



SAP



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About the Tutorial

SAP Business Workflows are predefined in SAP R/3 system. It is a key component of SAP system wherein they help design the business processes - it can be a simple release or a complex repeated business process, such as creating a material master, etc.

This is a brief tutorial that introduces the readers to the basic features and usages of SAP Business Workflow. This tutorial will guide the users on how to manage business processes in an efficient manner such that it can be aligned with compliance.

Audience

This tutorial is suitable for readers who want to gain some knowledge about SAP Business Workflow such as how Business Objects are created, how to make use of the Workflow builder, Universal Worklists and how to set up notification for Workflows.

Prerequisites

Before you go through this tutorial, we expect readers to have good knowledge of SAP ABAP and SAP Business processes. If you don't have the required knowledge, we recommend you go through our tutorial on SAP ABAP and also get acquainted with SAP Business Process.

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1. SAP Business Workflow - Introduction

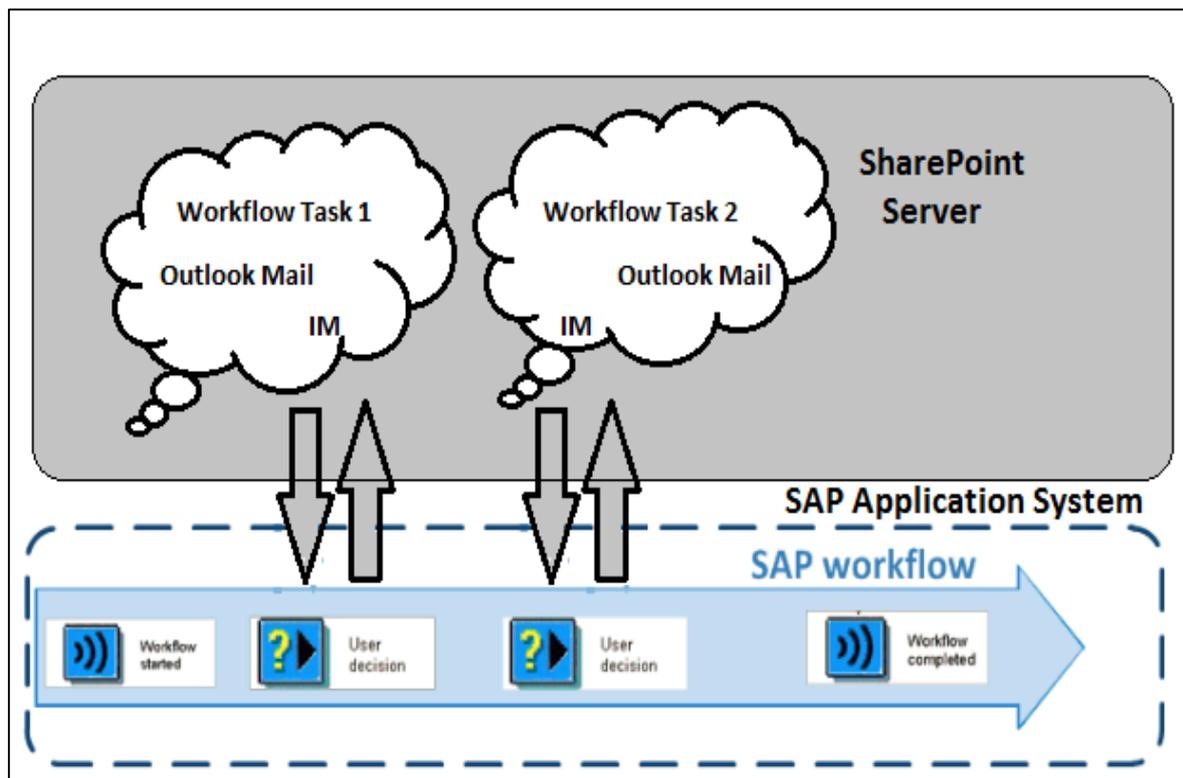
In SAP system, Business Workflows are used to execute business processes in applications. Workflows are a key component of SAP system wherein they help design the business processes - it can be a simple release or a complex repeated business process such as creating a material master, etc.

