IBM ILOG JViews Diagrammer V8.6

Using the IBM® ILOG® JViews BPMN Modeler

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Using the IBM® ILOG® JViews BPMN Modeler

Contains a concise description of the features and capabilities of the IBM® ILOG® JViews BPMN Modeler. It is assumed that you are familiar with BPMN notation and, therefore, the meanings of the symbols or the best practices for defining business processes are not described. For more information about BPMN notation, go to *http://www.bpmn.org/*.

In this section

Overview
Provides an overview of the IBM® ILOG® JViews BPMN Modeler which allows you to model business processes using standard BPMN notation.

IBM® ILOG® JViews BPMN Modeler GUI description
Describes the IBM® ILOG® JViews BPMN Modeler GUI elements.

Format of XML files for BPMN objects
Describes the XML elements for BPMN objects. The contents of Business Process Diagrams (BPDs) are saved in an XML file.

Extending the IBM® ILOG® JViews BPMN Modeler
Shows how to extend the IBM® ILOG® JViews BPMN Modeler.

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Overview

Thank you for using the IBM® ILOG® JViews BPMN Modeler. By using this software application, technical and business users can model business processes using standard BPMN notation.

The essential benefits of this software are as follows:

- It uses BPMN notation to represent business processes. This notation, created and specified by BPMI.org and published by the OMG, is widely recognized to be comprehensive, and sufficiently intuitive to be used by both business and technical users. For more information about BPMN, go to *http://www.bpmn.org/*
- The nodes (activities, gateways, sub-processes, and so on) and edges of the diagram can be positioned automatically by the modeler to produce readable diagrams whatever their size and complexity. The underlying technique, named Graph Layout, is used to automatically arrange complex graphs.
- The modeler generates and reads a simple yet complete XML format that describes the content of the business process; see *Format of XML files for BPMN objects*. This XML can be used by an application to read the process being modeled, or to supply content to the IBM® ILOG® JViews BPMN Modeler. Contrary to many diagramming tools, the output is not just a drawing that can only be used for documentation purposes.
- If needed, the modeler can be modified or enriched by a Java™ developer. The look and feel, the interactions, and the data model can be adapted to specific needs. To achieve this, Java developers can use JViews Diagrammer, the leading commercial Java software component for developing diagramming applications. For more info go to *http://www.ilog.com/products/jviews/workflow/*and *http://www.ilog.com/products/jviews/diagrammer/*.

IBM® ILOG® JViews BPMN Modeler GUI description

Describes the IBM® ILOG® JViews BPMN Modeler GUI elements.

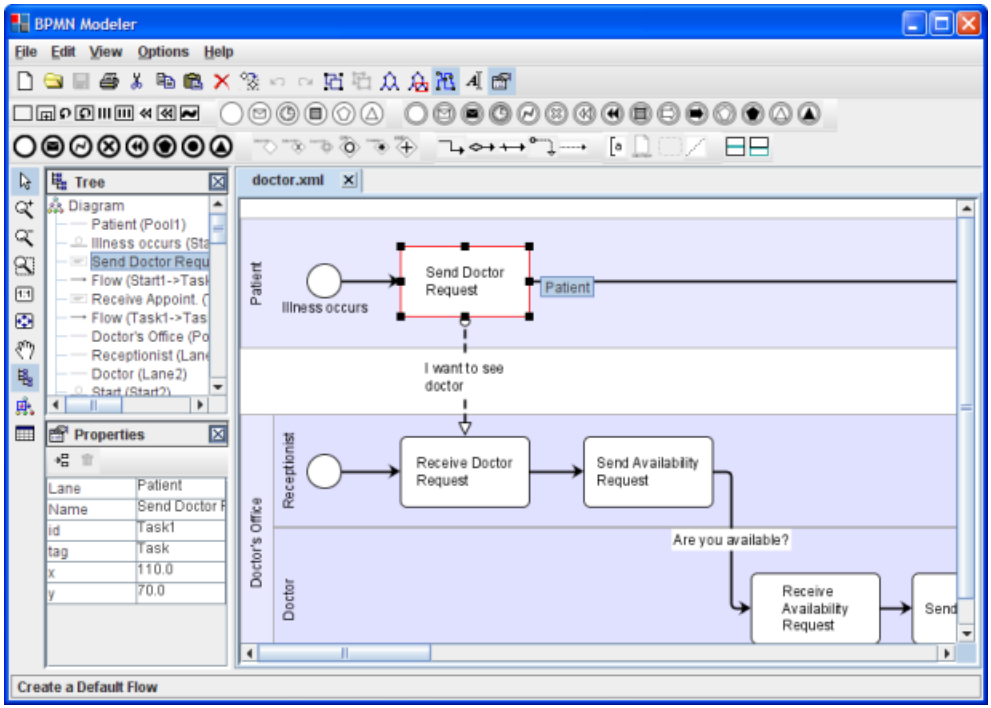
In this section

The Modeler GUI
Presents the elements of the IBM® ILOG® JViews BPMN Modeler graphical user interface (GUI).

