TIBCO iProcess® Modeler

Basic Design

Version 11.10.0 | May 2025

Contents

Introduction

What's New

The 11.9.0 version introduces significant UI improvements for TIBCO iProcess Modeler. The earlier version had the **Step Definition** dialog box with four tabs (Definition, Address, Deadlines, and Status). In this release, the dialog box is replaced with a Properties pane that appears at the bottom of the page with three new tabs. The following tabs are newly added on the Properties pane:

- Duration
- Priority
- Options

For more information, see *TIBCO iProcess Modeler Getting Started Guide*.

Defining a Procedure

This section describes the different types of procedure objects you can use to define your procedure and how to link them together. Each procedure object performs a specific task such as displaying a form for a user to fill out or updating information on an external system.

Placing Procedure Objects

The TIBCO iProcess Modeler Tool Bar shows the different objects that are available to the procedure definer. These are:

Object		Description
Pointer		This is the default tool. It is used to select objects that have been added to a procedure. After selecting, they can be moved or deleted. Clicking an object in a procedure with the pointer tool displays the Properties pane.
Router		The router is used when you want a line to follow a particular route between two objects to improve clarity. When drawing a line between two objects, right-click to place a router at the cursor position. There is no toolbar icon for the router.
Complex Router		The complex router is a modeling object used to simplify complicated procedures. There are several ways of using the complex router. For more information see Using Complex Routers to Simplify Procedure Logic.
Step		The Step is the most frequently used object. It allows you to define a step to display, specify an addressee to whom the step should be sent, and optionally a deadline by which the step (work item) must be completed.

Object		Description
Script		Scripts can be created and run from the business process definition. For more information about creating scripts, see “Using Scripts” in *TIBCO iProcess® Modeler Advanced Design* guide.
Event		Events enable the flow of a case to be controlled and the data associated with it to be changed, externally to iProcess. For more information, see “Using Events” in the *TIBCO iProcess® Modeler Integration Techniques* guide.
Condition		A condition is a decision point in the business process. For example, in a form where approval has to be given or refused, the approval field can be interrogated and the business process will branch depending on the value of the field. For more information, see Defining a Conditional Action.
Wait		A wait is a synchronization point in a business process where parallel paths join together again. For more information, see Defining a Wait Action.
Stop		A stop indicates the end of that branch of the procedure, or the end of a branch of the procedure. It is optional but does help to clarify the business process definition in the iProcess Modeler.
Annotation		Selecting this object enables you to enter text to document your procedure.
Sub-procedure		The sub-procedure tool allows you to specify a call to a new or existing sub-procedure. For more information, see “Defining a Call to a Static Sub-Procedure” in the *TIBCO iProcess® Modeler Advanced Design* guide.
Dynamic Sub-procedure		The dynamic sub-procedure tool is used to specify a call to one or more sub-procedures. The sub-procedures that are run are only determined when a case of the procedure is run. For more information, see “Defining a Dynamic Call to Multiple Sub-Procedures” in the *TIBCO iProcess® Modeler Advanced Design* guide.

Object		Description
Graft		The graft tool is used when you want to start sub-procedures from an external application and attach them to the main procedure. For more information, see *TIBCO iProcess® Modeler Integration Techniques* guide.
EIS Report		The EIS Report allows you to define a report based on the field values held in the cases of your procedure. For more information, see *TIBCO iProcess Workspace (Windows) Manager's Guide*.
Start		The Start object is not on the tool bar but is always present when you open the TIBCO iProcess Modeler. It indicates the start of the procedure.
EAI Step		The Enterprise Application Integration (EAI) step enables you to interact with third party software systems such as relational databases or legacy systems. Different types of EAI step are used to interact with specific applications, for example, the SQL EAI step is used to interact with a SQL Server. For more information, see "Using EAI Steps" in the *TIBCO iProcess® Modeler Integration Techniques* guide.
Align Horizontal		The Align horizontal tool horizontally aligns all selected objects with the currently focused object.
Align Vertical		The Align vertical tool vertically aligns all selected objects with the currently focused object.
Layout Procedure		The Layout Procedure tool changes the chart orientation from left-to-right to top-down.
Snap		The Snap tool snaps the selected objects to the nearest grid square.

Selecting Objects

You can click an object with the pointer tool to select a single object. To select multiple objects, lasso the objects by clicking and dragging the cursor over the objects. You can also select multiple objects using the **Ctrl** key. Select an object, then hold the **Ctrl** key while you click the next object. Both objects are selected.

Editing Objects

The following table contains a list of edit commands and descriptions.

Command	Description
Copy	Select one or more objects in the procedure and click  or **Edit > Copy**. The selected items are copied to the clipboard.
Cut	Select one or more objects in the procedure and click  or **Edit > Cut**. The selected items are removed from the procedure and placed on the clipboard.
Paste	After selecting the items and clicking  or  , click  , then click the target location in a procedure and the selected items are pasted. To cancel the **Paste** operation, press **Escape**. Depending on the number of steps being pasted and the type of conflicts that occur, a Wizard might be displayed to guide you through the **Paste** operation.

If you want to move the object, select one or more objects in the procedure and drag the selected objects to the new location within the procedure. To cancel the **Move** operation, press **Escape**.

Defining a Step

You can define the details for your step, for example, the step name, who it is sent to, and a deadline action if required. Based on the selected step type, different set of tabs are displayed on the Properties pane.

The Properties pane contains the following tabs:

- Definition
- Addressees
- Status
- Deadlines
- Duration
- Priority
- Options
- Audit Trail
- Delayed Release
- Input
- Output
- Template
- Annotation
- Icon
- Error Handling
- Data File
- Access
- Data Viewer

Defining the Step Definition

In the Properties pane, on the **Definition** tab, you can define the step name, a step description, and provide access to the form designer.

To define the step object, perform the following steps:

1. Enter the **Name** to define the name for the step object.

   It does not matter if you use lower or upper case for the name as iProcess automatically converts it to upper case. The name can be a maximum of 8 alpha-numeric characters with no spaces.

2. Enter the **Description**, which can be up to 24 characters. The description remains in lower or upper case just as you type it.

   (Optional) Enter a further description in the **Extended Description** field. This can be up to 24 characters.

Note: The step is incomplete (a yellow warning signal is displayed on the step) if certain step details are not entered - for more information, see Troubleshooting Procedure Definitions.

Linking Procedure Objects

The link tool is automatically selected when you move the cursor near an object that supports links. To cancel a link operation, press **Escape**.

The way in which you link procedure objects dictates the action that is carried out in a procedure flow. In some circumstances, you might want a procedure map to flow from right-to-left or top-to-bottom instead of the default flow of left-to-right. In a horizontal (left-to-right) procedure flow (unless the object side is already used for a different purpose):

- A release action link can be started from the right or left side of an object.
- A deadline action link can be started from the bottom or top of an object.
- A process step link can be ended on the left or right side of an object.
- A withdraw step link can be ended on the top or bottom of an object.

In a vertical (top-to-bottom) procedure flow (unless the object side is already used for a different purpose):

- A release action link can be started from the bottom or top of an object.
- A deadline action link can be started from the right or left of an object.
- A process step link can be ended on the top or bottom of an object.
- A withdraw step link can be ended on the left or top of an object.

When you move the cursor to the side of an object, the default link action appears as a tool tip (after a short delay). To override the default, press the **Alt** key. When ending a link, you can override the default end-of-link type by pressing the **Shift** key.

Each type of link is described fully in the following sections. For more information, see Working with Links.

A Normal Link

In a normal link, the second step is an action that is carried out when the first step is released.

A Withdraw Link

A withdraw link means that the step being connected to is withdrawn from the work queue. For example, you might have two steps that are sent out in parallel but only one needs to be actionable and released. In that instance you can use a withdraw link to withdraw the second, now superfluous, step. For more information, see Defining a Withdraw Action.

A Deadline Link

When you have a step that a user must release by a certain date and time or within a specific time period, you can put a deadline on the step so that another action (step) is carried out if the deadline expires. See Defining a Deadline.

A Deadline Withdraw Link

Combining a deadline and a withdraw link allows you to withdraw a step when a deadline expires.

Routing the Business Process

Routing the business process tasks is achieved by the use of addressees. There are different types of addressees that you can use to route the business process.

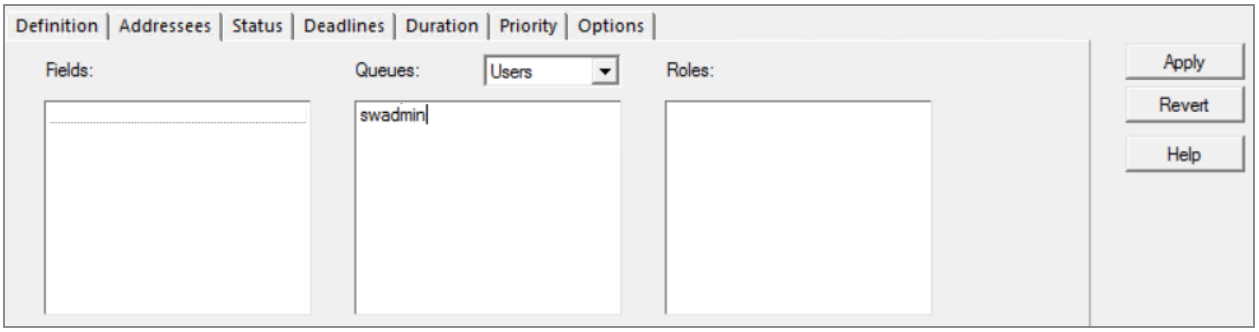
Every step that is to be delivered to a work queue must have an addressee. The addressee is the user who is responsible for completing the work item.

Assigning Addressees

For a detailed explanation of how to assign an addressee to a step, see the *TIBCO iProcess® Modeler Getting Started* guide.

Single-User Addressees

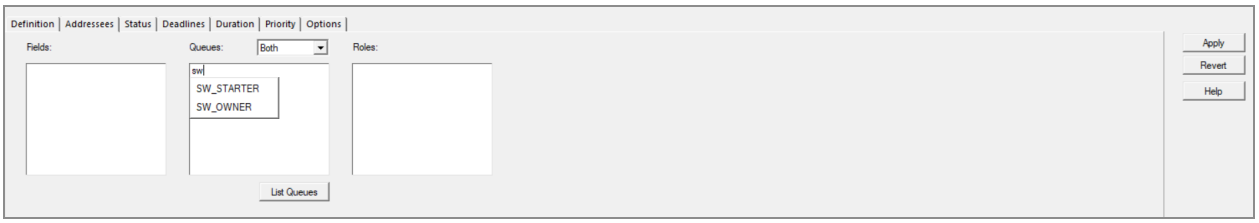
A step can have a single addressee.



If you want a step to go to one specific user, enter a user name in the **Queues** column.

- The new **Addressees** tab provides an elastic search capability, for Fields, Queues, and Roles. As you start typing in the row, iProcess Modeler filters the list that matches the entered first 'n' characters. However, you are expected to enter minimum two characters in the row. If you provide a single character, no list of suggestions is displayed.
- The User List is now called Queues, because it always allows you to enter both User and Groups. But, you can further refine the elastic search capability to filter BOTH (Users and Groups), just Users, or Groups.

  For example, if you have a series of queues, USER1, USER2, USER3 and USERGROUP1 and USERGROUP2. If you had the filter set to BOTH, and enter the text USER, it would list all 5 queues, but if set to User, it would only display the USER 1-3 and if set to Groups only the 2 USERGROUP queues.
- You also have a saved "Lasted used list", which pops up the most frequently or recently used queues when you first start.



You can use the special assignment of **sw_starter**. This option routes a work item to the user who started that particular case.

Note: Users must have been previously added to the iProcess installation. You can do this using the **User Manager** in the TIBCO iProcess Administrator. For more information, see “Managing iProcess Users” in *TIBCO iProcess Workspace (Windows) Manager’s Guide*.

Multiple User or Group Addressees

If you have a step that you want to send to more than one user, you can either use groups or multiple users.

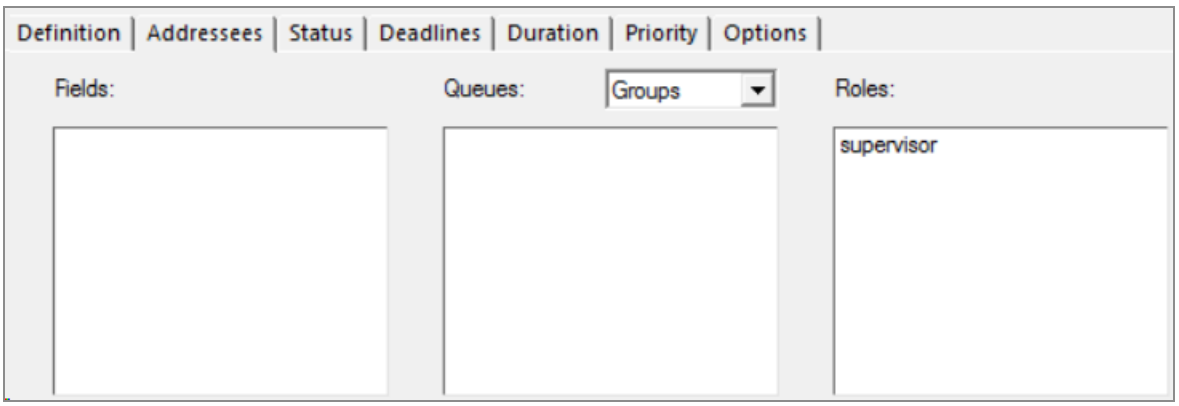
Note: Like users, groups must have been previously added to the iProcess installation.

For multiple users, enter all the user names in the **Queues** column. A copy of the step is sent to each listed user. This can be a useful way of sending the same information to a number of people. Each user is responsible for releasing their copy of the work item and the procedure only progresses when `all` users have released the work item.

Alternatively, a group can be entered in the **Queues** column and the work item is sent to that group queue. For more information on how to set up a group, see the “Managing Groups” topic in *TIBCO iProcess Workspace (Windows) Manager’s Guide*. When a work item goes to a group queue, any member of the group may open the work item, complete any input fields and release it. When the work item is open, it appears as a disabled entry in the group queue of the other group members who are prevented from opening the item. Once the work item is released, it disappears from the other members’ group queues.

Roles

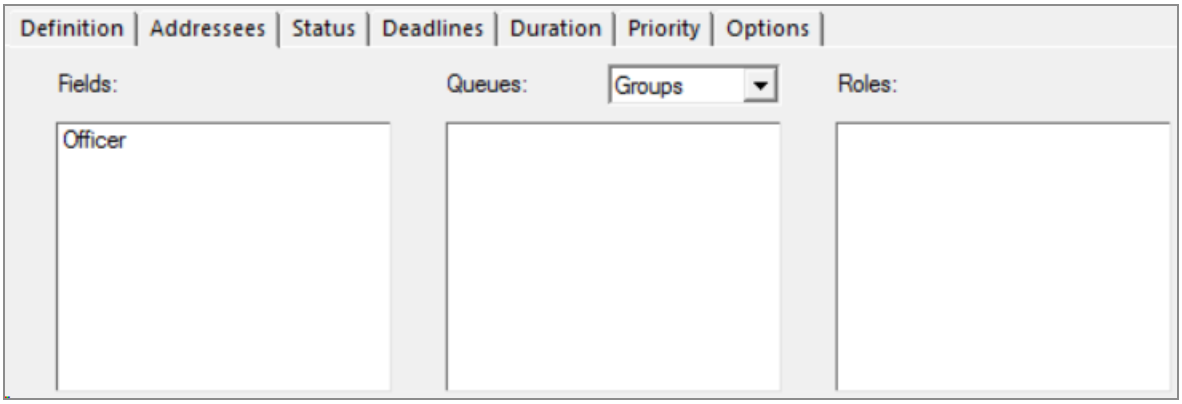
A role is a job title or function and is unique to a particular user or group. A step can be addressed to a role as shown in the following example. Multiple roles can be entered in the **Roles** column.



It is often better to specify a role rather than a particular user name so that if a user leaves the company or is promoted, it is not necessary to amend the procedure as the work items automatically are sent to the new user who holds that role. For information on how to assign roles to users, see “Managing Roles” in *TIBCO iProcess Workspace (Windows) Manager’s Guide*.

Fields

You can incorporate a field into your procedure so that the name of a user, group or role can be entered into the field at runtime or calculated by the procedure. That field can then be used as an addressee in subsequent steps to decide the routing of the business process. As for users and roles, multiple fields can be entered in the Fields column.



This is called dynamic routing, or variable addressees, as it gives you the flexibility to route a step based on case data instead of using hard-coded addressees.

Note: A field can contain a comma-separated list of addressees.

Defining Step Options

The following sections describe the step options you can configure for each step in your procedure on the **Options** tab:

- Enabling Steps to be Forwarded
- Enabling the Contents of a Form to be Copied
- Stop Work Items Being Deleted on Withdraw
- Preventing a Case from Being Suspended
- Using a deadline for Duration
- Excluding as a Future Workitem, but using Duration in the calculation

Based on the selected step type, the check boxes on the **Options** tab are enabled.

Note:

- The **Forward** and **Edit** permissions, **Don't delete work items on withdraw**, and **Ignore Case Suspend** check boxes were earlier present on the **Status** tab.
- The **Use Deadline for Duration**, **Don't include as a Future Workitem, but use Duration in the Calculation**, **Use Sub-Procedure step duration for prediction**, and **Include Sub-Procedure steps in prediction list** check boxes, which were earlier part of the **Duration** tab are now available on the **Options** tab.

Information about setting the step priority is described in “Setting Priority at Step Level” in the *TIBCO iProcess® Modeler - Advanced Design* guide.

Enabling Steps to be Forwarded

If you want to enable users to forward a step to other users, you need to enable the Forward permission for that step:

1. Select the Step and click the **Options** tab.
2. Select the **Forward Permission** check box.

When **Forward Permission** is checked, the user who receives this work item in their queue may forward it to another user. For more information on forwarding work items, and the QSUPERVISOR and USERFLAG attributes that need to be used to define the correct user permissions, see “Forwarding Work Items from a Queue” in *TIBCO iProcess Workspace (Windows) User’s Guide* and *TIBCO iProcess Workspace (Windows) Manager’s Guide*.

Enabling the Contents of a Form to be Copied

If you want to enable users to copy the entire contents of a form for a work item they receive, you must enable the Edit permission for the step:

1. Select the Step and click the **Options** tab.
2. Select the **Edit Permission** check box.

Users can now copy the form contents (including field data).

Stop Work Items Being Deleted on Withdraw

Click the **Options** tab, select the **Don’t delete work items on withdraw** check box. If this option is checked, and the deadline on an outstanding step expires or it is withdrawn as an action (release or deadline expire) of another step:

- the deadline actions are processed.
- the step remains outstanding (the step remains in the work queue or the sub-procedure case is not purged).
- when the step is released (or the sub-procedure case completes) the normal release actions are not processed but the case field data associated with the release step (e.g. the field values set in a normal step whilst in a work queue or the output parameters of a sub-case) is applied to the main case data.

Preventing a Case from Being Suspended

On the **Options** tab, the **Ignore Case Suspend** check box determines whether or not the step is still processed when a case is suspended by an iProcess Objects or SAL application:

- If **Ignore Case Suspend** is not checked (the default option), the step is `not processed` while the case is suspended. This means that:
  - work items generated by the step are marked as unavailable and cannot be opened (until the case is re-activated).
  - deadlines on work items generated by the step are not processed. The date and time at which deadlines are due is not affected, and deadlines continue to expire. However, no actions are processed when a deadline expires. When the case is re-activated, any expired deadlines are immediately processed.
- If **Ignore Case Suspend** is checked, the step is `still processed` as normal while the case is suspended. This means that:
  - work items generated by the step can still be opened.
  - deadlines on work items generated by the step are still processed.

Cases can only be suspended and re-activated from an iProcess Objects or SAL application. Audit trail messages indicate whether a case is active or suspended. Refer to the iProcess Objects documentation for more information about suspending cases.

Creating Fields and Forms

This section describes how to use and create fields in iProcess and then use the Process Step Definer to create forms.

About iProcess Fields

Fields are used in iProcess to store business data related to a case of a procedure such as customer names, order values and stock items. The data can be manipulated by iProcess as the case progresses - for example, adding fields together to get a total price of an order or concatenating the contents of a surname field and a forename field.

There are a number of iProcess system fields already defined (such as SW_STARTER and SW_CASEDESC) but you need to create fields that are relevant to the information you need to capture in your process. For example, if you are capturing order details, you will need to create fields for the customer's name, account number, delivery address, order value, and so on.

These fields can be added to a form which the user completes when they receive the work item in their work queue. After releasing the work item, the data stored in the field is saved.

There are two types of field you can use: `single instance` or `array`. A single instance field is a field that contains just one element of data - for example, a name. An array field can contain multiple elements of data - for example, 10 names.

What are Single Instance Fields?

For the majority of fields you create, you can use single instance fields. This means that just one data element is stored in the field. For example, in a field that you have defined called CUSTNAME, a name of Jane Doe could be stored in one case. You can use expressions and functions to manipulate field data, for example, concatenating data or summing totals.

What are Array Fields?

Array fields are defined in the same way as single instance fields but they enable you to store more than one piece of data in them. For example, an array field called CUSTNAME could store the names of several customers instead of just one.

When using dynamic sub-procedure calls and graft steps, you need to use array fields to provide the multiple data elements required for each sub-case that will be started. For example, you might have a procedure in which a separate sub-procedure needs to be run for each type of account the customer has. During a case of the procedure, the customer indicates that they have three accounts so the ACCOUNT array field will be populated with the names of the three accounts.

If a dynamic sub-procedure call has been defined so that one sub-procedure is run for each account that a user holds, three sub-cases will be started. Each sub-case is passed a unique account number from the ACCOUNT array field.

For more information about array fields, see “Using Array Fields” in the *TIBCO iProcess Modeler - Advanced Design* guide.

Defining Fields

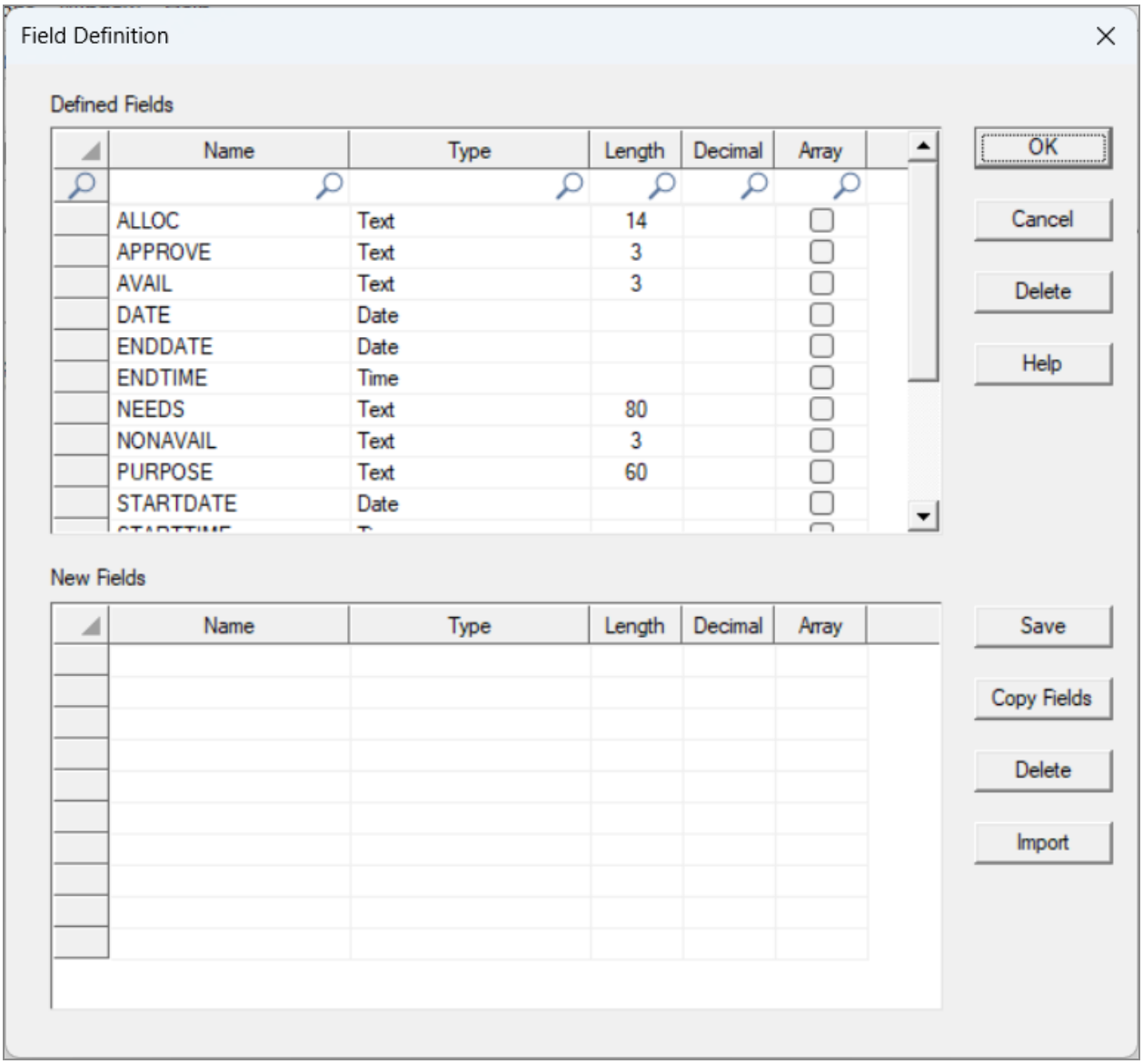
A field must be defined before you can use it in forms, scripts, EAI steps, and so on. You can define your fields from the TIBCO iProcess Modeler before creating individual steps in your procedure, or you can create fields as you need them when creating forms. To define a field:

1. Click **Field > Definition** in the TIBCO iProcess Modeler (or **Field > Define...** from the Process Step Definer).

   The **Field Definition** dialog is displayed showing the **Single Instance** tab.

- **Defined Fields**: In the defined fields section, you can see already defined fields.
- **New Fields**: In the New Fields section, you create fields of a procedure.

  To define New Fields, continue to step 2.



2. Navigate to the **New Fields** section. In the **Name** field, enter the value/name. Please note the following:

   — Field names can be up to 15 characters long and can contain letters, digits, and underscore characters but they must start with a letter. Field names are converted to uppercase irrespective of how they are originally entered.

   — Do not create a field with the same name as a system field (for example, SW_CASEREF). iProcess does not allow you to select the new field or use it in your form as it always defaults to the original system field.

Note: It is not possible to change an existing field between a **single instance** and an **array**.

3. Select **Type**. The available options are:

Field Type	Description
Text	Any characters can be entered up to the length you select (maximum 255 characters).
Numeric	Any number, positive or negative, up to the length and number of decimals you select (maximum length 18 including decimals, decimal point, and sign, with no more than 8 decimals).
Comma Separated Numeric	As numeric , iProcess automatically displays commas to separate the thousands, for example 1,234,567.89.
Date	A date, defaulting to the format dd/mm/yyyy although this can be changed by your iProcess Administrator. **Caution:** You must change the date format before cases are started. Doing so while the system has live case data corrupts the data.
Time	A time (24-hour clock) in the format hh:mm
Memo	Large amounts of text (stored in a separate file).
Composite	The field refers to an iProcess Table, which is selected in the Tables box. (Creating a composite field creates an instance of that table's record definition within the procedure, from which table sub-fields can be accessed.)

