for the attribute you are adding. The data type for each attribute is shown in the tables in Selecting Filter Attributes. For information about data types, see Value Data Types.

After choosing a logical operator and entering a value, you can add the filter attribute to the filter expression by clicking the **Add** button (or just press the **Enter** key):



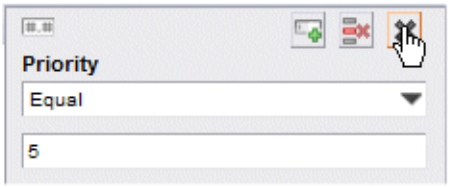
The filter attribute is added to the filter expression in the **Filter** section. For example:



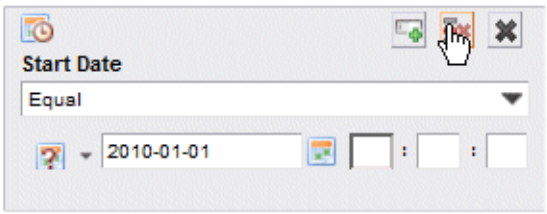
You can add additional filter attributes to the filter expression in the manner described above.

The filter attribute data-entry dialog has a couple other buttons on it that allow you to either close the dialog without making changes, or remove the attribute from the filter expression:

- To close the data-entry dialog without making any changes, click the **Close** button:



- To remove the filter attribute currently displayed in the filter expression, click the **Remove** button:



Value Data Types

The value entered in the **Value** field must match the data type for the attribute selected.

The following describes the valid data types:

Data Type	Description
Numeric	Consists of one or more of the numbers 0-9. Used for things like work item ID and priority. The data entry field for numeric values will not allow you to enter any characters other than numbers.

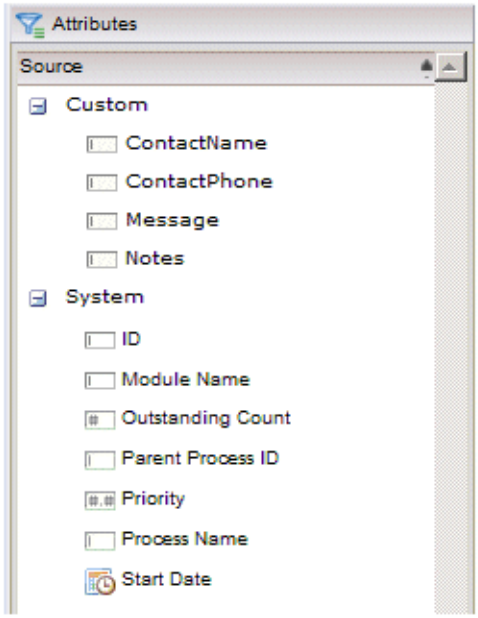
Data Type	Description
Text	Consists of any number of letters, numbers, or special characters (e.g., #, $, etc.). Used for things like process instance ID and work item description. Filtering on text is case sensitive. Note that text attributes are the only attribute types with which you can use wildcard characters. For more information, see Using Wild Card Characters . And if you are filtering on text that contains any of the four special characters (*, ?, ‘, or \), they must be “escaped”. For information, see Filtering on Special Characters .
DateTime	Dates can be entered manually or by using the “date picker” on the filter data-entry dialog. Times, if specified, must be entered manually. If you enter a date, but not a time, it assumes “all times” for the specified date. All times use the 24-hour clock. There is also a special "Today" entry that can be used when filtering on DateTime attributes. This entry always represents the current date. For more information about entering dates and times in the filter data entry dialog, see DateTime Attributes.
Enumeration	Some attributes only allow you to select a valid entry. These are called “enumerations”. For example, when filtering work items, the **Distribution Strategy** attribute dialog allows you to choose from the two possible distribution strategies: Allocated and Offered.

The attributes in data views can include types other than those listed here. For information, see Creating Data Views .

Custom Attributes in Process Instance Lists

When filtering process instances, the **Available Attributes** section on the Filter dialog can also list *custom* attributes.

For example:



Custom attributes represent customer-specified data fields that are added to a process when it is defined. Those fields can then be added to forms. When a user enters information in the fields on a form (e.g., customer name, address, loan amount, etc.) in an instance of the process, that information is stored in the custom attribute for that field, in that process instance.

Using custom attributes, you could, for example, filter the process instance list so that only process instances are displayed in which customer name = "Smith".

Note, however, that *only* the custom attributes that are common to *all* of the processes that were included in the process view when it was created are included in the list of attributes on which you can filter.

For example, suppose ProcessA and ProcessB were included in a process view, and those processes include these custom attributes (i.e., customer-specified data fields):

- ProcessA:
  - Customer Name
  - Customer Address
  - Loan Amount
  - Job Title
- ProcessB:
  - Customer Name
  - Customer Address
  - Phone Number
  - SSN

Only the “Customer Name” and “Customer Address” attributes will appear in the Filter dialog because those are the only ones that are common to both processes.

Also, the data type (see Value Data Types) must be the same for the common attributes. For example, if all of the processes have an attribute called “Age”, but it’s defined as a numeric attribute in one process and as a text attribute in another process, that attribute will not appear in the list of attributes on which you can filter. It must be the same data type in all processes for it to appear as a filterable attribute.

DateTime Attributes

Dates and times can be entered in a number of different ways when you are using a DateTime attribute (for example, Start Date).

Filter data-entry dialogs that contain a DateTime attribute (e.g., Start Date) appear as follows:

Dates and times can be entered for these attributes in the following ways:

- Dates can be entered in two ways:
  - Using the “date picker”, which is the calendar icon to the right of the date field. Clicking on the date picker icon displays a calendar from which you can choose the desired date — the selected date is automatically entered in the date field.
  - Manually enter the date. If entered manually, it must be in the following format:

    YYYY-MM-DD

    where YYYY = year, MM = month, and DD = day.

    For example: 2008-08-25

    As you enter the numbers, the hyphens are automatically entered for you.

    If desired, you can also manually enter just a portion of the date, starting from the left. For instance, you can manually enter just "2009" in the date field — this means "all of 2009". Or you could enter just "2009-05" (the hyphen is automatically entered) — this means "all of May 2009". Or you can manually enter the entire date.
- Times are optional. If entered, they must be entered manually, in the following format:

  hh:mm:ss.nnn

  where hh = hour (using the 24-hour clock), mm= minute, ss = second, and nnn = milliseconds.

  For example: 15:30:00.000

  If the time is not specified, Workspace assumes “all times” for the specified date. For example, if you specified “Start Date = 2008-10-04”, with no time, it will return all work items that were started on Oct. 4, 2008, regardless of the time they were started.

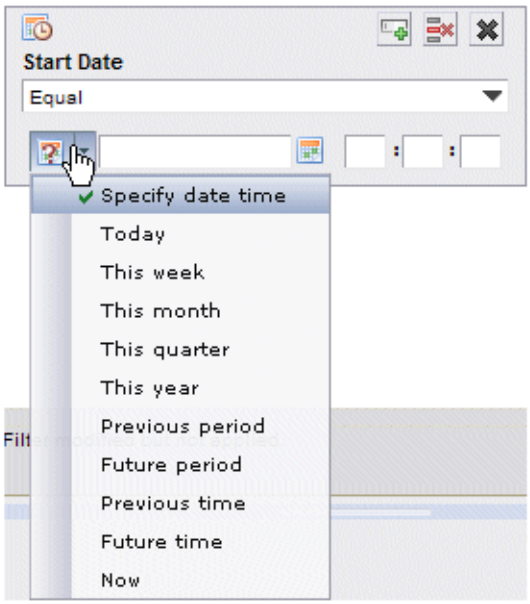
  If desired, you can enter just a portion of the time, starting from the left. For instance, you can enter just "10" in the first of the time fields — this means "all times that begin with 10 o’clock".

  The data-entry dialog for DateTime attributes may or may not include the field for milliseconds. This is controlled through a *user option*. For more information, see Times.

  Note that all times that are displayed in Workspace are based on your local time. So even if someone else in a different time zone than you starts a process instance, when you view the process instance, the start time is shown in your local time. And it is your local time that you would enter in a Filter dialog.

Dynamic Time-Period / Point-in-Time Entries

When filtering on DateTime attributes, there are a number of entries you can select from that *dynamically* calculate a time period or point in time. The available dynamic time-period / point-in-time filter entries are displayed from the drop-down list to the left of the date attribute field:



Each of these special entries calculates the time period or point in time *when the filtered list is viewed*, not *when the filter was defined*.

For example, if you filtered the work item list on the **Start Date** attribute, and specified it equal to "Today", the work item list will only list work items that arrived in your work item list on the day on which you are viewing the list.

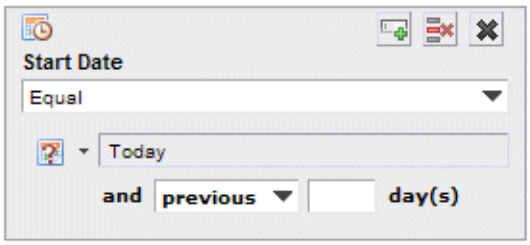
Or, for example, if you filtered the process instance list on the **Start Date** attribute, and specified it equal to "This month", the process instance list will only list the process instances that were started from the 1st of the month, until the time at which you are viewing the list.

