

## **How-To Guide**

SAP Business One 9.0

Document Version: 1.0 – 2012-11-15

**PUBLIC**

# **How to Configure the Workflow Service and Design the Workflow Process Templates**



# Typographic Conventions

Type Style	Description
<i>Example</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
<b>Example</b>	Emphasized words or expressions.
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
Example	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
<b>Example</b>	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE	Keys on the keyboard, for example, F2 or ENTER.

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# Document History

Version	Date	Change
1.0	2012-11-15	First Version

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# 1 Introduction

## 1.1 Workflow Function of SAP Business One

Workflow is an abstraction of real business operations. It is a business process that consists of a series of connected tasks or events in sequence. It usually includes a group of tasks, the relations of the tasks, and the conditions for starting and terminating the tasks.

In SAP Business One, the workflow function enables a standard process that can be applied to a series of tasks or events for different business types in a real work environment. The workflow function provides a consolidated entry for users to process all the tasks in which they are involved. With the predefined condition, the workflow function can execute some tasks automatically in the system, so the liberated labor resource can be better allocated to increase the outcomes. It also provides management with overall control of the business process within the organization, and helps to enhance operating efficiency.

Workflow function in SAP Business One is based on the BPMN. For more information, see <http://www.bpmn.org/>.

## 1.2 Configuring the Workflow Service and Designing Workflow Process Templates

To use the workflow function in SAP Business One, you must do the following:

- Configure the workflow service in SAP Business One Service Manager
- Design the workflow process templates in SAP Business One Studio

### 1.2.1 Configuring the Workflow Service in SAP Business One Service Manager

You must configure the workflow service to build control over the company's databases. Through DI API, the workflow service can access the company databases and provide the information to the workflow function in SAP Business One. For more information, see the SDK online help file `SDK_EN.CHM` at <http://service.sap.com/smb/sbocustomer/documentation>.

The workflow service also ensures that the workflow instances performed in SAP Business One and the workflow process templates designed in SAP Business One Studio are matched accordingly.

## 1.2.2 Designing the Workflow Process Templates in SAP Business One Studio

Designing workflow process templates ensures that standard procedures are set for each type of business operation carried out in your company, for example, the purchasing process, employee reimbursement process, outgoing payment process and so on.

SAP Business One Studio provides an open platform where you can design the workflow process templates your company needs. Through a combination of the workflow elements provided in SAP Business One Studio and the property settings of these elements, the templates designed in SAP Business One Studio can widely cover actual types of business activities.

## 1.3 Glossary

The following terms are mentioned in this document.

Term	Definition
B1s	SAP Business One solution file
BPMN	Business Process Model and Notation For more information, see <a href="http://www.bpmn.org/">http://www.bpmn.org/</a> .
DI API	Data Interface Application Programming Interface
UDF	User-Defined Field
UDO	User-Defined Object

## 1.4 Related Documentation

The documents listed in the table are mentioned in this document.

Document	Location
SDK online help file SDK_EN.CHM	<a href="http://service.sap.com/smb/sbocustomer/documentation">http://service.sap.com/smb/sbocustomer/documentation</a> and choose Release Family 9.0 → SDK and Custom Development Available also on the SAP Business One product DVD and in the download package from SAP Service Marketplace
SAP Business One Administrator's Guide	<a href="http://service.sap.com/smb/sbocustomer/documentation">http://service.sap.com/smb/sbocustomer/documentation</a> and choose Release Family 9.0 → System Administration Available also on the SAP Business One product DVD and in the download package from SAP Service Marketplace

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## 2 Configuring the Workflow Service in SAP Business One Service Manager

This section introduces how to configure the workflow service in the SAP Business One Service Manager.

### 2.1 Activating the Workflow User in SAP Business One

#### Prerequisites

You have installed SAP Business One Client on your computer.

#### Procedure

1. Choose *Start* → *All Programs* → *SAP Business One Client*.
2. In the SAP Business One logon window, choose the *Change Company* button.
3. In the *Choose Company* window, select your database from the *Current Server* dropdown list.
4. From the *Companies on Current Server* table, select the company for which you want to set the workflow function.
5. In the *User ID* field, specify **workflow**.  
Choose *OK*, and log on to SAP Business One as user *Workflow*.
6. Allocate a license for user *Workflow*.
  1. From the SAP Business One *Main Menu*, choose *Administration* → *License* → *License Administration*.
  2. In the *License Administration* window, select the *Allocation* tab.
  3. In the *Users* list, select user *Workflow* and allocate one of the following licenses to it:
    - *Indirect Access User*
    - *CRM Sales User (Standalone)*
    - *CRM Service User (Standalone)*
    - *Limited CRM User*
    - *Limited Financials User*
    - *Limited Logistics User*
    - *Professional User*
  4. Choose the *Update* button.
7. Change the password for user *Workflow*.
  1. From the SAP Business One *Main Menu*, choose *Administration* → *Setup General* → *Security* → *Change Password*.
  2. In the *Change Password* window, specify the new password.
  3. Choose the *Update* button.