4. If you want to change the field length, click the **Length** box to modify the value of the Length column.

5. Select **Decimal** to input decimal values.

   > **Note:** A decimal value includes the decimal point and decimal places. For example, a length of 8 with 2 decimal places gives us 00000.00.

6. Select **Array** checkbox to define the array field. For more information about array fields, see Using Array Fields in the *TIBCO iProcess® Modeler - Advanced Design guide*.

- Click the **Save** button to save the field to the Defined fields section. The newly added field is displayed in the blue color.
- When you click **Save**, the system moves the newly created field row to the defined fields section.
- When you want to create a batch of fields with same **Type**, click **Copy Fields**.

  > **Note:**
  > - You must add the field row and use the **Copy Fields** option before you click **Save**.
  > - The field name with the same data type is only applicable for **Copy Fields**.

- Select the field row and click the **Delete** button, to delete the field from the New Fields dialog.
- Select the **Import** option to import the field data to the New fields section using the following source types:
  - CSV Field List: The following data types are available in CSV: Number, String, Date, Time, Month, Weekday.
  - CSV Data: The CSV data source allows you to upload a comma-separated value (CSV) file of information
  - Database: For Database source type, there are different ways to configure for individual database type namely SQL, ORCL, and DB2.
  - Excel Field List: For Excel Field List source type, you can define and map column headers from an Excel sheet.
  - Excel Data: For Excel Data source type, you can configure data ranges and rows from an Excel file.

- JSON Data: For JSON Data source type, you can configure structured data from JSON files or APIs.
- Procedure: The data from existing procedures are being used.

Creating a Form

You can find detailed information on how to create a basic form in the *TIBCO iProcess® Modeler Getting Started* guide.

This section looks in more detail at the functionality available to you as the form designer, including:

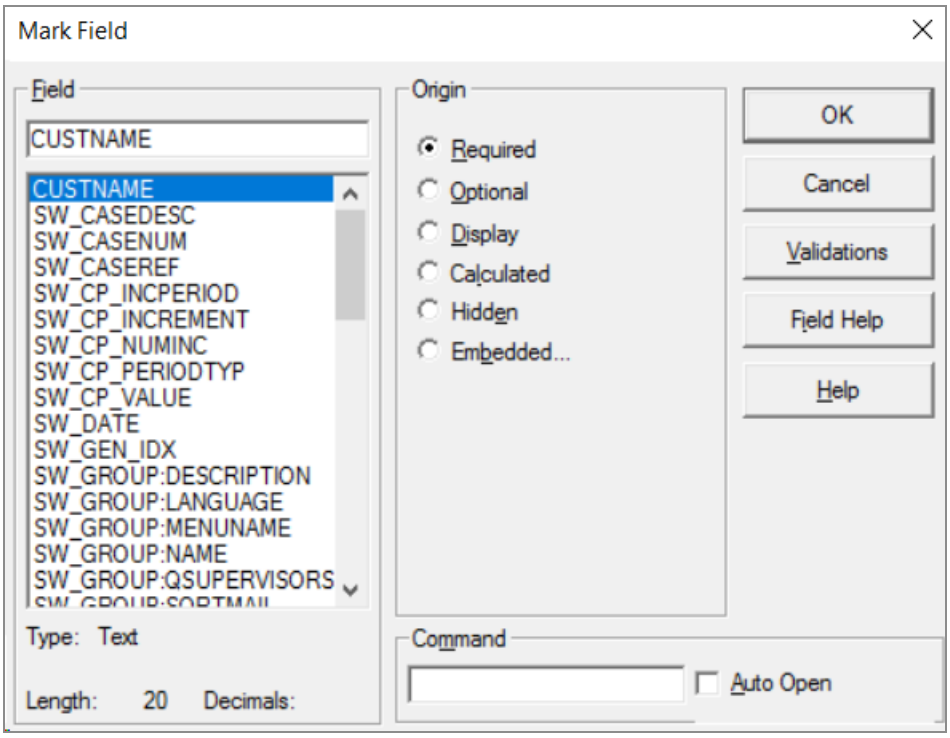
- inserting fields into forms
- editing marked fields
- defining field help
- using embedded and ampersanded fields
- application fields
- removing fields from forms
- using conditional text
- inserting use files
- using form commands
- editing forms

Inserting Fields into Forms

To insert a field in a form:

1. In the Step Definer, place the cursor where you want the field to appear.
2. Click **Field > Insert**.

   The **Mark Field** dialog box is displayed.



3. Select the field type you want to use from the **Field** list.
4. Select the **Origin** of the field. The origin defines how the field is going to be used in the form. The origins are:

Origin	Meaning
Required	The user must fill in this field. If a Required field is not completed the form cannot be released. In TIBCO iProcess Workspace (Windows) required fields appear on the form in red.
Optional	The user can enter information into this field but does not have to. The form can be released without an optional field being filled in. Optional fields appear in blue (white at run time).
Display	The current value for the field is displayed in the form but it cannot be changed.
Calculated	A value for the field is calculated and displayed based on a specified calculation.

Origin	Meaning
Hidden	A value is calculated but not displayed in the form.
Embedded	Displays the value of the field (but not any remaining spaces up to the length of the field). This origin is often used in letters as at run time it appears as part of the form body rather than a field. See Using Embedded and Ampersanded Fields.

5. Depending on the field origin you have selected, click the following buttons:
   - **Validations**, which allows you to limit the data the user can input for Required or Optional fields. See Using Field Validations.
   - **Calculations**, which allows you to define the calculation used to calculate the value of a Calculated or Hidden field. See Using Field Calculations.
   - **Field Help**, which allows you to define help text that the user can display to help them fill in the field. See Defining Field Help.
6. If you want to define a command that runs when the field is opened, enter it in the **Command** section.

   If you also click the **Auto Open** check box, the command runs automatically when the user presses ENTER or moves off the field after changing its value.
7. Click **OK** when you have finished. The field is displayed at the cursor position.

Editing Marked Fields

To edit a marked field from the Step Definer, do the following:

1. Click **Field** > **Modify** or double-click the field box.

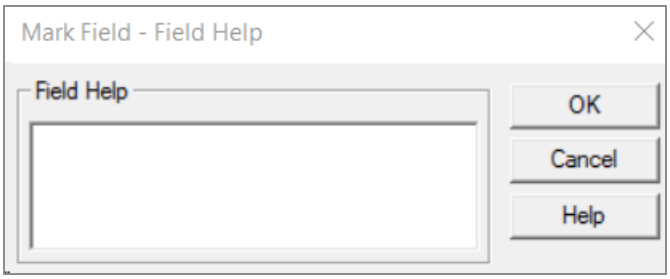
   The **Mark Field** dialog box is displayed.
2. Make any changes required and click **OK**.

Defining Field Help

When you add a field that is **Required** or **Optional**, you can enter help text that the user can display for assistance when they are filling in the field.

1. From the Process Step Definer, click **Field** > **Insert** (or **Field** > **Modify** if you have already inserted your field).
2. In the **Mark Field** dialog box, click **Field Help**.

   The **Mark Field - Field Help** dialog box is displayed.



3. Enter your Help text and click **OK**.

The field is displayed on the form with a Help button  at the end of it. At run time, the user can click this button to display the Help text.

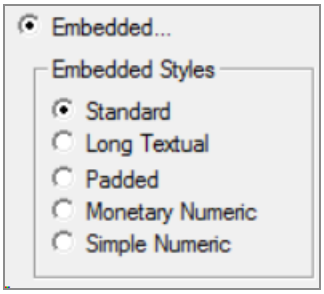
Using Embedded and Ampersanded Fields

Within your procedure you might want to include a memo to a colleague, or a letter to a customer or supplier. You might want to include some of the information that is held in the fields of your procedure, but you don't want it to appear as a form. In this circumstance, you can use embedded fields.

To use embedded fields in your form:

1. In the Step Definer, click **Field > Insert**.
2. Select the field and choose an origin of **Embedded**.

On selecting **Embedded**, an additional pop-up allows you to select the style option.



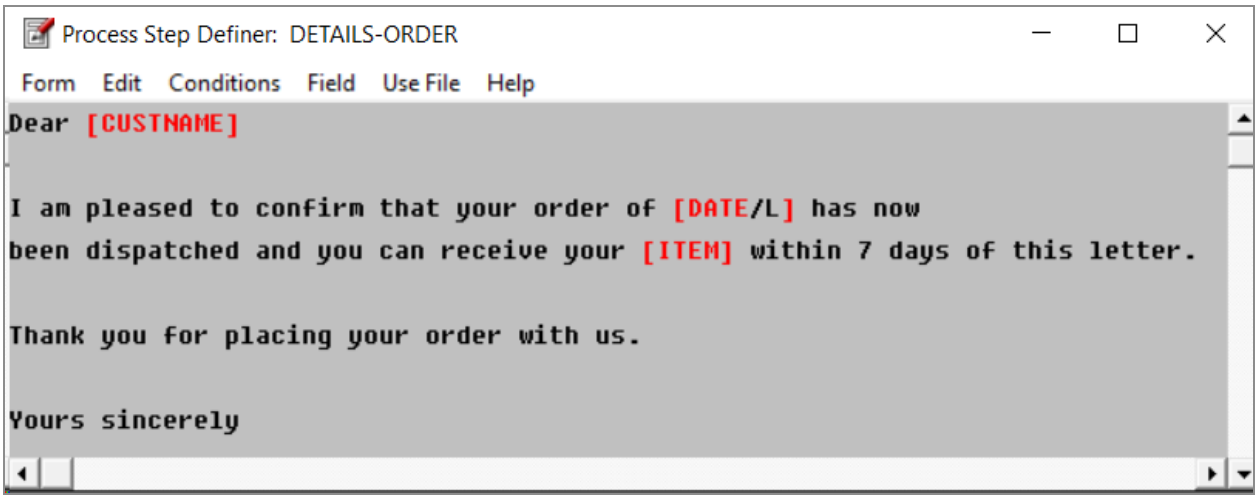
The following options available are dependent of the field type.

Field Type	Description
Standard	All types: appears like Display but without padding or justification.
Long Textual: /L	The following types are available: • Numeric: 120 is shown as **one hundred and twenty** • Date: 31/03/2000 is shown as **31st March, 2000** • Time: 23:30 is shown as **11:30 pm**
Padded: /P	The following types are available: • Text: Left justified • Numeric: Right justified
Monetary Numeric: /M	Numeric only: 12.34 is shown as **twelve pounds and thirty four pence** (or with different currency units according to your system configuration) See Changing the Currency Unit for more information.
Simple Numeric: /N	Numeric only: 120 is shown as **one two zero**

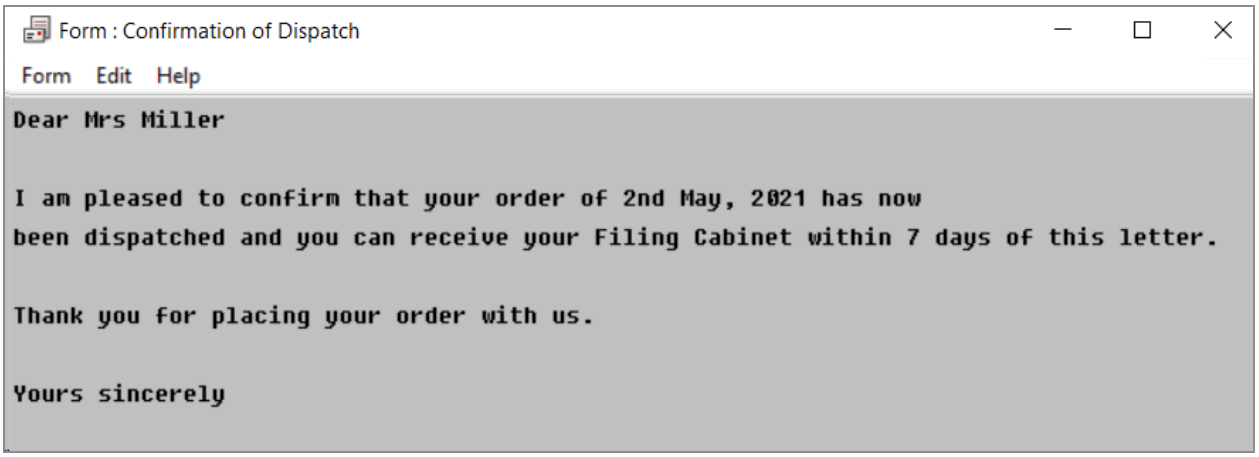
As an alternative to marking an embedded field you can type the field name within ampersands (&). You can use the style options by typing / and the style abbreviation, for example /P for padded.

In the example above we have three ampersanded fields, custname, date, and item.

When you re-open the form after saving it you can see that iProcess has converted any field names you typed in to red field names in square brackets.This is how embedded fields appear.



At run time, the form appears as follows:



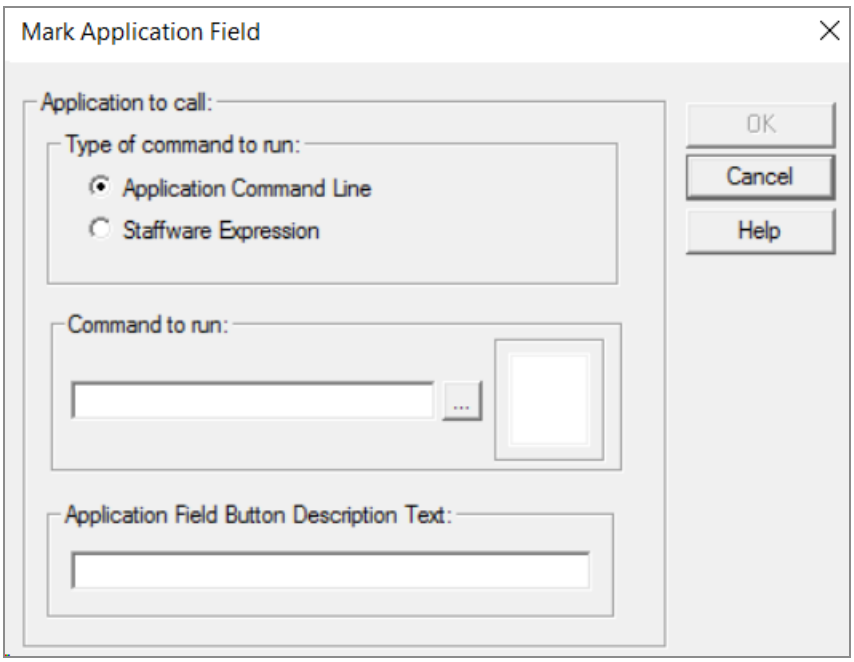
In this example, the fields Customer, Date, and Item contain the values of Mrs Millard, 3rd June 2001 and Filing Cabinet, which all appear as if they have been typed directly into the letter.

Marking Application Fields

You can use **Application Fields** when you want the user to launch a program from within a form. When you mark an **Application Field**, you specify the program to be run and the text that appears on the button. When the user clicks the button, the program is run.

1. On your form, place the cursor where you want the **Application Field** to be displayed.
2. Click **Field > Insert Application Field**.

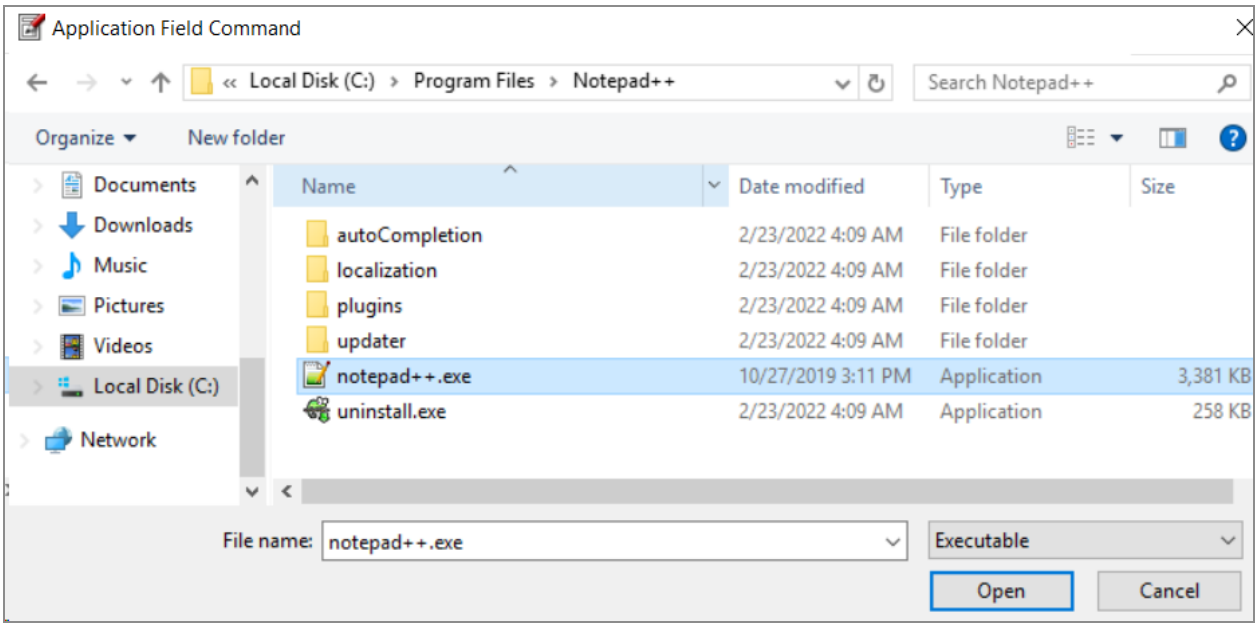
The **Mark Application Field** dialog box is displayed.



3. In the **Type of command to run:** section, choose:
   - **Application Command Line**, if you want to run a program.
   - **Staffware Expression**, if you want to run an iProcess expression or script.
4. In the **Command to run:** dialog box, enter the name of the program, iProcess expression or iProcess script that you want to run.

   If you are entering the name of a program, you can:
   - Enter a full pathname. The icon that appears on the button is displayed to the right of the pathname.
   - Enter a simple filename. The program must exist on the Windows search path.
   - Insert an iProcess field value in the command, by entering the field name in ampersand (&) characters. For example, the command **Notepad.exe &myfile&** would, at run time, open the file defined by the value of the MYFILE field.
   - Click ... to select a program by browsing through your folders.

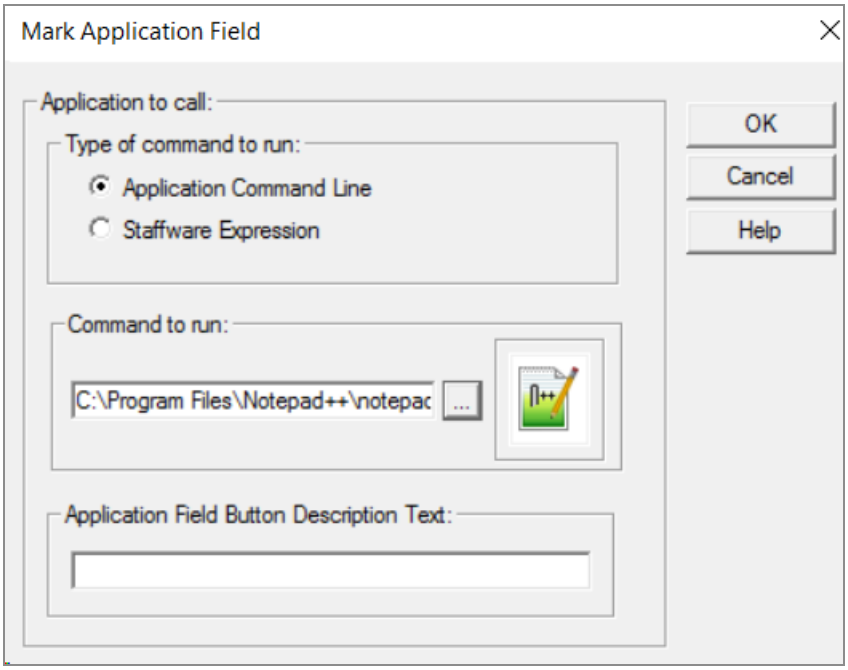
     This opens the **Application Field Command** window that enables you to browse through your computer's file structure to locate the program you want to run.



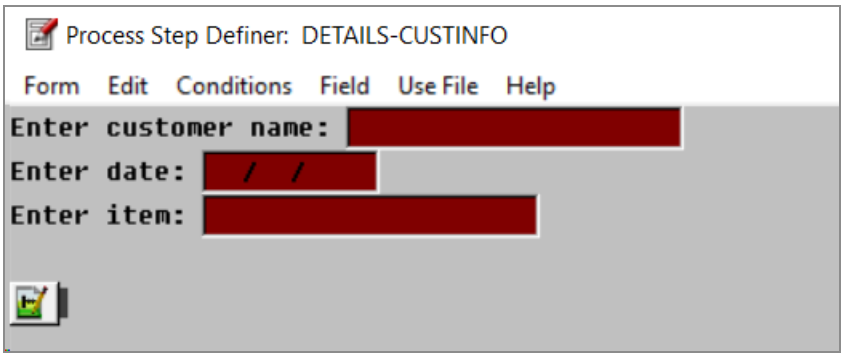
When you have located the program you want to run, click **Open** and you are returned to the **Mark Application Field** dialog box.

The path to the program you want to run is displayed in the **Command to run** dialog box.

5. You can now enter any **Description Text** you want displayed on the application field button so that the user knows which program will be run.



6. Click **OK**. The **Application Field** button now appears on your form.



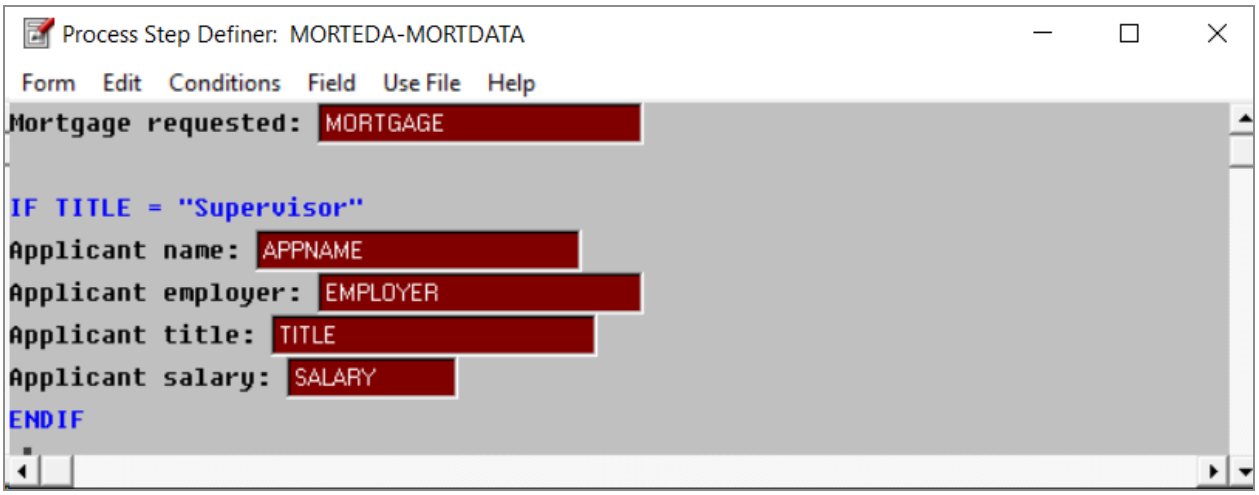
Removing Fields From Forms

To remove a field from a form, click on the field and press Delete.

Note: This does not delete the field from the list of defined fields. It only deletes this particular field marking. If you want to remove a field from the field definition list, you need to open the **Field Definition** dialog box and delete it from there - see Inserting Fields into Forms for information about the field definition dialog box.

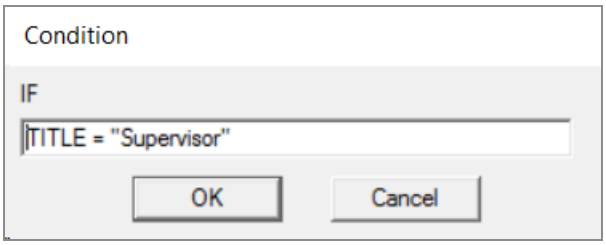
Using Conditional Text to Dynamically Change a Form

You can change how the form appears to the user dynamically, based on the information that is entered into the fields. For example, on a loan application form, if the salary of the first applicant is not sufficient for the mortgage requested, then a second applicant's details must be entered. At run time, the section asking for the second applicant details are only visible if the condition equates to true.



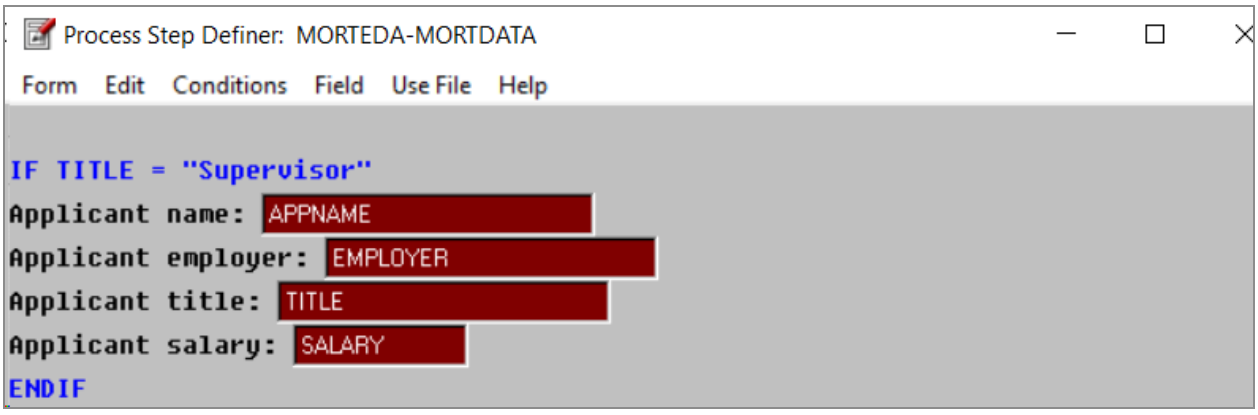
To enter a text condition on your form:

1. Click **Conditions > Insert** menu, then click **IF**.
2. Enter the condition and the label in the dialog box and click **OK**.



Any valid expression can be entered. For more information about expressions, please see “Using Expressions” in *TIBCO iProcess Expressions and Functions Reference Guide*.

3. Enter into the form all of the text and fields that you want the user to see if the expression evaluates to true.



4. You can also enter an **ELSE** from the **Conditions** menu if you want to show alternative text and fields to the user if the condition evaluates to false. The construct would then look like this:

5. Finally, you must close the condition by choosing **ENDIF** from the **Conditions** menu.

You can nest IF.....ENDIF or IF.....ELSE.....ENDIF conditions one inside the other up to a maximum of 20 deep.