The dynamic time-period / point-in-time entries are not available if you are filtering your Inbox because of the way the server maintains the Inbox filter. To use this feature when filtering work items, you must create a view other than your Inbox.

The available dynamic time periods and points in time are described below:

- **Today** - The current day, from 12:00 A.M. to 12:00 P.M.
- **This week** - The current week, from 12:00 A.M. Sunday morning to 12:00 P.M. Saturday evening.
- **This month** - The current month, from the 1st through the last day of the month.
- **This quarter** - The current 3-month period used as a quarter by your company. The specific three months to which this refers depends on how your system is configured. As different companies use different months on which to begin a quarter, this may be referring to:
  - This month, and the next two months,
  - last month, this month, and next month, or
  - the previous two months, and this month.
- **This year** - The current year, from January 1 through December 31.

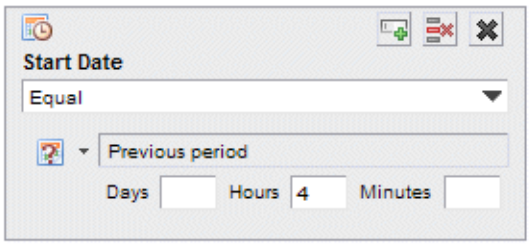
Also note that if you choose any of the **Today**, **This week**, **This month**, **This quarter**, or **This year** dynamic time periods, another field is displayed on the dialog that allows you to also include an additional number of like time periods, either in the past, or in the future:



In the field on the bottom of the dialog, select **previous** or **future** from the drop-down list to also filter on an additional number of periods in the past or the future, respectively.

For example, if you chose to filter on “Today”, you could have it also return items from any number of previous days.

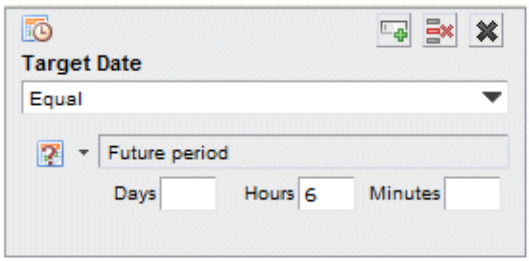
- **Previous period** - This allows you to filter based on a specified number of days, hours, and/or minutes in the past. Note that this period is calculated *from the moment you invoke the filter, plus every time the list is refreshed*. For example, the following filter will return the work items that arrived in the work item list in the last 4 hours.



This 4-hour time period is re-calculated each time the list is refreshed so that that it always contains only the work items that arrived in the last 4 hours.

The "Equal" operator returns all items that fall within that time period, and "NotEqual" returns all items outside of the time period. The "LessThan" and "GreaterThan" operators return all items that fall previous to the time period, or after the time period, respectively. Note, however, that the LessOrEqualTo" and "GreaterOrEqualTo" operators return all items that either fall previous to or after the time period, as well as those that fall within the time period.

- **Future period** - This allows you to filter based on a specified number of days, hours, and/or minutes in the future. Note that this period is calculated *from the moment you invoke the filter, plus every time the list is refreshed*. For example, the following filter will return the work items that have a deadline (i.e., they have a target date) that is set to expire in the coming 6 hours.

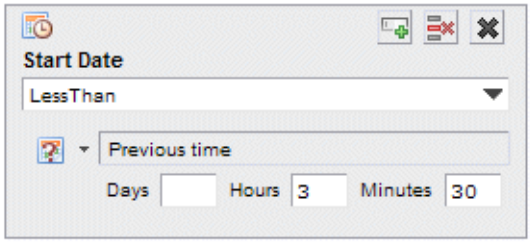


This filter is re-applied each time the list is refreshed so that the list always contains only the work items that have deadlines that will expire in the next 6 hours.

The operators work the same as for "Previous period" — see above.

- **Previous time** - This specifies a specific point in time in the past, relative to the time at which you invoke the filter, or refresh the list. This would normally be used with the "greater than" or "less than" operators, because it defines a point in time, not a time period.

  For instance, you may be interested in listing all of the work items that arrived in your work item list prior to 3 hours and 30 minutes ago:

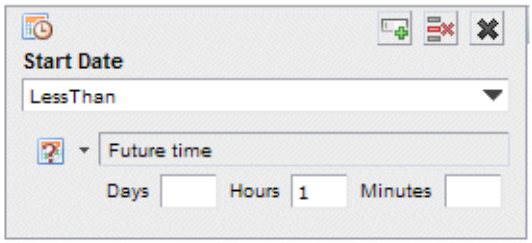


  The point in time is re-calculated each time the list is refreshed so that it always contains the work items that arrived prior to 3 hours and 30 minutes ago.

  Note that if you used the "Equal" operator, the list will contain only those items that match the point in time exactly.

- **Future time** - This specifies a specific point in time in the future, relative to the time at which you invoke the filter, or refresh the list. This would normally be used with the "greater than" or "less than" operators, because it defines a point in time, not a time period.

  For instance, you may be interested in listing all of the work items that have a deadline (target date) that is less than one hour in the future (which returns all work items that already have expired deadlines, as well as those that will expire in the next hour):



  The point in time is re-calculated each time the list is refreshed so that it always contains the work items with target dates less than one hour in the future.

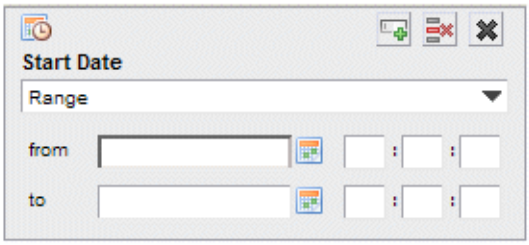
  Note that if you used the "Equal" operator, the list will contain only those items that match the point in time exactly.

- **Now** - This represents the current time. This would normally be used with the "greater than" or "less than" operators, because it also defines a point in time, the current time.

  For instance, to list all work items that have a deadline (a target date) that have not yet expired:

DateTime Ranges

When filtering on DateTime attributes, you can select a logical operator of "Range". This allows you to request that all items that fall within a range of dates be displayed in the list. Selecting "Range" causes another set of fields to be added to the Filter dialog, as follows:



Enter the beginning date/time of the range in the first set of fields, and the ending date/time of the range in the second set of fields.

The date/time comparison is inclusive. For example, if you are filtering on the start date, and the range is from May 1, 2009 to May 3, 2009 (with no times specified), all items with a start date on May 1, 2, and 3, are displayed in the list.

Using Wild Card Characters

The wild card characters '*' and '?' can be used when filtering on text attributes (work item name, description, and so on) — wild card characters cannot be used with any other attribute type.

The '*' and '?' characters are evaluated as follows:

- '*' matches zero or more of any character. For example:
  - "bo*" matches anything beginning with "bo". For example, "bo", "bobbl", "boulton_anne", etc.
  - "s*s" matches anything beginning with "s" and ending with "s". For example, "ss", "sues", sid_lewis", etc.
  - "*s" matches anything ending with "s". For example, "franks", "ls", "martha_lyons", etc.
- '?' matches any single character. For example:
  - "bill?" matches anything beginning with "bill", plus one more character. For example, "bills", "bill5", "billh", etc.
  - "c?ndy" matches "cindy", "candy", "c3ndy", etc.

Also note that all character matching is case sensitive.

Filtering on Special Characters

If you are building a filter expression that is filtering text, and your expression contains special characters, the special character may need to be "escaped" in the filter expression.

The following are the special characters that need to be escaped:

- * (asterisk)
- ? (question mark)
- ‘ (single quote)
- \ (backslash)
- " (double quote)

To “escape” a character means to precede that character with another character in the filter expression so that the system knows that you are filtering on the literal character, rather than intending for the character to take on its special meaning. For example, if you just included an asterisk or question mark, it would take on its special meaning as a wild card character (see Using Wild Card Characters).

The character that you precede the special character with depends on what you are filtering (work items, process instances, events, or cases), as shown in the table below (although it is most often a backslash). Also note that some special characters do not required escaping, that is, just include the special character on its own in the filter expression. For example, when filtering cases, a single quote can be included in the expression without escaping it. Also, in some instances, if you include an escape character when it is not needed, or do not include the escape character when it is needed, an error is returned. These are noted in the table below:

Character to match literally	Work Items	Process Instances	Events	Cases
*	*	*	*	*
?	\?	\?	\?	\?
‘ See footnote (1)	\'	''	\‘	'
\	\	\	\ \ See footnote (2)	\ \ See footnote (2)
"	\" See footnote (3)	"	\"	" See footnote (4)

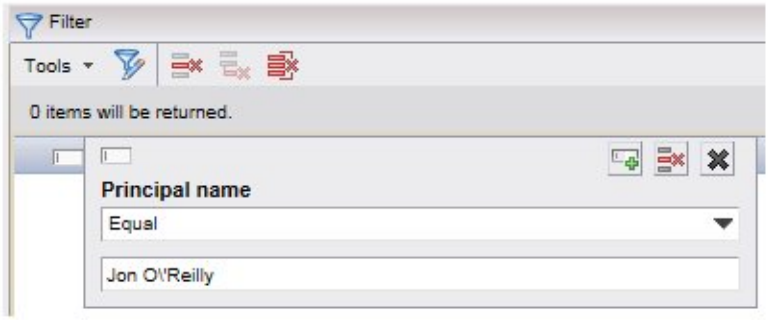
(1) If you include a single quote in the expression, without escaping it, when filtering work items, process instances, or events, an error is returned.