## 2.2 Configuring the Workflow Service in SAP Business One Service Manager

### Prerequisites

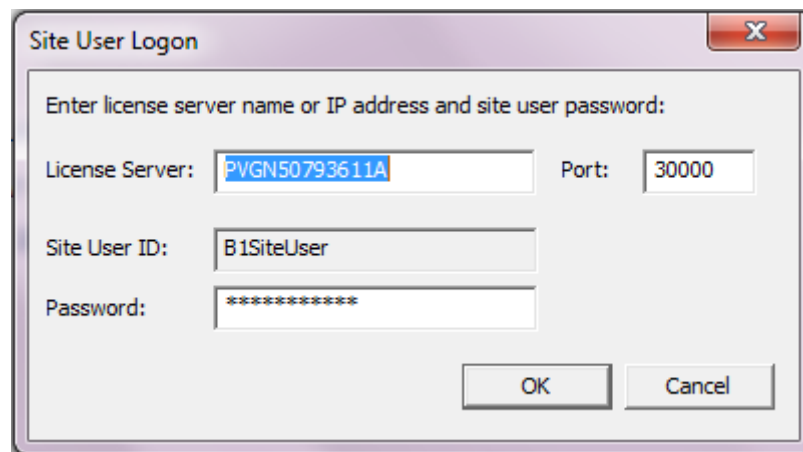
- You have installed SAP Business One Service Manager on your computer. For more information, see SAP Business One Administrator's Guide at <http://service.sap.com/smb/sbocustomer/documentation>.
- You have installed DI API (32-bit) on your computer to ensure that SAP Business One Service Manager (32-bit) can connect to your company database.

### ➔ Recommendation

Install the *License Manager* service and the *Workflow* service on the same computer.

### Procedure

1. Choose *Start* → *All Programs* → *SAP Business One* → *Server Tools* → *Service Manager*.  
The *SAP Business One Service Manager* window appears.
2. From the *Service* dropdown list, select *Workflow* and choose the *Settings* button.  
The *Site User Logon* window appears.

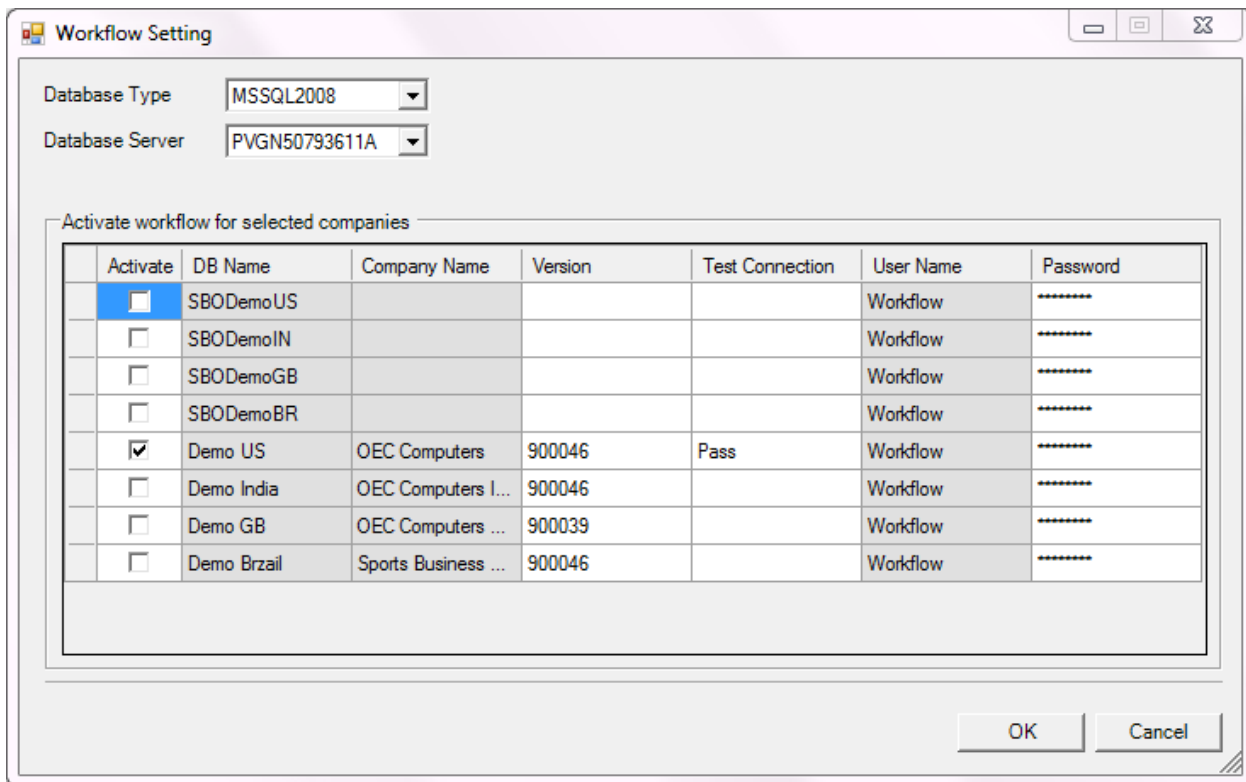



The screenshot shows a dialog box titled "Site User Logon". It contains the following fields and values:

Field	Value
License Server	PVGN50793611A
Port	30000
Site User ID	B1SiteUser
Password	*****

Buttons: OK, Cancel



3. Specify the *License Server*, *Port* and *Password*, and then choose the *OK* button.  
The *Workflow Setting* window appears.