Menus
Describes the menus of the IBM® ILOG® JViews BPMN Modeler GUI.

The Palette toolbars
Describes the palettes of objects provided by IBM® ILOG® JViews BPMN Modeler in the form of toolbars.

The Modeler GUI



The IBM® ILOG® JViews BPMN Modeler GUI

The Modeler GUI contains the following elements:

- Menus, see *Menus*
- Toolbars, see *The Document toolbar* and *The Palette toolbars*
- View windows, see *The View menu*
- A Diagram window

Menus

Describes the menus of the IBM® ILOG® JViews BPMN Modeler GUI.

In this section

The File menu
Describes the contents of the File menu of the IBM® ILOG® JViews BPMN Modeler GUI.

The Edit menu
Describes the contents of the Edit menu of the IBM® ILOG® JViews BPMN Modeler GUI.

The View menu
Describes the contents of the View menu of the IBM® ILOG® JViews BPMN Modeler GUI.

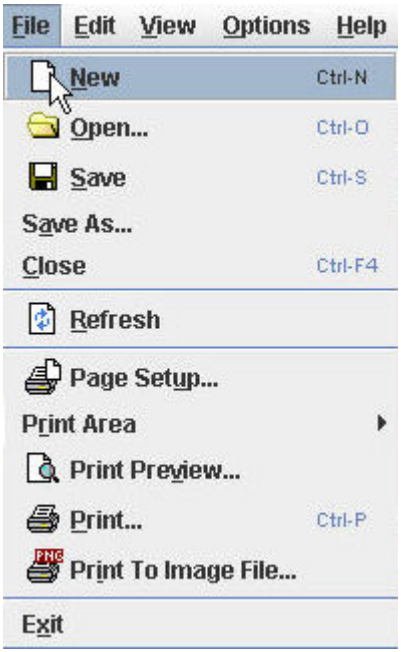
The Options menu
Describes the contents of the Options menu of the IBM® ILOG® JViews BPMN Modeler GUI.

The Help Menu
Describes the contents of the Help menu of the IBM® ILOG® JViews BPMN Modeler GUI.

The Document toolbar
Describes the contents of the Document toolbar in the IBM® ILOG® JViews BPMN Modeler GUI.

The File menu

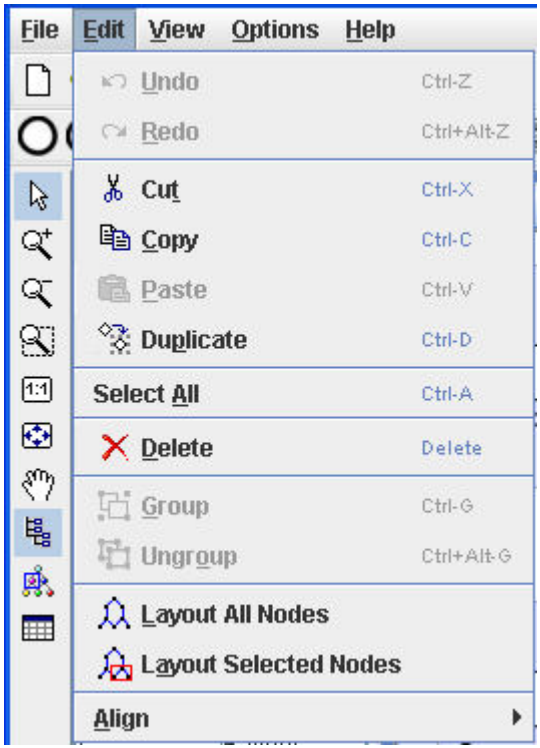
Use this menu to create a new document, open, close, or save a document, define the printing parameters, and exit the application. See the following figure.



The File menu

The Edit menu

This menu provides basic editing commands such as **Copy**, **Paste**, and **Delete**. There are also other commands, which are described in more detail in this section.

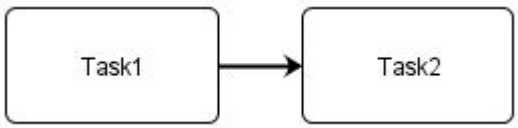


The Edit menu

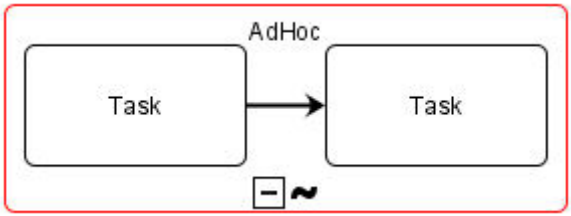
Group and Ungroup

The **Group** and **Ungroup** commands are useful for creating ad-hoc subprocesses from tasks and other elements in your diagram:

- The **Group** command creates a subprocess and moves the selected objects into this subprocess.