SAP Business Workflows are predefined in SAP R/3 system and the users can also create their new workflows. The workflow allows the users to manage business processes in an efficient manner such that it can be aligned with compliance.

Workflows ensure that right information is sent to the right person at the right time in a correct sequence.

To perform a complex task in SAP system such as invoice approval, purchase request, etc. involves going through different steps. These steps can be performed manually or by using some formal communication such as email, notes, etc. When the tasks are performed manually, there are some common problems associated with it, such as:

- Difficulty tracking the task status
- Dealing with inefficiency
- Difficulty tracking formal communications
- Managing a deadline

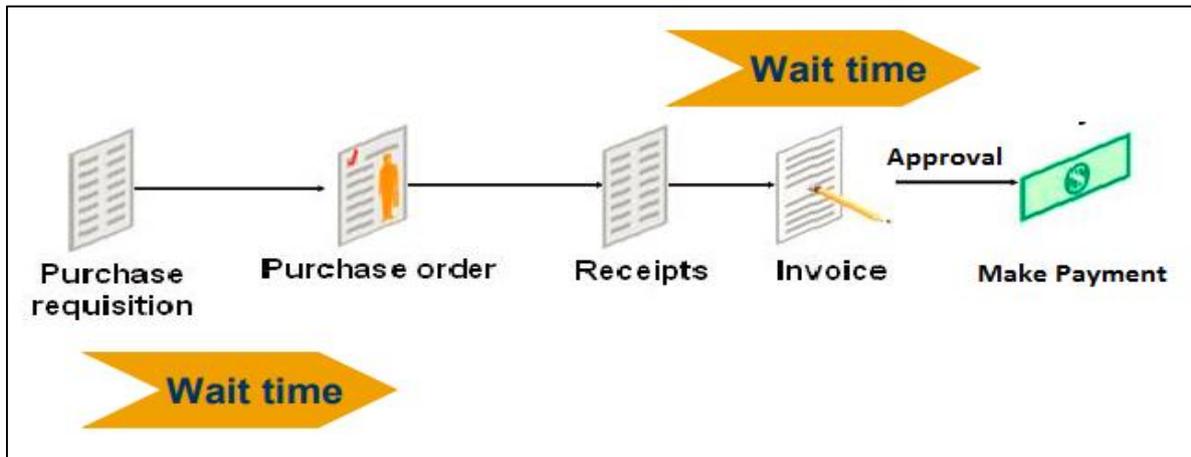


The above image depicts a SAP Workflow process. It is a tool for automating business processes and works uniformly across all the applications. As you can see, it is suitable where the business processes involve multiple people or a group of people.

Business workflows can easily be integrated with Organization Management and SAP NetWeaver BI for analysis purposes so it can easily determine the business processes that suits your organization.

2. SAP Business Workflow - Challenges

There are different reasons why we need Workflow in business process in SAP system. The longest duration in any business process is the wait time.



The above image shows a standard Purchase Requisition process. It shows that each step involves wait time in the business process and with the use of a standard SAP Workflow, this wait time can be eliminated.

Following challenges are involved in the business processes of an organization:

- Raising PO, Invoice, and Sales Order - All require approval from specific stakeholders and involves multiple steps. Hence, a lot of wait time is added to the cycle.
- Auditing and Compliance - Areas where auditing is required or any specific compliance has to be based on courtly laws, SOX, etc. They are tough to manage using manual business process.
- Specific Processes - Processes which involve standard repeated steps and follow specific business rules. Example: When a new BP is created, you need to define contact information, credit limit, and other information for managing process. It is recommended to manage these specific processes using SAP Workflow.

