Introduction to BPMN 1.1
The mission of DiveIntoBPM.org is to provide on-line information and educational material to support Business Process Management.

DiveIntoBPM.org provides informational support to the BPM community and general public related to the Business Process Modeling Notation (BPMN), Business Process Definition Metamodel (BPDM), and related business modeling standards.

DiveIntoBPM.org fosters learning excellence by working with subject matter experts, educators and inventors to create an exhaustive, consistent and enriching environment for breakthrough business process management.
Introduction to BPMN 1.1

- Overview
- Events
- Gateways
- Activities
- Swimlanes
- Patterns
A **Process** is any activity performed within a company or organization. In BPMN a Process is depicted as a network of **Flow Objects**, which are a set of other activities and the controls that sequence them. » - BPMN 1.1
Flow Objects are the main objects expressing the semantics of a process model.

- Events:
  - [Circle]

- Gateways:
  - [Diamond]

- Activities:
  - [Rectangle]
Connecting objects are used to depict how flow objects interacts

- Sequence Flows:

- Message Flows:

- Associations:
**Pools and Lanes** are used to group the primary modeling elements.
Artifacts are used to provide additional information about the process:

- Data Objects:

- Groups:

- Annotations:
  Text Annotation Allows a modeler to provide additional Information
To Be Created
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An Event is something that happens during the course of a business process and affects its execution flow.

An Event has a cause and an impact.

BPMN defines three kinds of events:

- Start Events
- Intermediate Events
- End Events
The **Start Event** indicates where a particular process will start.

The **Start Event** starts the flow of the Process.

- No Sequence Flow can connect to a Start Event.

**A Start Event** is optional.

- If a start event is not used, activities with no incoming sequence flow are considered as connected to an **implicit** Start Event.

**Start Events** might be used to:

- Indicate how a message reception will trigger a process instance
  - e.g. Order Reception
- Show when a process instance shall be triggered
  - e.g. End Of Month
- ..
An **Intermediate Event** indicates where something happens during the execution of a process.

An **Intermediate Event** affects the flow of the process.

**Intermediate Events** might be used to:

- Indicate where a message might be received
- Show where delays are expected
- Disrupt the normal flow through exception handling
- ..
An **End Event** ends the flow of the process
- An End Event will not have any outgoing Sequence Flow

**End Events** are optional

**End Events** might be used to:
- End a process flow and send a message
- End a process flow and raise an error
- End a process flow and request for a compensation
- ..
## BPMN 1.1 Events

<table>
<thead>
<tr>
<th>Event Type</th>
<th>&quot;Catching&quot;</th>
<th>&quot;Throwing&quot;</th>
</tr>
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<tbody>
<tr>
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<td></td>
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<tr>
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</tbody>
</table>
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Gateways are used to control how Sequence Flows interact as they converge or diverge within a process.

Decisions, such as forks, merges and joins in the process flow are modeled with a Gateways.

The behavior of each type of Gateways will determine how many of the Gates will be available for the continuation of flow.

BPMN defines four kinds of Gateways:
An **Exclusive Data-Based** Gateway can be used:

- As a decision point where several outgoing sequence flows are possible, yet they are all constrained by a condition and only one of them will be used. Such a condition will be evaluated based on the process data.

- As a way to merge several sequence flows into one. The incoming execution points will move straight through the gateway and go on.
A Parallel Gateways provide a mechanism to fork and synchronize flows
An **Exclusive Event-Based** Gateway is similar to an Exclusive Data-Based Gateway.

The only difference is that, instead of evaluating a set of alternatives to determine only one outgoing flow, the event based gateway will start a race between the different events the process might receive, the first one to be received wins the race and that determines which outgoing sequence flow should be used.
An **Inclusive** Gateway can be used:

- As a decision point where several outgoing sequence flows are possible, they are all constrained by conditions, each outgoing sequence flow with a condition evaluated as being true will be followed. Effectively it might spawn several execution points.

- As a merge, the Inclusive Gateway will synchronize all the execution points produced upstream but at most one for each incoming Sequence Flow.
Gateways Inclusive
The **Complex** Gateway was created to address complex cases which would require the combination of several other gateways. To avoid this, the behavior of the complex gateway can be scripted using an expression language. As a result the complex gateway can be used to handle every situations. Yet, best practice is to avoid it since it makes the process models less readable.
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An **Activity** is a unit of work to be performed. It might be a task, a process or a sub-process.

BPMN defines two main kinds of activities:

- **A Task** is an atomic activity that is included within a Process

- **A Sub-Process** is a Process that is included within another Process
Markers are defined to specify additional semantics such as loops.
Activities ➔ Parallel Loops
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Swimlanes might be used to organize activities and to depict the collaboration between partners. A business process is then organized inside a pool of swimlanes. A particular swimlane will present the tasks relevant to a specific business unit for instance.
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Patterns   WCP-10 Arbitrary Cycles
Patterns WCP-19 Cancel Activity
Q&A Session

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