Before grouping



After grouping

- The **Ungroup** command extracts the elements of a subprocess. It places them in the parent of the subprocess, and deletes the subprocess.

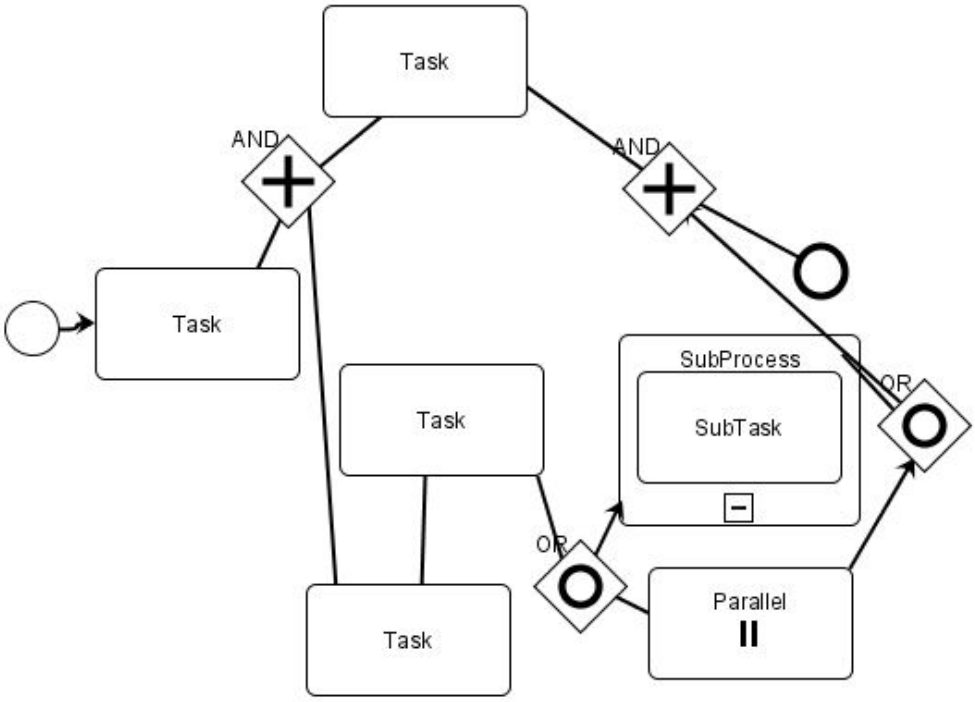
Layout All Nodes

This command arranges the entire diagram to remove overlaps and to provide an easy-to-read diagram. The function is particularly useful in the following circumstances:

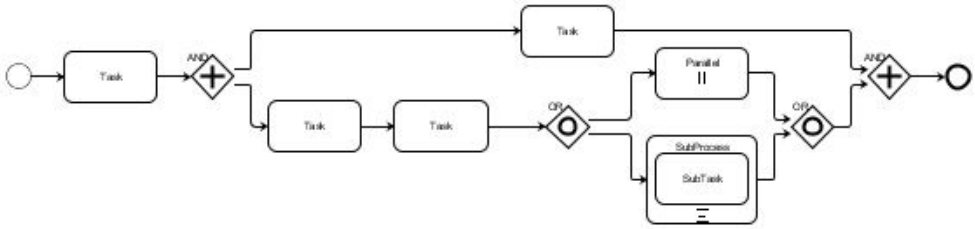
- During prototyping, when it enables you to add new elements without needing to move nodes manually.
- When complex processes are loaded from a business process management system. In this case, there is often no graphics information within the process, and they would appear visually disorganized without the graph layout.
- When you are working with complex diagrams. Simple diagrams may give better results when arranged manually.

> **Note**: Before performing a Layout All Nodes operation, you may sometimes need to set the Automatic Link Layout option to OFF. See *The Document toolbar*.

The figures *Before automatic layout* and *After automatic layout* show a **Layout All Nodes** operation.