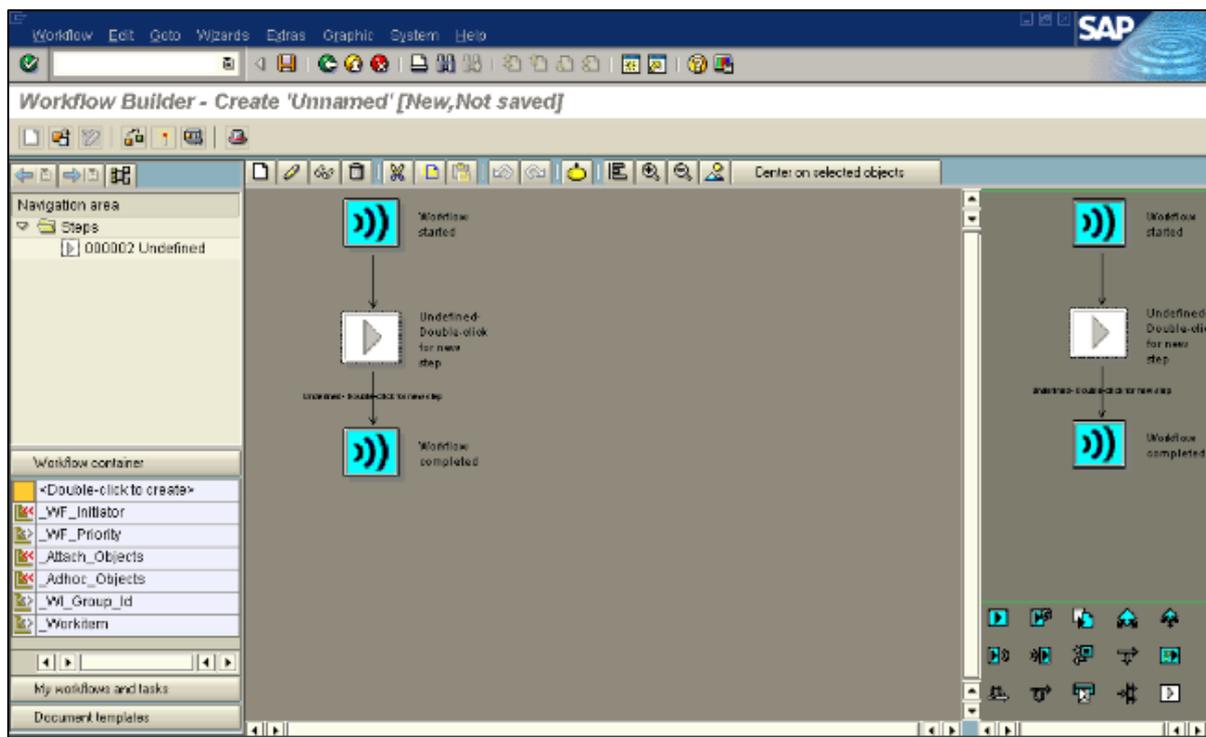
With the use of SAP Workflows, organizations can easily overcome these challenges and can also perform detailed reporting such as executing time, wait time, etc.

3. SAP Business Workflow - Benefits/Features

In SAP system, the workflow ensures that right information is sent to the right person at the right time. SAP Workflows are available with SAP applications such as ERP, CRM, and others. Users can easily use these workflows to map the business processes or these can also be edited using the workflow builder.

Note: The Workflow wizard creates workflows, which are not complete and is used only as a framework.

To create the workflows which meets your business process requirement, you should use the Workflow Builder.