4. In the *Workflow Setting* window, select a database type and database server from the *Database Type* and *Database Server* dropdown lists, respectively.  
The databases that meet the selection options are displayed in the *Activate workflow for selected companies* table.
5. In the *Activate workflow for selected companies* table, select the checkbox of the company for which you want to set the workflow function.  
In the *Password* column, specify the password of user *Workflow* for SAP Business One. It is the new password you set in Step 7 of *Activating the Workflow User in SAP Business One*.
6. SAP Business One Service Manager automatically starts to test the connection to the company you selected in step 4.
7. After the *Test Connection* column in the *Activate workflow for selected companies* table displays *Pass*, choose the *OK* button.
8. In the *SAP Business One Service Manager* window, choose  (*Start*), and then choose *OK*.

**i** Note

Any time you change the specifications in the *Activate workflow for selected companies* table, you must do the following to restart the service:

1. In the *Workflow Settings* window, choose the *OK* button.
2. Choose  (*Stop*).
3. Choose  (*Start*) once the button is available.

## 3 Working with Workflow Windows in SAP Business One Studio

This section introduces the functions of the buttons and windows in SAP Business One Studio.





### 3.1 Menu Buttons




The SAP Business One Studio *Menu* button is located at the top of the SAP Business One Studio main window and contains the following menu commands:

Menu Command	Description/Activity
<i>New</i>	Creates a new add-on project or a new workflow project.
<i>Open</i>	Opens an existing solution/project or a separate file.
<i>Save Current File</i> (Ctrl + S)	Saves the current file.
<i>Export Current File As</i> (Ctrl + Shift + E)	Exports the current file into the specified path. The file type is determined according to the project type. For example, you can export the current file as an .xbml file (Workflow Process file).
<i>Save All</i> (Ctrl + Shift + S)	Saves the changes of all the opened files.
<i>Recent Files</i>	Shows the recently opened files.
<i>Recent Solutions</i>	Shows the recently opened solutions.
<i>View Start Page</i>	Opens or hides <i>Start Page</i> .
<i>Exit</i> (Alt + F4)	Closes the SAP Business One Studio application.

### 3.2 Toolbar

The toolbar, located below the *Menu* button, is a collection of icons that provides easy access to commonly used functions. Active functions are shown in color, while inactive ones are grayed out.

Toolbar Icon	Description/Activity
 (Open)	Opens an .xbml file.
 (Save)	Saves the changes to the current process template.
 (Export)	Exports the current .xbml file into the specified path.
 (Undo (Ctrl + Z))	Reverses the most recent successful action.

Toolbar Icon	Description/Activity
 (Redo (Ctrl + Y))	Redoes the last action that was undone.
 (Error Check)	Checks the correctness of the current workflow process template.
 (Export Image)	Exports the current workflow process template as an image to the specified path.






### 3.3 Toolbox Window

The *Toolbox* window contains a collection of elements (*Event, Task, Gateway, and Dataobject*) used to design the workflow process templates. To work with the elements, drag and drop an element on the working pane and specify the properties in the *Properties* window.



#### Note


For more information about using JavaScript in the workflow elements, see the .html file in the downloaded .zip file.

### Event Elements



Event Elements	Description/Activity
 (Start Event)	Indicates the start of a workflow process manually started by the user of SAP Business One.
 (Timer Start Event)	Indicates the start of a workflow process automatically started in SAP Business One by the workflow service, according to the timer settings in SAP Business One Studio. It is either a one time start or a recurrent start.
 (Conditional Start Event)	Indicates the start of a workflow process automatically started in SAP Business One by the workflow service, according to the conditional settings in SAP Business One Studio. Use JavaScript to define condition settings.
 (End Event)	Indicates the end of a workflow process.
 (Terminate End Event)	Indicates the end of a multi-flow path workflow process. Once the flow path reaches this point, other flow paths are terminated automatically. The whole workflow process then is completed.

### Task Elements



Event Elements	Description/Activity
 (User Task)	Indicates the tasks that users need to process in SAP Business One.
 (Manual Task)	Indicates the tasks that users process outside SAP Business One, for example,

Event Elements	Description/Activity
	making a phone call or scheduling a meeting.
 ( <i>Script Task</i> )	Indicates the tasks that the workflow service processes automatically, once the conditions defined in SAP Business One Studio are met. Use JavaScript to define script tasks

## Gateway Elements

Event Elements	Description/Activity
 ( <i>Parallel Gateway</i> )	Indicates the spot where the flow splits into multiple flow paths. Users must process each of the flow paths into which the flow splits.
 ( <i>Exclusive Gateway</i> )	Indicates the spot where the flow splits into several flow path options. Users only process the flow path which meets the flow conditions.