Before automatic layout

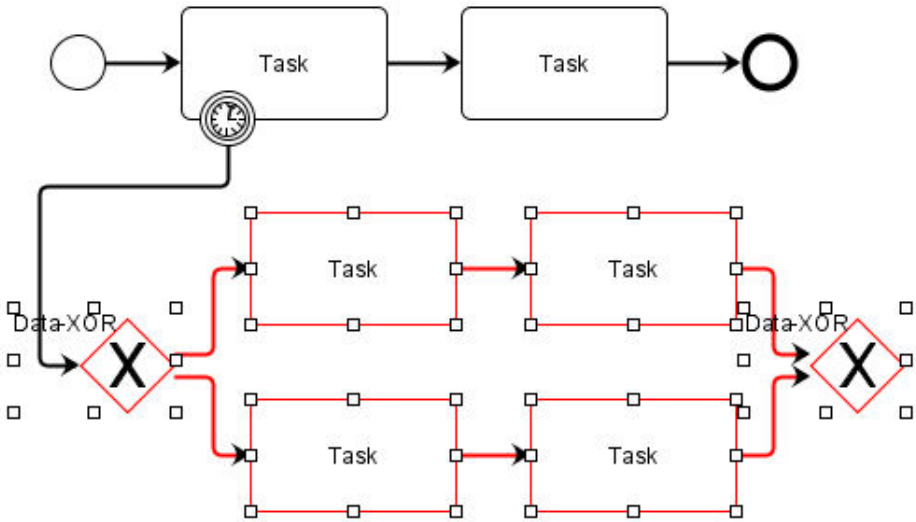


After automatic layout

Layout Selected Nodes

This command lets you arrange selected objects without moving unselected objects. This is useful when you have manually arranged a portion of the diagram, and you want the system to automatically arrange another portion.

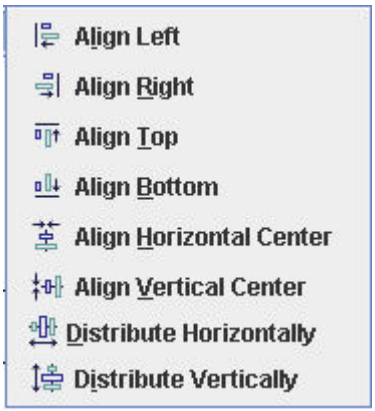
Note: You have to keep the Automatic Link Layout option set to ON during this operation. See *The Document toolbar*.



Layout Selected Nodes

Alignment

This menu gives access to a list of alignment commands that you can use to arrange nodes manually. They are complementary to the automatic layout commands. See *Layout All Nodes* and *Layout Selected Nodes*.

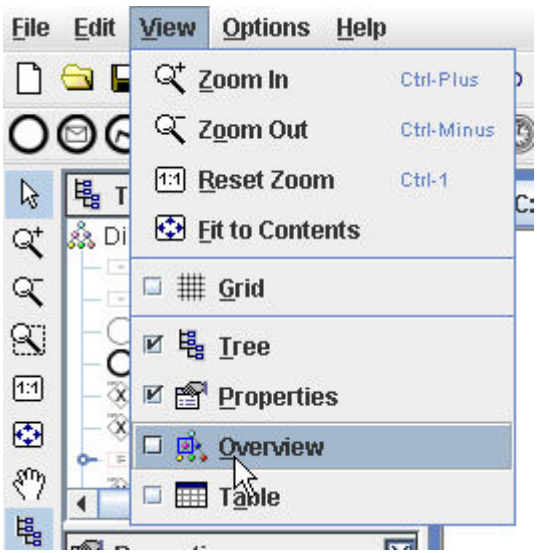


The Alignment options

The View menu

The View menu gives access to:

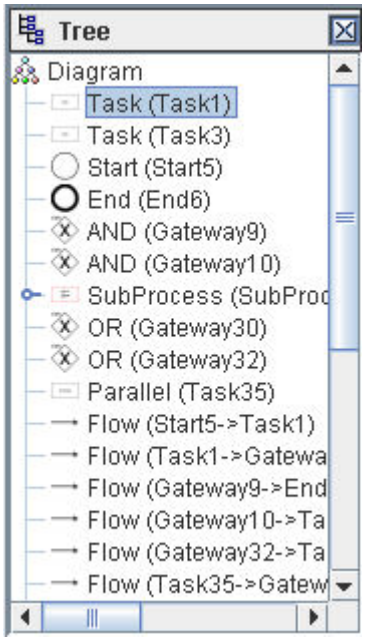
- Commands for zooming in or out, and for resetting the initial zoom level.
- Alternative views of the diagram information. They are described in more detail in this section.



The View Menu

Tree View

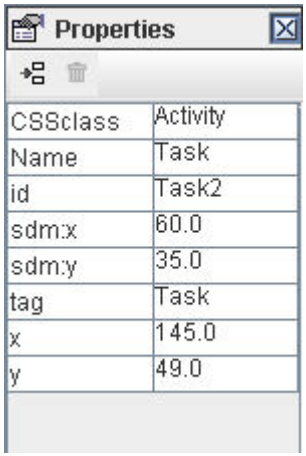
The **Tree View** displays the elements of the diagram as a tree. Objects selected in the **Tree View** are also selected in the **Diagram View**. Subprocesses are displayed as branches that can be expanded or collapsed.



The Tree view

Properties view

The **Properties View** displays the properties of the selected object.