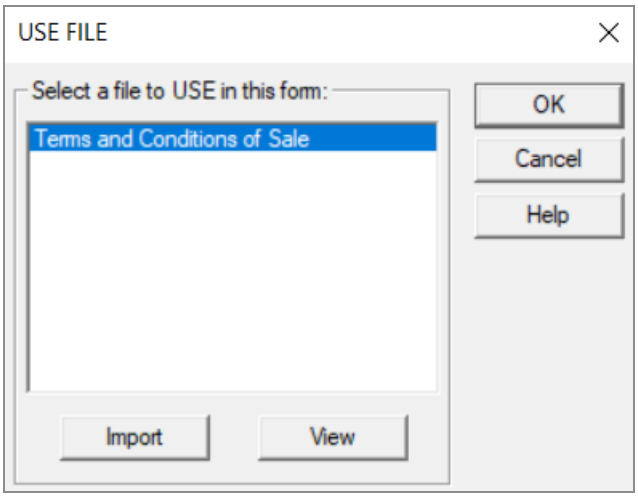
As nested conditions can become quite complex to follow, you can display the nesting levels at the side of the Step Definer form. For more information, see Nesting Level.

Inserting a Use File

Use files are text files that reside in a specific area on the TIBCO iProcess Engine and can be read into a form of a procedure whenever and wherever they are required. This means that the text can be created once in a word processor and read into as many forms as you like. It also means that the text only needs to be updated once and the latest version will always be used in the forms which makes the maintenance of procedures much easier and more cost effective.

To insert a **Use File**, do the following:

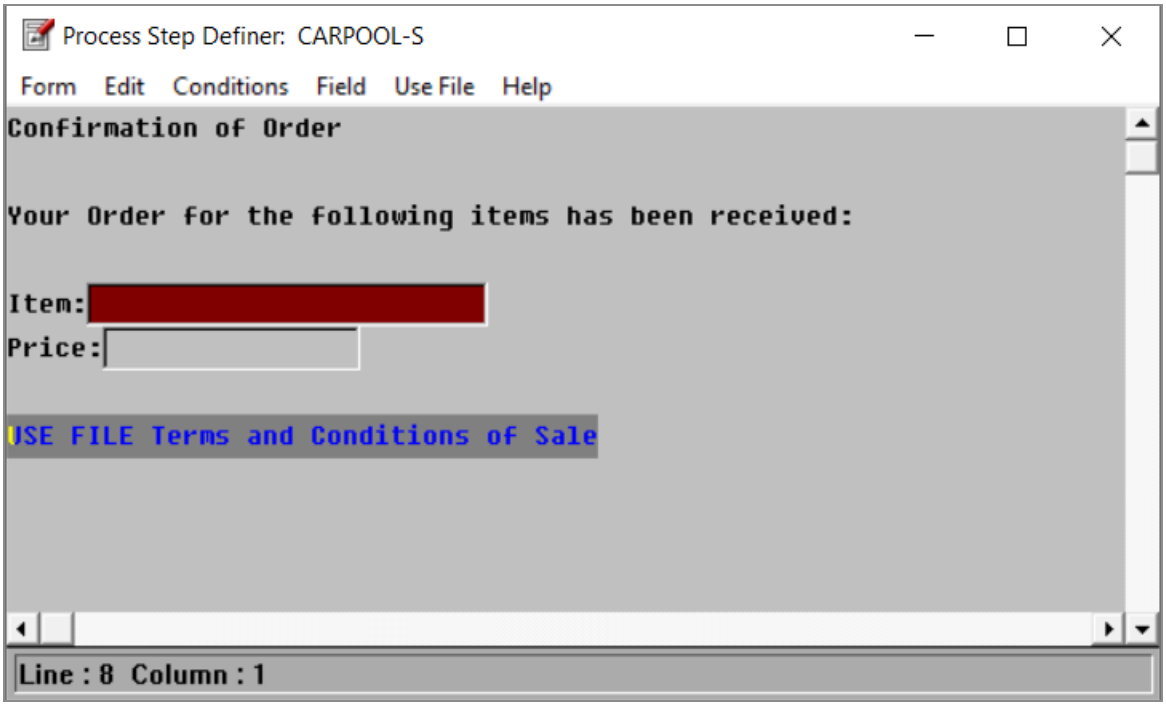
1. From the Step Definer, click **Use File > Insert**.
2. Choose the file you want from the dialog box and click **OK**.



To add another file to the list displayed, you need to **Import** it. Click **Import** and you can browse through your directory structure for the file you want.

If you want to look at the contents of a file before inserting it into your form, highlight the file in the list box and click **View**.

When you have inserted your Use file, it appears in your form.



When you have inserted your Use file, it appears in your form (in red) as the text:

```
USE FILE filename
```

where `filename` is the name you selected from the **USE FILE** dialog box.

At runtime, the contents of the file are displayed.

> **Note:** Use Files must be ASCII (plain text), can be up to 250 lines in length, and you can only show fields in the text by using Ampersanded Fields. See Using Embedded and Ampersanded Fields.

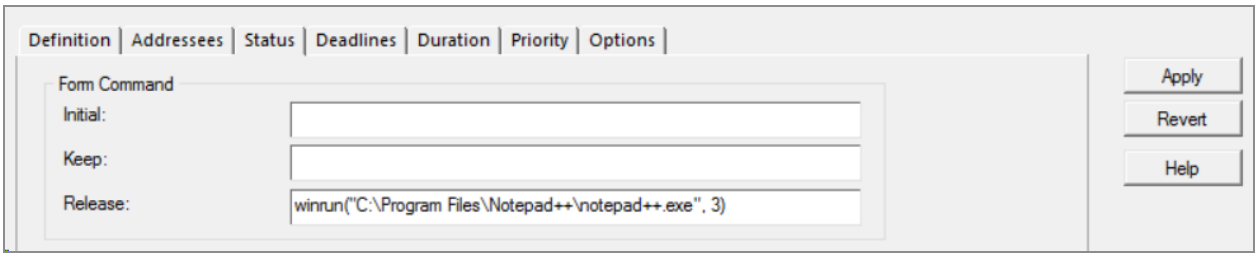
Using Form Commands

Form Commands are instructions to iProcess to execute a specific command at a given point in the procedure. As indicated by their name, Form Commands are attached to the form and there are three kinds.

Command Type	Description
Initial	This command is run when the work item form is opened from the user's Work Queue.
Keep	This command is run when the form is returned to the user's Work Queue.
Release	This command is run when the form is released.

You can define a Form Command on the **Status** tab.

Select the Step that you want to put a form command on, and click the **Status** tab on the Properties pane.



This example has a Release Command specified that calls a third-party application. An iProcess Command can be any iProcess expression, but usually is one of the following:

- A function call to run an **external program**, such as SERVERRUN to run a program on the Server, or WINRUN to run a program on the iProcess Workspace. For more information, see “Functions to Call External Programs” in *TIBCO iProcess Expressions and Functions Reference Guide*.
- A call to an iProcess **Script** in the format **CALL** ***(script1)***. For more information, see “Calling Scripts” in the *TIBCO iProcess Modeler - Advanced Design* guide and “CALL” in *TIBCO iProcess Expressions and Functions Reference Guide*.
- An **assignment** expression to give a new value to a field, for example:

  ```
  FIELD2 := SUBSTR (FIELD1, 1, 2)
  ```

  This would assign part of FIELD1 to FIELD2 when the command is run. For more information on assignment expressions, see “Using Expressions” in *TIBCO iProcess Expressions and Functions Reference Guide*.

Editing Your Form

You can edit text in a form by using the standard **Cut**, **Copy**, and **Paste** features. The selected text can include fields and can be copied within a form or to another form window. If you copy the selected text to another application such as a word processor, any fields are converted to field names.

Using the **Copy All** option from the **Edit** menu, you can copy the entire form and paste it into another form as part of the existing procedure or a different procedure.

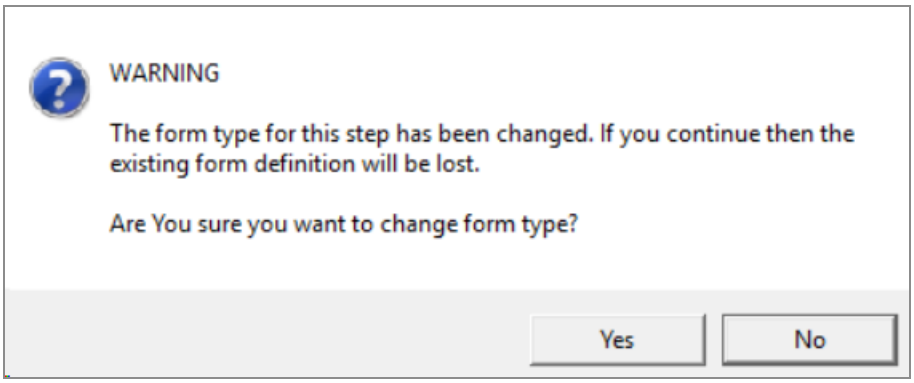
Note: You can copy and paste forms between different procedures. If fields marked in the source form do not already exist in the destination procedure they are automatically created. If fields already exist but have conflicting types, a warning dialog box is displayed and the field are not marked in the copy.

Changing the Form Type of a Step

Warning: If you change the form type of an existing step from **iProcess Form** to **Formflow form (FORMFLOW)** or vice versa, then the existing form definition is lost.

To change the form type of a step:

1. Click the step. The Properties pane is displayed.
2. From the **Form Type** drop-down list, select a new form type and click **Apply**. The following warning is displayed:



   Click **Yes** to save the step with a new form type or **No** to return to the Properties pane.

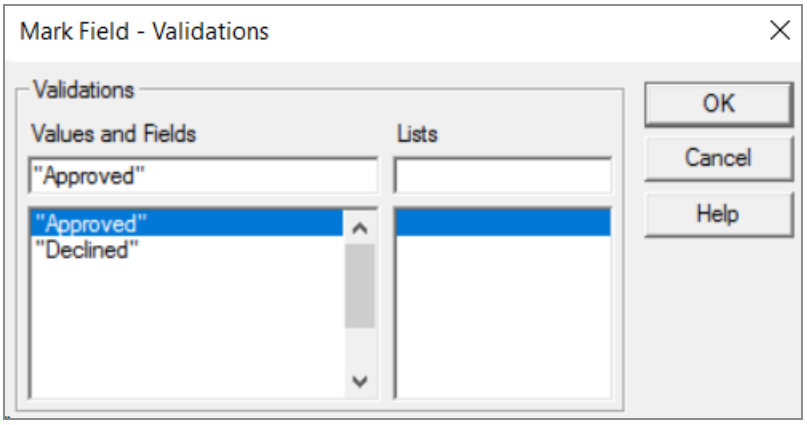
Controlling Data Input On Forms

This section explains how to control data input on your forms.

Using Field Validations

When you define a field that is **Required** or **Optional**, you can enter validations so that the information the user enters is limited to certain options that you can select from a drop-down list.

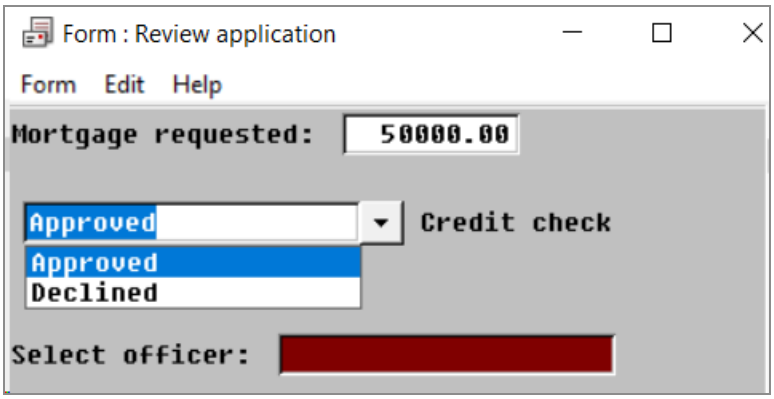
From the **Mark Field** dialog box, choose **Validations**.



In the example above, two possible values have been entered, “Approved” and “Declined”.

In the **Values and Fields** section, enter the valid options that the user is allowed to select from. At runtime, the field is displayed as a drop-down list.

When a user receives this step in their queue, the form looks like this:



The button next to the field enables you to open and close the drop-down list. Use the arrow keys to move up and down the list and when the choice you want is highlighted, press **Return** to select it.

As well as entering text values (which must be entered in double quotes) in the **Values and Fields** column, you can also enter iProcess Expressions or Field names. Each must equate to the same type as the field, for example, Text or Numeric. VLDFILE and VLDQUERY functions can be used to add items from an external database to the list. Special values such as SW_ANYTHING or SW_BLANK can also be used. See *TIBCO iProcess Expressions and Functions Reference Guide* for more information.

In the **Lists** column you can enter the name of an iProcess list. If you have imported the sample procedures supplied with iProcess, the list **YESNO** will have been defined. Entering this in the **Lists** column will give you a drop-down list at run time with the values of **Yes** and **NO**. Other lists may be defined through the **List Manager** in the **iProcess Administrator**.

Note: The list **YESNO** is not available unless you have imported a procedure that uses it.

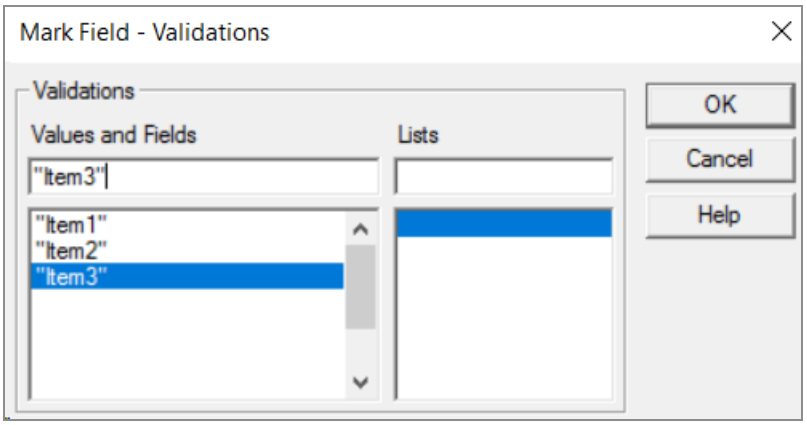
If you add a new list or make any changes to existing lists in the TIBCO iProcess Administrator, you must log out of iProcess and log in again before the changes you have made are visible in the TIBCO iProcess Modeler.

Each column can contain up to 10 items. If there are entries in both columns, they are all displayed in the drop-down list.

Tip: If the field that has the validation on it is a composite key field then by entering the word TABLE in the lists section, a drop-down list of the tables key field values is displayed at run time. For more information, see Using iProcess Tables.

Copying Field Values

You can copy the value of one field to another by entering the name of a field in the **Values and Fields** column of the **Validations** dialog box. The value of the field appears in a drop-down list at run time. If you enter more than one field, you can see the values of all of them in the drop-down list and can select from them.



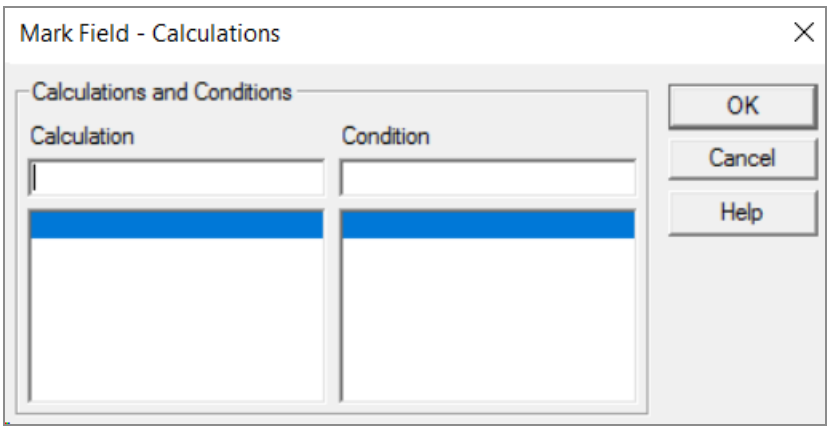
Using Field Calculations

You can use calculations to determine the value of a field. For example, in an ordering procedure you might want to calculate the value of all the items ordered. Or, you might need to calculate the delivery date of an item based on the order date and the known lead time for that item.

Field calculations are carried out on opening the form and every time a dependent field is changed.

Note: Self-referential calculated or hidden fields (for example, `field1=field1+1`) can be evaluated multiple times. This is because forms are rebuilt several times as a work item is processed and the calculation is evaluated every time the form is rebuilt. Therefore, using the previous example, this means that **2** could be added to **field1**. To overcome this, use self-referential calculated fields in an initial or release command. This way the calculation is only executed on an initial or release of the form.

A calculated or hidden field has the option of **Calculations** instead of **Validations**.



The calculation is entered in the left column and you can optionally enter a condition so that the calculation is only carried out if the condition is met, see Conditional Calculations.

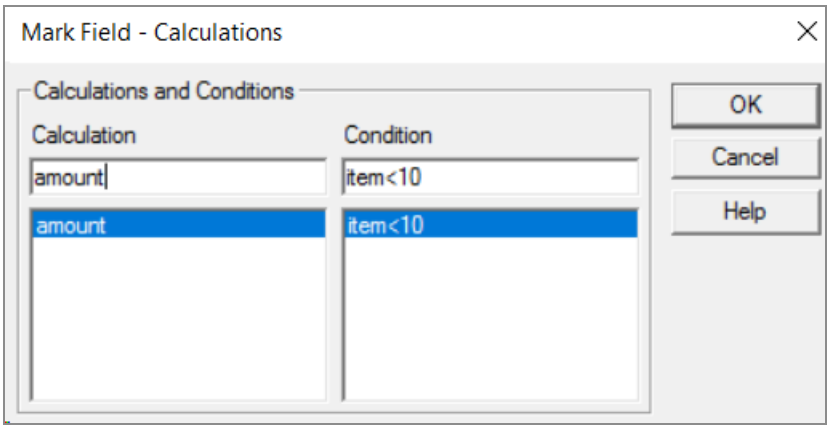
The following table shows you the operations that can be carried out by iProcess calculations.

Operation	Definition
+	add (when adding two text fields, the values are concatenated).
-	subtract
*	multiply
/	divide
^ or **	to the power of

Operation	Definition
date	To calculate the number of days between two dates: DATE1 - DATE2 The following formula can be used in date calculations: @days/weeks/months/years@ For example, to add one year to the DATE1 field: DATE1 + @0/0/0/1@
time	To calculate the number of minutes between two times: TIME1 - TIME2 For example, to add 15 minutes to the TIME1 field: TIME1 + 15
Comparison operators	**Compare the value of one field to another**
=	equals
<>	does not equal. For example: DATE1 <> DATE2
<	less than. For example: FIELD1 < FIELD2
>	greater than
<=	less than or equal to
>=	greater than or equal to
()	parentheses
AND or OR	logical operators. For example: (FIELD1 < FIELD2) AND (DATE1 <> DATE2)

Conditional Calculations

Conditional calculations are ones that are only carried out if a particular condition is met. The conditions are entered in the right side of the **Mark Field - Calculations** dialog box. In the following example, the first calculation is only performed if the value of the field **Quantity** is less than 10; if it is greater than or equal to 10, then the second calculation is performed.



The operators that you can use are:

Operator	Description
=	equal to
<>	not equal to
<	less than
>	greater than
<=	less than or equal to
>=	greater than or equal to

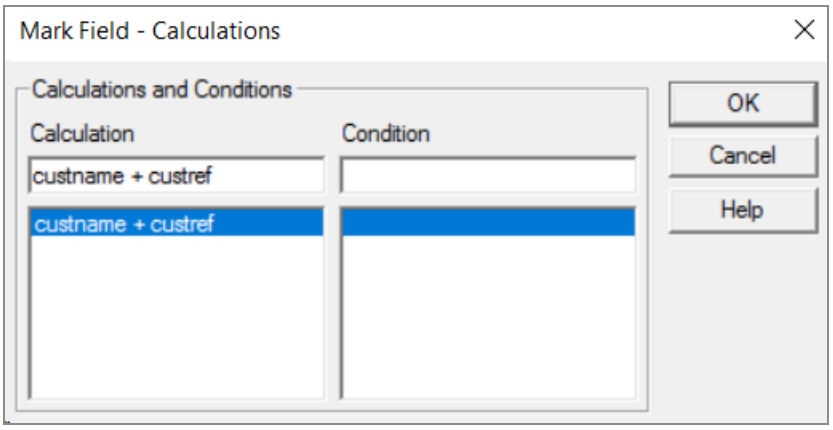
Up to five calculations with conditions may be entered. iProcess looks at each in turn and acts upon the first condition that is met. Any remaining calculations and conditions are disregarded. The final calculation can be left without a condition so that if the first 4 conditions fail, the final calculation is carried out.

If there are no conditions, then only one calculation must be entered.

Calculating Text Fields

It is not just numeric fields that can be calculated: text fields can also be calculated.

The example below shows how a field calculation can be the sum of two other fields.



In the form at runtime this gives the customer name followed by the customer reference. For example:

Calculating the Case Description

This method of calculation can also be used to calculate fields such as **sw_casedesc**, the case description.

To calculate the case description rather than entering it when you start a case, perform the following steps:

1. Click **Procedure > Status**.
2. Click **Hidden** for **Case Description at Start**.

   iProcess does not allow a case description to be entered at case start when **Hidden** is selected.
3. In the first form of the procedure use **Field > Insert** to place the **sw_casedesc** field on the form (probably as a hidden field) and then add a calculation as described.

The calculated case description is displayed for each subsequent work item in the work queues. It initially is not available to the first step as the iProcess Engineis not updated with the case description until the form is either kept or released.

Using Delimiters and Key Words

If you want to compare a field value with a real value, you must enclose the real value within delimiters appropriate to the field type as shown in the following table:

Field Type	Delimiters	Example
Numeric	None	NUM = 2
Text	“ “ Quotes	Name = “Fred”
Date	! ! Exclamation marks	Effective_Date>!07/10/99!
Time	# # Hashes	Time = #08:00#

Key words, or system values, are special iProcess words that have particular values and meanings. These words can be used as fields and are always present in the **Field Definition** dialog box. The following table details each of the key words.

Key Word	Meaning
SW_ CASEDESC	The case description of the current case as entered by the user starting the procedure or can be calculated, see Calculating Text Fields.
SW_CASENUM	The case number of the current case, allocated sequentially by iProcess.
SW_CASEREF	The case reference number of the current case in the format x-yy, where x is the number of the procedure and yy is the number of the case.
SW_DATE	The system date.
SW_ HOSTNAME	The node name of the system.
SW_ NODENAME	The name of the iProcess Engine.
SW_PRODESC	The description of the procedure (up to 24 characters).

Key Word	Meaning
SW_PRONAME	The name of the procedure (up to 8 characters).
SW_ STEPDESC	The description of the step (up to 24 characters).
SW_ STEPDESC2	An extra value for adding further description about the current step.
SW_ STEPNAME	The name of the step (up to 8 characters).
SW_TIME	The system time on the iProcess Engine.

There are also certain key words that apply just to sub-procedures. These are:

Key Word	Meaning
SW_MAINCASE	The top level procedure's case number.
SW_MAINPROC	The top level procedure's name.
SW_MAINHOST	The host where the top level procedure resides.
SW_PARENTCASE	The parent procedure's case number.
SW_PARENTPROC	The parent procedure's name.
SW_PARENTHOST	The host where the parent procedure resides.
SW_PARENTREF	Internal information on the parent given in a text string as follows: pname^pnum count^ccrnum^step name^step description^call depth

These fields are read-only and are added to all new sub-procedures. If a main procedure is changed to a sub-procedure, these fields will be added to the procedure by the TIBCO iProcess Modeler.

Any of these special iProcess words can be used in your forms by selecting them in the **Mark Field** dialog box. Alternatively, they can be used to calculate the value of a field.

In addition, SW_GROUP, SW_USER and SW_STARTER can be used in conjunction with any of their attributes, for example, SW_STARTER:DESCRIPTION gives the description of the user who started the case of the procedure. For more information, see “Expressions” in *TIBCO iProcess Expressions and Functions Reference Guide*.

Using iProcess Tables

iProcess tables can be accessed from all procedures and are easily referenced from the form. iProcess tables should only be used for static information that must not be updated very often. As iProcess tables are not automatically updated when new data is entered into a form, they are not suitable for uses such as a customer database.

Structually, iProcess tables are similar to database tables. Table records are associated with fields, and one key field value serves as a unique identifier for each record. For example, a user enters a value in the key field. If this value corresponds to a record in the table, the values of the other fields in the table display automatically.

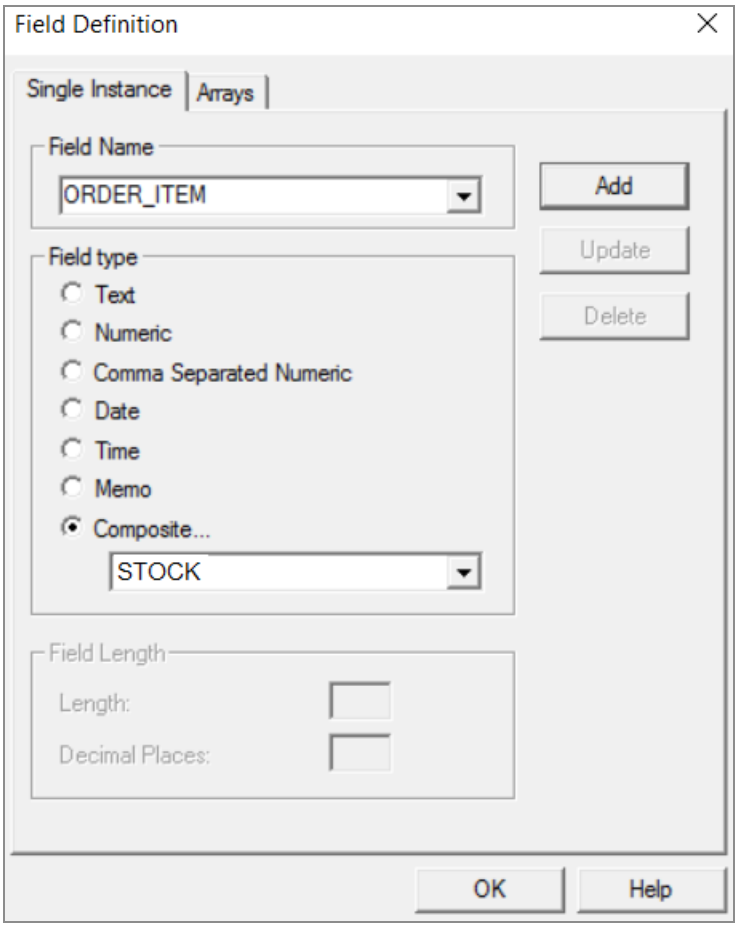
Tables are created and stored on the iProcess Engine. For information on how to create tables, see the “Managing iProcess Tables” topic in *TIBCO iProcess Workspace (Windows) Manager’s Guide*.

To use a table in a form, you must first Define a Table Field and then, Mark Table Fields in your Form.

Defining a Table Field

To define a table field in your form, perform the following steps:

1. Click **Field > Define** and enter the name you want to call your field.
2. Click **Composite** for the field type.
3. From the drop-down list of tables, choose the table you require.
4. Click **Add**.