## Dataobject Elements

Event Elements	Description/Activity
 ( <i>BusinessOne Dataobject</i> )	Indicates the dataobjects that are currently supported by the workflow function in SAP Business One.
 ( <i>Customized Dataobject</i> )	Indicates that the dataobjects contain a series of variables necessary for the workflow service to execute the logics, such as calculating, comparing, deciding, and so on. They are usually quoted by the JavaScript specified in the <i>Script Task</i> or the <i>Sequence Flow</i> that follows the <i>Exclusive Gateway</i> . Customized Dataobjects exist in the current workflow process only.

## 3.4 Properties Window

The *Properties* window lets you specify the information for the workflow elements, define the relations between the tasks, and set the conditions to start and terminate the tasks. By specifying the information and setting the conditions for the elements in the *Properties* window, you can design as many different workflow process templates as your company needs.

The *Properties* window displays different sections and fields according to the workflow element you select.

## 3.4.1 Properties Window for Event Elements

### Properties Window

The following table displays each field that appears in the *Properties* window for event elements, as well as the event elements in which the fields are used.



Section	Field	Description/Activity	Elements
<i>General</i>	<i>Description</i>	Specify the description for the workflow element selected.	All the event elements
	<i>ID</i>	Specify the ID of the workflow element selected.	All the event elements
	<i>Name</i>	Specify the name of the workflow element selected.	All the event elements
<i>Detail</i>	<i>Condition</i>	Click to open the window to set the conditions.	<i>Timer Start Event</i> and <i>Conditional Start Event</i>

#### Note

In every *General* section:


- The *ID* field is mandatory.
- The *ID* of each element in the same process template must be unique.

### Windows Opened from Properties Window for Event Elements

In the *Detail* section, once you have selected the *Condition* field, the  (*Browse*) button appears to the right of this field. Choosing  (*Browse*); displays either the *Timer Setting* window or the *Script Editor* window, according to the event element you selected. You can set the conditions for the element in these windows.



#### *Timer Setting* Window

The *Timer Setting* window appears after you choose  (*Browse*) to the right of the *Condition* field in the *Timer Start Event*.

The screenshot shows the 'Timer Setting' dialog box with the following configuration:

- One Time:** Selected radio button.
  - Date: 10/23/2012
  - Time: 17 : 0 : 0
- Recurrence:** Unselected radio button. Fields are disabled.
  - Time: 0 : 0 : 0
  - Range: Start: Select a date, End:  No end date,  End after,  End by
  - Pattern: Hourly, Every 1 Hour(s)

In the *Timer Setting* window, set the conditions for the current event to start. Once the conditions meet the time settings, then in SAP Business One, the workflow service starts a workflow instance based on the workflow process template that begins with the current timer start event.

### One Time Area

*One Time:* Select this radio button to set the current event as a one-time start event.

*Date:* Specify the date on which you want the current event to start.

*Time:* Specify the time at which you want the current event to start.

#### Note

The fields in the *One Time* area are available only if you have selected the *One Time* radio button.

### Recurrence Area

*Recurrence:* Select this radio button to set the current event as a recurrent start event.

*Time:* Specify the time at which you want the current event to start.

*Range:* Specify a value in the *Start* field and the *End* field to set the time range within which you want the current event to recur.

- **Start:** Specify the start date for the time range in which you want the current event to recur.
- **End:** Select and specify an end type for the time range in which you want the current event to recur.
  - **No end date:** Select this radio button to set the current event as a permanent recurrent event.
  - **End after <No.> Occurrences:** Select this radio button and specify the number of recurrences. The current event stops recurring after reaching the specified number of recurrences.
  - **End by:** Specify the date on which you want the current event to stop recurring.
- **Pattern:** From this dropdown list, select a recurrence pattern for the current event.
  - **Hourly:** Select this option and specify the number of hours as the recurrence interval.

Hourly  Hour(s)

- **Weekly:** Select this option and do the following:
  - Specify the number of weeks as the recurrence interval.
  - Select a weekday on which the event recurs.

Pattern Weekly  Week(s) on Sunday

- **Monthly:** Select this option and do the following:
  - Specify an ordinal number; the event recurs on that number of day of the month.
  - Specify a number of months as the recurrence interval.

Pattern Monthly  of every  Month(s)


- **Yearly:** Select this option and do the following:
  - Select a month and specify the date that determines the day on which the event recurs.
  - Specify a number of years as the recurrence interval.

Pattern Yearly  of every  Year(s)  
On January

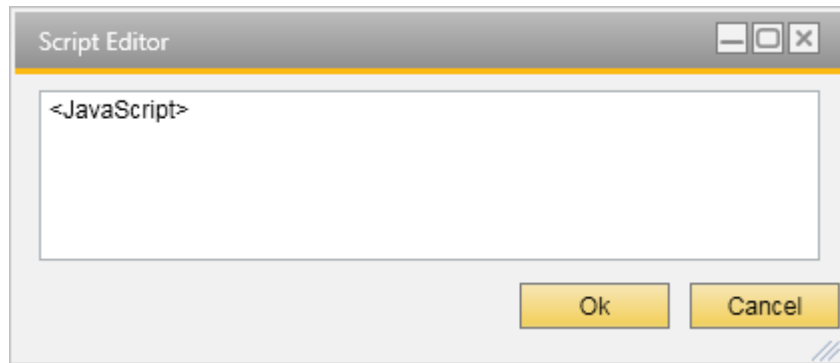
### Note

The fields in the **Recurrence** area are available only if you have selected the **Recurrence** radio button.