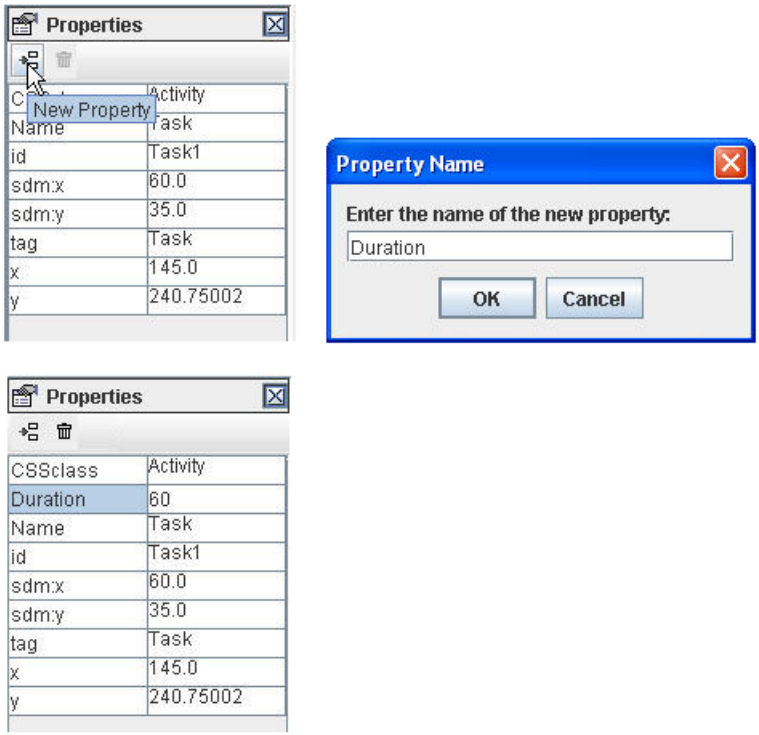


The Properties view

You can use this view to:

- Change property values, for example, to set the names of the activities.

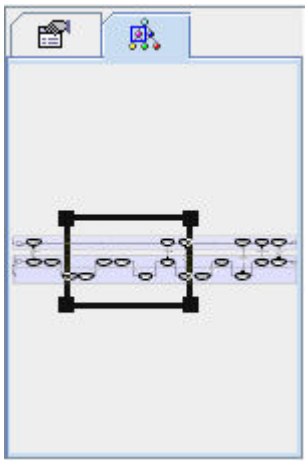
- Remove a property for a selected element of the diagram. Removing pre-defined properties should be done carefully as it may have an impact on the diagram meaning and representation.
- Add new properties to the selected element of the diagram; see the following figure. The property is saved in the XML document.



Adding a new property

Overview

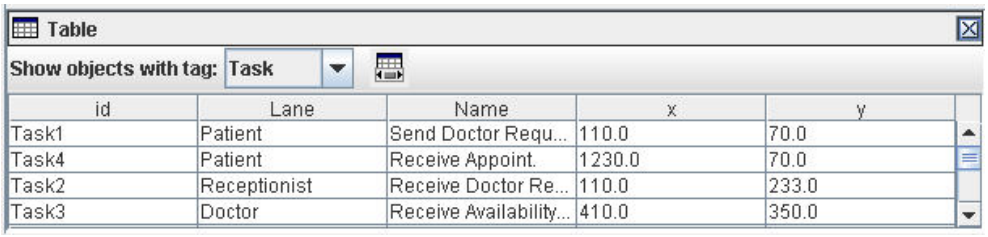
The overview window displays an entire diagram. A rectangle with resizing handles represents the area displayed in the **Diagram View**. When moving the rectangle or when resizing it, you can zoom-in, zoom-out, and pan in the **Diagram View**.



The Overview

Table View

The **Table View** displays the elements of the diagram and their properties in a table. The **Table View** provides a filter that allows you to display only those elements that match a certain type.

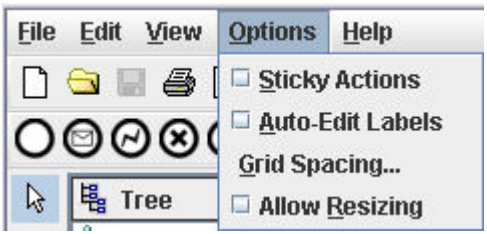


id	Lane	Name	x	y
Task1	Patient	Send Doctor Requ...	110.0	70.0
Task4	Patient	Receive Appoint.	1230.0	70.0
Task2	Receptionist	Receive Doctor Re...	110.0	233.0
Task3	Doctor	Receive Availability...	410.0	350.0

The Table view

The Options menu

The **Options** menu contains action, editing, and display options.



The Options menu

It allows you to define the following options:

Sticky Actions

When this option is ON, the last command remains active until a new command is triggered. This is useful when performing repetitive commands.

When this option is OFF, the modeler brings back the **Select** command after each action.

Auto-Edit Labels

When this option is ON, you are asked to enter object labels (for instance the name of a task) as they are added to the diagram.

When this option is OFF, the labels are edited either through the **Properties View** (see *Properties view*), or by selecting the **Edit Label** command (see *The Document toolbar*).

Grid Spacing

This option allows you to change the grid spacing. The grid is set ON/OFF through the **Grid** option on the **View** menu. See *The View menu*.