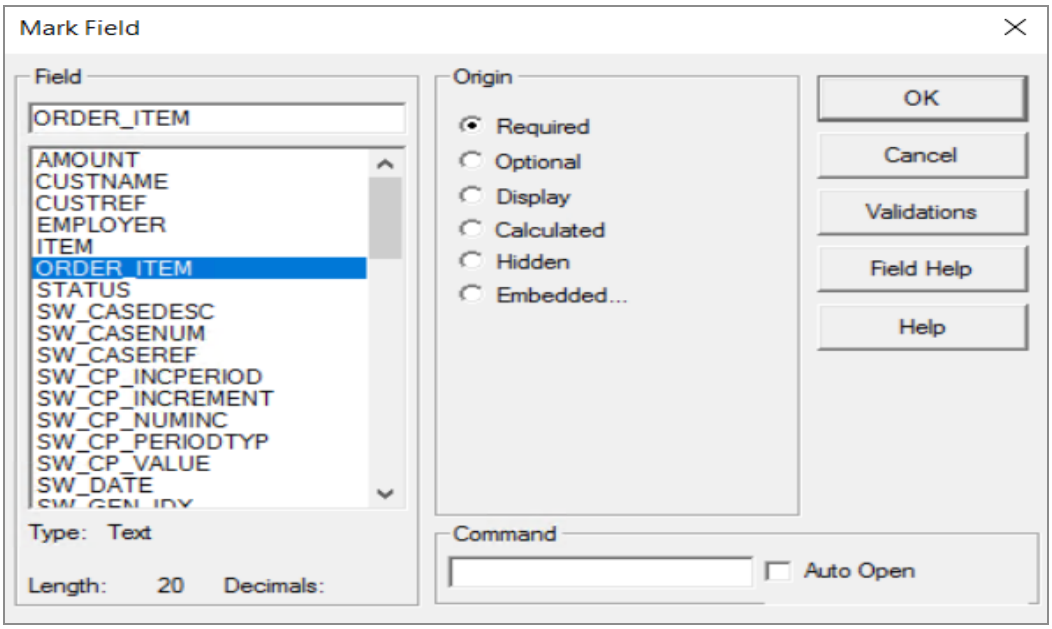


Marking Table Fields in your Form

To mark a table field in your form, do the following:

1. Click **Field > Insert** and choose the table field you want to insert.

   The table field you defined is shown in the list of fields several times, once for each field in the table, as shown below.



2. Select the field you want, choose the origin and click **OK**.
3. In your form, mark the key field in the table and then mark the remaining table fields as required.

   At runtime, when the key field is entered, the remaining table fields are automatically completed with the values from the table.

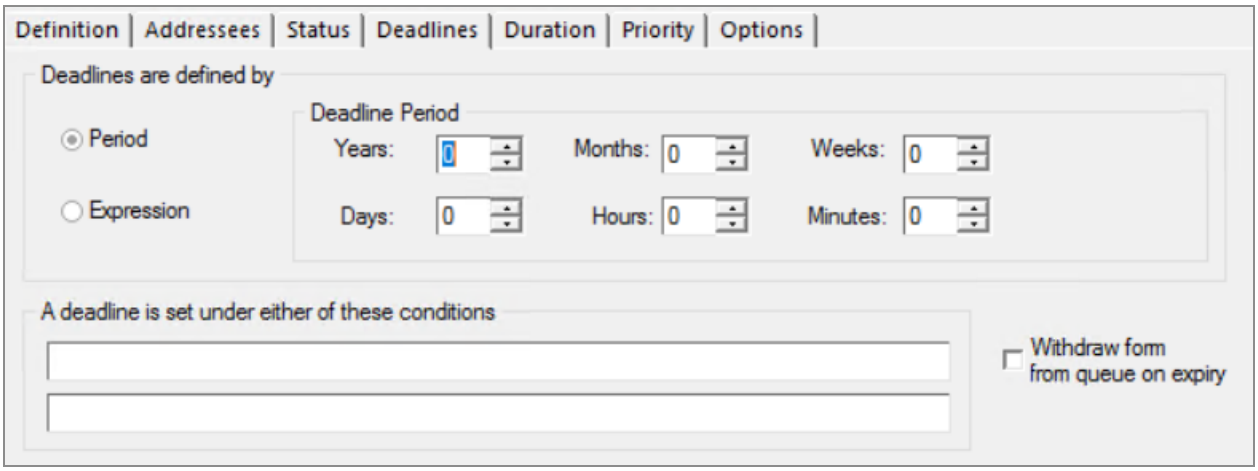
Using Deadlines in Procedures

Deadlines can be placed on a step to ensure that a work item is completed within a specified time period. If the deadline expires, the deadline actions is processed. Deadlines can, if required, be reset on outstanding work items.

Defining a Deadline

1. From the Properties pane, click the **Deadlines** tab.

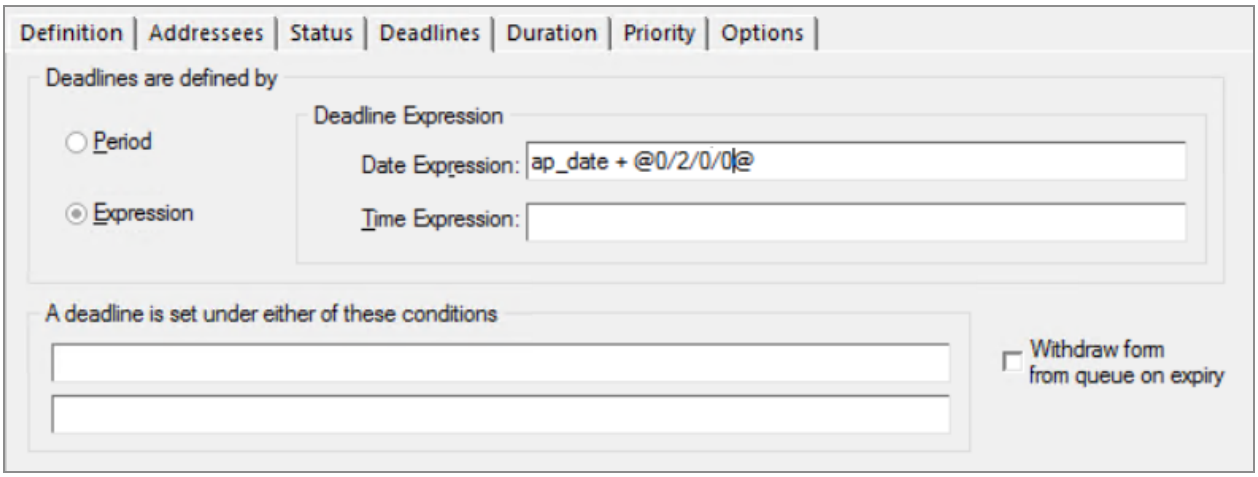
   The **Deadlines** tab is displayed.



2. Select whether your deadline is to be based on a **Period**, such as 2 weeks, or on an **Expression**, then enter the deadline period or expression.

> **Note:** When considering how to define a deadline, you should bear in mind whether or not the deadline may need to change after the step has been sent out. For more information, see Dynamically Recalculating Deadlines.

If you select **Expression**, this section automatically changes to allow the input of the expression, as shown below.



In this example, a date expression has been defined as the date of application plus two weeks using the formula of `@days/weeks/months/years@`. The expression is evaluated at the time the step is sent out. For more information on expressions, see *TIBCO iProcess Expressions and Functions Reference Guide*.

If working days are set, and you want the deadline to use them you need to be aware of the following:

— If you set a time expression or specify a date such as SW_DATE, the deadline does not take into account working days. For example, if working days are set to Monday to Friday and you are testing the procedure on a Sunday, the deadline will be set for Sunday rather than the first working day (Monday).

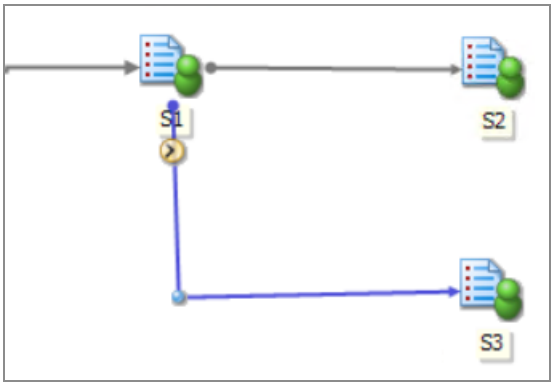
— If you specify a Date calculation such as SW_DATE + @0/0/0/0@, the deadline uses working days and therefore the deadline will be set to Monday.

3. (Optional) Select the **Withdraw form from queue on expiry** check box if you require the work item with the deadline to be withdrawn from the work queue when the deadline expires (unless the work item is open at the time of expiry). The deadline actions will be processed. This feature is often used in situations where an escalation process is used.

4. (Optional) Enter any deadline conditions required. You can set a deadline to only take effect if a certain condition is true. For example, a deadline could be set if the anticipated completion date for the property purchase is less than 4 weeks after the application date. This condition is evaluated when the step is sent out.

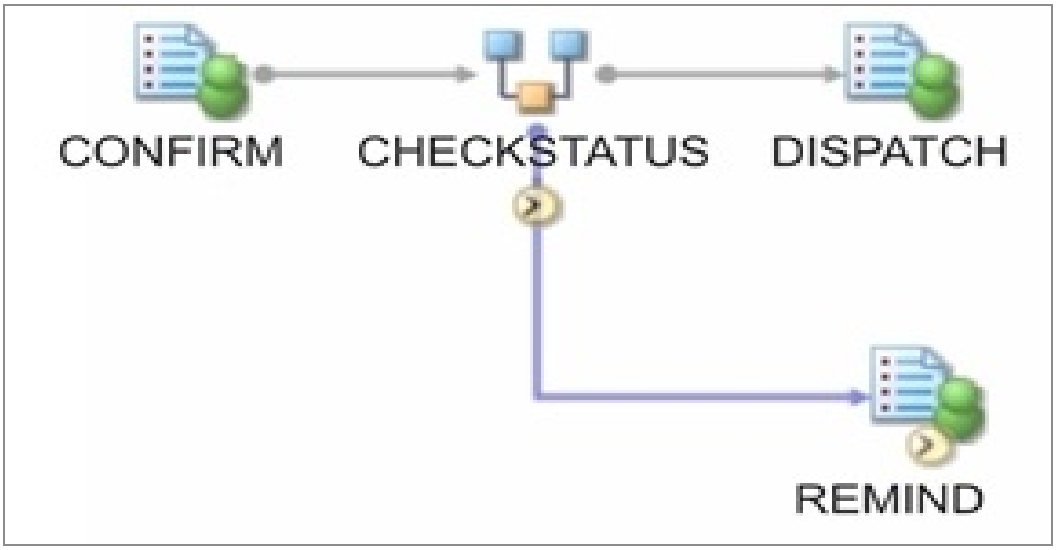
Drawing the Deadline Link

When you have created the step(s) that are to be actioned on expiry of the deadline you can draw the deadline link(s). The link must be drawn from the bottom of the first step (**S1** in the example below) to the left of the second (**S3** in the example below).



Using Deadlines on a Sub-Procedure

A deadline can be set on a sub-procedure object in the same way as any other step. Once the deadline expires, the deadline actions are performed and if **Withdraw form from queue on expiry** is selected, then the sub-case (and any child sub-cases it has initiated) will be closed. In this instance, the output data is not copied back into the parent procedure's case data.



Note: A deadline set on a call to a sub-procedure will not be seen as a deadline in the Work Queue Manager for the sub-procedure, as the steps within a sub-procedure can have their own deadlines.

Dynamically Recalculating Deadlines

A deadline (with or without a condition) is evaluated and/or calculated when a work item is sent out. It then remains in force until either the work item is released or the deadline expires.

In some situations, however, you may want to reset a deadline on a work item while it is still outstanding. For example, you may have used a deadline to set a review date for a customer's case in 6 months' time, but then for some reason want to bring that review date forward to 3 months' time.

You can force the iProcess Engine to re-calculate its deadlines on all outstanding work items for a case by triggering an event on a particular step of the case. The event must:

1. update one or more field values used in setting the deadline - either in the expression that is used to calculate the deadline, or in an expression that is used to determine whether a deadline is set.
2. set a flag that informs the iProcess Engine that it should recalculate deadlines for the case.

To trigger such an event, you can use any of the following methods:

- the `SWDIR`**\bin\swutil EVENT** or `SWDIR`**\util\swbatch EVENT** commands. See "Issue an Event" in *TIBCO iProcess swutil and swbatch Reference Guide* for more information about these commands.
- the TRIGGEREVENT function. See *TIBCO iProcess Expressions and Functions Reference Guide* for a detailed description of this function.
- iProcess Objects. See the relevant iProcess Objects Programmer's Guide and help system for more information.

When the iProcess Engine detects the event, it recalculates the deadlines on all outstanding work items, as shown in the following table.

Condition Type	Expression deadline is...	Period deadline is...
No condition	Re-evaluated and set to the new value.	Not recalculated.
Condition now evaluates as true	Re-evaluated and set to the new value.	Calculated as a period **from the original date that the work item was sent out**.
Condition now evaluates as false	Removed.	Removed.

Note: You cannot use an event in this way to recalculate a **Period** deadline that is not triggered by a condition, because no field values are involved in the deadline's calculation. The only way to force a re-calculation of such a deadline is to build logic into your procedure allowing you to withdraw the step and then resend it with the new deadline. However, if you do this any changes made to the work item while it has been in the user's queue will be lost.

Using Conditional Actions

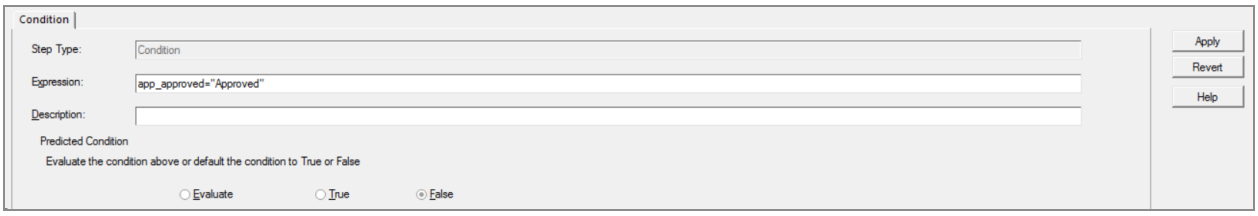
Within most business processes there is a point at which a decision has to be made and different paths followed depending on the outcome of the decision. For example, an application for a mortgage is approved or rejected, an item is in stock or out of stock. A conditional action is the point in the process where the decision is automatically made by iProcess according to the rules you specify.

Defining a Conditional Action

To define a conditional action:

1. Click the condition object from the Toolbar, place it on the TIBCO iProcess Modeler chart and click.

   The Properties pane is displayed.



> **Note:** If case prediction is enabled on your procedure, you can use the Predicted Condition settings. For more information, see “Using Case Prediction to Forecast Outstanding Work Items” in the *TIBCO iProcess Modeler - Advanced Design* guide.

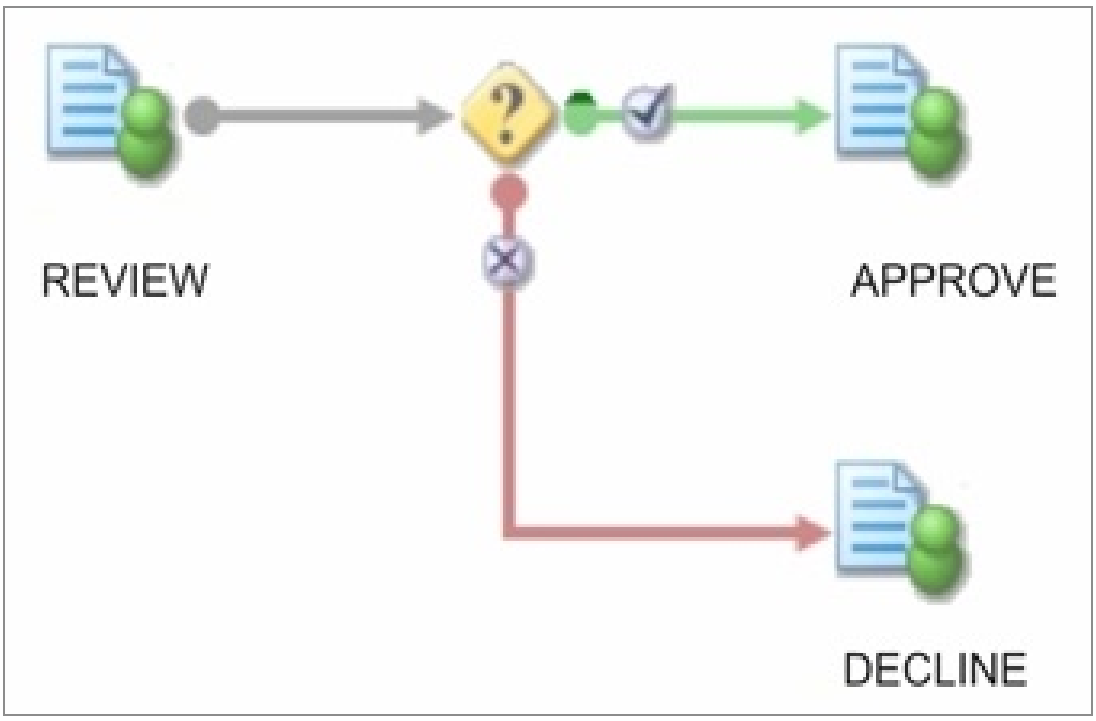
2. Enter the condition and click **Apply**.

   For more information on how to enter a valid condition expression, see *TIBCO iProcess Expressions and Functions Reference Guide*.

> **Note:** Any fields that you use in this expression must already be defined.

   You also need to define the step(s) to be actioned if the condition proves true and those to be actioned if the condition proves false.

3. Draw a link from the right side of the preceding step to the left side of the condition object. Then:
   - For when the condition evaluates to True, draw a line from the right side of the condition to the left side of the next step(s) as indicated by the check mark on the object.
   - For actions to be taken when the condition evaluates to False, draw a line from the bottom of the condition to the left side of the next step(s).



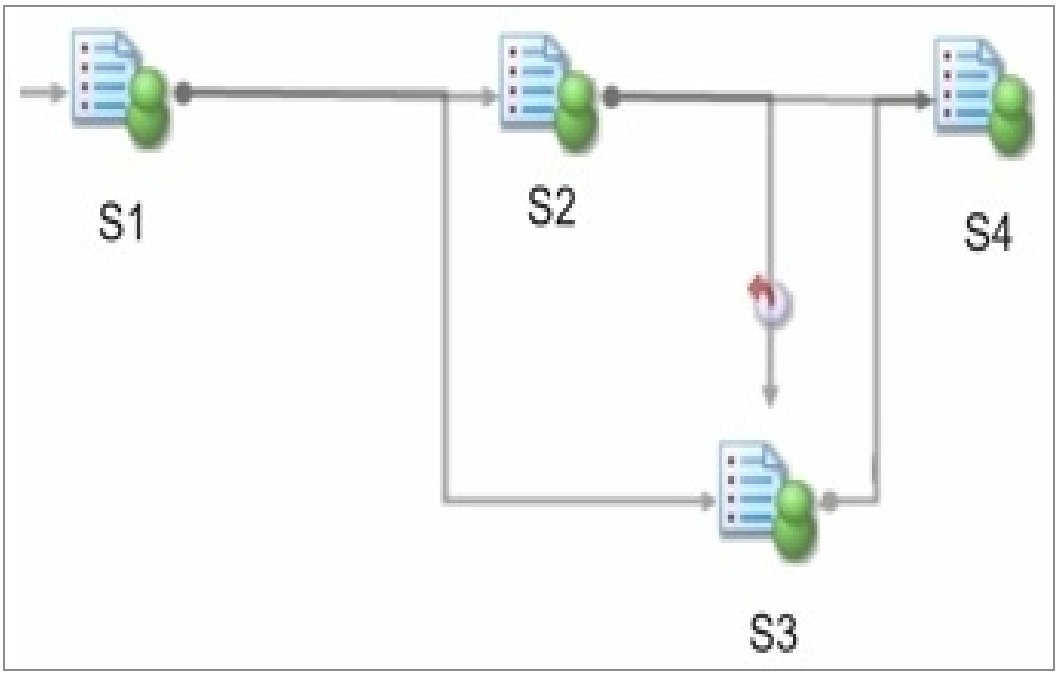
A condition can have more than one action following each of its true and false branches. A condition can also be directly followed by another condition.

Withdrawing Steps From the Procedure

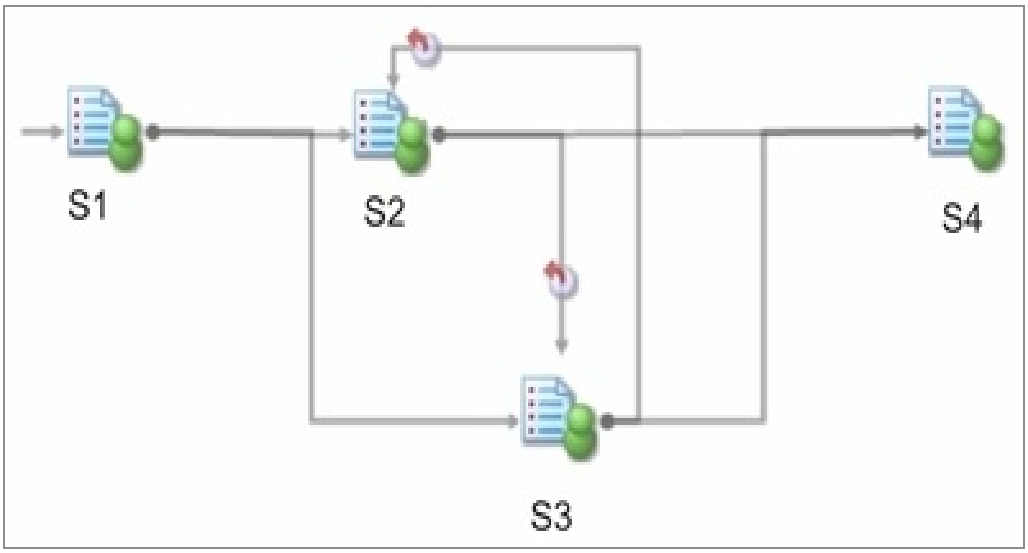
If you have steps that become redundant during the running of a case, you can define the procedure so that they are withdrawn from the work queues. You do this by defining a withdraw action on the step. An example of where this can be used is when you have two steps sent out in parallel, but if one is released, the other becomes unnecessary and can be withdrawn from the work queue.

Example of Using a Withdraw Action

In the following example, if step **S2** is released before **S3**, then **S3** automatically is withdrawn from the work queue.

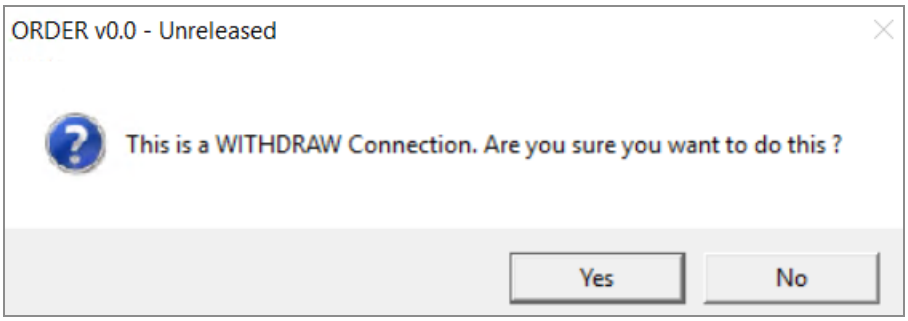


Here there are 2 withdraw actions. If **S2** is released first then **S3** is withdrawn but, if **S3** is released first then **S2** is withdrawn.



Defining a Withdraw Action

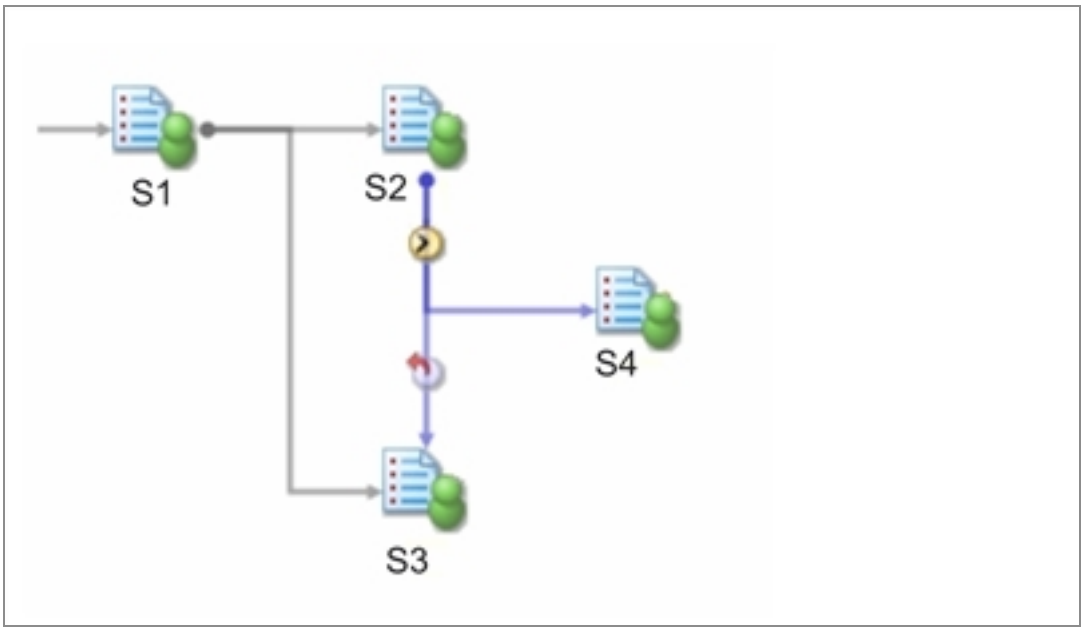
Draw a link from the right side of the step to the top of the step to be withdrawn. A message box appears asking you to confirm that you want to define a withdraw action. Click **Yes**.



Defining a Deadline Withdraw Action

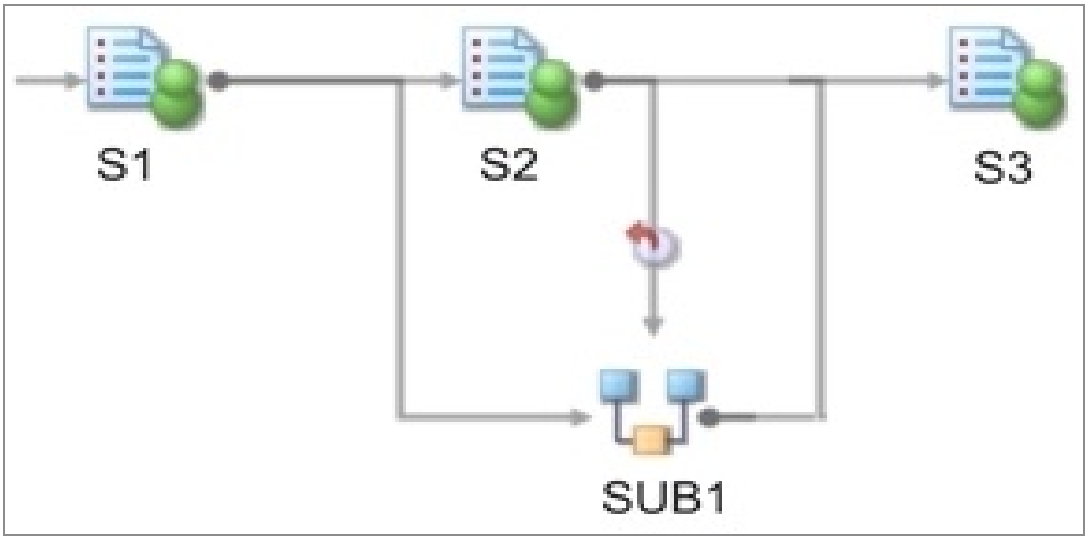
Draw a link from the bottom of the step with a deadline to the top of the step to be withdrawn. A message box appears asking you to confirm that you want to define a withdraw action. Click **Yes**.