## Script Editor Window

The **Script Editor** window appears after you choose  (**Browse**) to the right of the **Condition** field in the **Conditional Start Event** window.





In the *Script Editor* window, specify the conditions for the event to start. The workflow service checks the condition every ten minutes. For more information, see [Configuration File of Workflow Service](#).

Once the workflow service detects the conditions that meet the specifications in the *Script Editor* window, then in SAP Business One, the workflow service starts a workflow instance based on the workflow process template that begins with the current conditional start event.

**i** Note

In the *Script Editor* window, you must use JavaScript to specify the start conditions for the event.

## 3.4.2 Properties Window for Task Elements

### Properties Window

The following table displays each field that appears in the *Properties* window for task elements, as well as the elements in which the fields are used.

Section	Field	Description/Activity	Elements
<i>General</i>	<i>Description</i>	Enter a description for the selected workflow element.	All the task elements
	<i>ID</i>	Specify the ID of the selected workflow element.	All the task elements
	<i>Name</i>	Specify the name of the selected workflow element.	All the task elements
<i>Detail</i>	<i>Business Object</i>	From this dropdown list, select an object to process in the task. It is the output data of the current task.  This dropdown list displays all the dataobjects currently supported by the workflow function in SAP Business One, as well as the UDOs of your company.	<i>User Task</i>
	<i>Duration</i>	Specify the length of time in which the task is allowed to complete.	All the task elements
	<i>Operation Type</i>	Select an operation type for the task. <ul style="list-style-type: none"> <li>Add: the current task is to create a new dataobject.</li> </ul>	<i>User Task</i>



Section	Field	Description/Activity	Elements
		<ul style="list-style-type: none"> <li>Update: the current task is to update an existing dataobject.</li> </ul>	
	<i>Participants</i>	Choose this field to open new windows to specify the participants for the task.	<i>User Task</i> and <i>Manual Task</i>
	<i>Priority</i>	From this dropdown list, select the priority for the task.	<i>User Task</i> and <i>Manual Task</i>
	<i>Script</i>	Choose this field to open the new window to specify the conditions for the script task.	<i>Script Task</i>
<i>Data</i>	<i>Input Objects</i>	Choose this field to open the new window to set the relations between the output data and the input data (input object).	<i>User Task</i> and <i>Manual Task</i>

### Note

In every *Detail* section:

- The *Participants* field is mandatory.
- The *Duration* field supports only numbers.

## Windows Opened from the Properties Window for Task Elements

The *Detail* section and the *Data* section contain fields that, once selected, display a  (*Browse*) button to their right. Choosing  (*Browse*) displays the relevant windows. You can specify the properties for the element in these windows.



### Company Login Window

Use the *Company Login* window to connect to the database of the company for which you are designing the workflow process templates.

### Note

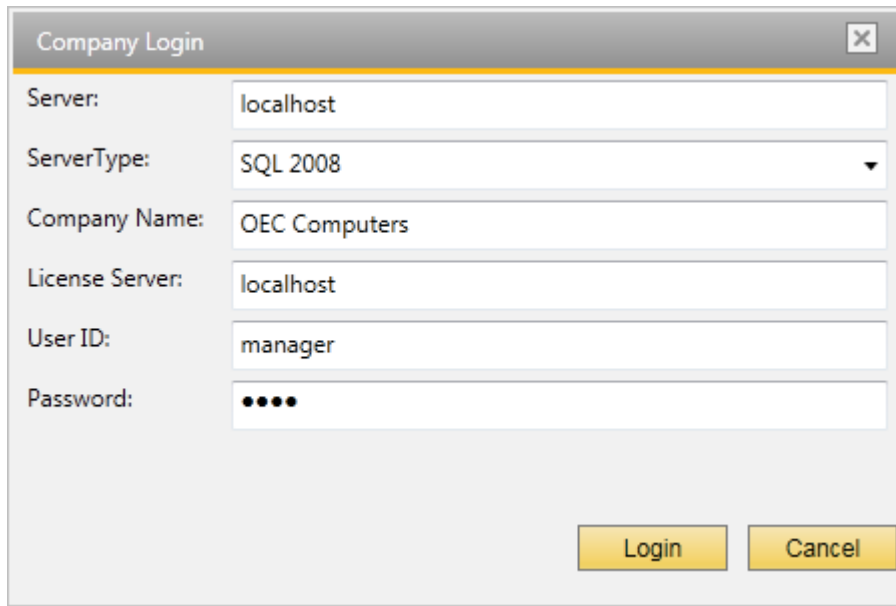
To select data such as UDOs, UDFs, and company users from the company database, make sure you have installed both SAP Business One Studio and DI API in 32-bit or 64-bit.