(2) If you include a single backslash in the expression, without escaping it, when filtering events or cases, an error is returned.

(3) If you include a double quote in the expression, without escaping it, when filtering work items, an error is returned.

(4) If you include a double quote in the expression, that is escaped with a backslash, when filtering cases, an error is returned.

As an example, if you are filtering for events for a resource (Principal name) by the name “Jon O’Reilly”, you would need to escape the single quote in the name with a backslash character. For example:



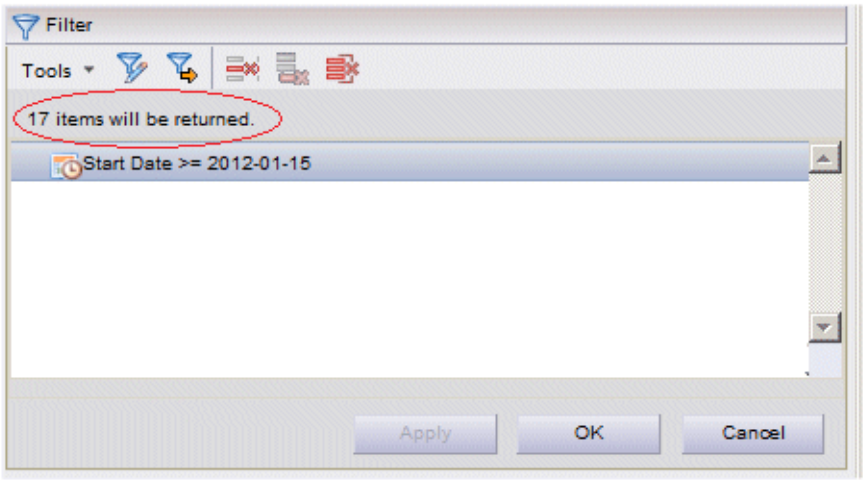
Applying the Filter Expression

At any point after adding a filter attribute to the filter expression, you can apply it to determine how many items satisfy the expression.

To apply the filter expression shown in the **Filter** section:

- Click the **OK** button (without clicking **Apply** first). This causes any filter expression you've entered to be applied and the list displayed. But you will not know the number of items that will be returned in the list until after the list is displayed.
- Click the **Apply** button. The system will apply the filter expression and calculate how many items satisfy the expression. This number is shown on the top of the **Filter** section (17 in this example):

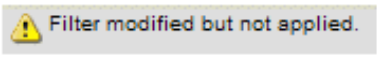
The "*xx* items will be returned" message is not displayed if you are filtering an "All Work Items" work view. For this type of work view, a total count of work items is not returned from the server to reduce overhead. Therefore, the number of items for the filter cannot be determined. For information about "All Work Items" views, see Work Views .



If you clicked **Apply**, and the number of items that will be returned from the server is satisfactory, click the **OK** button to display the list.

If the number of items is still too large, you can modify any of the previously entered values, or add/remove attributes from the expression, then click **Apply** again to get a new item count.

Anytime you add, delete, or modify a filter expression in the **Filter** section, and have not yet clicked the **Apply** button to apply it, the following message is shown to notify you that the changed filter expression has not been applied:



Whenever the message shown above is displayed, the **Apply** button will be active.

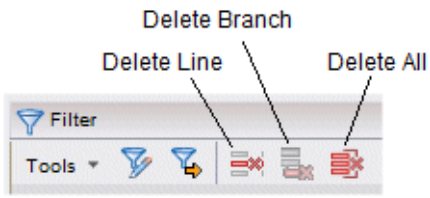
Note that if you are applying the filter expression from the list itself (rather through the view definition), the **Filter** icon will now contain a check mark to indicate that a refined filter is currently applied on the list:

Modifying an Existing Filter Expression

After you've specified your filter expression in the **Filter** section, it can be modified in a number of ways.

For example:

- Change an "AND (All Of)" to an "OR (Any Of)", or vice versa. This can be done in the following ways:
  - double-click the entry in the **Filter** section,
  - right-click the entry, then select **Modify Item**,
  - select the entry, then click the **Modify** button in the **Filter** section, or
  - select the entry, then select the **Modify** selection on the **Tools** menu.
- Modify the value you've specified in one of the filter attributes. Display the data-entry dialog for an existing attribute in one of the following ways:
  - Double-click the attribute name in the **Filter** section,
  - right-click the attribute name, then select **Modify Item**,
  - select the attribute name, then press the **Enter** key,
  - select the attribute name, then click the **Modify** button in the **Filter** section, or
  - select the attribute name, then select the **Modify** selection on the **Tools** menu.
- Delete a filter attribute from the filter expression. You can remove a filter attribute from the filter expression in one of the following ways:
  - Right-click the desired attribute name, then select **Delete Line**,
  - select the attribute name, then select the **Delete Line** selection on the **Tools** menu, or
  - select the attribute name, then click the **Delete Line** button in the **Filter** section. Notice that this button is one of three delete buttons provided in the **Filter** section:



The **Delete Line** button deletes only the currently selected line (filter attribute).

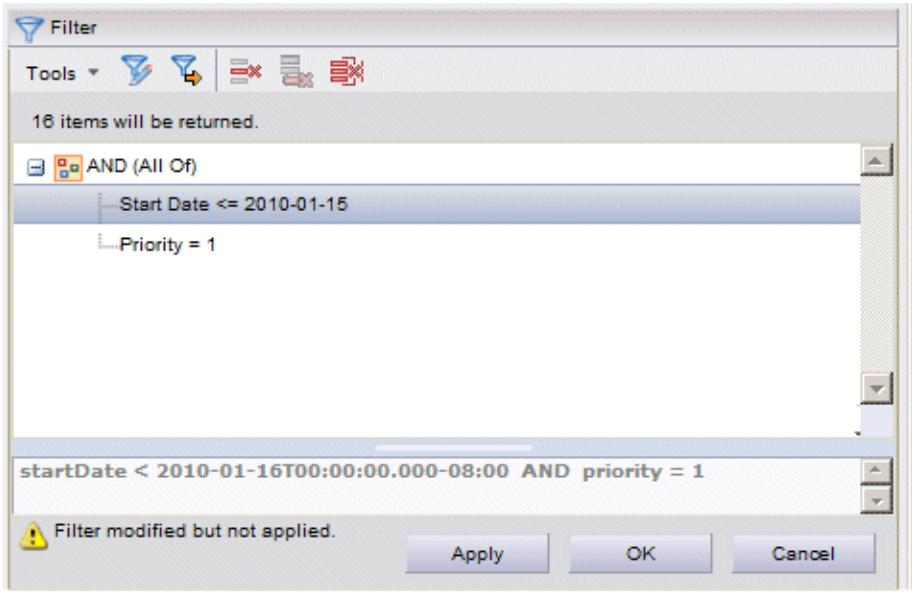
The **Delete Branch** button is active only when an "AND (All Of)" or "OR (Any Of)" entry is currently selected; it deletes the entire "AND (All Of)" or "OR (Any Of)" branch, including all filter attributes in that branch. The Delete Branch function is more applicable when creating a filter expression that contains a mixture of "AND (All Of)" and "OR (Any Of)" entries; these are explained in Combining "AND (All Of)" and "OR (Any Of)".

The **Delete All** button deletes all entries in the **Filter** section.

Viewing the Filter Syntax

As you are adding attributes to the **Filter** section to build the graphical representation of the filter expression, Workspace is creating the syntax that the server needs to process the expression. If you have a need to view the syntax (perhaps for debugging purposes), you can do so by selecting **Show Expression** from the **Tools** menu.

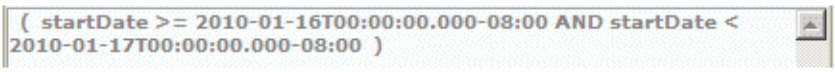
The filter syntax is displayed on the bottom of the **Filter** section, for example:



The filter expression cannot be modified using the syntax — it is provided only for viewing purposes.

Note that if you are filtering on a DateTime, a *time zone offset* is shown following the time. This is required by the server because it stores all times in *Coordinated Universal Time* (UTC). The offset is telling the server the number of hours you are located, plus or minus, from UTC. In the example shown above, the application is running in a locale that is -8 hours from UTC. You don't need to be concerned with this offset, other than to know why it's shown in the filter syntax.

Also, if you are filtering on a DateTime, and you specify "equal to" or "not equal to" a specific date, the syntax appears as a range because of the way the filter must be applied internally. For example:



To close the window that displays the filter syntax, select **Hide Expression** from the **Tools** menu.