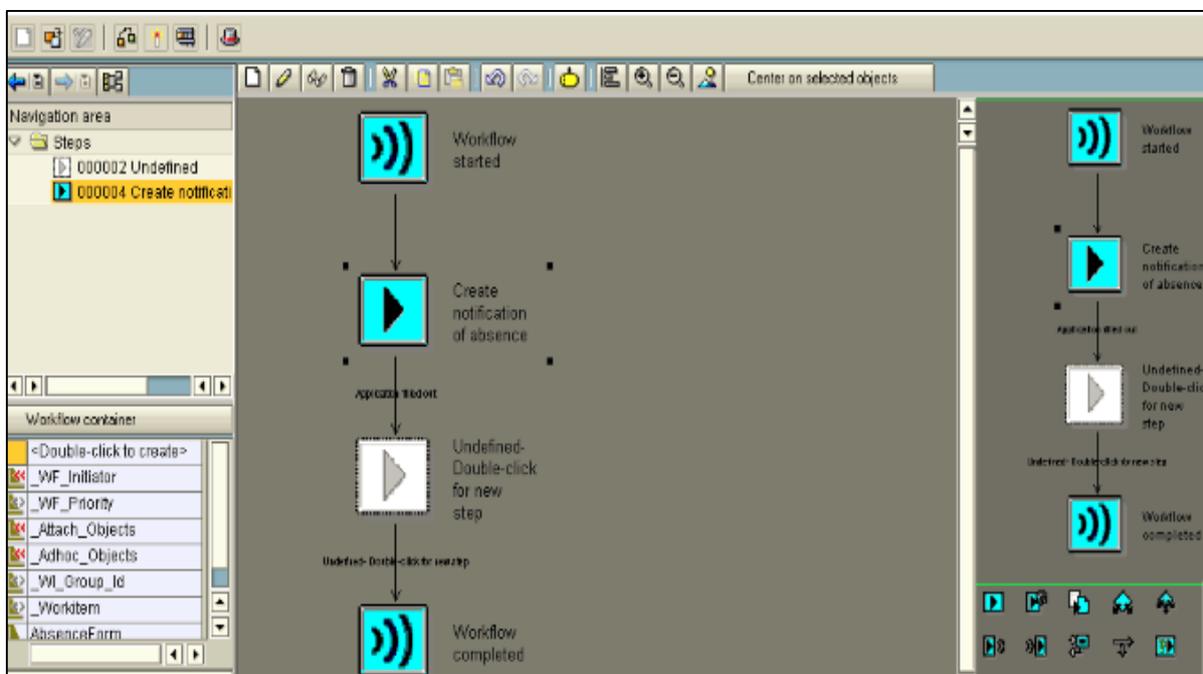


Following are the benefits of using SAP Workflow:

- Workflow provides automation of business processes that consist of sequence of tasks, activities and steps.
- Using workflows, it is easy to manage task dependency and to send notifications in SAP mailbox about pending actions.
- With the use of SAP Workflows, it is easy for users to know what tasks have to be performed. Work items are sent to the user in notifications and with a single click, it calls the correct T-code and navigates to the required screen in the application.
- SAP applications contain workflows, which are ready to use. Users can also edit the predefined business workflows to map them with the organization's processes.

- With the use of different workflow wizards, users can also create a specific part of Business workflows. The workflow builder can be used to display and to make changes to the existing workflows.
- Workflows are not bound to specific SAP applications and it can be customized.
- One of the main benefit of using SAP Workflow is that it is similar across all SAP applications.
- Workflows are useful for processes that include several people or group of people, sequence of tasks, and coordination between different objects.

Following image shows a sample Workflow for notification of absence in the Workflow Builder.



4. SAP Business Workflow - Layers

SAP Workflow architecture in SAP Application system consists of the following layers:

- Business Object
- Business Process
- Organization Model

A **Business Object** in SAP Business Workflow is defined as a collection of methods or events for an entity in the business process. Few common Business Objects in the SAP system include: Customer, Material, and Vendor.

In SAP Workflow, business processes are defined in the Workflow Builder. Each work process is termed as an activity and contains a single step task or workflow template. Business logic using ABAP code are defined in Business Objects.

The organization model contains people or group of people, who are responsible for taking actions in a Business Workflow. People who are responsible for taking an action is also known as an actual agent and they are defined in the workflow activity in the Business Workflow.

Actual agents are agents that actually take an action in the Workflow such as approving a business document, sending email notifications or creating some document in the Workflow.

SAP System contains different predefined business objects, events, and methods. Following are the common Business Objects in SAP PLM:

DRAW	Document Management
BUS1001	Material Master
BUS1080	BOM
ECM	Change Master
BUS1003	Class
BUS7051	Notification

For each object in SAP system, it comes with a standard set of events and methods to take action on that object. Most common methods and events are:

Methods: Change, Display, Get Details, Create

Events: Created, Changed

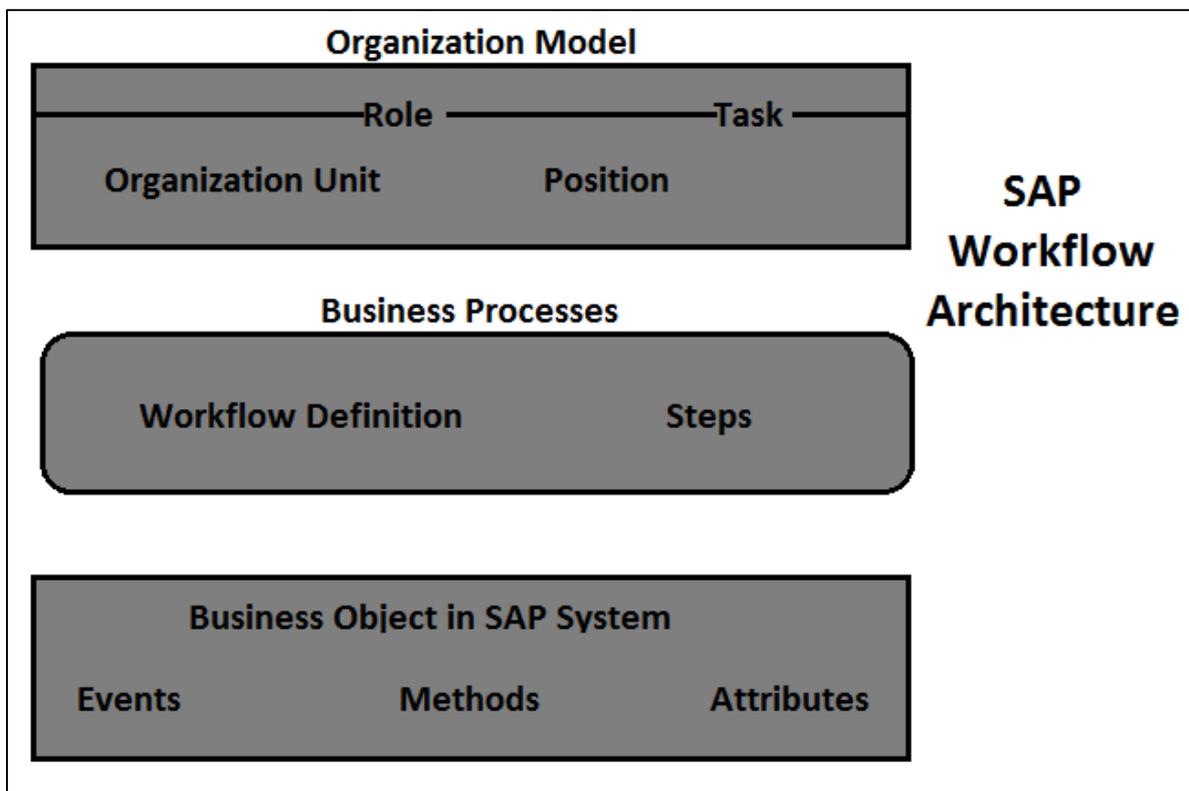
In SAP system, Business Objects are known to reduce the complexity of SAP system by dividing it into smaller units. Each business object is commonly defined with these properties:

- **Object Type ID:** It is used for internal identification of the business object.
- **Object Name:** It is used for external identification of the business object. Using this property, the external system can interact with SAP system.
- **Super Type:** It is the parent object from which all the components of the BO are inherited.
- **Name:** It is a descriptive name of the BO.
- **Description:** It is a brief description of the business object type.
- **Application:** The application component to which the BO belongs to.
- **Program:** Program contains the ABAP code of the BO.

5. SAP Business Workflow - Architecture

As mentioned in the previous chapter, SAP Workflow has a three-layered architecture. Following are the three layers in SAP Workflow architecture:

- Business Object
- Business Process
- Organization Model



In SAP Workflow architecture, business object is the smallest unit and is at the bottom level. Business Object in SAP Business Workflow is defined as a collection of methods or events for an entity in the business process. Few common Business Objects in SAP system include: Customer, Material, and Vendor. With the use of Business Objects, all services are provided in the form of executable methods.

There is a Business Object Repository, which is an object-oriented approach used to model Business Objects and Processes. It is a collection of Business Object types and Interface types with their components such as attributes, methods and events.

In the Workflow architecture, business processes are at the middle level and they define the steps to be performed as part of the Workflow. Business processes are defined in the Workflow Builder. Each work process is termed as an activity and contains a single step task or the workflow template. Business logic using ABAP code are defined in Business Objects.