The *Company Login* window appears in the following tasks:

- In the *User Task*, after you choose  (*Browse*) to the right of the *BusinessObject* field for the first time  
If you have any UDOs, you can select them as the business objects after you log on to your company.
- In the *User Task* or the *Manual Task*, after you choose  (*Browse*) to the right of the *Participants* field for the first time

### Note

If you select *Cancel* in the *Company Login* window, the *BusinessObject* field only displays the BusinessOne Dataobjects; the UDOs of your company cannot be displayed here.

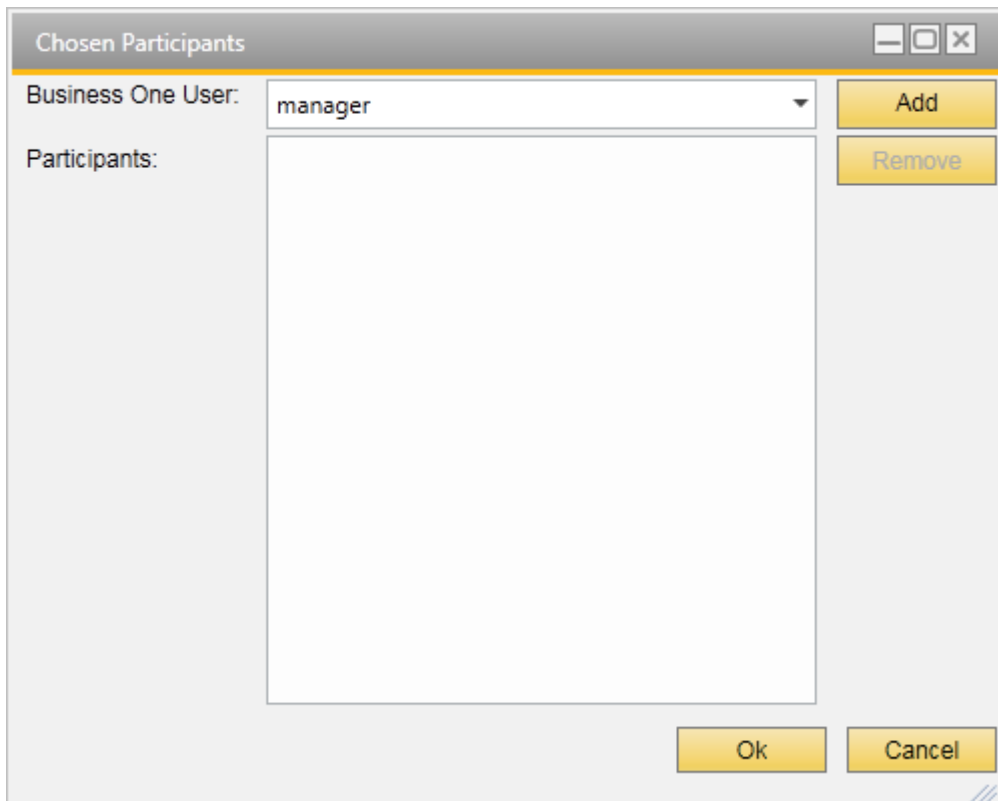


In the *Company Login* window, specify the information of the company from which you want to connect, and then choose the *Login* button.

### Chosen Participants Window

The *Chosen Participants* window appears after you choose the *Login* button or the *Cancel* button in the *Company Login* window.

Use this window to specify the participants for the task.




From the *Business One User* dropdown list, select the participant for the task, and choose the *Add* button. You can add more than one participant for a task.

**i** Note

- The participants of the tasks are the users of the company in SAP Business One.
- If you have chosen the *Cancel* button in the *Company Login* window, the *Business One User* dropdown list does not display any options. You can manually specify and add a user.


### Script Editor Window

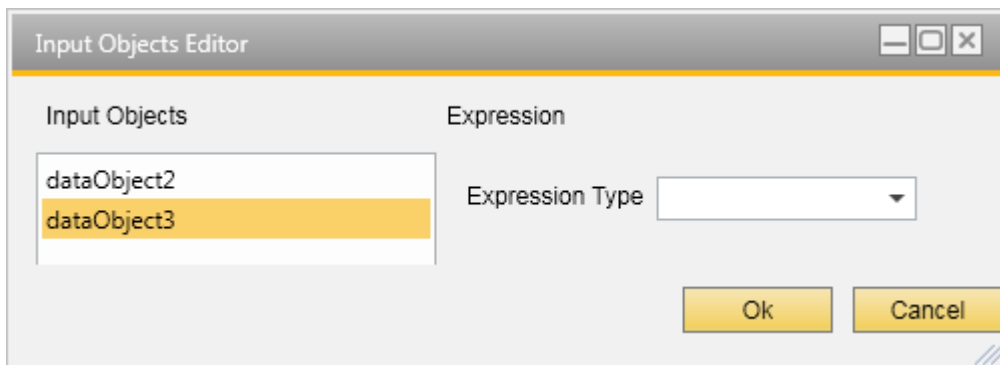
The *Script Editor* window appears after you choose  (*Browse*) to the right of the *Script* field in the script task. In the *Script Editor* window, specify the conditions for the current script task. Once the workflow process reaches the script task, the workflow service automatically operates the current script task according to the specified JavaScript, and passes the flow path to the next workflow element.