Allow Resizing

When this option is ON, the elements of the diagram can be resized manually. The selected objects are displayed in a selection rectangle with resizing handles.

When this option is OFF, the size of the elements of the diagram are automatically determined to ensure that the label text fits the elements. Subprocesses cannot be resized manually; their size depends on the size and position of their elements.

The Help Menu

The Help menu displays information about the IBM® ILOG® JViews BPMN modeler. If you use the online version of the modeler, the Help menu also gives access to this documentation, and to a series of Web pages where you can obtain additional information.

The Document toolbar

The Document toolbar

The Document toolbar includes the following commands:

- **Create**, **Open**, **Save**, and **Print** a diagram.
- **Undo/Redo**.
- **Group** and **Ungroup** commands, see *Group and Ungroup*.
- The graph layout commands, see *Layout All Nodes* and *Layout Selected Nodes*.
- **Automatic Link Layout**. This command routes the links to reduce the number of crossings between links. The command is useful when you add a new link, when you move a node that is linked, and when you do not want to re-layout all the nodes.

> **Note**: You may get better results by setting this option to OFF when performing the Layout All Nodes command. See *Layout All Nodes*.

- **Edit Label**. This command lets you edit the label of the object that you select. To do this, click the **Edit Label** button, then select the object.
- **Hide/Show Property Sheet**. This command allows you to hide or show the properties of the object that you select.

The Palette toolbars

Describes the palettes of objects provided by IBM® ILOG® JViews BPMN Modeler in the form of toolbars.

In this section

The Activity toolbar
Describes the Activity toolbar of the IBM® ILOG® JViews BPMN Modeler GUI.

The Events toolbar
Describes the Events toolbar of the IBM® ILOG® JViews BPMN Modeler GUI.

The Gateway toolbar
Describes the Gateway toolbar of the IBM® ILOG® JViews BPMN Modeler GUI.

The Links toolbar
Describes the Links toolbar of the IBM® ILOG® JViews BPMN Modeler GUI.

The Artifacts and Association toolbar
Describes the Artifacts and Association toolbar of the IBM® ILOG® JViews BPMN Modeler GUI.

The Lanes toolbar
Describes the Lanes toolbar of the IBM® ILOG® JViews BPMN Modeler GUI.

The Activity toolbar

The Activity toolbar

The Activity toolbar includes the various types of task offered in BPMN:

- Task
- Subprocess
- Loop
- Loop subprocess
- Parallel
- Parallel subprocess
- Compensation
- Compensation subprocess
- Ad-hoc subprocess

To add a new activity, select the type of activity in the palette, and position the activity within the diagram.

Subprocesses

The main characteristics of subprocesses are as follows:

- They are diagrams encapsulated in a subprocess element.
- They can be inserted into subprocesses.
- Diagram elements can be added into a subprocess by simply dropping them inside the subprocess.
- The extent (the size) of a subprocess is determined by the position of its elements.
- They can be expanded or collapsed by clicking on the button.

The Events toolbar

The Events toolbar gives access to several types of event that can occur within a BPMN process:

- Message
- Timer
- Exception
- Cancel
- Compensation
- Rule
- Link
- Multiple
- Signal
- Terminate

These events can start or terminate a process, or they can occur during the process. There are three distinct representations for each case.

Start events

The Start events toolbar

These events trigger the start of a process. They should be placed directly onto the diagram, and linked to the activities representing the tasks to be performed when the event occurs.

End events

The End events toolbar

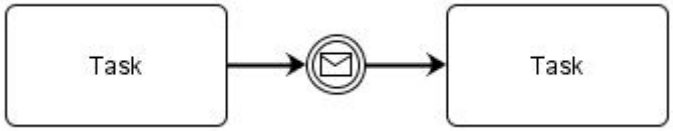
These events terminate a process. They should be placed directly onto the diagram.

Intermediate events

The Intermediate events toolbar

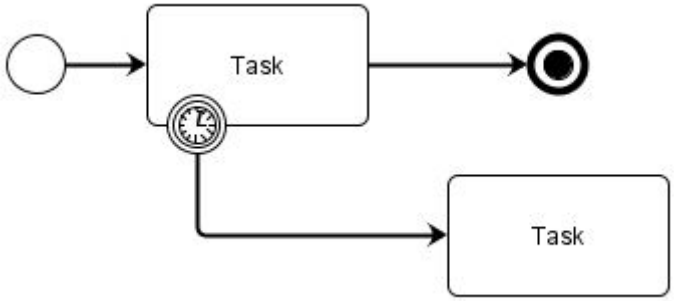
Intermediate events can be either placed onto the diagram or directly onto an activity. For example:

- When placed within the diagram, a message event specifies that the process is waiting for a message in order to resume its activity. There are usually flow links before and/or after this event.