Exporting Filter XML

A function is available that allows you to export the XML that represents the graphical display of a filter definition that is shown on the Filter dialog.

This function is invoked from the Filter dialog by either using the **Export Filter XML...** selection on the **Tools** menu, or by clicking the  button.

The Export Filter XML function is intended to be used by technical personnel in conjunction with method calls that create or modify filters definitions in the application. For more information about this function, see the *TIBCO Workspace Components Developer Guide*.

Sorting Lists

Workspace allows you to sort information displayed in lists so that it is shown in the desired order. For example, you may want to list all process instances that are currently “Active” first, then sort those by started date/time, from oldest to most recent.

This example would require you to sort on two attributes: “Instance State” and “Instance Start Date”.

Workspace allows you to sort the following types of lists:

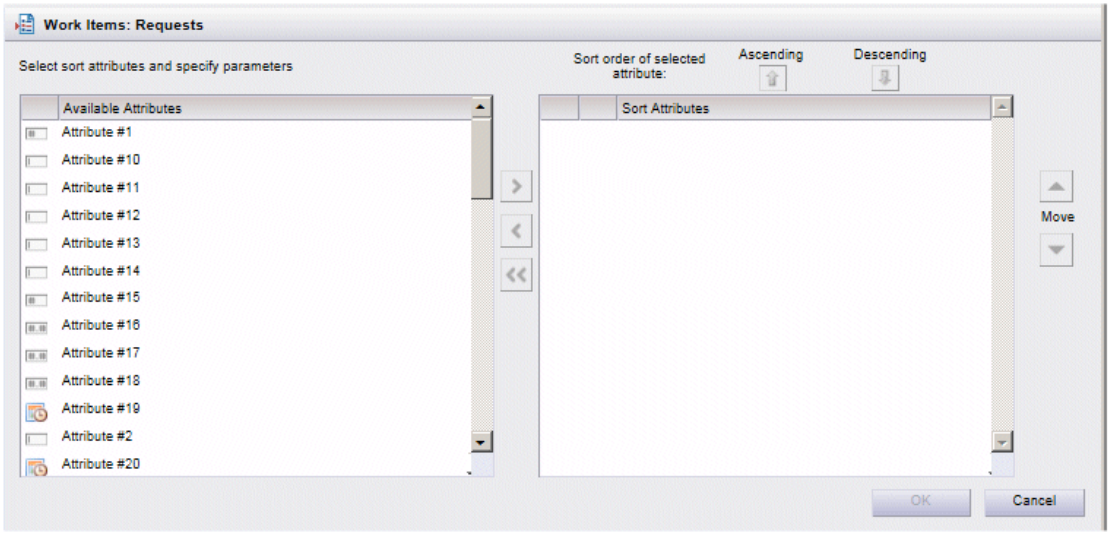
- work item list
- process instance list
- event list
- case reference list

This chapter describes sorting in general — with the exception of the specific attributes you can sort on, sorting each type of list is essentially the same.

This chapter uses the term “items” at times to refer to either work items, process instances, or events when describing sorting functions that apply to all list types.

Regardless the type of list, all sort specifications are defined using the sort dialog:

If a Work List Facade is deployed, attributes are displayed showing the display names.



The only difference in the sort dialog between the list types is the list of attributes that you can sort on (as shown in the **Available Attributes** section).

For information about how to display the sort dialog, see Accessing the Sort Function.

If you had applied a sort order the last time you displayed a list, that same sort order will be applied when you open that particular list again — in other words, the most recently applied sort order for each list/view will remain persistent until you either change it or remove it. Note that persisted settings are saved on the server, so if you log onto a different machine, those settings will be in effect on that machine also.

If a sort order is still active, the **Sort** button will be shown with a check mark, and if the sort dialog is displayed, the previously entered sort specification will still be shown.

Accessing the Sort Function

The sort function can be accessed either from the list itself, or from the view that defines the list.

- **From the list** - Click the  button, or select **Sort** from the **View** menu.

  A Sort function is not available from case reference lists; these lists must be sorted using the data view wizard.

- **From the view definition** - When you are creating or editing a work, process, or event view using the view wizard, a sort dialog is displayed from which you can sort the contents of the view. (For information about creating views, see Views.) You can either specify a sort order, or click **Finish** to forego sorting the list.

It's important to understand that a sort specified in a work view or process view is the same sort specification that you will see if you display the sort dialog from the work item list or process instance list that is displayed by that view.

For example, if you create a work view with a sort specified, then click the **Sort** button on the work item list displayed by that work view, you will see the same sort specification that was set in the view.

Conversely, if you specify a sort using the sort dialog from the work item list itself, you will see that same sort specification if you access the sort dialog from the work view definition that displays that work item list.

Specifying Sort Criteria

Specifying sort criteria for a list involves a number of sub-tasks.

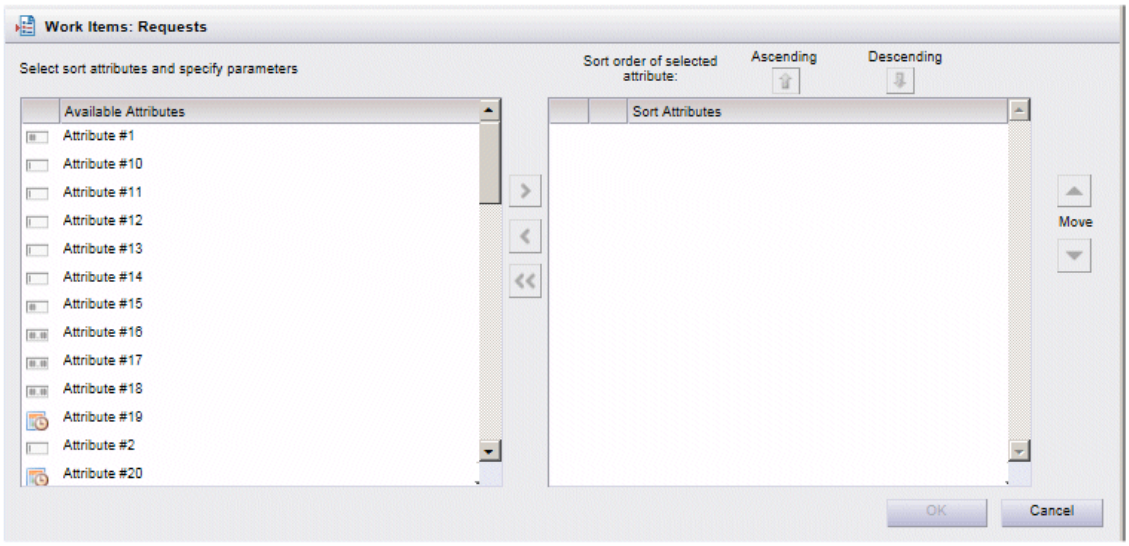
- Selecting Sort Attributes - Allows you to choose the attributes/columns in the list to sort on.
- Specifying Sort Order - Used if you are sorting on multiple attributes — specifies which attribute to sort on first, second, and so on.
- Specifying a Sort Direction - You can choose to display the list in ascending or descending order.
- Applying the Sort Criteria - Displays the list in the desired order.

Selecting Sort Attributes

By default, before you specify a sort for the first time, all attributes that are available to sort on are shown in the **Available Attributes** section on the sort dialog. It lists an attribute for each column in the list.

For example, the following sort dialog is for a work item list:

The attributes available for sorting data views are the attributes that are defined as *searchable* when the case data is defined in TIBCO Business Studio.



The available attributes differ for each type of list. Those available for each type of list are shown in the tables below.

System Attributes for Work Item Lists	
Attribute Name	**Description**
Attribute #1 - #40	These attributes, which can be populated via a script in the process, can contain various information.
Distribution Strategy	Describes the way in which a work item was distributed to users. The possible entries are: • **Allocate** - The work item was sent to a specific user's work list. • **Offer** - This means the work item was *offered* to either an individual user, or to a group of users. Any user to whom the work item was offered can open the work item and work on it. For more information, see Why Are Work Items Sent to Your Work Item List .
Target Date	A deadline date/time for the work item. For more information, see Work Item Deadlines .
Instance Description	A description of the process instance. This may or may not have been specified, depending on how the process was defined.
ID	A unique alphanumeric value identifying the process instance from which the work item was created.
Priority	Denotes the importance of the work item. This value is assigned to the task (which results in a work item) when the process is defined. Example: 1

System Attributes for Work Item Lists	
Attribute Name	**Description**
Process Name	The name of the process that was started to create this work item.
Start Date	The date and time the work item is *scheduled* to start. Example: 2010-08-25 14:30:00
Work Item ID	A unique identifier for the work item. This is generated by the system when the work item is created. Example: 608

