An Introduction to BPMN 2.0
A guide to the core elements within the business process modelling notation

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Core BPMN Elements

- **Start Event**
- **Task**
- **Message Flow**
- **Data Object**
- **Association**
- **Sequence Flow**
- **Intermediate Event**
- **Gateway**
- **Sub Process**
- **End Event**

Diagram:

1. **Pool**: Customer, Beverage Order, Prepared Beverage
2. **Cohort**: Order Received, Order captured
3. **Lane**: Chef
4. **Sub Process**: Prepare Beverage, Prepare Tasty Snack
5. **Gateway**: Order type
6. **End Event**: Beverage delivered
7. **Message Flow**: Beverage receipt and change
8. **Data Object**: Order captured
The BPMN specification defines three levels of BPMN:

**Descriptive Process Models**
Suitable for high level modelling – should be comfortable for analysts that have used flowcharts.

**Analytic Process Models**
Contains the concepts most commonly used and covered in BPMN training

**Common Executable Process Models**
Focuses on the elements required for executable process models
Notation: Descriptive Process Models

Introduction to BPMN 2.0 | Three Levels of BPMN | Descriptive

**Pools and Lanes**

<table>
<thead>
<tr>
<th>Pool</th>
<th>Lane</th>
<th>Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane</td>
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**Artefacts**

- Data Object
- Data Store

**Gateways**

- Exclusive
- Parallel

**Events**

**Start Events**
- None
- Timer
- Message

**End Events**
- None
- Message
- Terminate

**Activities**

**Tasks**
- Task
- User Task
- Service Task

**Sub Processes**
- Collapsed Sub-Process
- Expanded Sub-Process
- Call Activity

**Flow**

- Sequence Flow
- Message Flow
- Association
Notation: Analytic Process Models

Introduction to BPMN 2.0 | Three Levels of BPMN | Analytic

**Pools and Lanes**

**Events**
- **Start Events**
  - None
  - Timer
  - Message
  - Signal
  - Conditional

**Intermediate Events**
- None
- Message
- Timer
- Signal
- Conditional

**Gateways**
- Exclusive
- Parallel
- Inclusive
- Event Based
- Event Based: Start
- Event Based: Parallel

**Activities**
- **Tasks**
  - Task
  - User Task
  - Service Task
  - Send Task
  - Receive Task
  - Loop
  - Multiple Instance

**Sub Processes**
- Collapsed Sub-Process
- Expanded Sub-Process
- Call Activity
- Loop
- Multiple Instance

**Flow**
- Sequence Flow
- Message Flow
- Association

**Artefacts**
- Data Object
- Data Store
- Annotation
**Pools**
A pool is used to define either a group of participants such as an area within an organisation or an external entity that collaborates within a process.

A process model is normally created from the perspective of a single participant – the **white box pool**, and contains the detail of that process. **Black box pools** are considered external to the scope of the process (although not necessarily outside of the organisation), and do not show flow and activities. Black box pools may be collapsed and rotated, but do not have to be.

**Lanes**
A lane is used to define a specific participant or role within a process.

A lane may be contained within a pool...

..or may itself be broken down into other lanes:
An event is an indicator that something has happened within a process.

**Start Event**
A process commences because something has happened, such as a message received or a date is reached.

**Intermediate Events**
Intermediate events happen within the flow of the process (between the start and end events).

**End Event**
A process finishes when an end is reached. Because a process may have several outcomes, there may be multiple end events.
Within the flow of a process, one or more lanes (roles) will perform a number of activities.

**Task**
A task is something that a lane (role) does during the process. A task is a granular (atomic) activity that cannot or does not need to be broken down any further.

**Sub Process**
A sub process summarises a group of activities, and can be expanded out into further detail. Sub processes can be shown as collapsed (with the [+] symbol), or expanded.

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**Diagram Description:**
- **Café**
  - Barista
  - Order request started
  - Capture Beverage Order Details
  - Request Order Payment
  - Payment received
  - Provide Receipt
  - Prepare Beverage
  - Deliver beverage
- **Customer**
Sequence Flow, Message Flow and Associations

**Sequence Flow**
The sequential flow of the process between events that occur, activities performed by the lanes and decisions that are made (gateways).

**Message Flow**
The flow of information as Messages between Participants.

**Association**
Used to attach artefacts (such as data objects) to activities.
Gateways represent decisions within the process, and control the splitting and merging of sequence flow.

The simplest examples are shown:

- **Parallel**: Follow all paths
  - Diagram showing multiple paths leading from a decision point.

- **Inclusive**: Follow one or more paths
  - Diagram showing a decision point leading to multiple paths.

- **Exclusive**: Follow only one path
  - Diagram showing a decision point leading to a single path.

- **Gateways**
Artefacts allow additional information to be provided on a process model.

**Data Object**
Data objects are inputs to and outputs from activities. Data objects could be used to represent documents, data or other objects that are passed between the activities in a process.

**Data Store**
A data store is somewhere that the process can read or write data, that persists beyond the scope of the process.

**Group**
A visual way of informally grouping items on a diagram, for example to highlight an area that requires further analysis.

**Annotation**
Annotations allow additional information relevant in documenting the process to be shown on the diagram.
Download the Template

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