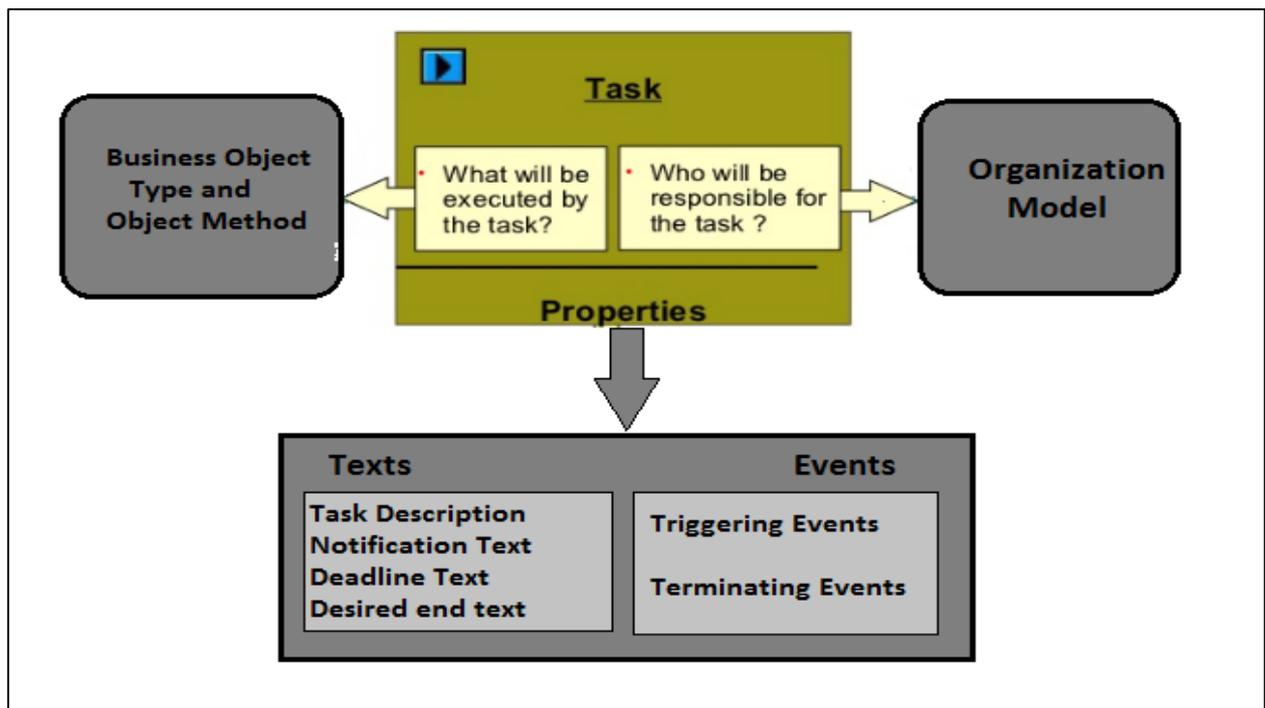
In SAP Workflow architecture, organization model is the top layer. Organization model contains people or group of people who are responsible for taking actions in a Business Workflow. People who are responsible for taking an action is also known as actual agent and they are defined in the workflow activity of the Business Workflow.

You can create new Business Object using Business Object Builder. Events in Business Object are responsible for the initial start of the workflow and also for the termination of the workflow. Events are also used to call subsequent tasks in the workflow. All the tasks defined under the Workflow will be executed in the mentioned order as per the Workflow definition.

Common task examples include:

- Release Document
- Post Invoice
- Approve Absence
- Run Report
- Change Material
- Call
- Check Work and many more

The following image depicts how a task is performed in SAP Workflow and how it interacts with object type and object methods, organization model, events and texts.