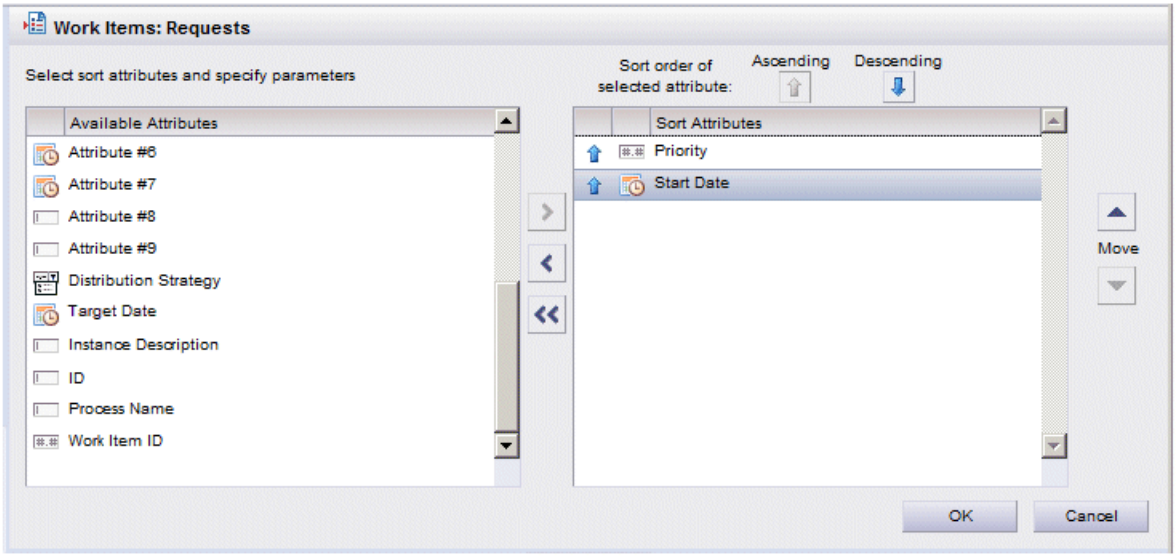
System Attributes for Process Instance Lists	
Attribute Name(1)	**Description**
ID	Uniquely identifies the process instance.
Process Name	The name of the process that was started to create this instance.
Outstanding Count	This is the number of outstanding work items in this process instance. Also see, Outstanding Work Items .
Parent Process ID	The instance ID of the parent process — only applicable for re-usable sub-processes.
Priority	This is a numeric value that has been assigned to the process instance by an administrator. The numeric value assigns a relative importance to the process instance, which allows users to prioritize their work.
Start Date	The date and time the process instance was started. Example: 2008-08-25 14:30:00

System Attributes for Process Instance Lists	
Attribute Name(1)	**Description**
Status	Indicates the current status of the process instance. For a list of the possible statuses, see Process Instance Status . Note that if you sort on process instance status, the instances may not appear in the order in which you expected. That's because internally they are actually sorted by a status code, rather than the alphabetic name of the status. The following is the order in which they will appear if sorted in ascending order: Not_Started Active Suspended Suspending Staring Resuming Restarting Cancelling Completing Failing Halted Halting
Version	The version number of the process from which the instance was started.
Module Name	This is the path to the XPDL file that defines the "process package".

(1) The attributes shown on the Sort dialog for process instances are listed in a tree structure, categorized by "System" and "Custom". *System* attributes contain information that the system entered in the attribute, such as start date, current status, etc. *Custom* attributes represent customer-specified fields that are added to a process when it is defined. Those fields can then be added to forms. When a user enters information in the fields on a form (e.g., customer name, address, loan amount, etc.), that information is stored in the custom attribute for that field. For more information, see Custom Attributes in Process Instance Lists .

When filtering event lists, the **Attributes** section on the Filter dialog lists all of the *filterable* attributes, which is a subset of all available event attributes. They are displayed in a tree structure categorized by the component that writes values to each attribute. You can expand or collapse the list below each component name, as needed, by clicking the + or - icon to the left of the component name.

To specify sort attributes, move the attributes on which you want to sort the list to the **Sort Attributes** section on the sort dialog. For example, the following will cause the work item list for the "Requests" work view to be sorted first by the data in the Priority attribute, then by the data in the Start Date attribute:



Attributes can be moved back and forth between the **Available Attributes** and **Sort Attributes** sections using the following methods.

To select attributes:

- Individual attributes can be selected by clicking the desired name.
- Multiple attributes can be selected by holding down the **Ctrl** key while clicking the desired names. A group of attributes can be selected by clicking one name, then holding down the **Shift** key and clicking the last name in the desired group.

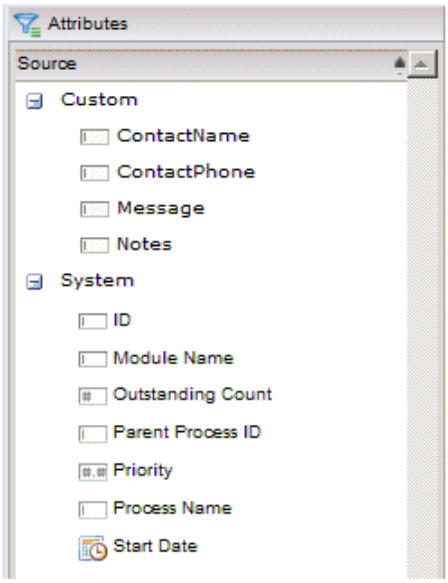
To move the attributes to the desired list:

- Attributes can be moved back and forth between lists by selecting the desired attribute(s), then clicking the “” or “<“ buttons.
- An individual attribute can be moved from one list to the other by double-clicking the attribute name.
- Attributes can also be moved from one list to the other by using a “drag and drop” method — click the desired attribute name (or group of selected attribute names), and while holding the mouse button, drag them to the desired list and release the mouse button.
- All attributes in the **Sort Attributes** section can be moved to the **Available Attributes** section by clicking the “<<“ button.

Custom Attributes in Process Instance Lists

When sorting process instances, the **Available Attributes** section on the sort dialog can also list *custom* attributes.

For example:



Custom attributes represent customer-specified data fields that are added to a process when it is defined. Those fields can then be added to forms. When a user enters information in the fields on a form (e.g., customer name, address, loan amount, etc.) in an instance of the process, that information is stored in the custom attribute for that field, in that process instance.

Using custom attributes, you could, for example, sort the process instance list so that only process instances are displayed alphabetically by customer name.

Note, however, that *only* the custom attributes that are common to *all* of the processes that were included in the process view when it was created are included in the list of attributes on which you can sort.

For example, suppose ProcessA and ProcessB were included in a process view, and those processes include these custom attributes (i.e., customer-specified data fields):

- ProcessA:
  - Customer Name
  - Customer Address
  - Loan Amount
  - Job Title
- ProcessB:
  - Customer Name
  - Customer Address
  - Phone Number
  - SSN

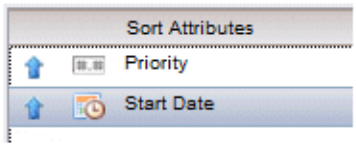
Only the “Customer Name” and “Customer Address” attributes will appear on the sort dialog because those are the only ones that are common to both processes.

Also, the data type must be the same for the common attributes. For example, if all of the processes have an attribute called “Age”, but it’s defined as a numeric attribute in one process and as a text attribute in another process, that attribute will not appear in the list of attributes on which you can filter. It must be the same data type in all processes for it to appear as a sortable attribute.

Specifying Sort Order

Sort *order* is applicable only if you have specified multiple sort attributes. It allows you to specify that the list be sorted first on one attribute, then on another attribute, and so on.

For example, this sort specification:



would cause process instances to be sorted as follows:

Instance Priority	Instance Start Date
1	2009-10-12 10:00:25
1	2009-10-23 09:12:16
2	2009-10-10 12:04:55
3	2009-10-12 13:05:45
3	2009-10-12 16:00:55
3	2009-10-16 08:45:12

In this example, all process instances with an instance priority of 1 are listed first; those process instances are then sorted by their start date. Then all of the process instances with an instance priority of 2 are listed; those process instances are then sorted by their start date. And so on. (Note that for this example both attributes are sorted in "ascending" order — for information, see Specifying a Sort Direction.)

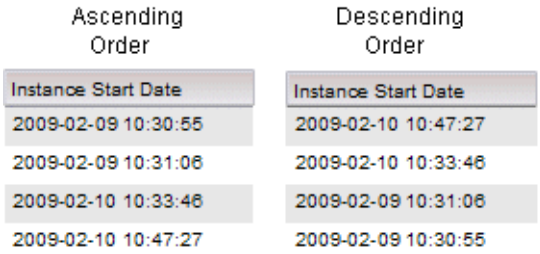
To change the order, move the desired attributes up or down in the **Sort Attributes** list. You can do this in one of the following ways:

- select the desired sort attribute(s) in the **Sort Attributes** list, then click the "Up" or "Down" **Order** button on the sort dialog to move the attribute(s) up or down in the list, or
- "drag and drop" the attribute(s) to the desired location in the list — select the desired attribute(s), and while holding the mouse button, drag the attribute(s) up or down in the list, then release the mouse button.

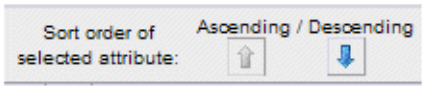
Specifying a Sort Direction

You can specify that items in a list be sorted in either ascending or descending order.

