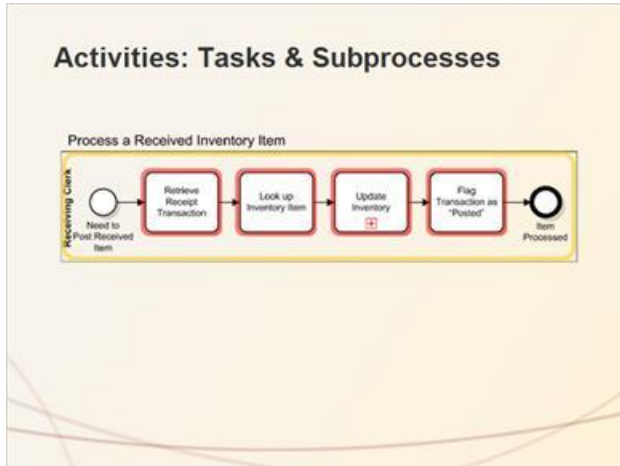


Part 3 - Tasks Subprocesses and Flow Types

1.1 Tasks



Notes:

Let's learn more about BPMN activity objects by starting with a simple process flow.

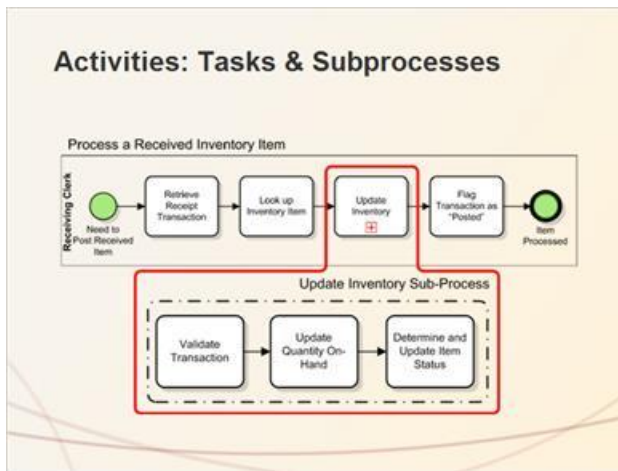
You are already familiar with the small rectangles we use to identify activities in a process. I've been calling these steps "activities" for a reason - it is the name BPMN uses for a class of objects that indicate an action step. There are two types of Activities; a Task and a Sub-Process. This diagram contains three Tasks and one Sub-Process. The Sub-Process is indicated by the plus sign in the "Update Inventory" step. I designated this step as a sub-process to indicate that I documented the details of this activity elsewhere.

Let's look more carefully at the Activities in this diagram. Take a moment to review the format of the phrases I used in these tasks. Do you notice similarities in the structure of each phrase? Each phrase begins with an active verb, followed by the object of that verb. This approach is an excellent way to minimize wordiness while improving readability.

Another tip: write language which is clear, unambiguous, and simple. Avoid writing phrases with a passive voice. Look at the first task in this process flow, for example. Imagine I had written the task description as "Receipt Transaction is Retrieved". As I have it written it now, it is simpler, shorter, and more direct.

You can see that all the activities are enclosed in a long rectangle with the words "Receiving Clerk" at one end. The BPMN specification calls this long rectangle a "swim lane". By enclosing the Tasks and Sub-Process within this swim lane, I indicate that these activities are performed by the Receiving Clerk. As a result of using this swim lane, I don't need to indicate within each activity description what role is responsible for the action.

1.2 Subprocesses



Notes:

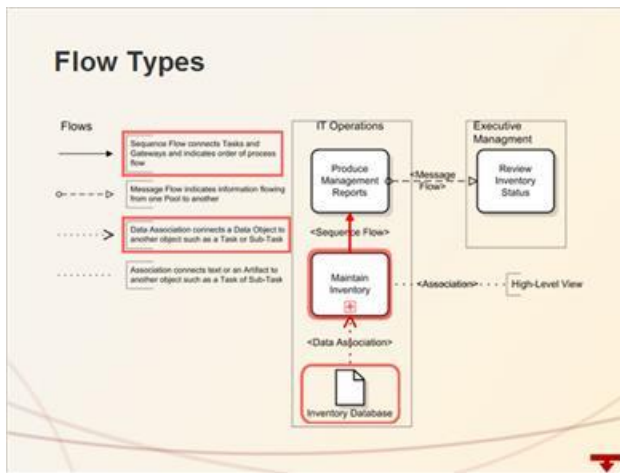
You recall that Activities contain two types of BPMN objects - tasks and sub-processes. There are four Activities in the “Receiving Clerk” swim lane, three of which are Tasks. The fourth, the “Update Inventory” activity, is a sub-process as indicated by the plus sign.