In the following example, **S1** actions **S2** and **S3**. **S2** has a deadline on it, which if it expires, withdraws **S3** and action **S4**.



Defining a Withdraw Action on a Sub-Procedure

If a sub-procedure case is withdrawn by the parent procedure case it is closed immediately. In the following diagram, if step **S2** is released before the sub-procedure called by **SUB1** is completed, then **S2** withdraws **SUB1** causing the sub-procedure case to be terminated prematurely.



When a sub-procedure case is terminated prematurely, no data is transferred back to the parent procedure and if the sub-procedure calls any further sub-procedures, these also are closed.

Defining Waits in the Procedure

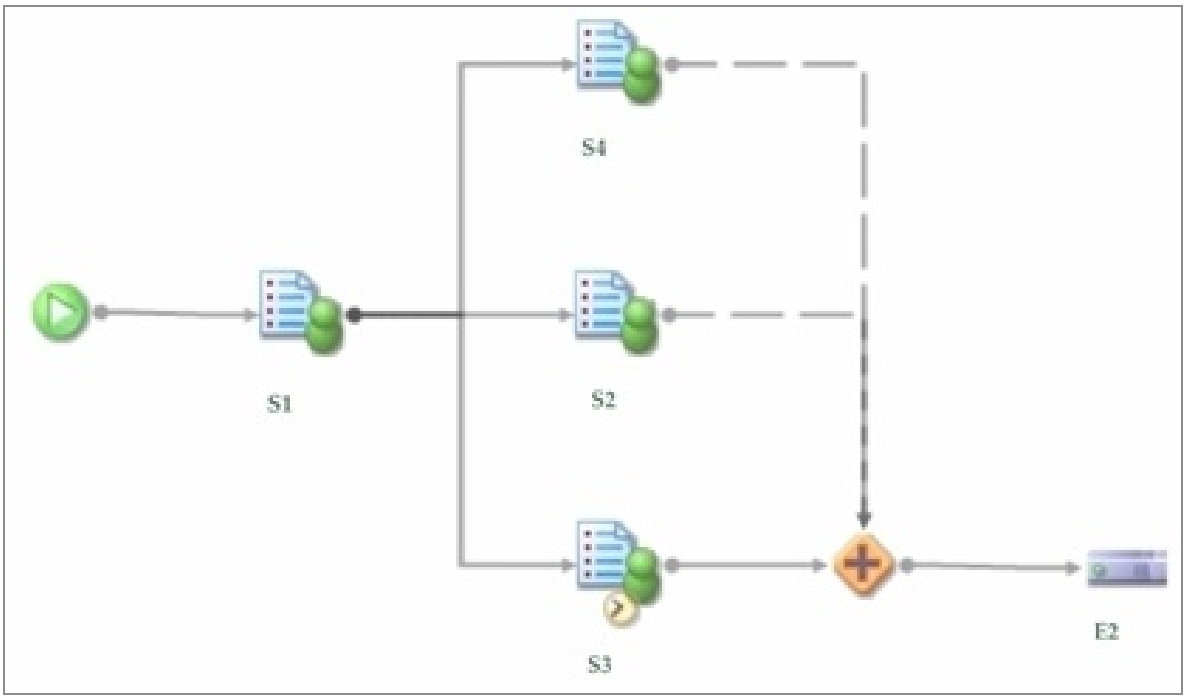
You can insert a wait into your procedure to pause the flow of a case until a number of steps have finished. You do this by inserting a Wait object on your procedure. You can use Waits to synchronize multiple concurrent paths within the procedure. A Wait:

- `begins` when the step which precedes it is released. (This is the step which has a line drawn from its right edge to the Wait object's left edge.)
- `finishes` when the steps which it is waiting for are released or withdrawn. (These are the steps which have lines drawn from their right edges to the top or bottom of the Wait object.)
- must be the only action following a step.

Example of Using a Wait

In the following example, the Wait begins when step **S3** is released, and finishes when **S2** and **S4** are also released:

1. When **S3** is released, the Wait is processed.
2. The procedure waits until **S2** and **S4** have also been released.
3. This means that **E2** is not processed until **S2**, **S3**, and **S4** have been released.



Note: It is important to realize that the Wait is not processed until **S3** is released. If or **S4** are released before **S3**, **E2** is not processed, because the Wait has not yet been processed.

Defining a Wait Action

To add a wait to your procedure, perform the following steps:

1. Click the Wait icon from the SPD Toolbar.
2. Place the Wait object at the appropriate place on your procedure. This depends on how you require the wait action to work - see:
   - Using Waits in Loops
   - Using Waits with Conditions
   - Using Waits with Withdraw

How the Processes Wait

The iProcess Engine maintains its own record of the current status of each step in an active case. A step can be:

- **Withdrawn**. The step has been withdrawn.
- **Outstanding**. The step has been sent out to a queue (or external system).
- **Released**. The step has been released by a user (or external system).
- **Not Processed**. The step has not yet been processed by the server.

The server uses this step status value to control when Waits begin and finish.

Viewing Step Status on the TIBCO iProcess Engine

You can use the following command (on the TIBCO iProcess Engine) to view the current status of each step in each active case for a procedure:

`SWDIR`**\util\plist -D** `[nodename] procname`

where:

- `SWDIR` is the iProcess system directory, where the TIBCO iProcess Engine is installed.
- `nodename` is the name of the iProcess Engine node (optional).
- `procname` is the name of the procedure (main procedure or sub-procedure) you want to view.

The status of each step in each active case for procedure `procname` is shown. Status is shown by one of the following characters:

Character	Status
W	Withdrawn
O	Outstanding
R	Released
. (Period)	Not Processed

The following example shows the output of this **plist** command for the procedure shown in Defining a Wait Action:

- Step names are shown vertically.
- The case number is shown at the beginning of the final line.
- The status of each step (**R** for released or **O** for outstanding) is shown on the final line under the step name.

A single case (case number 1) is active. S1 and S3 have been released, but S2 and S4 are Outstanding (in a work queue). Note that E2 has not been processed yet.

```
C:\swserver\staffw_nod1\util>plist -D waituse3
Diractive Status Listing for procedure: WAITUSE3
Case  : $$SSSES
        PP12344
        AA
        NN
        II
        CC
        12

==============

1   : ..ROR.O
```

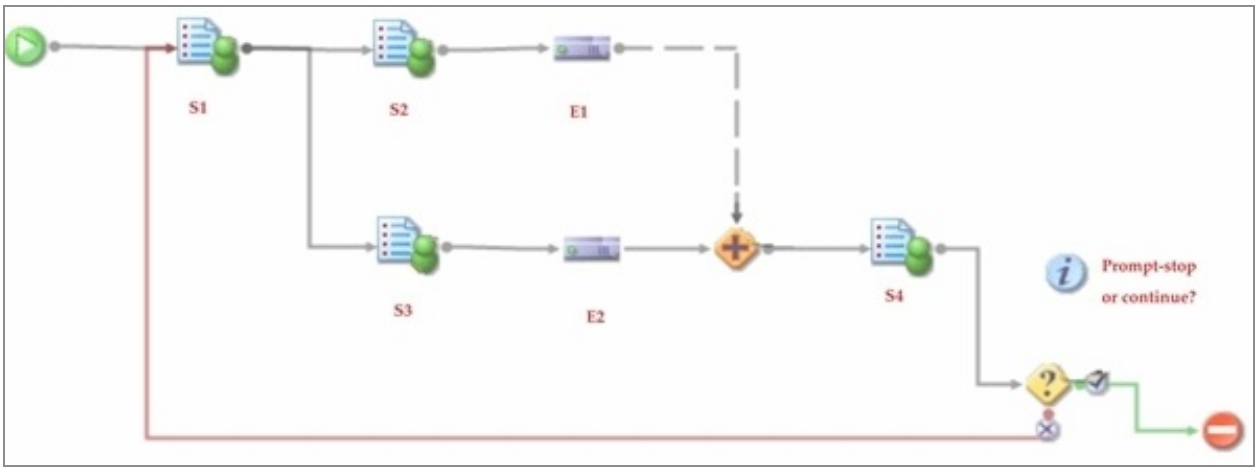
Using Waits in Loops

There are many ways of using Waits to control the flow of your procedure. For example, you can use them in loops,

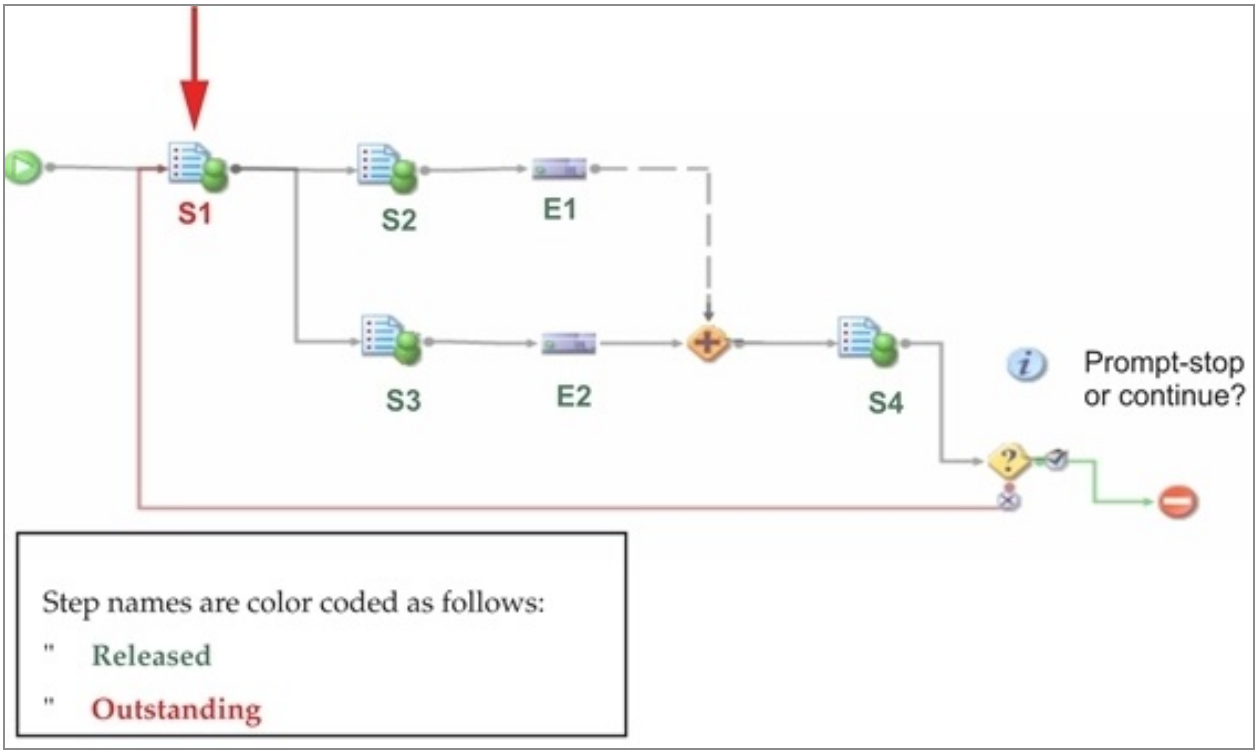
Consider the following example procedure.

- When step **S1** is released, two parallel flows are triggered (step **S2** and EAI step **E1**, step **S3** and EAI step **E2**).
- Each flow displays a form and, when the form is released, runs an EAI step.
- A Wait is triggered when **E2** is released. The procedure waits until **E1** has also been released.
- **S4** is then sent out, and asks the user if they want to stop or continue.

- If the user opts to continue, **S1** is sent out again. (The loop can continue in this way until the user opts to stop.)

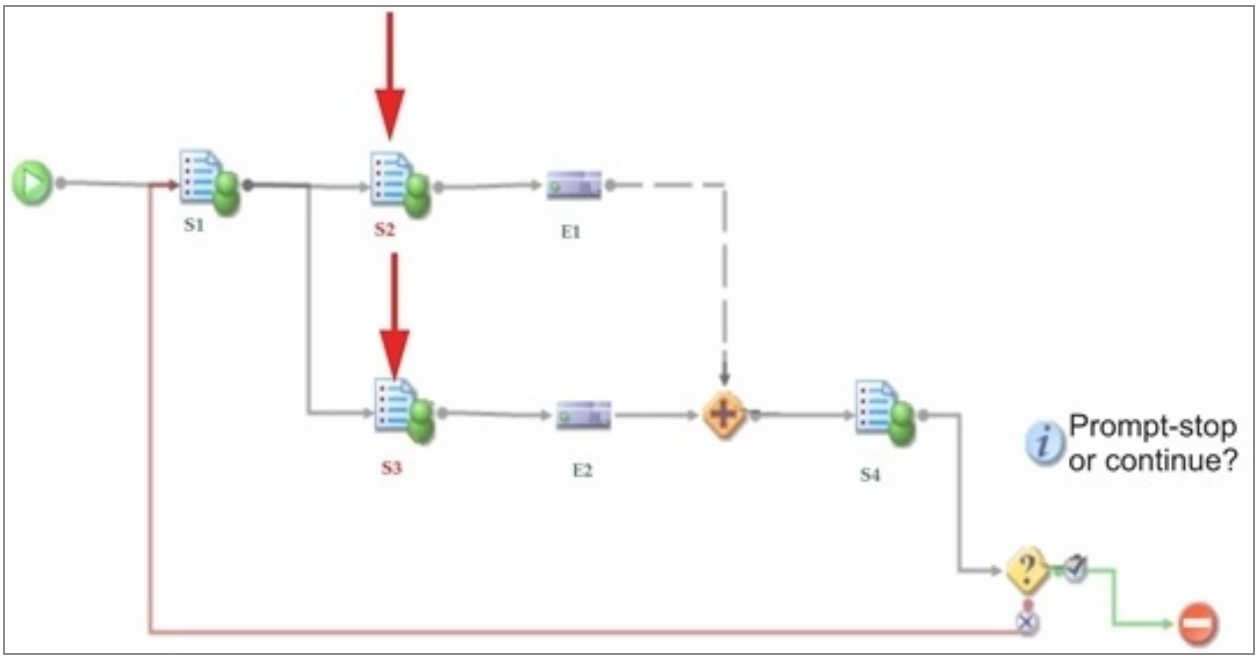


1. Suppose that a case is started and processed through. The user, on **S4**, chooses to continue. When the condition is processed, the procedure loops back to **S1**, which has status **Outstanding**. All other steps still have status **Released** from the first pass through.

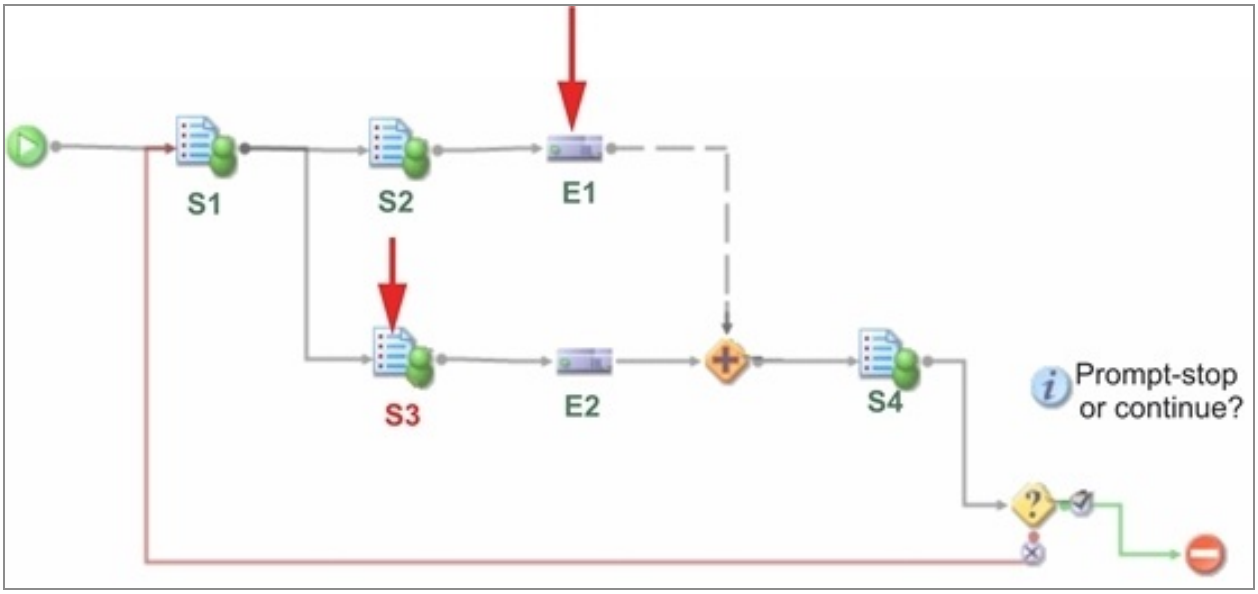


2. The case now runs through the procedure again. When **S1** is released, **S2** and **S3** are sent out and their status is changed to **Outstanding**. `Note that` **E1** and `E2 still`

have status **Released**, because they have not yet been processed on this second pass through the procedure.

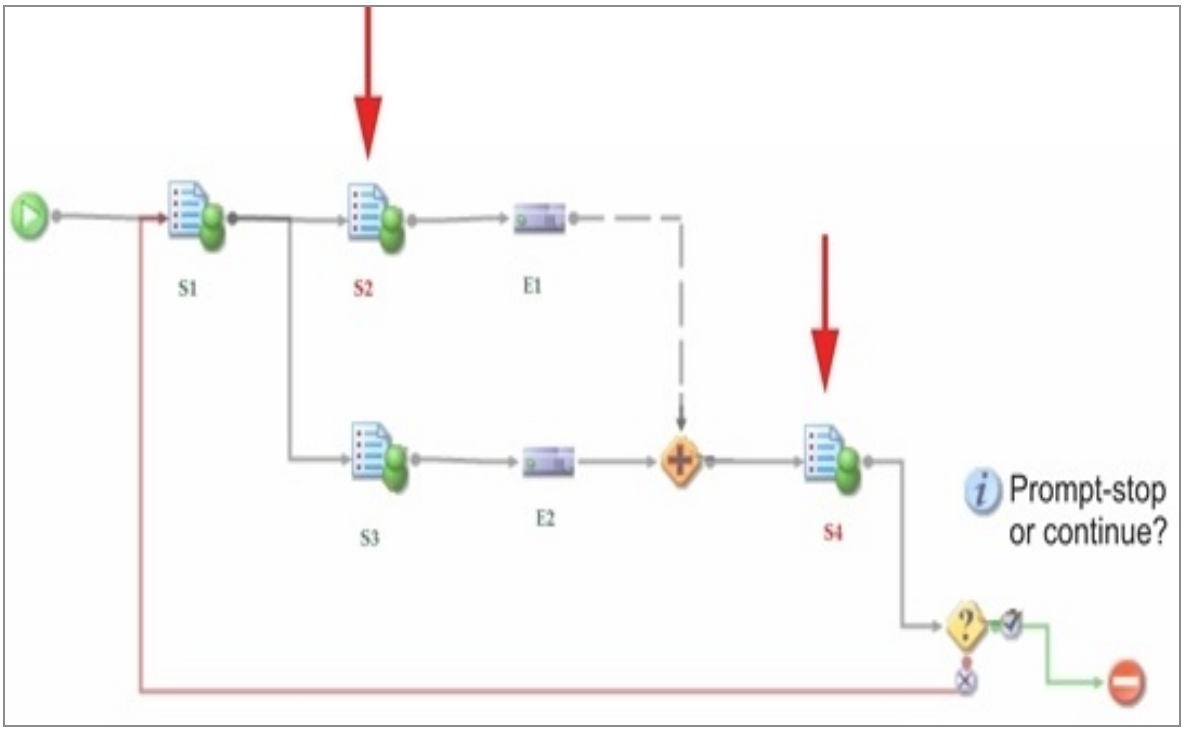


3. If **S2** and **E1** are processed and released, but **S3** is still **Outstanding**, the procedure waits. This is because the Wait is not processed until **E2** has been processed and released.



However, the situation is different if **S3** and **E2** are processed and released while **S2** is still **Outstanding**. In this case the Wait is processed when **E2** is released and, although the procedure should wait because **E1** has not yet been processed, **E1** still has status **Released** from the first pass through. Because both **E1** and **E2** have

status **Released**, the Wait is released and **S4** is sent out - which is not the desired result.

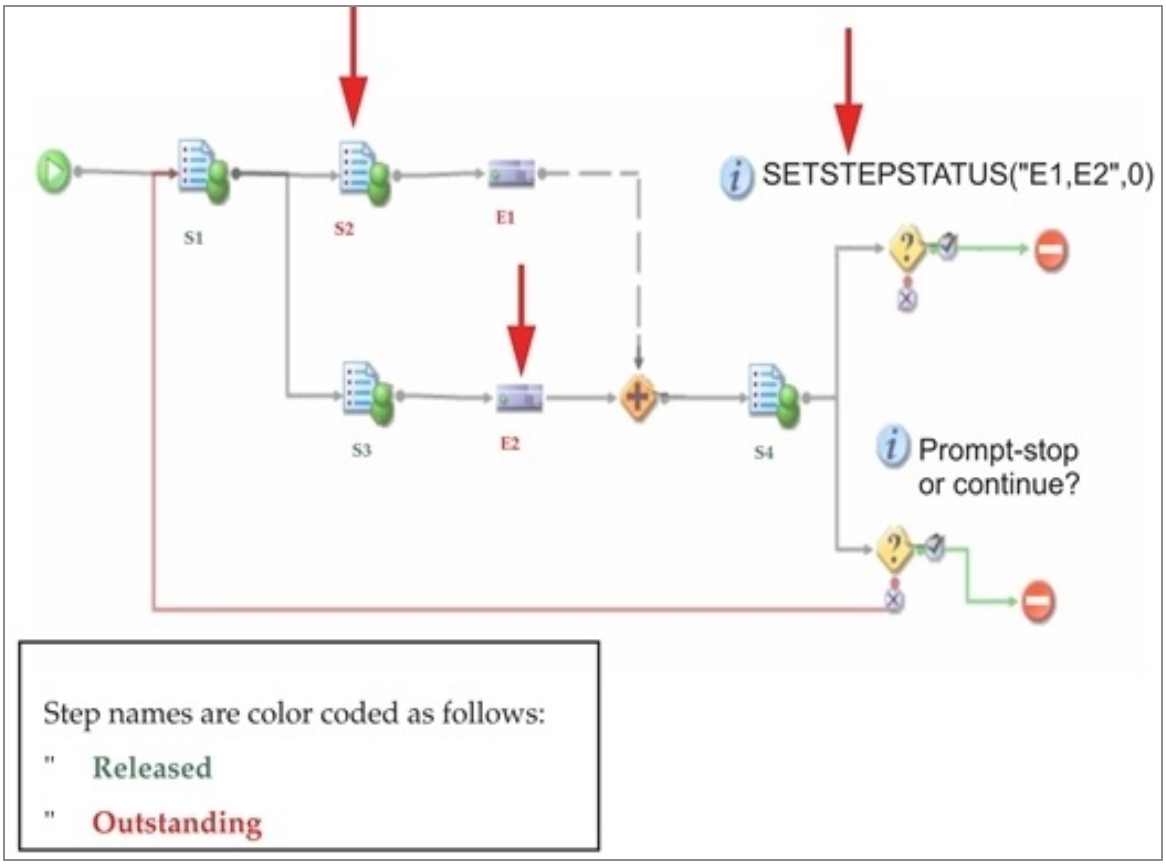


Using SETSTEPSTATUS to Control the Loop

If you want to use Waits in a loop in this way you should use the SETSTEPSTATUS function. You do this by inserting an extra, parallel condition after which uses the following condition expression:

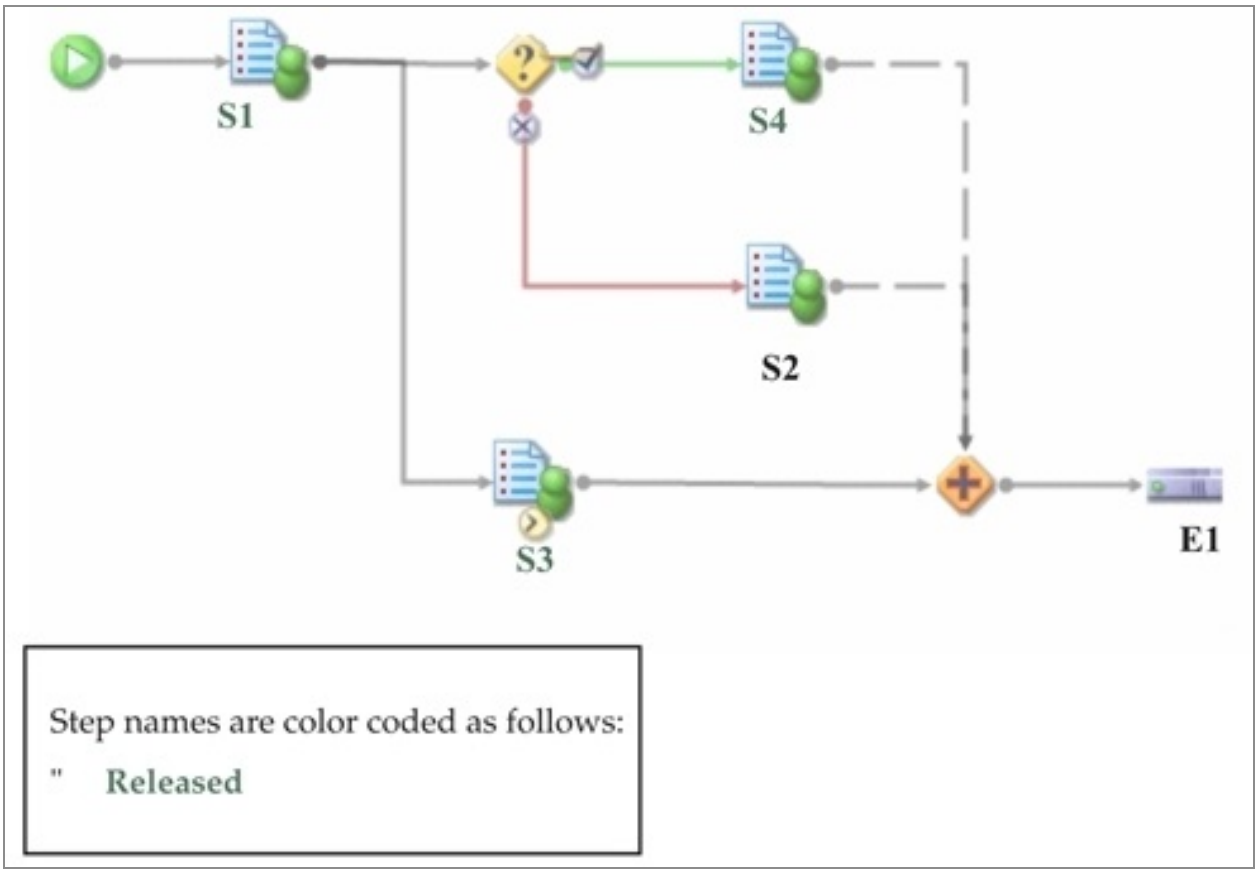
```
SETSTEPSTATUS(“E1,E2”,0)
```

When **S4** is released, the condition is processed and the server resets the status of steps **E1** and **E2** to **Outstanding**. This ensures that when **S3** is released, the Wait processes in the desired fashion, and **S4** is only sent out when **E1** and **E2** have been released.