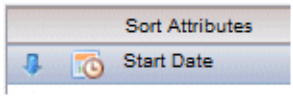
You can specify a sort direction for each of the attributes listed in the **Sort Attributes** list. They are set to ascending order by default when you add them to the list.:



To change the sort direction, select the desired sort attribute(s) (you can change multiple attributes at one time) in the **Sort Attributes** list, then click the **Ascending** or **Descending** buttons on the sort dialog:



The icon next to the attribute name will change to indicate the new sort direction:



Applying the Sort Criteria

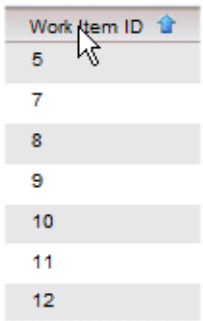
After specifying the sort attributes, sort order, and sort direction, click the **OK** button to apply the sort criteria you've specified.

When you click the **OK** button, a check mark appears in the lower right part of the **Sort** icon to indicate that the list is being sorted:

Sorting a List Using Column Headers

You can quickly and easily sort a list by the values in a column by clicking the column header. If the column contains text, it is sorted in alphabetical order; if it is numeric, it is sorted in numerical order; if it is a date, time, or DateTime, it is sorted in chronological order.

Once you click a column header, an arrow appears in the column header, which indicates the direction of the sort — if the arrow is pointing up, the sort is in ascending order; if it's pointing down, the sort is in descending order:



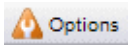
Each successive click the column header, toggles between ascending and descending order.

Depending on how your system is configured, sorting a list by clicking a column header may either cause only the currently displayed page to be sorted, or it may cause the entire list to be sorted, even pages that have not been displayed yet.

Note, however, if your system is configured to sort the entire list when you click a column header, there are some columns on which you cannot sort by clicking the header. This is because when the system is configured in that way, the list is sorted on the server (rather than locally), and some attributes cannot be sorted by the server. If you attempt to sort a column by clicking the header, and it cannot be sorted in that way, a message is displayed informing you it cannot be sorted (you can still sort on that column using the Sort function; see Accessing the Sort Function).

User Options

User options establish default settings for each user that logs into Workspace. These include things such as whether the work item list or process instance list is displayed when the user first logs in, whether preview is turned on by default, the size/location of work item forms, etc.

To set your user options, click the 

button on the Workspace main toolbar.

User options are divided into the following functional areas:

- Display Options - These control default display settings, such as the default language, which lists to initially display when you log in, etc.
- Work Item Options - These control default settings for work item-related functions, such as auto-refresh and how to display work item forms.
- Business Service Options - These control default settings for business service-related functions, such as how to display business service forms.
- Event Options - Controls whether or not a total count is displayed on event lists.
- Appearance Options - These control default layout settings, i.e., how lists are laid out on your screen.

Each of these functional areas has its own "page" on which you specify default settings. You can display each of these pages by clicking the appropriate icon in the left-pane.

Note that the buttons on the bottom of the Options dialog control *all* pages, not just the one currently displayed. Therefore, you can specify settings on all of the pages, then click **OK** once to save all changes.

The **Apply** button can be used to save changes without closing the Options dialog — clicking **OK** saves changes *and* closes the dialog.

You can use the **Defaults** button to return all options to their *initial* default values. (Initial default values are specified in the Workspace configuration file; for information, see the *TIBCO Workspace Configuration and Customization* guide.)

User Options are Stored on the Server

When you make a change to a value on the Options dialog in Workspace, then click **Apply** or **Save**, all of the user option values are written to the server. Therefore, these settings will be experienced at any workstation on which you log on.

Display Options

The **Display** options section allows you to set user options that affect the display.

- Language - Specifies the language to display in Workspace.
- Initial Display - Specifies which list to initially display when you log into Workspace.
- Default View - Specifies which work view and process view to display initially.
- Captions - Specifies what should be displayed in captions by default.
- Times - Specifies whether or not milliseconds should be displayed in the work item and process instance lists.

These are described in the following subsections.

Language

You can specify which language to display on all of the screens and windows in Workspace.

This option performs the same function as the **Language** selection field on the Workspace header. For information about that function, see Setting the Language .

Procedure

1. On the **Options** dialog, click the **Display** icon in the left pane.
2. In the **Language** section, select the desired language:

A particular language appears in this list only if the "language pack" for that language has been installed on your system, or the appropriate files have been manually translated (for details, see the *TIBCO Workspace Configuration and Customization* guide).

3. Click **OK** to save the changes and close the **Options** dialog.

The language change takes effect immediately, and is persisted (i.e., the application will continue to be displayed in the selected language until it is changed again, either using this user option, or the **Language** field drop-down list on the main toolbar).

Note that the language setting on the Options dialog does not have a corresponding setting in the Options record in the `config.xml` file. Workspace gets the initial default language from the browser you are using to run Workspace.

Initial Display

The Initial Display user option allows you to specify which list is initially displayed when you log in: work views, process views, or event views.

Procedure

1. On the **Options** dialog, click the **Display** icon in the left pane.
2. In the **Initial Display** section, select the desired list type.
3. Click **OK** to save the changes and close the **Options** dialog.

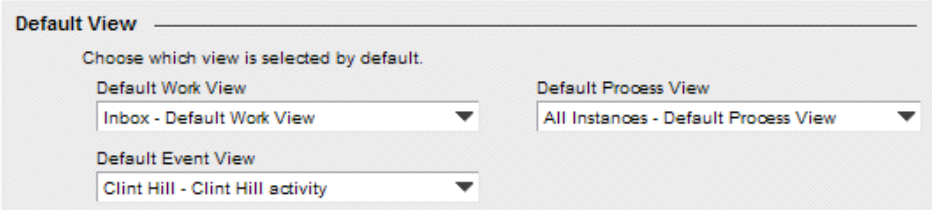
Default View

The Default View user option allows you to specify which specific view should be initially displayed when the view lists are displayed.

Procedure

1. On the **Options** dialog, click the **Display** icon in the left pane.

2. In the **Default View** section, choose the desired default views in the **Default Work View** and **Default Process View** drop-down lists:



3. Click **OK** to save the changes and close the **Options** dialog.

Result

Note that if you select a view as the default view, then that view is subsequently removed, the view at the top of the default view drop-down list is automatically selected as the new default view (the default view drop-down list shows views in chronological order by when they were created).

Captions

The Captions user option allows you to specify whether names or descriptions of views are displayed in the list after selecting a view.

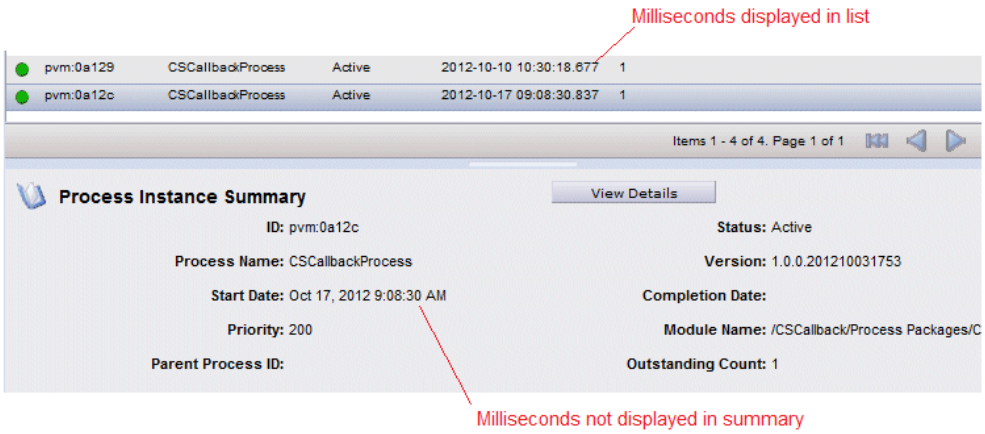
Procedure

1. On the **Options** dialog, click the **Display** icon in the left pane.
2. In the **Captions** section, click the appropriate options to display either names or descriptions in the caption for each of the list types.
3. Click **OK** to save the changes and close the **Options** dialog.

Times

The Times user option allows you to specify whether or not milliseconds are displayed in date/times in the work item, process instance, and event lists, as well as on the Filter dialogs for those lists.

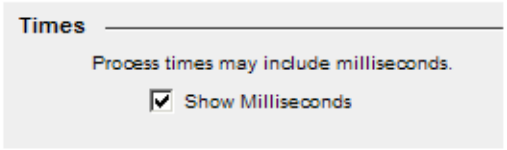
Note that this option does not cause milliseconds to be displayed in data/times in the work item summary nor the process instance summary:



Procedure

1. On the **Options** dialog, click the **Display** icon in the left pane.

2. In the **Times** section, check the **Show Milliseconds** check box if you would like milliseconds displayed in date/times in the work item and process instance lists:



3. Click **OK** to save the changes and close the **Options** dialog.

Work Item Options

The **Work Item** options affect how work items are displayed in Workspace.