This more complete diagram reveals the details of the sub-process, which consists of three tasks. In the process flows for the Inventory System, many high-level processes use the “Update Inventory” sub-process. Segregating these details from the higher-level processes reduces the complexity of documentation by minimizing the details within those high-level processes. In addition, we only have to change the documentation in one place if the “Update Inventory” sub-process changes.

Here are two more tips for developing good BPMN diagrams. Notice the circle that starts this process. It belongs to a class of BPMN objects called “Events”. This narrow circle is a Start Event. I like to indicate in the Start Event label what causes the process to begin. Think of this label as the trigger for the process. In this example, the Receiving Clerk has a need to post a received item into the inventory.

The thick circle is called a Stop Event. It is a good practice to indicate in its label the outcome of the process - the “state” of things at that point. This Stop Event indicates a successful outcome for the process. Later we’ll learn how to represent errors and process delays as part of this class of objects called “Events”.

1.3 Sequence & Data Flows



Notes:

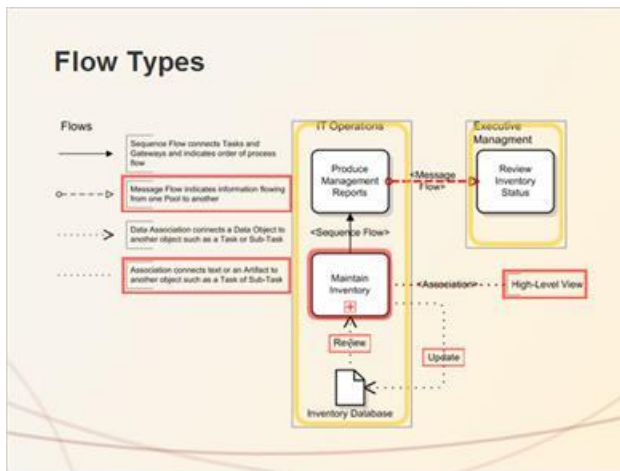
Let's dive more deeply into a class of BPMN objects called Flow Types. You've already seen one of these Flow Types used in several BPMN diagrams - the Sequence Flow. It appears in the upper left-hand corner of this slide.

Also, on this slide is a portion of a process flow representing a high-level view of an inventory reporting system. Starting at the bottom of the diagram, the symbol that looks like a dog-eared page is a BPMN Data Object - in this case, representing the inventory database that supports the system. This Data Object is connected to the Maintain Inventory sub-process by a Data Association flow, indicating that data flows from the database to the task.

Think for a moment about the word maintain in this task. Do you think another data association flow should be added to indicate the transfer of data back to the data object?

Click Next to see the answer.

1.4 Message & Association Flows



Notes:

If you thought so, congratulations! You found a way to improve this diagram. Notice I labeled these two Data Association flows as Review and Update.

To the right of the Maintain Inventory sub-process is a BPMN Annotation denoted by a left-hand bracket. An annotation contains an explanatory comment about a BPMN object.

The comment High-Level View helps the reader understand that this diagram represents the Big Picture. This Annotation is connected to the task by a third flow type, called an Association Flow. Annotations and Associations are often used in BPMN diagrams to help the reader more fully understand the documented process.

The last flow type, a message flow, connects the Produce Management Reports task to the Review Inventory Status task. Notice how the Executive Management swim lane is separate from the IT Operations swim lane. This separation indicates that the two roles work independently on this process.

While executive management is very interested in the reports, they are not typically standing at the door of IT Operations waiting for the reports.

We commonly use the Message Flow instead of a Sequence Flow to reinforce this separation idea and to indicate delivery of something - in this case the management reports - perhaps through e-mail or by dropping the reports on a manager's desk.

We could probably improve this diagram by embedding text in the Message Flow to indicate the delivery method. I left words in angle brackets in this diagram to help you recognize each Flow Type object.