Using Waits with Conditions

In the following example the intention is that when step **S3** is released, the procedure should wait until **S2** or **S4** have been released. However, the Wait can never be triggered because one of the steps is never sent out by the server. Its status always is **Not Processed**.



Using SETSTEPSTATUS to Control the Wait

You can use the SETSTEPSTATUS function to control the Wait and ensure that it gets triggered, as follows:

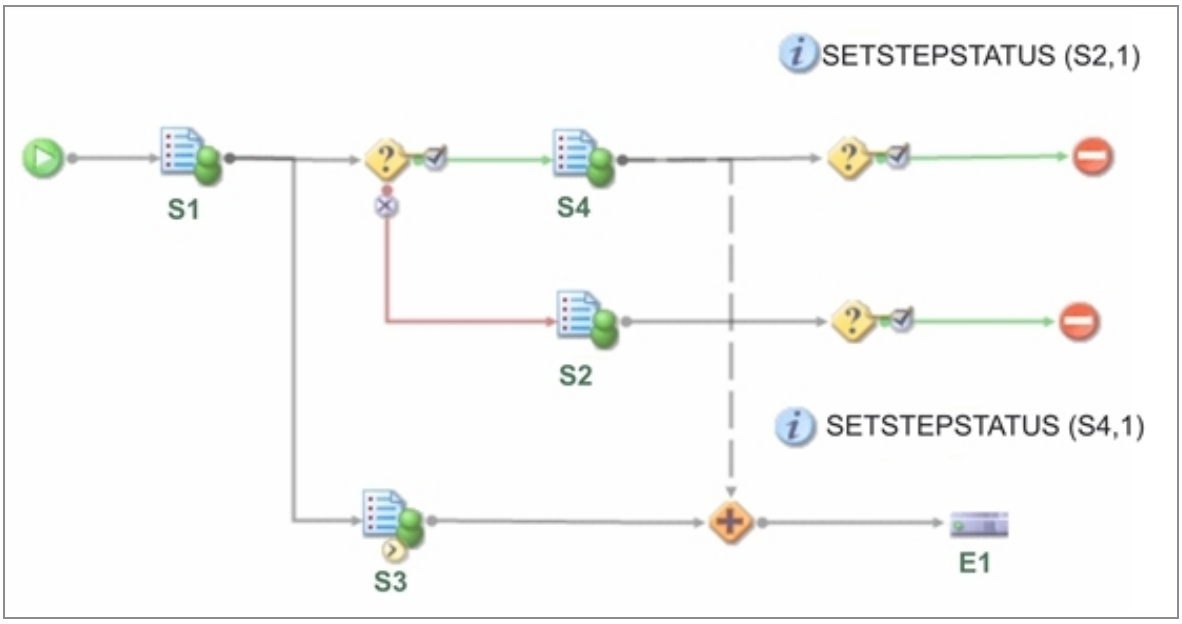
```
SETSTEPSTATUS (“S2”,1)
```

If **S4** is released, this condition is evaluated and the status of **S2** is set to **Released**. The Wait is therefore triggered and **E1** is processed.

- Insert another condition after **S2**, which uses the following condition expression:

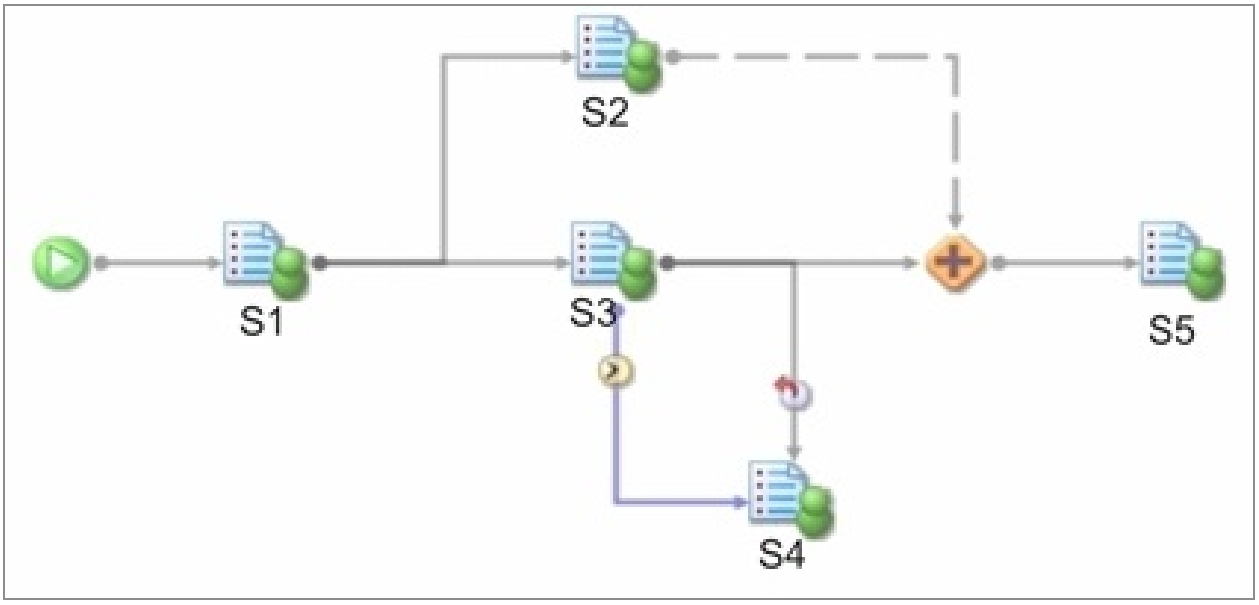
  SETSTEPSTATUS (“**S4**”,1)

  If **S2** is released, this condition is evaluated and the status of **S4** is set to **Released**. The Wait is therefore triggered and **E1** is processed.

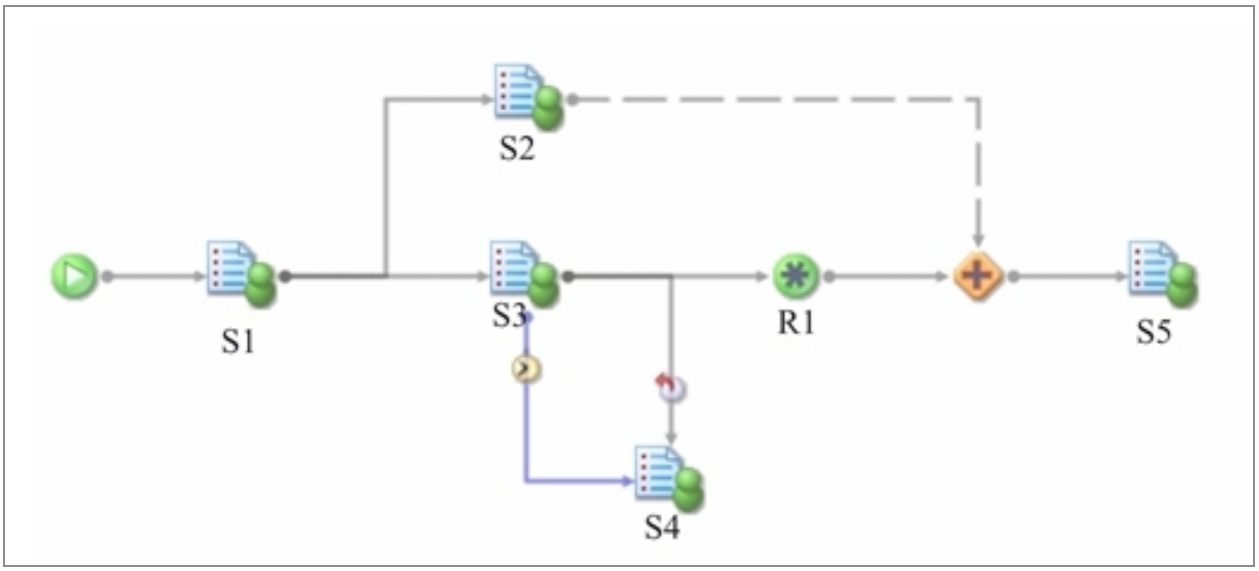


Using Waits with Withdraw

In the following example it is intended that **S4** is withdrawn after **S3** is released but this doesn't happen and the step is never withdrawn. This is because iProcess expects a Wait to be the only action on a step.



The solution is to add a complex router **R1** between **S3** and the Wait. This allows the Wait to be the only action after the Complex Router and the Withdraw is actioned correctly.


S2
S1
S3
R1
S5
S4

Making Procedures Easier to Follow

A small procedure can be very simple to follow but larger and more complex procedures are more difficult to read and edit in the TIBCO iProcess Modeler. This chapter describes some tools and techniques that you can use to make procedures easier to follow and understand:

Setting TIBCO iProcess Modeler Options

To view the TIBCO iProcess Modeler options, click **Options** on the **Menu Bar**.

In addition to the **Printing** options described in “Printing a Procedure” in *TIBCO iProcess Modeler - Procedure Management*, there are the following options:

- **Display Text**. You can choose to display the name, description, extended description, and/or link labels with objects and links.
- **Link Styles**. You can choose the type of link, the line width, and the type of start and end cap for the link. For more information on links see Working with Links, Setting Link Labels and Icons, and Changing Link Styles and Animation.
- **Link Animation**. You can choose to animate the links and the speed of the animation. You can also select the link points (round, arrow, and multiple). For more information on link animation, see Changing Link Styles and Animation.
- **Show Default Icons**. iProcess has standard icons it uses for each type of step, but you can change these icons to something more representative. Selecting this option will display the default icons and de-selecting the option will return the display to the changed icons. Showing default icons is not maintained between TIBCO iProcess Modeler sessions.
- **Confirm Withdraw Connections**. Selecting this option displays a confirmation screen when you draw a withdraw link connection. De-selecting the option allows you to draw a withdraw link without displaying the confirmation screen.

Using Swim Lanes

Swim lanes are a visual tool that enable you to organize how you display your iProcess Engine procedure objects. Swim lanes can be vertical or horizontal. By specifying category labels when you create your swim lanes, you can group procedure objects into categories of your choice.

You can choose whether to use swim lanes or not, depending on your requirements. This section describes:

- Enabling Swim Lanes
- Swapping Between Swim Lane Types
- Configuring Swim Lanes

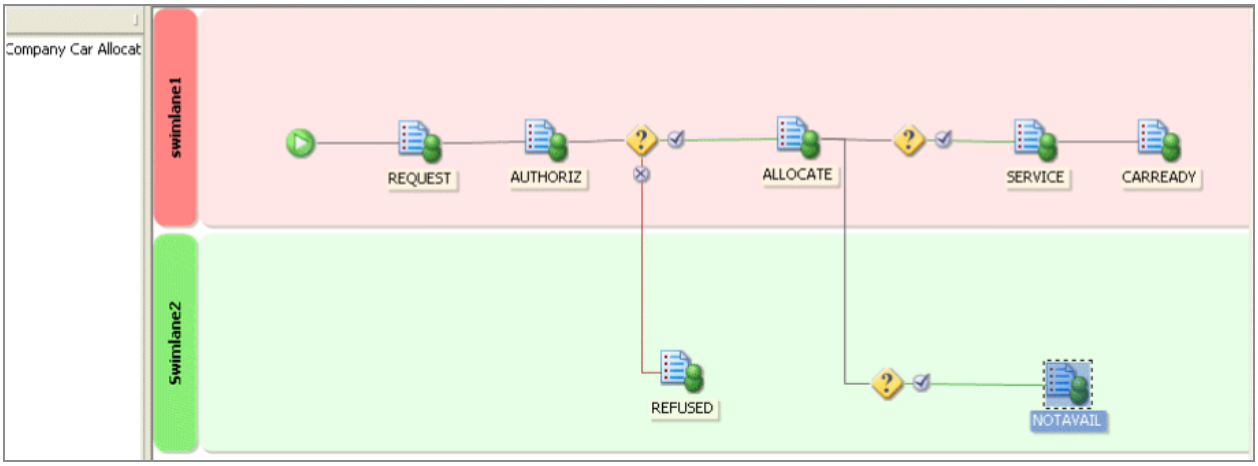
Enabling Swim Lanes

To enable swim lanes:

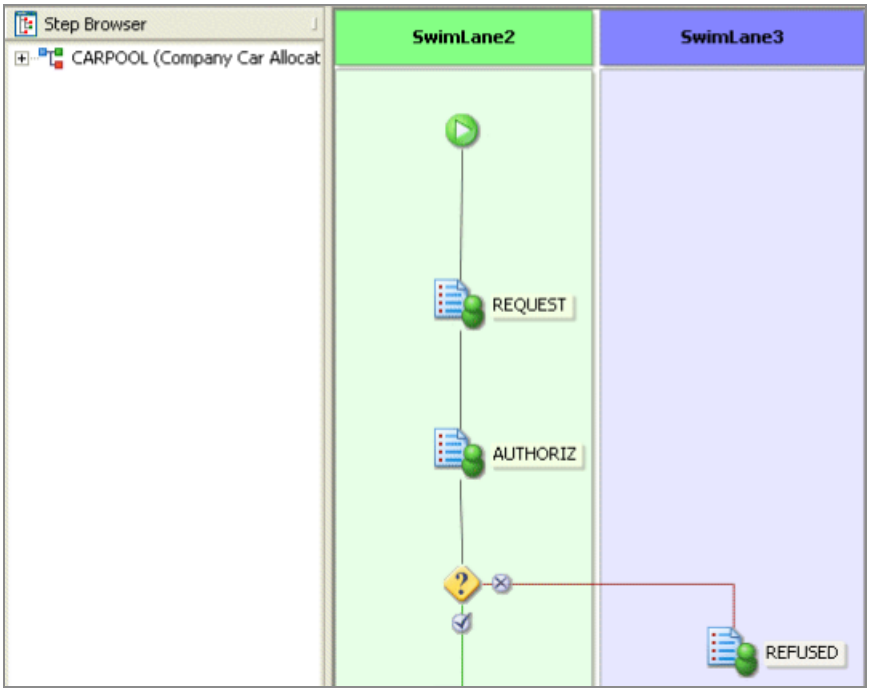
1. From the iProcess Modeler, click the **Swim Lanes** tab.
2. Select one of the following options:
   - **None**. If you have swim lanes already enabled, you can select **None** if you want to disable them.

> **Note:** If you disable swim lanes, then the procedure objects are de-categorized.

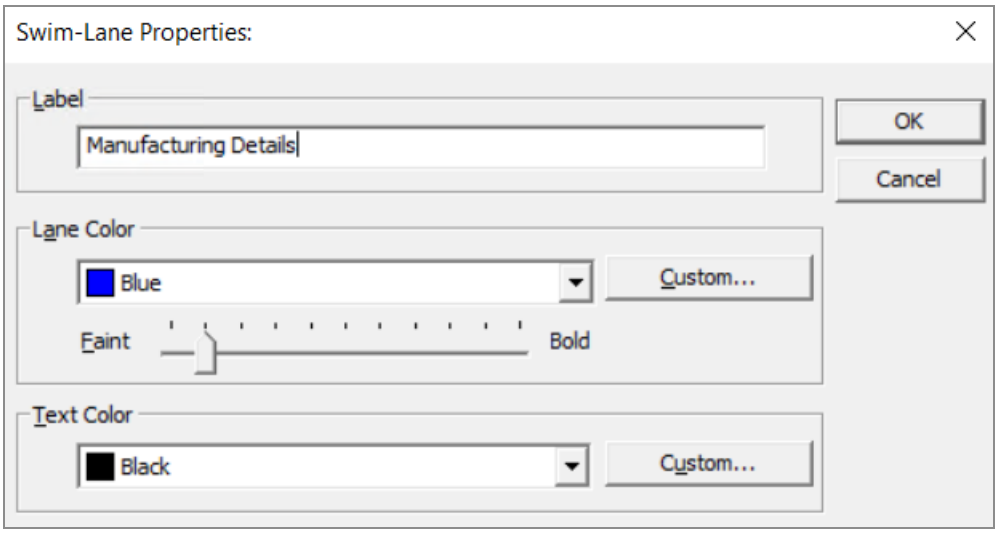
   - **Horizontal**. Select **Horizontal** if you want horizontal swim lanes.



— **Vertical**. Select **Vertical** if you want vertical swim lanes.



3. The **Swim-Lane Properties:** dialog box is displayed.

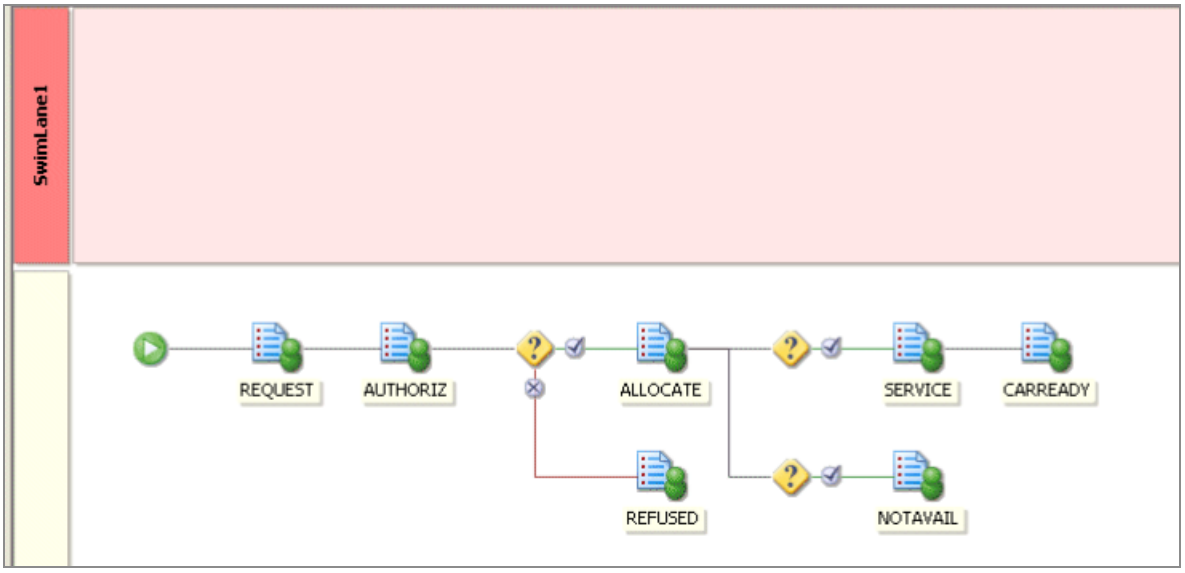


The following table describes the properties that you can set for a swim lane.

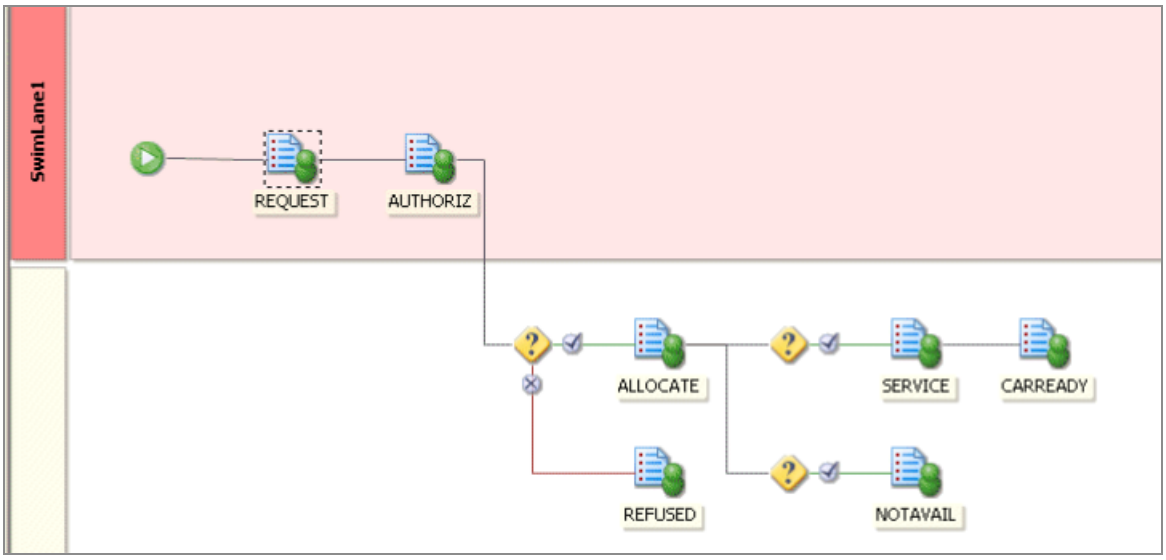
Property	Description
Label	The name of the category to be used for this swim lane. The name can be up to 128 characters.

Property	Description
Lane Color	The color to be used for the swim lane.
Text Color	The color to be used for the label text.

Once you have configured the properties of your swim lane, click **OK**. If you selected a swim lane type, a single swim lane is created. All the procedure objects are moved below the new swim lane.



4. Depending on your requirements, drag-and-drop your procedure objects to the swim lane you have just created.



To add more swim lanes, see Adding Swim Lanes.

For information on how to configure how your swim lanes are displayed, see Configuring How Swim Lanes are Displayed.

Swapping Between Swim Lane Types

Depending on your requirements, you can swap between swim lane types. For example, you can swap from horizontal to vertical and vice versa.

If you swap between horizontal and vertical swim lane types, the top-down layout mode is swapped.

If you swap from a swim lane type to no swim lanes:

- the procedure objects are de-categorized.
- any extra space around the objects is automatically compressed.

Configuring Swim Lanes

The following section describes how to edit the swim lanes. It describes:

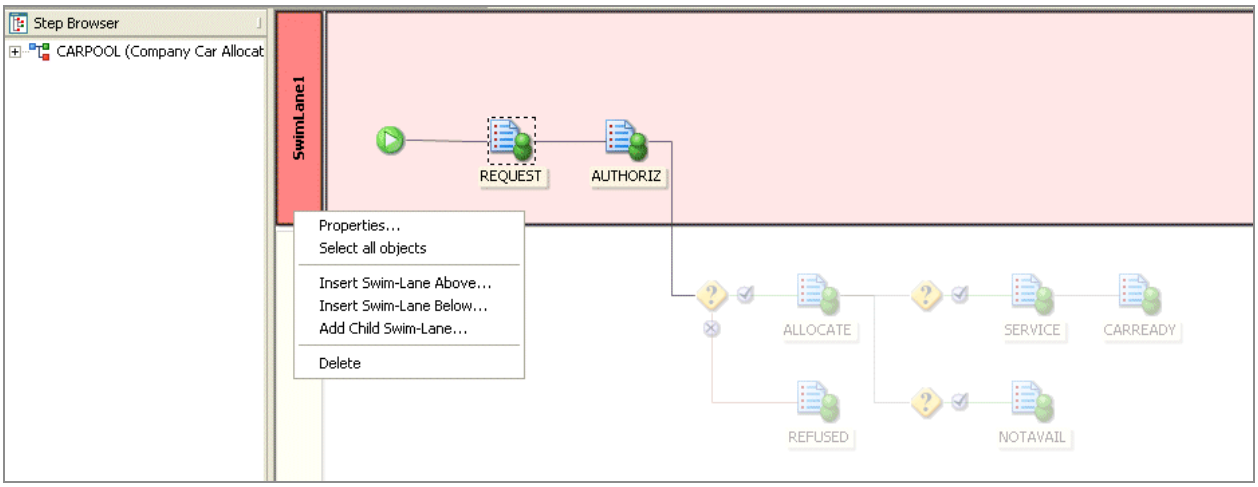
- Adding Swim Lanes
- Creating Child Swim Lanes
- Selecting Swim Lanes
- Resizing Swim Lanes
- Deleting Swim Lanes
- Editing Swim Lane Properties
- Configuring How Swim Lanes are Displayed

Adding Swim Lanes

To add a new swim lane:

Procedure

1. Right-click the header of the chosen swim lane.



Depending on your requirements, select either:

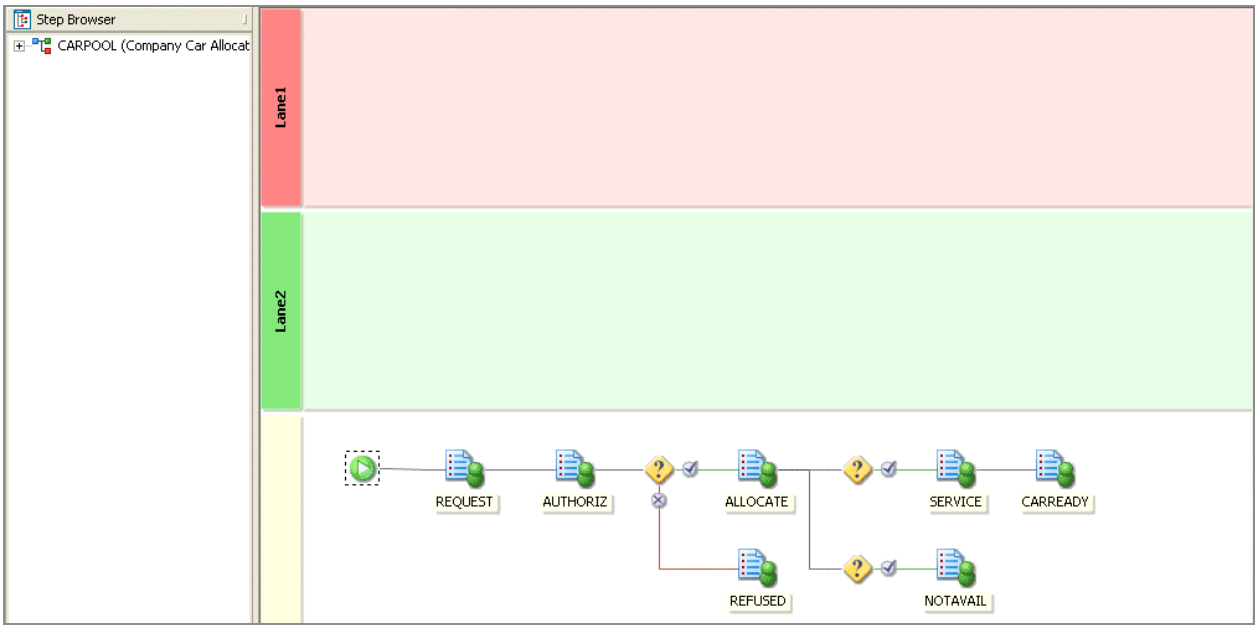
— **Insert Swim-Lane Above...**

— **Insert Swim-Lane Below...**

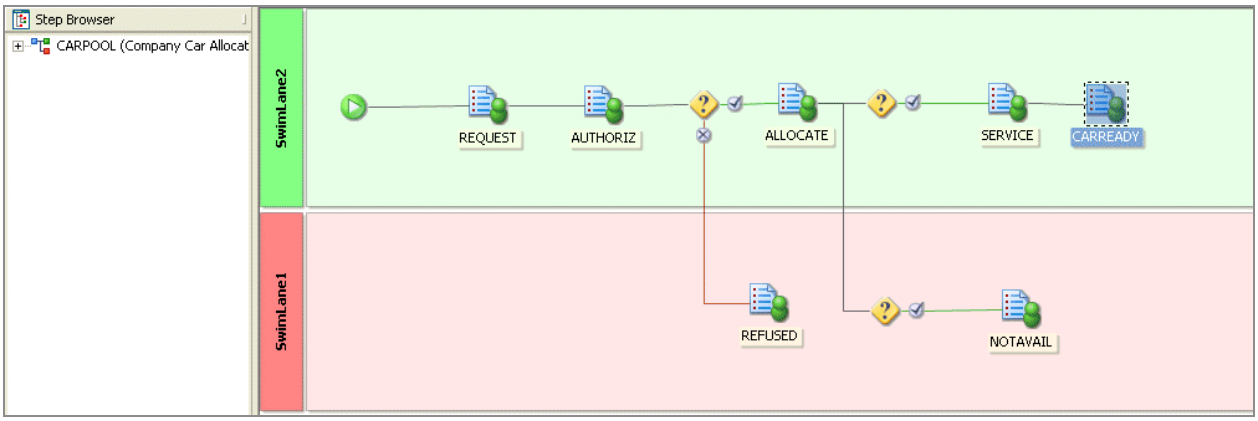
The **Swim-Lane Properties** dialog box is displayed.