- Auto-Refresh - Specifies whether or not the auto-refresh feature on work item lists should be enabled or disabled by default.
- Work Item Preview - Specifies the default setting of the Preview feature on the work item list.
- Work Item Forms - Specifies the type of window in which work item forms are opened.

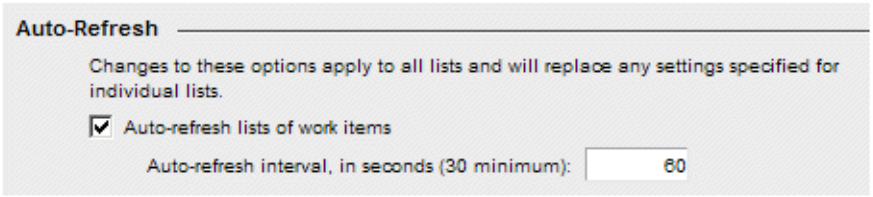
Auto-Refresh

The Auto-Refresh option allows you to specify whether or not the auto-refresh feature on work item lists should be enabled or disabled by default every time you log in. When enabled, work item lists are automatically refreshed at a specified interval.

Note that this setting affects all work item lists except those on which the auto-refresh feature was set for that individual list. For information about enabling/disabling the auto-refresh feature on individual work item lists, see Auto-Refresh of Work Item Lists.

Procedure

1. On the **Options** dialog, click the **Work Items** icon in the left pane.
2. In the **Auto-Refresh** section, either check (to enable) or uncheck (to disable) the **Auto-refresh lists of work items** check box to specify the default behavior of the auto-refresh feature whenever you log in:



3. If you checked the **Auto-refresh lists of work items** check box, in the **Auto-refresh interval** field, specify the auto-refresh interval, in seconds. The minimum allowed is 30 seconds.
4. Click **OK** to save the changes and close the **Options** dialog.

Work Item Preview

The Work Item Preview user option specifies the *default* setting of the **Preview** feature on work item lists, which specifies whether or not work item forms are displayed in the preview pane or in a floating window.

When the default preview setting is specified in user options, it causes *all* work item lists to take on that setting. You can then change the preview setting for an individual work item list by selecting **Preview** from the **View** menu on the work item list. The following dialog is displayed:

Changing the preview setting using the menu shown above causes *only* the currently displayed work item list to take on that setting. All others will continue to use the default setting in user options.

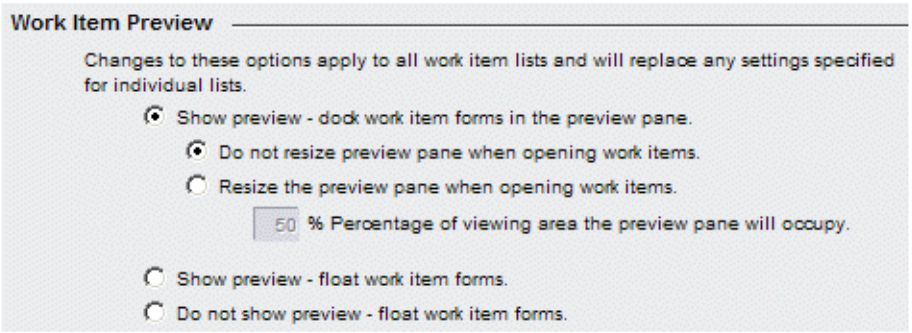
Changes made to individual work item lists are persistent — the setting for that specific work item list is remembered between logins. Also note that persisted settings are saved on the server, so if you log onto a different machine, those settings will be in effect on that machine also.

Note, however, if you change the preview setting for an individual work item list, then change the default setting in user options, it will override the individual work item list setting. In other words, a new preview setting in user options applies to all work item lists, even those that had been set individually.

For more information about the Preview feature, see Introduction.

Procedure

1. On the **Options** dialog, click the **Work Items** icon in the left pane.
2. In the **Work Item Preview** section, select the option you would like to be set as the default for the Preview feature on the work item list:



   Notice that if you choose **Show preview - dock work item forms in preview pane**, additional options are displayed (as shown above) that allow you to specify whether or not the preview pane is automatically resized when a work item is opened in the preview pane. If you choose to resize the preview pane, also enter a percentage (from 1% - 100%) in the **% Percentage of viewing area ...** field; this specifies the amount of the viewing area the preview pane will encompass when a work item is open. When you close the work item, the preview pane reverts to its previous size.
3. Click **OK** to save the changes and close the **Options** dialog.

Work Item Forms

The Work Item Forms user option specifies the type of window in which work item forms are opened. They can be opened in either a **dialog** or a **separate browser window**.

For information about the differences, see Floating Windows.

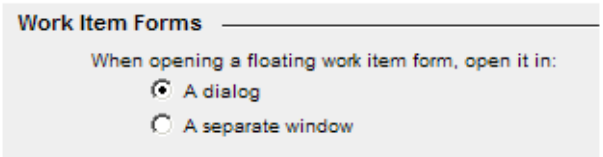
Note that this is applicable only if you are opening work item forms in a *floating* window; it is not applicable if you are opening work item forms in the preview pane. For information about the preview pane, see The Preview Pane.

Also note that you may or may not be able to control whether forms are opened in a dialog or separate browser window using this user option, depending on the setting of an attribute in the application's configuration file. An administrator can set an attribute that forces work item forms to open in a dialog, which causes this user option to be inoperable.

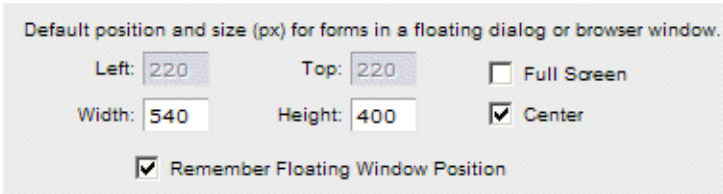
If workspace is configured to open work item forms in a separate browser window, but a pop-up blocker or an error condition prevents the window from opening, the form will instead automatically be opened in a dialog.

Procedure

1. On the **Options** dialog, click the **Work Items** icon in the left pane.
2. In the **Work Item Forms** section, select whether you want work item forms to open in a dialog or a separate browser window:



3. Using the **Default position and size...** fields and check boxes, specify how you want the floating work item form positioned:



   You can:

   - check the **Full Screen** check box to make the floating window/dialog full screen,
   - check the **Center** check box to center the floating window/dialog, or
   - uncheck both boxes to position the floating window/dialog anywhere on the screen.

4. If you have checked the **Center** check box, or unchecked both **Center** and **Full Screen**, optionally enter values in the **Left**, **Top**, **Width**, and **Height** fields to specify the window/dialog position, in pixels.
5. Optionally check the **Remember Floating Window Position** check box to specify you want the system to remember the size and position of the window/dialog if you manually move it on your screen.

   If this check box is checked, the application will remember if you manually resize and/or re-position the window/dialog on your screen, and will size and position future floating windows/dialogs to

that location/size. Note, however, that it will remember this only until you restart the application. Once it is restarted, the application will place floating windows in the size/position specified in the **Default position and size...** fields.

If this check box is not checked, future windows/dialogs will all open in the position and size specified by the **Default position and size...** fields — it does not remember the size and location of windows you have manually resized/repositioned.

6. Click **OK** to save the changes and close the **Options** dialog.

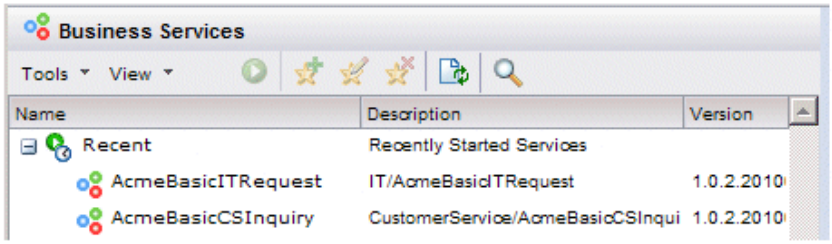
Business Service Options

Business Service user options affect how you view business services.

- Recently Started Services - Specifies the number of recently started business services to display under the Recent heading in the list of business services.
- Business Service Forms - Specifies the type of window in which business service forms are opened — docked or floating.

Recently Started Services

The Recently Started Services user option allows you to specify how many recently started business services should be displayed in the **Recent** heading in the business service list.



Procedure

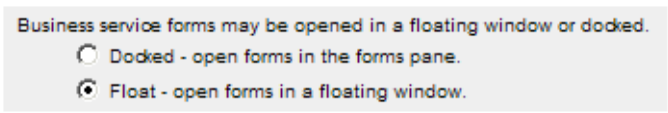
1. On the **Options** dialog, click the **Business Services** icon in the left pane.
2. In the **Recently Started Services** section, select a number (0 - 10) to specify the maximum number of business services you want displayed in the business service list:
3. Click **OK** to save the changes and close the **Options** dialog.

Business Service Forms

The Business Service Forms user option specifies the type of window in which business service forms are opened.