A Message event

- When placed onto an activity, the event represents something that can occur during the execution of an activity. There is usually a link (flow, message) going out of the event to specify the action to perform if such an event occurs. To create these types of event, click the event command you require on the toolbar. In the diagram, select the task onto which you want to place the event. When you do this, the event sticks to the activity.



Timer event during activity execution

The Gateway toolbar

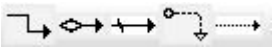
This toolbar lets you add gateways inside the diagram.

The Gateway toolbar

BPMN gateways are:

- Data-XOR
- Event-XOR
- OR
- Complex
- AND

The Links toolbar



The Links toolbar

The Links toolbar gives access to several types of BPMN link:

- Flow
- Conditional Flow
- Message
- Compensation Association

To create a link, click one of the link creation commands. In the **Diagram View**, select the source element and then select the destination element.

Note: There are restrictions on objects that can be linked together. For instance flow links cannot traverse subprocesses or pools.

The Artifacts and Association toolbar

The Artifacts and Association toolbar

These commands let you add Artifacts (Annotation, Data Object and Group objects) and Association elements to the diagram.

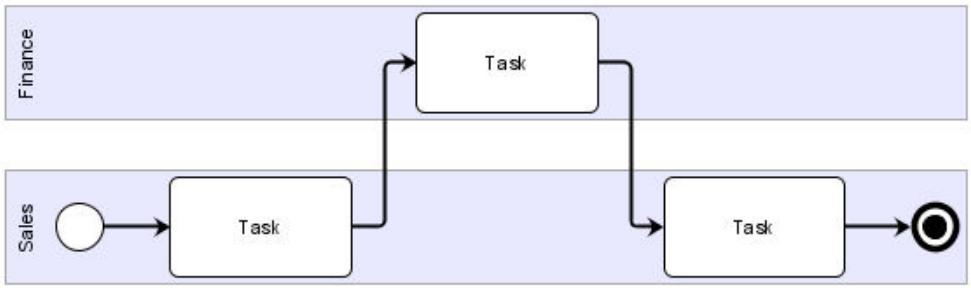
The Lanes toolbar

The Lanes toolbar

BPMN supports the notion of Pools for representing organizations, and Lanes for representing departments within an organization. IBM® ILOG® JViews BPMN Modeler supports both concepts.

Lanes

To create Lanes in a diagram, click the **Create Lane** command, and place the lane onto the diagram. Then, drop your diagram objects into the lane. The property of the object (see *Properties view*), is then updated to indicate that it belongs to the lane.



Lanes

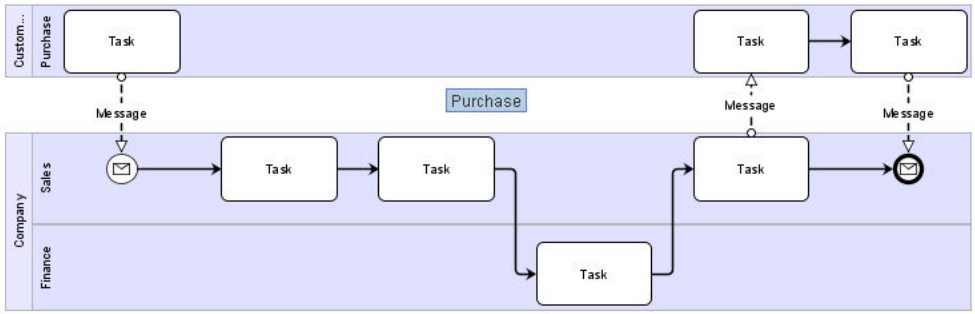
To remove an object from a Lane, select the object and remove its Lane property; see *Properties view*.

The size of the lane is determined by the position of the objects within the lane. In some cases, an object may appear to be inside a lane to which it does not belong. This can happen if a lane is enlarged when one of its elements is moved.

Pools

Pools are similar to lanes but they can include lanes within them.

To add a Lane into a Pool, just drop a Lane into the pool


Custom...
Purchase
Task
Task
Task
Message
Purchase
Message
Message
Company
Sales
Task
Task
Task
Finance
Task

Pools

Format of XML files for BPMN objects

Describes the XML elements for BPMN objects. The contents of Business Process Diagrams (BPDs) are saved in an XML file.

In this section

Activity
Defines the properties of an Activity, which can be a Task or a Subprocess.

Gateway
Defines the properties of a Gateway element.

Event
Defines the properties of the Start, End, and Intermediate elements of an Event.

Flow
Defines the Sequence Flow and Message Flow elements of the Flow element of an Event.

Compensation Association
Describes the CompensationAssociation element of an Event.

Artifacts and Association
Describes the properties of Artifacts and Association elements.

Pool and Lane
Describes the Pool and Lane elements of an Event.

Activity

An Activity can be a Task or a Subprocess.

Task

The properties for a Task element

Property Name	Description
Name	The label of the object.
x	The x-coordinate of the location.
y	The y-coordinate of the location.