For information on how to configure the swim lane properties, see The Swim-Lane Properties: dialog box is displayed. in Enabling Swim Lanes.

2. Click **OK**. A new swim lane is inserted.



3. Depending on your requirements, drag-and-drop your procedure objects to the swim lane you have just created.



Creating Child Swim Lanes

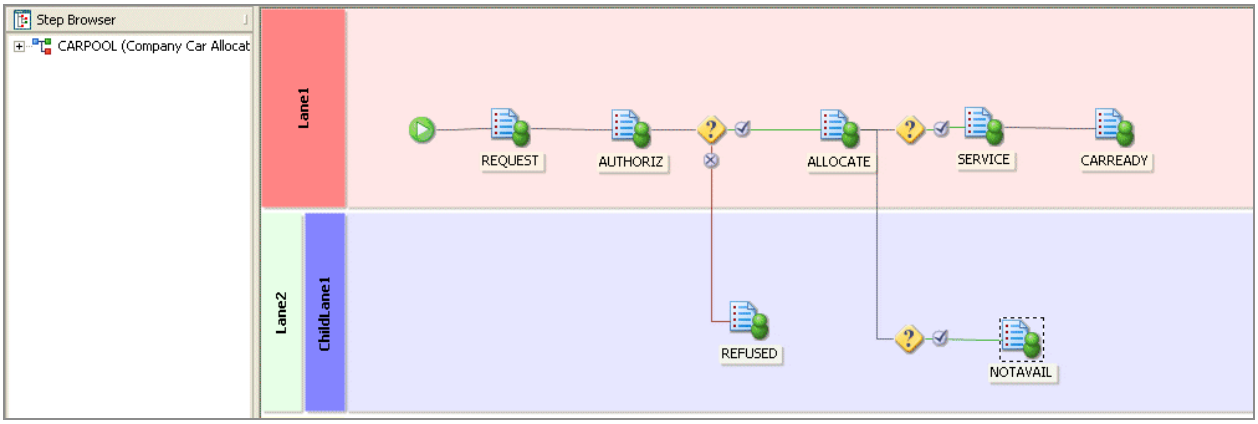
You can nest swim lanes within other swim lanes, depending on your requirements. To do this, create a child swim lane in the swim lane where you want to nest other swim lanes. To create a child swim lane:

Procedure

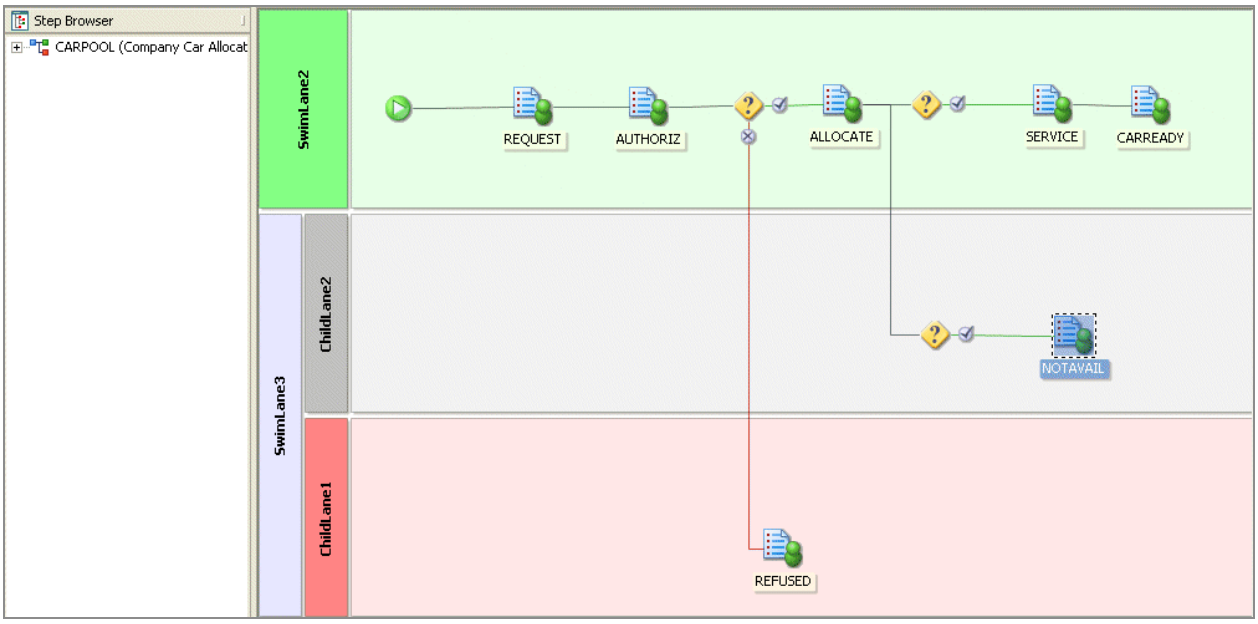
1. Right click the header of the swim lane you want to create a child swim lane from and select Add Child Swim-Lane.... The Swim-Lane Properties dialog box is displayed.

   For information on how to configure the swim lane properties, see The Swim-Lane Properties: dialog box is displayed. in Enabling Swim Lanes.

2. Click **OK**. The child swim lane is created.



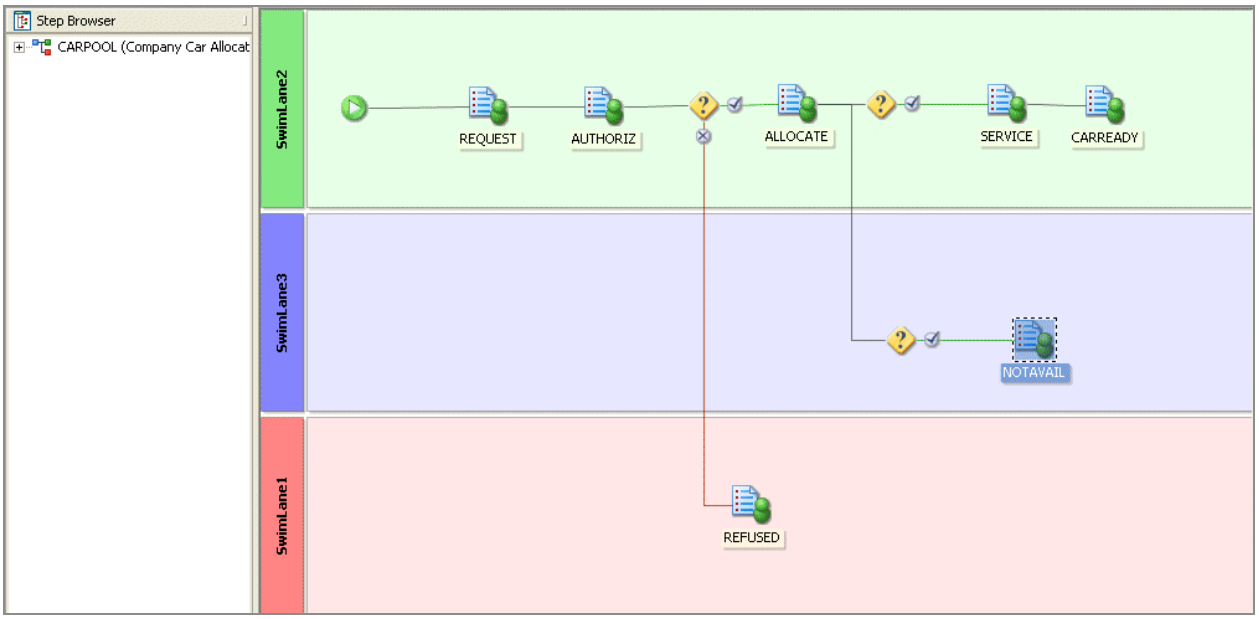
3. Repeat steps 1 -2 for each child swim lane that you want to create.



4. Depending on your requirements, drag and drop your procedure objects to the child swim lane(s) you have just created.

Selecting Swim Lanes

You can select a swim lane or multiple swim lanes, depending on your requirements, using Ctrl+Click. This is useful, for example, if you want to delete more than one swim lane or you want to highlight particular procedure objects, as shown below.



You can also select all the procedure objects within a swim lane by right clicking the header of the swim lane whose procedure objects you want to select and clicking **Select all objects**.

To deselect a swim lane(s), press Escape or click on another swim lane.

Resizing Swim Lanes

You can resize a swim lane by dragging the separating lines between the swim lanes.

Deleting Swim Lanes

You can only delete a swim lane if it is empty, unless it is the last child swim lane. If it is the last child swim lane, the parent swim lane inherits the procedure objects.

To delete a swim lane:

Procedure

1. Move the procedure objects from the swim lane you want to delete to another swim lane. This is because you cannot delete a swim lane if it contains procedure objects.
2. Right-click the tab header of the swim lane you want to delete and select **Delete**. The swim lane is deleted.

Note: If you are deleting multiple swim lanes, use the Delete key.

Editing Swim Lane Properties

To edit the properties of a swim lane:

Procedure

1. Right-click the header of the swim lane whose properties you want to change and select **Properties**. The **Swim-Lane Properties:** dialog box is displayed.

   For information on how to configure the swim lane properties, see The Swim-Lane Properties: dialog box is displayed. in Enabling Swim Lanes.

Configuring How Swim Lanes are Displayed

To configure how your swim lanes are displayed, click the **Swim Lanes** tab. You can select one of the following options:

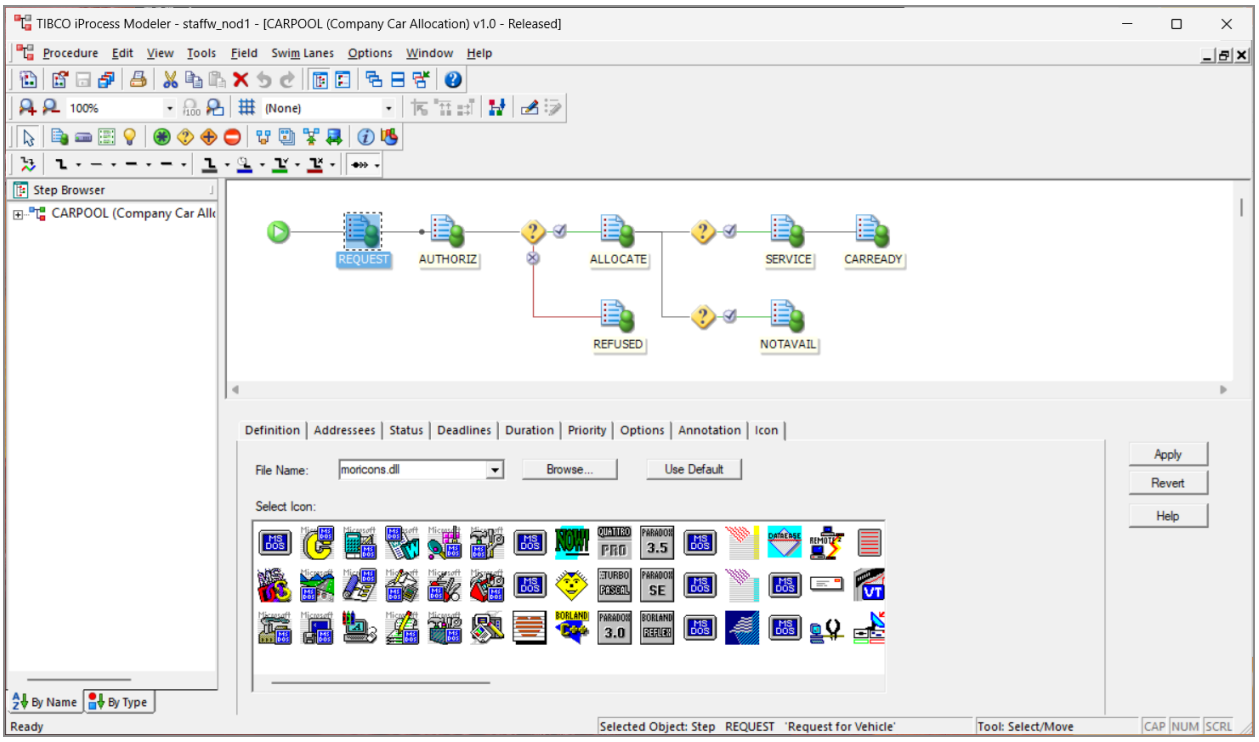
- **Plain Style** - This is the default option when you enable swim lanes. Select this if you want to display your swim lanes as squares.
- **Tablet Style** - Select this if you want to display your swim lanes as tablets.
- **Border** - Select this if you only want the swim lane header to be displayed with a border.
- **Color Header Only** - Select this if you only want the swim lane header to be displayed with a color rather than the whole swim lane.
- **Shadow** - Select this if you want to display your swim lanes with shadows.

Changing Step Icons

iProcess has default icons that are used to represent the different types of steps, but you can change these to other icons. For example, you might want to use a word processing icon to represent a letter or a database icon where an external database is being interrogated by iProcess.

1. Go to the Property pane. Selecting any step on the modeler we get to see the tab called Icons.

   The **Select Icon** dialog box is displayed.



2. Enter the file name containing the icons or click **Browse...**. Choose an icon from those displayed and click **OK**.

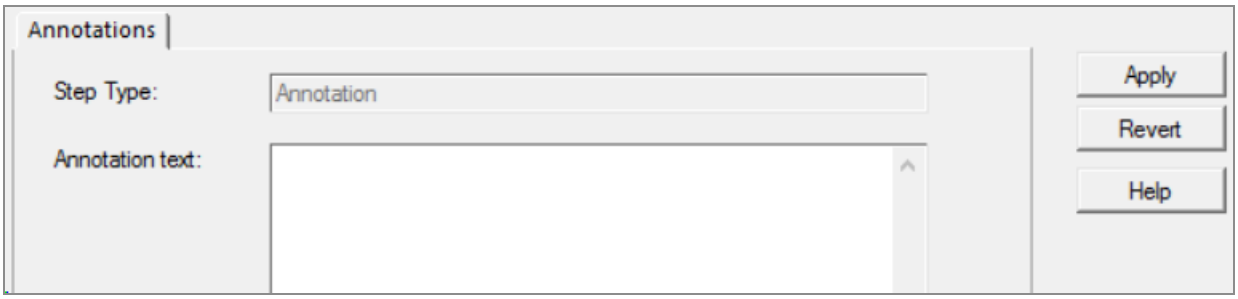
If you have already changed an icon and want to revert to the original icon, click **Use Default** and the default iProcess icon is displayed.

Annotating Procedures for Clarity

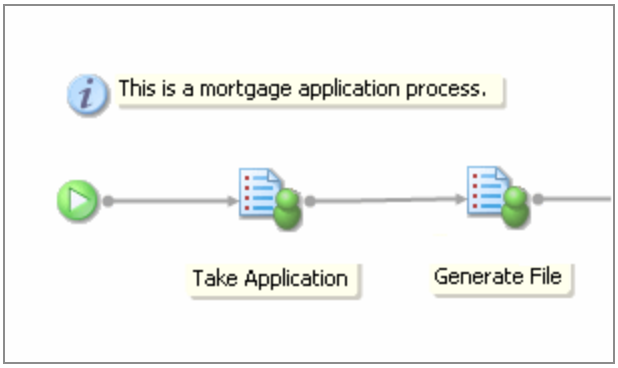
Annotating your procedures is an easy way to ensure clarity of your procedures.

Procedure

1. Click the annotation tool  and place it in the appropriate position on your procedure.
2. In the Properties pane at the bottom, enter the text that you want to display and click **Apply**.



The annotation text appears with the symbol on your procedure. You can re-position the annotation text by clicking and dragging the symbol.



Annotation is frequently used alongside Conditional Actions to show the decision being taken. A Conditional Action can also have an annotation that displays in the hover pop-up.

Annotation can also be associated with a particular step.

Procedure

1. Select the required step in your procedure and right-click.
2. Click **Annotations** and enter the information.

   Annotation that is specific to a step is not displayed on the TIBCO iProcess Modeler procedure layout but can be accessed at any time by right-clicking on the object.

Changing the Object Label Position

Text labels for objects display in the following default positions:

Object	Text Label Position
Annotation	Right side. (You cannot reposition annotation text.)
Condition	Since conditions have at least one side that is not linked, the text label appears on the free side.
Start	No text label.
Elbow	No text label.
Wait	No text label.
All other objects	Bottom side for left > right layout mode. Right side for top > down layout mode.

You can override the default text position (except for annotation) by right-clicking on an object (or selected objects) and selecting **Object Label Position**, then selecting the text position. Selecting **Automatic** uses the text label default position. To choose which text displays (the object name, description, extended description, and link labels), select **Options > Display Text**.

Working with Links

Links between objects are selectable in their own right, just as objects are selectable. To select a link, you can click the link or label. To select multiple links, hold the key and click the additional links. This leaves the original links selected while selecting the additional links. Also, if you select a group of objects, any links between those objects are selected. You can add object into the link and you can also move the link's cap.

To move a link, click the link and drag it to the new position. (Note that moving a link adds a router to the link.) Press **ESC** to cancel the move.

To delete a link, select the link and press **Delete**.

You can right-click a link to access the following pop-up menu options:

Menu Option	Description
Link Label	Allows you to edit the link label parameters.
Add Router	Inserts a router at the point the mouse was clicked.
Go To Source	Selects the source object for the link and brings it into view (if not currently visible on screen).
Go To Target	Selects the target object for the link and brings it into view (if not currently visible on screen).
Reset Link Styles	Resets the link styles and color to those options currently selected on the link style toolbar.
Delete Link	Deletes the link without deleting the selected objects.

If you select multiple links (with no objects selected) and right-click a selected link, a pop-up menu containing the following menu options appears:

Menu Option	Description
Link Label	Allows you to edit the link label parameters.
Reset Link Styles	Resets the link styles and color to those options currently selected on the link style toolbar.
Delete Link(s)	Deletes the link without deleting the selected objects.

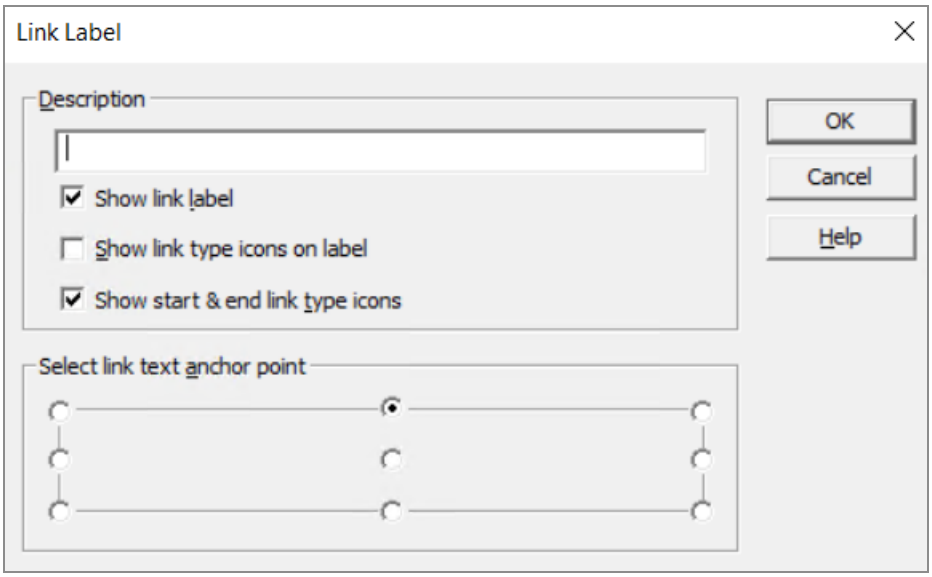
Setting Link Labels and Icons

You can assign a label to a link. The link label can consist of text and icons that identify the link type. The link type icons are:

Icon	Type
	Deadline
	Condition True
	Condition False
	Withdraw

The link icon displays on the link line close to the link start point (or end point in the case of the withdraw link icon). If the object text label is positioned on the same side as the link, the link icon appears further along the link line to avoid overlaying the text. You can elect to hide the start and end link type icons using an option on the **Link Label** dialog box.

To access the **Link Label** dialog box, double-click a link or right-click a link and select the **Link Label** menu option. The **Link Label** dialog box appears.



The link label description text can be up to 128 characters. The text is truncated (or not displayed at all) if display space is limited. However, you can hover the cursor over the link and the full label text displays in a pop-up window.

Changing Link Styles and Animation

You can select a variety of link styles by using the Link Styles toolbar (or by selecting **Options > Link Styles**).

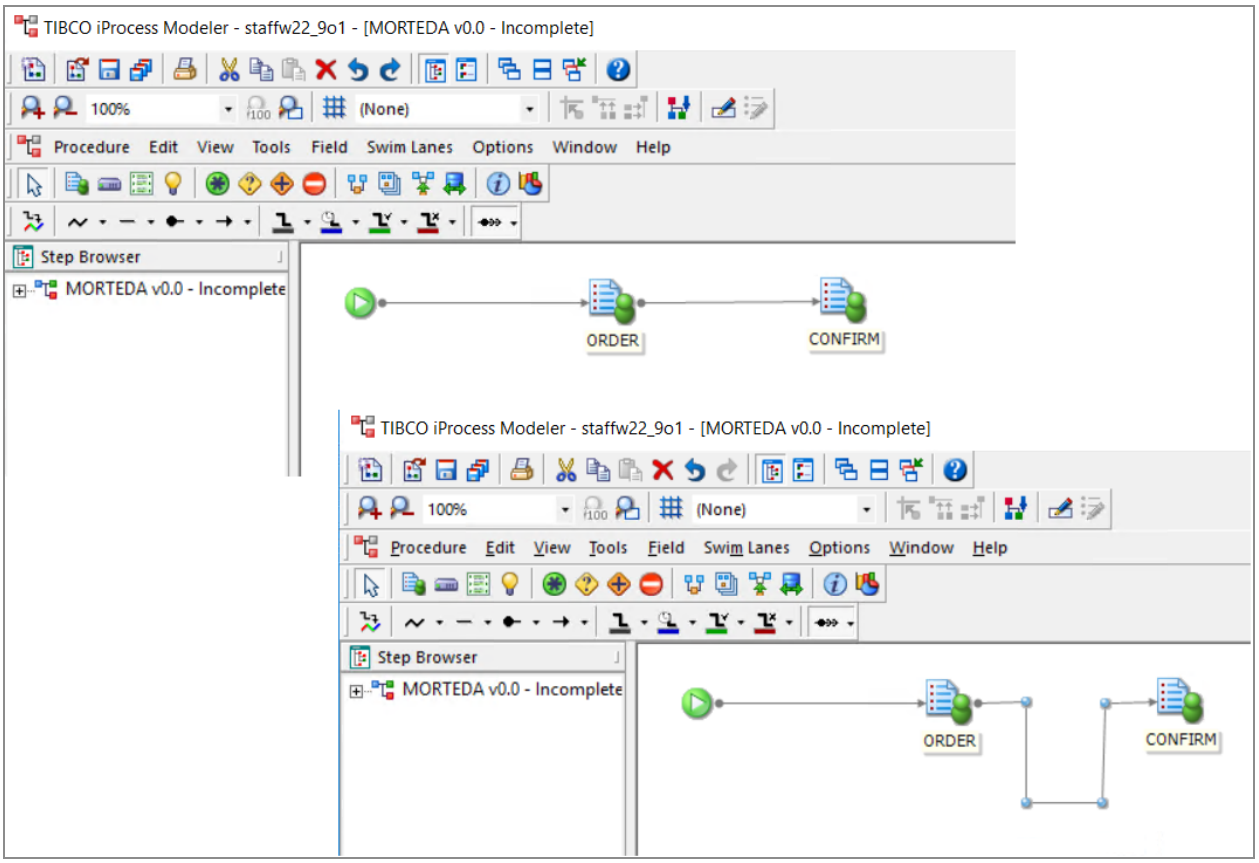
Style	Icon	Description
Convert		Converts the selected links to the styles and colors currently selected on the toolbar.
Flowchart		Allows horizontal and vertical lines.
Straight		Allows diagonal lines.
Curved		Allows best-fit curved lines through routers.
Line Width		Allows you to select the thickness of the lines by pixel.
Start-cap Style		Allows you to select a line start-cap style from a drop-down list. Your choices are None, Round, Square, and two arrow styles.
End-cap Style		Allows you to select a line end-cap style from a drop-down list. Your choices are None, Round, Square, and two arrow styles.
Normal		Allows you to set the Normal link color.
Deadline		Allows you to set the Deadline link color.
Condition True		Allows you to set the Condition True link color.
Condition False		Allows you to set the Condition False link color.
Animation		Allows you to turn on/off link animation, select the type of points (dots or arrows), and select the animation speed.

Changing a link style makes the change only for the selected link. To make the same changes to all links in a procedure, click  or select **Edit > Reset All Link Styles**.

Using Routers to Simplify Visual Layout

Routers are used to simplify the visual layout of a procedure. Using them allows you to define the route of the connecting line between two steps. Any number of routers can be placed anywhere on any type of link to give greater control over the layout.

The following example shows first how the line would be automatically drawn by iProcess and then how it can be displayed when using a router.