Procedure

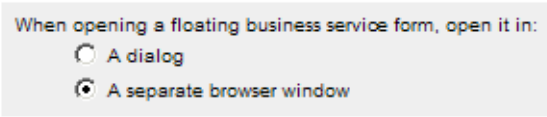
1. On the **Options** dialog, click the **Business Services** icon in the left pane.
2. In the **Business Service Forms** section, specify whether business service forms are to be docked in the right pane, or whether they should be floating.



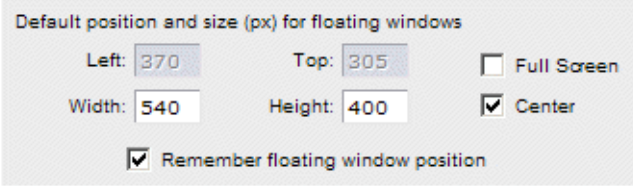
If you choose to docked the forms, there is no more to specify — you can proceed to step 7.

If you choose to float the business service forms, additional options and fields are displayed, allowing further specification of the business service forms — continue with the remainder of the steps.

3. Select whether you want business service forms to open in a dialog or a separate browser window:



4. Using the **Default position and size...** fields and check boxes, specify how you want the floating business service form positioned:



You can:

- check the **Full Screen** check box to make the floating window/dialog full screen,
- check the **Center** check box to center the floating window/dialog, or
- uncheck both boxes to position the floating window/dialog anywhere on the screen.

5. If you have checked the **Center** check box, or unchecked both **Center** and **Full Screen**, optionally enter values in the **Left**, **Top**, **Width**, and **Height** fields to specify the window/dialog position, in pixels.
6. Optionally check the **Remember Floating Window Position** check box to specify you want the system to remember the size and position of the window/dialog if you manually move it on your screen.

   If this check box is checked, the application will remember if you manually resize and/or re-position the window/dialog on your screen, and will size and position future floating windows/dialogs to that location/size. Note, however, that it will remember this only until you restart the application. Once it is restarted, the application will place floating windows in the size/position specified in the **Default position and size...** fields.

   If this check box is not checked, future windows/dialogs will all open in the position and size specified by the **Default position and size...** fields — it does not remember the size and location of windows you have manually resized/repositioned.
7. Click **OK** to save the changes and close the **Options** dialog.

Event Options

The **Event** user options affect how you view events in Workspace.

- Event Paging Model - Specifies whether or not a total count of events is retrieved from the server and displayed in the list of events.

Event Paging Model

The Event Paging Model user option is used to turn on or off the total count in the list of events. Turning off the count provides improved performance if there are a large number of events.

Procedure

1. On the **Options** dialog, click the **Events** icon in the left pane.
2. Check the **Retrieve Count of Events** box to cause the total count to be retrieved from the server and appear on the list of events. Uncheck the box to not retrieve the count.
3. Click **OK** to save the changes and close the **Options** dialog.

Appearance Options

The **Appearance user** options affect how components appear on the screen.

- Layout - Specifies the orientation and location of components on the Workspace screen.
- Font - Used to change the size of the font in the application.

Layout

This user option specifies which of the three layout schemes is used.

- **Side-by-side** - All lists are docked on the left and the right, and the view selection buttons are displayed in the lower left part of the screen.
- **Stacked** - All views are displayed on the top of the screen, as tabs, and work item, process instance, business service, and event lists are displayed on the bottom part of the screen.
- **Floating Windows** - All lists are displayed as floating windows. For each floating window, a button is displayed in the task bar, which when clicked, brings the corresponding window to the front.

For more information about screen layouts, see The Workspace Screen Layout.

Procedure

1. On the Options dialog, click the **Appearance** icon in the left pane.
2. In the **Layout** section, select the appropriate option for the layout you want to use.
3. Click **OK** to save the changes and close the Options dialog.

Font

This user option specifies the size of the font in the application.

Procedure

1. On the **Options** dialog, click the **Appearance** icon in the left pane.
2. In the **Font** section, choose the size of the font you want displayed.
   The font size in the **Font** section changes as you choose different font sizes so that you can see what it looks like; to see the change in the rest of the application, you must log out, then log back in.

   Also notice that one of the font size options is "Default". This selection causes the application to use the font size that is currently specified in the `workspaceCSS.xml` file. By default, the font size in this file is set to "Small," but it is possible that that file has been modified.
3. Click **OK** to save the changes and close the **Options** dialog.

4. Log out of the application, then log back in to have the change take effect.

Starting a Process

Processes are typically started via a business service — they are not normally started directly, although the ability to do that is provided.

Directly starting an instance of a process would normally be performed by an administrator. For that reason, the **Start Process Instance** button is not displayed in Workspace by default. For the button to be displayed, the logged-in user must have the appropriate user access privilege.

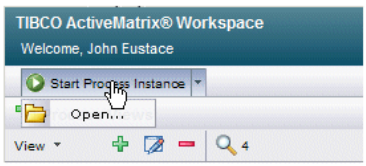
Starting an Instance of a Process

Starting an instance of a process results in initiating the first task of the process. This typically results in one or more work items being sent to one or more work lists.

The process instance is considered complete when the final task in the process is completed.

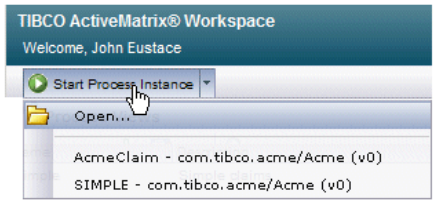
Procedure

1. Click the **Start Process Instance** button in the upper-left part of the Workspace screen:



   This causes an **Open** selection to appear in a drop-down menu.

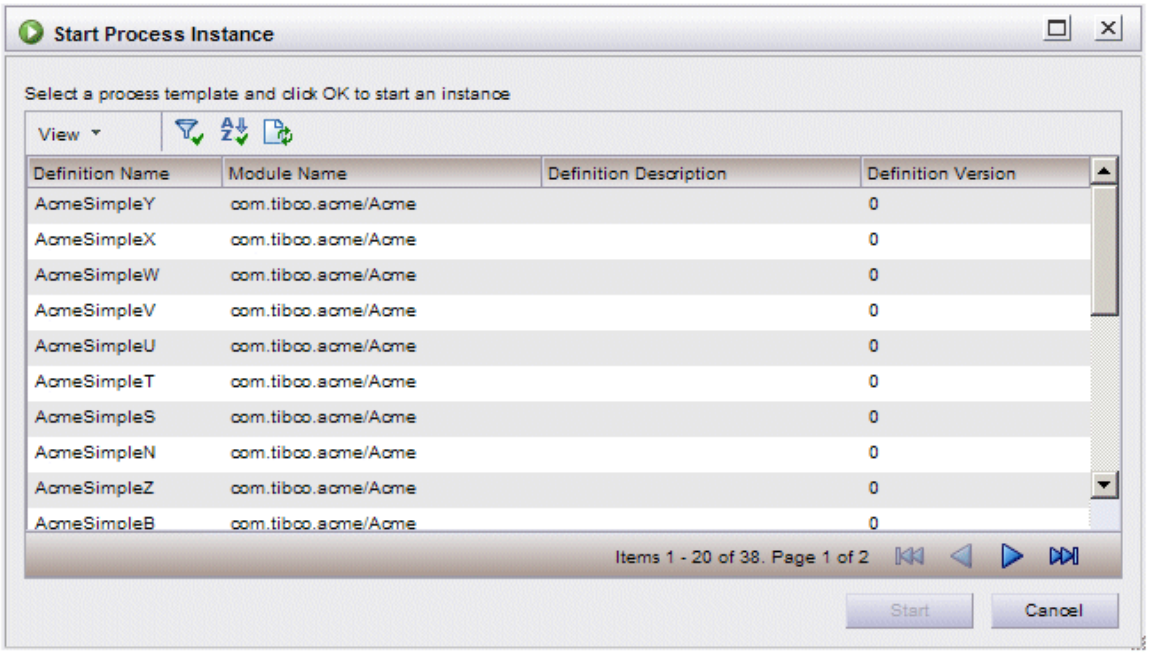
   Note that once you start an instance of a process template, the name of that template may also appear in the drop-down menu. For example:



   This allows you to more easily start an instance of a process template that you commonly work with.

2. Select the menu item **Open**.

   The Start Process Instance dialog is displayed:



This dialog lists all process templates to which you have access for starting instances.

Process templates that have start parameters are not shown in this list because those processes cannot be started directly — they can be started by business services, which will be supported in a later release of Workspace.

By default, the number of available process templates that can be listed is limited to 500. To increase this number, change the value of the property com.tibco.bx.management.queryMaxResultSize, as explained in the *TIBCO ActiveMatrix BPM Administration* guide.

If needed, you can refresh the list by either clicking the refresh button or by selecting **Refresh Processes** from the **View** menu.

3. Select the desired process template from the list by clicking it to highlight it.
4. Click **Start** to start an instance of the selected process template.

   The instance of the template is started, possibly causing a work item to be sent to one or more work item lists.

   This also results in an entry being added to your process instance list. From the process instance list you can view information about the process instance, including its progress through the process. For information, see Process Instance List.