**i** Note

In the *Script Editor* window, you must use JavaScript to specify the start conditions for the event.

### Input Objects Editor Window

The *Input Objects Editor* window appears after you choose  (*Browse*) to the right of the *Input Objects* field in the *User Task* or the *Manual Task*.



In the *Input Objects Editor* window, set the relations between the output data and the input data, as follows:

- In the *Input Objects* area, select the input object for which you want to set the relations with the output data.
- In the *Expression* area, the following apply to the *Expression Type* field:
  - If you leave it blank, it means the output data is not related to the selected input data.

Expression:

Expression Type

- If you select the *Command* option, the *Command Type* field appears automatically with the *Base On* option selected. It means the output data is based on the input data, and the relevant information of the input data will be displayed in the output data when you process the current task.

Expression:

Expression Type

Command Type

**i** Note

- o You can specify more than one input object for one task.
- o For the *User Task*, each combination of options you select in the *Operation Type* field and in the *Input Objects Editor* window has different effects on the output data.

The following table shows the possible combinations:

Option Selected	Add Option in Operation Type	Update Option in Operation Type
No option in the <i>Command Type</i> field	Opens the output data without any information in it.	Opens the output data without any information in it.
<i>Base On</i> option in the <i>Command Type</i> field	Opens the output data containing the relevant information copied from the input data. The input data is the base document of the output data.	Opens the output data containing the relevant information copied from the input data. The output data and the input data are the same type of dataobject.

### 3.4.3 Properties Window for Gateway Elements

The following table displays each field that appears in the *Properties* window for gateway elements.

Section	Field	Description/Activity	Elements
<i>General</i>	<i>Description</i>	Specify the description for the selected workflow element.	Both gateway elements
	<i>ID</i>	Specify the ID of the selected workflow element.	Both gateway elements
	<i>Name</i>	Specify the name of the selected workflow element.	Both gateway elements

### 3.4.4 Properties Window for Dataobject Elements


#### Properties Window

The following table displays each field that appears in the *Properties* window for dataobject elements.


Section	Field	Description/Activity	Elements
<i>General</i>	<i>Description</i>	Specify the description for the selected workflow element.	Both dataobject elements
	<i>ID</i>	Specify the ID of the selected workflow element.	Both dataobject elements
	<i>Name</i>	Specify the name of the selected workflow element.	Both dataobject elements

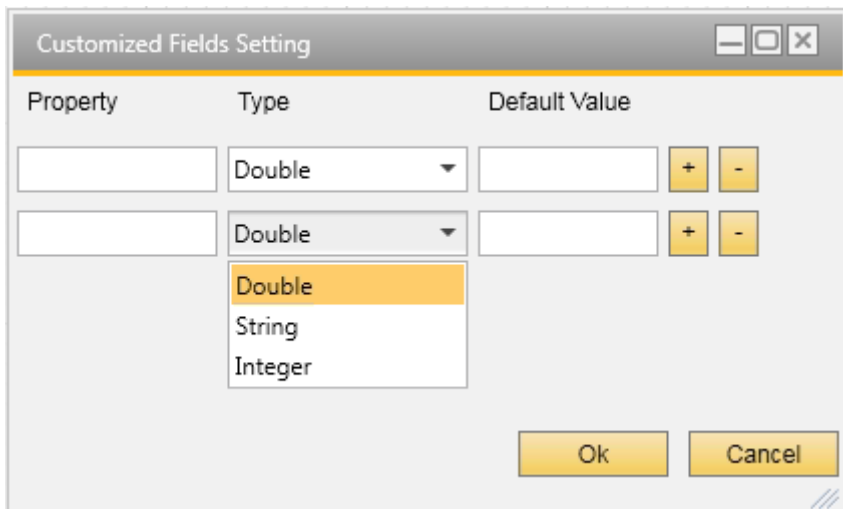
Section	Field	Description/Activity	Elements
<i>Detail</i>	<i>BusinessObject</i>	From this dropdown list, select an object to use in the current dataobject. This dropdown list displays all the dataobjects that are currently supported by the workflow function in SAP Business One.	<i>BusinessOne Dataobject</i>
	<i>BusinessObjectKey</i>	Specify the key information of the business object selected.	<i>BusinessOne Dataobject</i>
	<i>Customized Fields</i>	Choose this field to open the new window to specify the variables that will be used later in the current process.	<i>Customized Dataobject</i>

## Window Opened from Properties Window for DataObject Elements

In the *Detail* section, once you have selected the *Customized Fields* field, the  (*Browse*) button appears to the right of this field.



Choosing  (*Browse*) displays the *Customized Fields Setting* window.




In the *Customized Fields Setting* window, specify the variables that need to be quoted in the current workflow process template.