Subprocess

The properties for a Subprocess element

Property Name	Description
Name	The label of the object.
x	The x-coordinate of the location.
y	The y-coordinate of the location.

Gateway

The properties for a Gateway element

Property Name	Description
Name	The label of the object.
x	The x-coordinate of the location.
y	The y-coordinate of the location.
GatewayType	The type of the gateway. This property can be set to “XOR”, “OR”, “Complex”, or “AND”. If it is not set, the Gateway is a data-based XOR Gateway. When the GatewayType property is set to “XOR”, the XORType property is also relevant.
XORType	Specifies whether the Gateway is data-based or event-based (for XOR-type gateways only). This property can be set to “Event-XOR” for event-based XOR Gateways. If it is not set, the XOR Gateway is a data-based XOR Gateway.

Event

An Event can be a Start Event (Start), an End Event (End), or an Intermediate Event (Intermediate).

Start events

The properties for a Start element

Property Name	Description
x	The x-coordinate of the location.
y	The y-coordinate of the location.
Trigger	The type of event trigger: Message, Timer, Rule, Link, or Multiple. If this property is not set, the type of Event is not displayed.

End events

The properties for an End element

Property Name	Description
x	The x-coordinate of the location.
y	The y-coordinate of the location.
Trigger	The type of event trigger: Message, Exception, Cancel, Compensation, Link, Multiple, or Terminate. If this property is not set, the type of Event is not displayed.

Intermediate events

The properties for an Intermediate element

Property Name	Description
x	The x-coordinate of the location.
y	The y-coordinate of the location.
Trigger	The type of event trigger: Message, Timer, Exception, Cancel, Compensation, Rule, Link, or Multiple. If this property is not set, the type of Event is not displayed.
Interrupt	Set to `true` if the event must be attached to the boundary of its Activity.
Throwing	Set to `true` if the event is a Throwing event.

Flow

The `from` and `to` attributes of the XML element specify the two objects connected by a flow.

A flow can be a Sequence Flow or a Message Flow.

Sequence Flow

The properties for a Flow element

Property Name	Description
Default	Set to `true` to specify a Default Flow.
Condition	Set to `true` to specify a Conditional Flow.

Message Flow

The properties for a Message element

Property Name	Description
Message	The message.

Compensation Association

A CompensationAssociation element is used to connect an Interrupt Intermediate Event of type Compensation to its associated Compensation Activity.

The `from` and `to` attributes of the XML element specify the two objects connected by the association.

There are no properties.

Artifacts and Association

Annotation

The properties for a TextAnnotation element

Property Name	Description
Name	The label of the object.
x	The x-coordinate of the location.
y	The y-coordinate of the location.
ArtifactType	The value must be set to Annotation.

Data Object

The properties for a DataObject element

Property Name	Description
Name	The label of the object.
x	The x-coordinate of the location.
y	The y-coordinate of the location.
ArtifactType	The value must be set to DataObject.

Group

The properties for a Group element

Property Name	Description
x	The x-coordinate of the location.
y	The y-coordinate of the location.
width	The width of the Group shape.
height	The height of the Group shape.
ArtifactType	The value must be set to Group.

Association

The properties for an Association element

Property Name	Description
callout	The first object, which should be the callout.
anchor	The second object, which should be the object to which the callout text refers.

Pool and Lane

Pool

The properties for a Pool element

Property Name	Description
Name	The label of the object.
x	The x-coordinate of the location.
y	The y-coordinate of the location.
Size	The width of the object.
Length	The length of the object.

Lane

The properties for a Lane element

Property Name	Description
Name	The label of the object.
x	The x-coordinate of the location.
y	The y-coordinate of the location.
Size	The width of the object.
Length	The length of the object.

Extending the IBM® ILOG® JViews BPMN Modeler

IBM® ILOG® JViews BPMN Modeler is an application that can be used by business and technical professionals within their organization.

This application provides convenient editing tools such as Automatic Graph Layout commands that help to keep complex diagrams readable.

Contrary to many diagramming tools, IBM® ILOG® JViews BPMN Modeler is not just a drawing tool that generates pictures: it generates an XML file that can be used by another application.

IBM® ILOG® JViews BPMN Modeler has been developed by IBM® ILOG® to promote the BPMN notation, and to demonstrate the power of its Java™ Toolkit: JViews Diagrammer.

JViews Diagrammer is used by the major BPM vendors to develop their process modelers. It provides most of the features required to develop a modeler such as IBM® ILOG® JViews BPMN Modeler:

- Editing commands
- Graph layout
- BPMN support
- XML generation
- Styling to define the look and feel of the diagram

IBM® ILOG® JViews BPMN Modeler can be extended to support specific needs. The source code of this application is given with JViews Diagrammer, and the new features can be inserted rapidly using the JViews Diagrammer library. For more information on JViews Diagrammer, go to *http://www.ilog.com/products/jviews/workflow/*and *http://www.ilog.com/products/jviews/diagrammer/*.

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