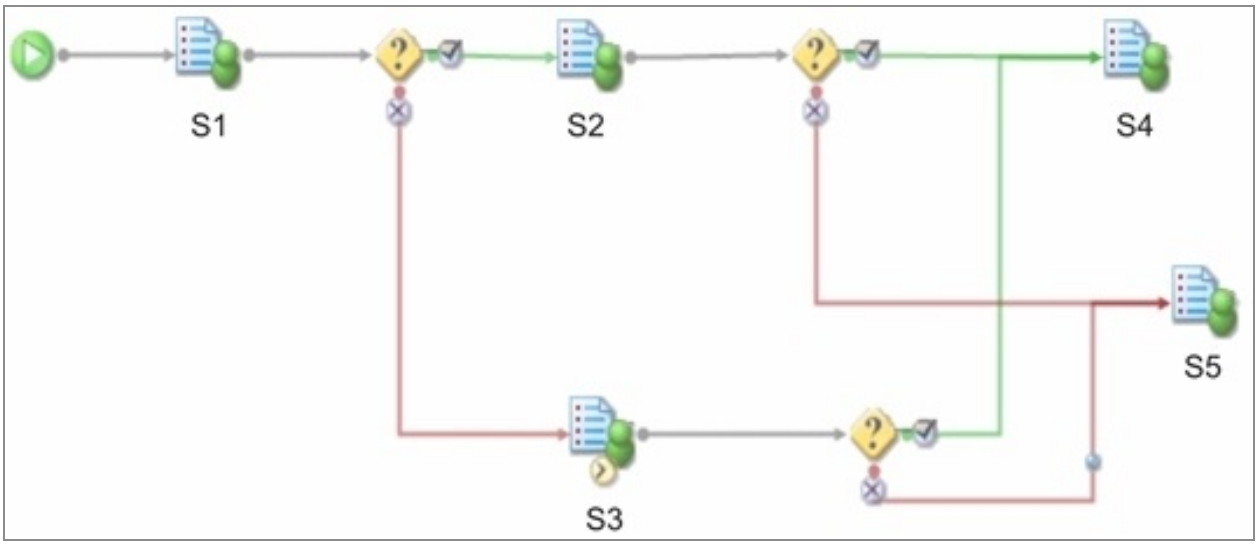
Using Complex Routers to Simplify Procedure Logic

A Complex Router is a step that is hidden to the user at runtime and never appears in a work queue. The iProcess background process releases the Complex Router and processes its actions without any input from the user.

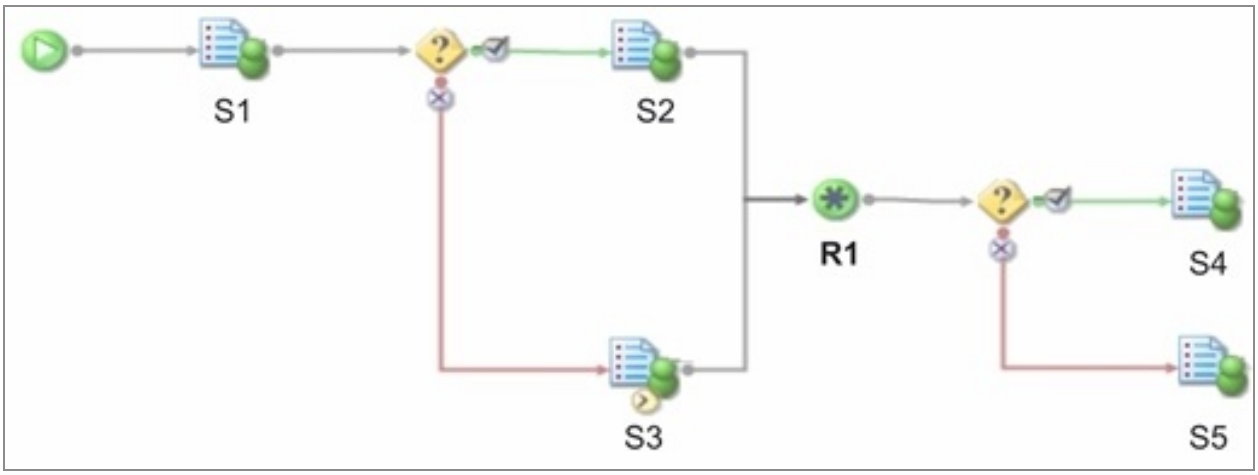
Complex Routers can be useful in the following situations:

- **To simplify procedure layout**. The following is an example:

  A conditional action can only have one step leading to it, but it may be that two or more steps need to use the same condition to decide an action. In the following example, **S1** processes either **S2** or **S3**. Both of these steps process either **S4** or **S5**. When this happens, the resulting process is difficult to follow.



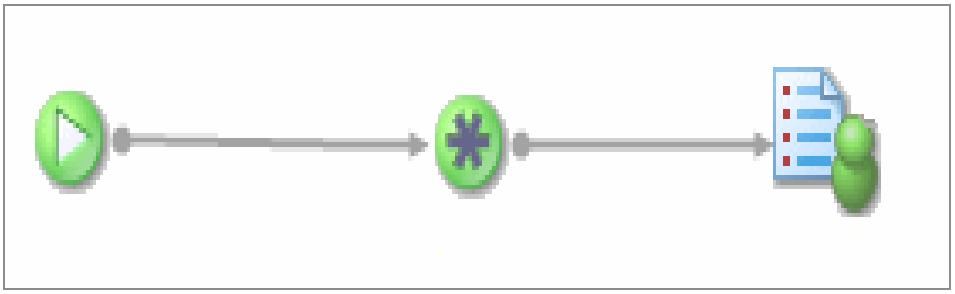
  Using a Complex Router **R1** in this situation makes the process visually simpler.



- **To make the case number available to the first step**.

  On the TIBCO iProcess Workspace, when the addressee (or one of the addressees) of the first step of a procedure is the same as the user starting the case, the form appears immediately. In this instance, the case number is not available to the first step as it is assigned by the iProcess background when the case start is processed and returned to the work queue.

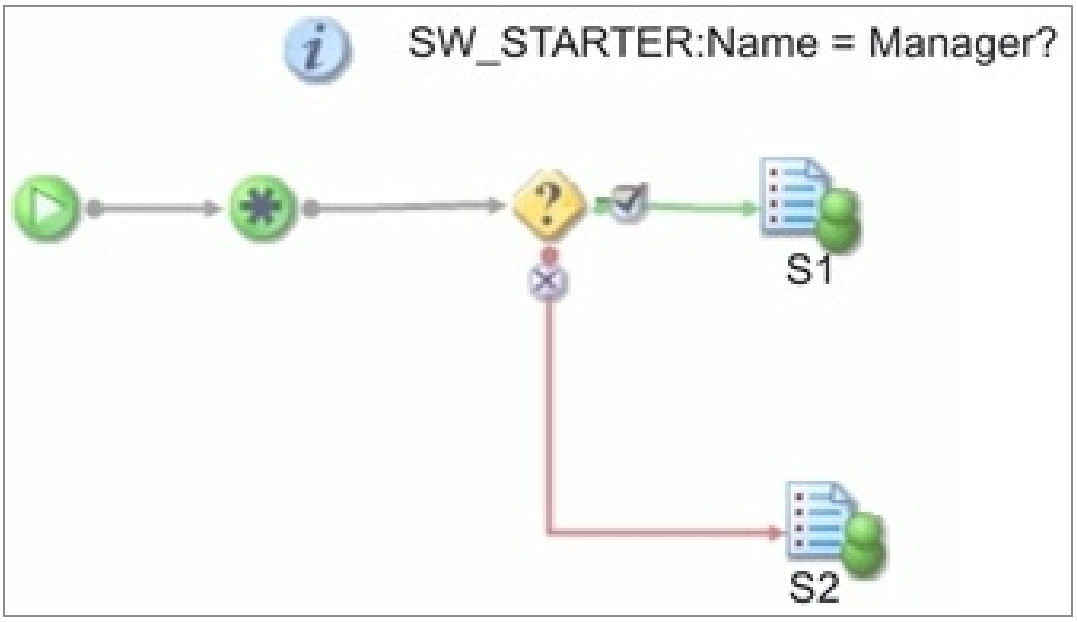
  By placing a complex router between the Start object and the first step you can overcome this problem. iProcess takes the Complex Router as being the first step, assigns the case number, then processes the next step which is the first step to be displayed to the user.



- **To provide conditional start steps**.

  Placing a Complex Router immediately after the Case Start object allows you to conditionally set the start step, depending on the value of case data. (A Condition cannot be placed directly after the Case Start object.)

  In the following example, as shown by the annotation, STEP1 is actioned if the case is started by the Manager user. If it is started by another user, STEP2 is actioned. (Note that STEP1 or STEP2 will be sent to the appropriate queue in the normal way - the case starter will not receive the form for either when starting the case.)



Note: Complex Routers cannot have withdraw or deadline actions and do not have entries in the Audit Trail.

Using GOTOSTEP to Simplify the Procedure Routing

You can alter the normal flow of your procedure using the GOTOSTEP expression. For example, if you want to jump to a specific step (perhaps for exception handling), you can jump directly to an exception handling step rather than trying to define the necessary workflow layout to do it (which can often get difficult to interpret).

On release of the current step, you can use GOTOSTEP to jump to another step. You can choose to process the current step or not. The GOTOSTEP expression has a flag that can be used to specify if the current workflow processing is continued or stopped when the workflow jumps to the new step.

For example, if you have a step where a script is run and an exception is raised, you can use the GOTOSTEP to jump to an exception handling step rather than trying to define a complicated workflow to handle the various workflow routes. Using this expression can cut down the amount of workflow “spaghetti” which can be created when defining a complicated procedure.

For more information and a detailed example about using the GOTOSTEP syntax, see “GOTOSTEP” in *TIBCO iProcess Expressions and Functions Reference Guide*.

Zooming In and Out of a Procedure

For ease of use when viewing a procedure you can zoom in and out or choose a particular part of a procedure to view.

Task	Menu Option	Toolbar Button
Enlarge the size of the procedure.	**View > Zoom In**	
Reduce the size of a procedure.	**View > Zoom Out**	
Set zoom level.	**View > Zoom Level**	
Enlarge a particular section of a procedure. Use on large procedures to give you a rectangular box which you can drag across your TIBCO iProcess Modeler window. If you place it over a particular section of your procedure and click, that section is enlarged.	**View > Map**	
Display the default size.	**View > Normal**	

Spinning the mouse wheel while pressing **Ctrl** zooms the view in and out.

Changing Procedure Orientation

The default orientation for procedures is left-to-right (horizontal). However, for some procedures, a top-down (vertical) flow makes more sense. The  button allows you to

change the procedure orientation. Changing the orientation swaps the X and Y coordinates of each object and changes the link sides from right to bottom and from left to top. It also switches the default object side link types. For more information, see Linking Procedure Objects.

Using the Snap-To Grid

The snap-to grid function allows you to align objects using a grid. When you move or place an object, the object is automatically snapped to the center of the nearest grid square. The following table contains the toolbar icons and a description of the toolbar functions:

Icon	Description
	Displays the snap-to grid.
	Allows you to select the size of the grid.
	Snaps the selected object to the center of the nearest grid square.

If a snap-to grid operation would cause objects to overlap, no objects are moved and you receive an error message.

Saving a Procedure as an Image

You can save a procedure map as an image file by clicking **Procedure > Save As > Image**. The **Save File** dialog box appears. Specify the location, name, and type (JPEG, BMP, or PNG) of the output image. Click **Save** to view the image in the specified file and format at the current zoom level.

Note: There is a limitation on the size of in-memory bitmaps. If the procedure is very large in the current zoom level a warning message is displayed. You can decrease the zoom level to make the view smaller until the size is under the limitation.

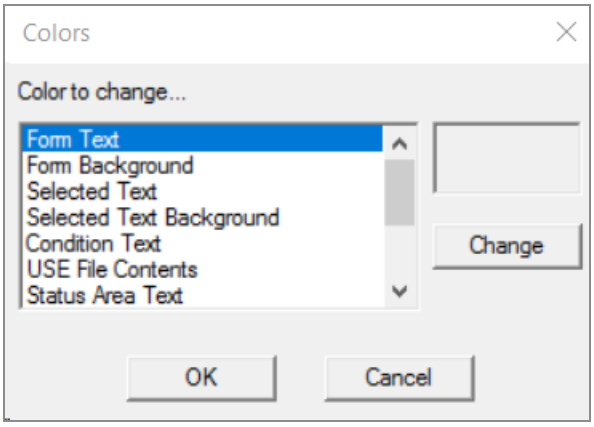
Customizing the Process Step Definer

The Process Step Definer has a number of setup options that can be changed to suit your way of working.

Open the Step Definer, click **Form > Setup** and you have several options, which are described in this section.

Colors

The colors that are used for the text and background in different parts of the form can be changed through the standard Windows **Colors** dialog box.

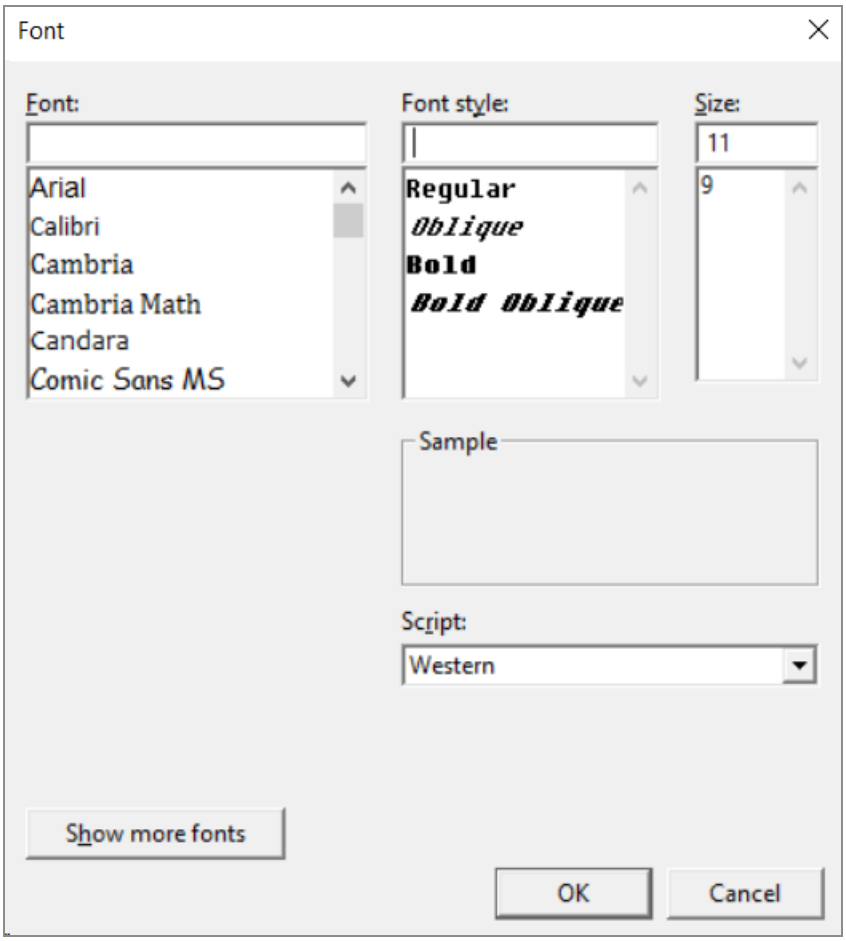


Click **Change** to display the color palette, make your selection and click **OK**.

Changes are implemented across all procedures and are saved between TIBCO iProcess Modeler sessions.

Select Font

Selecting this option takes you to the **Font** dialog box allowing you to select the font you want and its style and size.



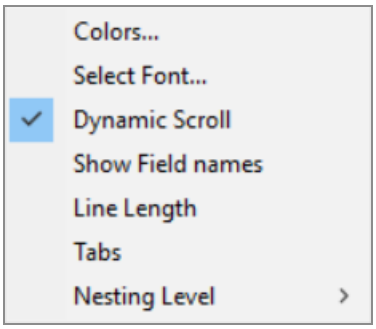
Changes made are per form and are saved between TIBCO iProcess Modeler sessions.

Dynamic Scroll

When **Dynamic Scroll** is on, the contents of the window move as you drag the scroll bar up or down. When it is off, the contents of the window do not move until you release the scroll bar.

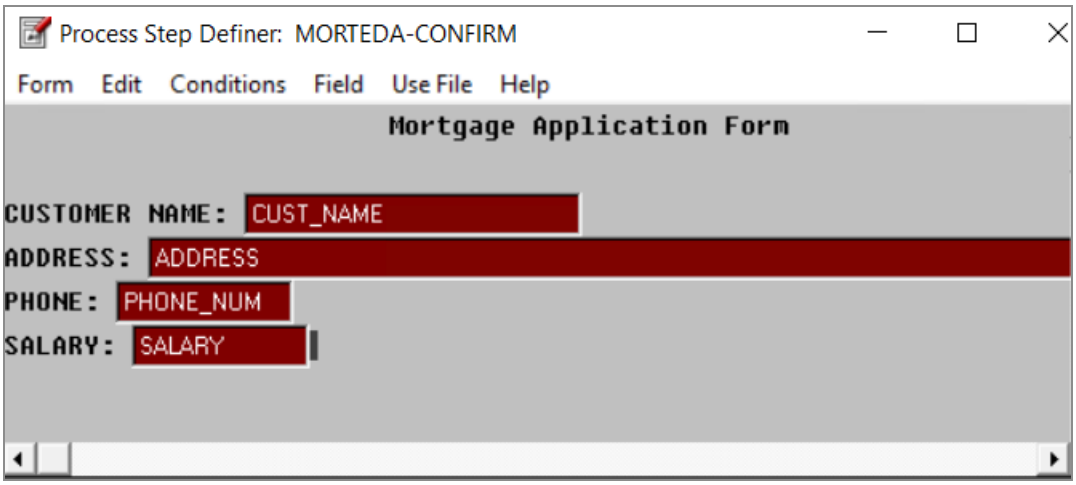
Click **Dynamic Scroll** to select it and a check mark appears to the left of the list. Click again to de-select it.

This option is per form and is not saved between editing sessions.



Show Field Names

When **Show Field names** is selected the names of fields appear in the input fields in the **Process Step Definer** window as shown below.

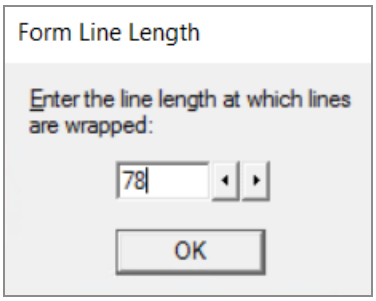


Click **Show Field names** to select it and a check mark appears to the left of the list. Click again to de-select it.

This option is set across all procedures and is saved between TIBCO iProcess Modeler sessions.

Line Length

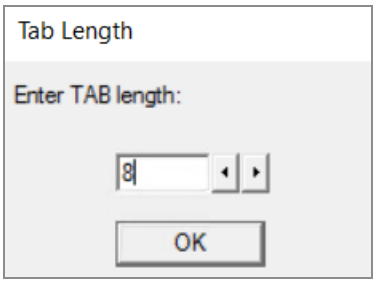
Line length allows you to choose how long the lines in your form should be before they are wrapped.



Enter the line length you want (to a maximum of 128 characters) and click **OK**.

Tabs

To change the distance in characters between tabs, select **Setup > Tabs**. Enter the distance you want and click **OK**.



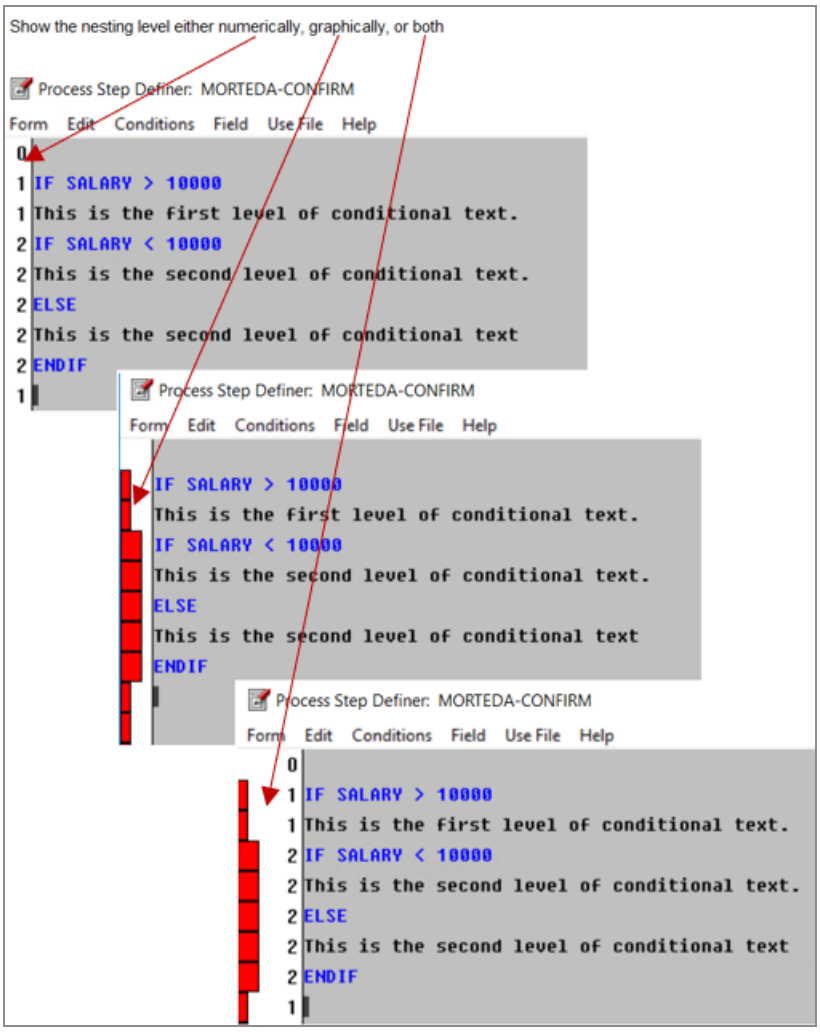
The maximum tab length is 16 characters and the change is implemented across all procedures and is maintained between TIBCO iProcess Modeler sessions.

Nesting Level

When you use Conditional Text in your form (see Using Using Conditional Text to Dynamically Change a Form), you can nest up to 20 levels. To make it easier to follow when working on your form, you can choose to show the nesting levels either numerically or graphically.

This option is per form and is not saved between TIBCO iProcess Modeler sessions.

Select **Nesting Level** from the **Setup** menu on the form and choose **Numeric** or **Graphical** (or both).


Show the nesting level either numerically, graphically, or both
Process Step Definer: MORTEDA-CONFIRM
Form Edit Conditions Field Use File Help
0
1 IF SALARY > 10000
1 This is the first level of conditional text.
2 IF SALARY < 10000
2 This is the second level of conditional text.
2 ELSE
2 This is the second level of conditional text
2 ENDIF
1
Process Step Definer: MORTEDA-CONFIRM
Form Edit Conditions Field Use File Help
IF SALARY > 10000
This is the first level of conditional text.
IF SALARY < 10000
This is the second level of conditional text.
ELSE
This is the second level of conditional text
ENDIF
Process Step Definer: MORTEDA-CONFIRM
Form Edit Conditions Field Use File Help
0
1 IF SALARY > 10000
1 This is the first level of conditional text.
2 IF SALARY < 10000
2 This is the second level of conditional text.
2 ELSE
2 This is the second level of conditional text
2 ENDIF
1

Troubleshooting Procedure Definitions

This section describes some typical problems you can encounter when defining and working with procedures.

An Under Construction Symbol Appears on a Step

Problem

One or more steps in your procedure definition show an Under Construction sign over the step icon.

Description

When defining procedures, you need to be aware that steps need to have a certain amount of basic information. If this information is not defined, iProcess warns you by placing an Under Construction sign on the step.

Solution

The following list describes the possible solutions you can try for each step type where you see a red question mark.

- **For a normal step**, select the step and right-click to select **Addressees**. Ensure an addressee has been entered for this step.
- **For a Sub-procedure call step**, select the step and right-click to select **Sub-procedure**. Ensure a sub-procedure is chosen in the **Sub-Procedure Name** field.

- **For a Dynamic Sub-procedure call step**, select the step and right-click to select **Dynamic Sub-Procedure**. Ensure the **Sub-Procedure Name Array** field contains an array field and that all the required input fields are mapped.
- **For an EAI step**, select the step and right-click **Description**. Ensure a valid script definition has been entered and check that an EAI type has been selected.
- **For a Wait step**, ensure it is connected to 2 or more steps.
- **For a Condition step**, select the step and right-click **Condition**. Enter a valid condition.

Changing the Currency Unit

Problem

You need to change the currency unit.

Description

The default currency unit for iProcess is pounds and pence. For different currency units, you must change the system configuration. The currency unit information is stored in the `SWDIR/etc/ENGLISH.LNG/LONGNUM.FMT` file. To change the currency units, you must change all the references to pounds and pence in the `LONGNUM.FMT` file to the currency unit you require. You can, either:

- **Solution 1**: Amend the original *SWDIR*/**etc**/**LONGNUM.FMT** file, or
- **Solution 2**: Create a copy of the *SWDIR*/**etc**/**ENGLISH.LNG** directory, rename it to the language whose currency unit you require and amend the `LONGNUM.FMT` file in the new *SWDIR*/**etc**/**language.LNG** directory.

The following sections describe the steps to perform for each solution:

Solution 1

Complete the following steps:

Procedure

1. Create a back up copy of the `SWDIR/etc/ENGLISH.LNG` directory.

2. Open the `SWDIR/etc/ENGLISH.LNG/LONGNUM.FMT` file in a text editor, for example, Textpad.
3. Change all references to pounds and pence in the `SWDIR/etc/ENGLISH.LNG/LONGNUM.FMT` file to the currency units you require.

Solution 2

Complete the following steps:

Procedure

1. In *SWDIR*/, create a directory named **language.LNG** where `language` is the name of the language whose currency unit you want to use. For example, if you wanted to change the currency unit to dollars, you could create a directory called `USA.LNG`.
2. Copy all the files from the *SWDIR*/**etc**/**ENGLISH.LNG** directory to the **language.LNG** directory you have just created.
3. Open the *SWDIR*/**etc**/**language.LNG**/**LONGNUM.FMT** file in a text editor, for example, Textpad.
4. Change all references to pounds and pence in the `LONGNUM.FMT` file to the currency units you require.
5. Open **User Manager** in the iProcess Administrator.
6. For each user whose currency unit needs to change, change the user LANGUAGE attribute to the value of the **language.lng** directory that you created in Step 1. For example, if you created a directory called **usa.lng**, then change the LANGUAGE attribute from **English** to **USA**.
7. Open **Move SysInfo** in the iProcess Administrator.
8. Click **Move SysInfo** to apply the changes.

TIBCO Documentation and Support Services

For information about this product, you can read the documentation, contact TIBCO Support, and join TIBCO Community.

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the Product Documentation website, mainly in HTML and PDF formats.

The Product Documentation website is updated frequently and is more current than any other documentation included with the product.

Product-Specific Documentation

The following documentation for this product is available on the TIBCO iProcess® Workspace (Windows) Product Documentation page:

Other TIBCO Product Documentation

When working with TIBCO iProcess® Modeler, you may find it useful to read the documentation of the following TIBCO products:

- TIBCO ActiveMatrix BusinessWorks™
- TIBCO Business Studio™
- TIBCO Enterprise Message Service™
- TIBCO Hawk®
- TIBCO Rendezvous®

How to Contact Support for TIBCO Products

You can contact the Support team in the following ways:

- To access the Support Knowledge Base and getting personalized content about

products you are interested in, visit our product Support website.

- To create a Support case, you must have a valid maintenance or support contract with a Cloud Software Group entity. You also need a username and password to log in to the product Support website. If you do not have a username, you can request one by clicking **Register** on the website.

How to Join TIBCO Community

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