6. SAP Business Workflow - Linking Process, Business Logic & People

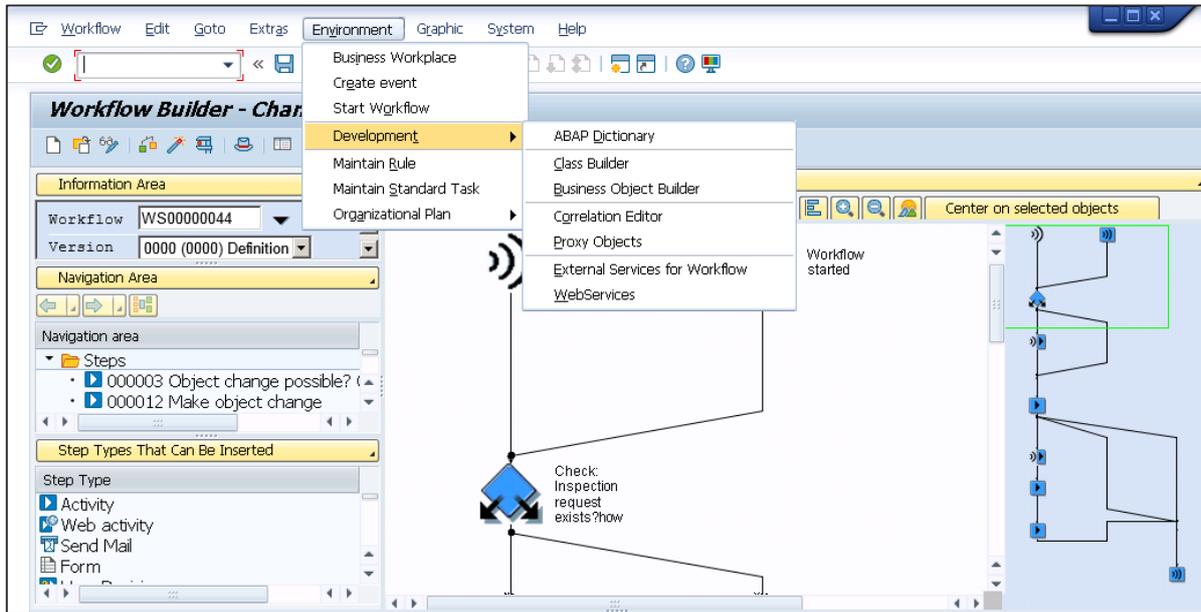
In SAP Workflow, business processes are defined in the Workflow Builder. Each step is defined in the Workflow builder and is called an activity. A single step task or workflow template is defined in each of the activities.

Following table shows the components of SAP Workflow.

Organizational Plan	Organizational Unit (a functional unit in your enterprise) Position (represents a post) Job (classification of functions in an enterprise) Staff assignments/assignment of user ids
Standard Task	Task (a description of an activity)
Workflow Builder	Overview Step types Tasks Messages
Events	Triggering Events Terminating Events

Business logic is defined in business object and Business Object contains attributes, events and methods in the workflow. Methods contain ABAP code to define tasks. Each and every standard task in the Workflow is linked to a method and a Business Object.

In the organizational model, people/group of people are responsible for performing actions as per the organizational structure. All these are defined in the Workflow Builder. You can view or create Workflow using T-Code: SWDD (Workflow Builder).



7. SAP Business Workflow - Business Object

Business Object in SAP Business Workflow is defined as a collection of methods or events for an entity in business process. Few common Business Objects in SAP system include: Customer, Material, and Vendor. With the use of Business Objects, all services are provided in the form of executable methods.

An object in the Workflow represents a Business entity in SAP system. Common entity example includes: Purchase Order, Material, Vendor, etc.

An Object in SAP system performs the following functions:

- A Business Object reduces the complexity of SAP system by dividing it in small units.
- With the use of Business Objects, different components in SAP system can communicate with each other.
- Business Objects can be used in RFCs and Workflows.
- With the use of BAPI's and Business Objects, SAP system can communicate with non-SAP system.

Components of Business Object in SAP System

Each Business Object in SAP system contains the following five components:

- Key Fields
 - Specification of a unique object key - to access a specific instance of a BO
 - Key field is represented as a combination of one or more fields
 - Shows a reference to underlying application table
 - Character based
 - You can read a Business Object from other non-SAP system
 - You can't change a Business Object from outside
 - Maximum length of concatenated key field can be 70 characters
- Attribute
 - Two types of attributes - Virtual (Set by a BO program) and DB Field (Loaded by database)
 - An attribute can be read from out of SAP system but it can't be changed
 - An attribute of a BO shows properties and characteristics of the object
 - An attribute can be shown as one line or multi-line
 - You can have an attribute which is instance independent or instance dependent

- Events
 - Events contain listener outside the BO like SAP Workflow
 - It is used to trigger or terminate a SAP Workflow
 - It also shows change in occurrence of a Business Object

- Methods
 - Method can be of two types - synchronous (result is returned to calling program) and asynchronous (result can be returned to calling program using an event)
 - Method can be instance dependent or instance independent
 - Method consists of exceptions and parameters such as single/multiline, optional/mandatory, etc.

- Interface Types
 - A Business Object in SAP system can inherit one or more interfaces
 - You can have methods defined in an interface that can be redefined in Business Object type in the Workflow

Status of Business Object Component

A BO in development can have different development statuses:

- **Modeled:** This status shows a BO as only defined - i.e. method and its signature

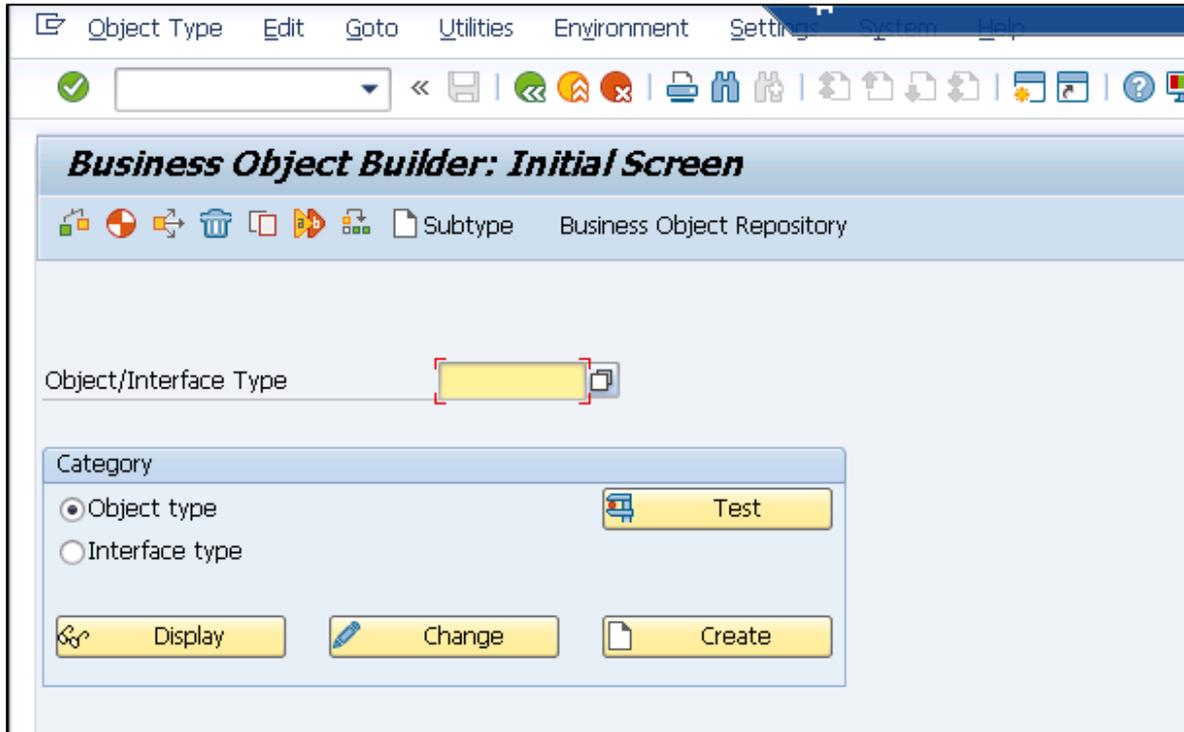
- **Implemented:** This status shows that ABAP implementation is done and you can use BO for testing purposes

- **Released:** This shows that the method is ready to use

- **Obsolete:** This shows that the method/event shouldn't be used anymore

Create a Business Object

Step 1: To create a Business Object, use the Business Object Builder (T-Code: SWO1). The following screenshot pops up.



Step 2: Click Create. The following window opens. Define the object Supertype.

End of ebook preview

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