**Property:** Specify the properties of the objects you want to quote in the current workflow process template.

**Type:** From this dropdown list, select the type for the default value of the specified property.

- **Double:** The default value of the property is a decimal.
- **String:** The default value of the property is a character string.
- **Integer:** The default value of the property is an integer.

*Default Value*: Specify the value of the property.

: Choose this button to add a new property row.

: Choose this button to delete the current property row.


## 3.4.5 Properties Window for Sequence Flows that Follow the Exclusive Gateway

### Properties Window

The following table displays each field that appears in the *Properties* window for the *Sequence Flow* that follows the *Exclusive Gateway*.

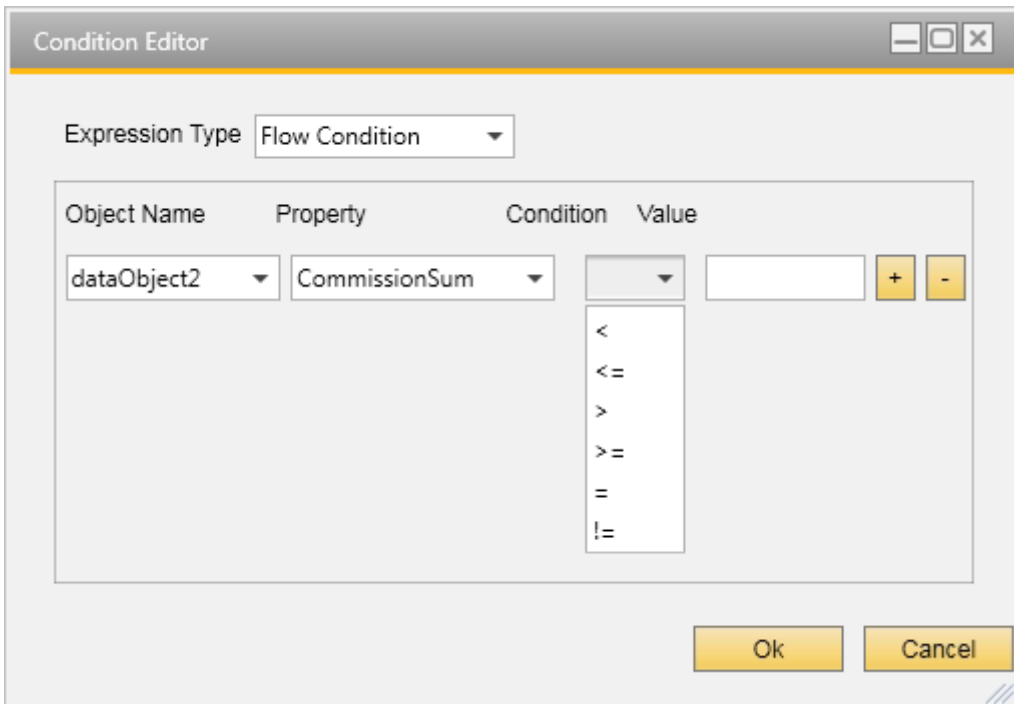
Section	Field	Description/Activity
<i>General</i>	<i>Description</i>	Specify the description for the selected workflow element.
	<i>ID</i>	Specify the ID of the selected workflow element.
	<i>IsDefault</i>	<ul style="list-style-type: none"><li>• True: Set the current flow path as the default path to process when none of the conditioned flow paths meet the process conditions. Selecting this option hides the <i>Detail</i> section.</li><li>• False: The current flow path is not the default path to process; set the process conditions in the <i>Detail</i> section.</li></ul>
	<i>Name</i>	Specify the name of the selected workflow element.
<i>Detail</i>	<i>Condition</i>	Click to open the window to set the conditions for processing the current flow path.

### Window Opened from Properties Window for Sequence Flow

In the *Detail* section, once you have selected the *Condition* field, the  (*Browse*) button appears to the right of the field.





Choosing  (*Browse*) displays the *Condition Editor* window.



**Expression Type:** Select the type of expression in which you want to edit the conditions.

To specify the conditions for the current sequence flow, do one of the following:

- From the **Expression Type** dropdown list, select **General**; the text field appears accordingly in this window. In the text field, use JavaScript to specify the flow conditions for the sequence flow.
- From the **Expression Type** dropdown list, select **Flow Condition**. From the dropdown lists, set the relevant conditions for the sequence flow.
  - **Object Name:** Select the dataobject which is relevant to the conditions you want to set.
  - **Property:** All the properties of the selected dataobject are listed in this dropdown list. Select the property to which the conditions you want to set are related.
  - **Condition:** From the dropdown list, select the comparing condition for the value.
  - **Value:** Specify the value of the selected property.
  - : Choose this button to add a new flow condition row.
  - : Choose this button to delete the current flow condition row.

**i Note**

- If you select **General**, you must use JavaScript to specify the flow condition for the current sequence flow.
- In the **Property** dropdown list, you can also select any UDFs your company may have.



## 3.4.6 Properties Window for Workflow Process

### Properties Window

The following table displays each field that appears in the *Properties* window for the current workflow process template.

Section	Field	Description/Activity
<i>General</i>	<i>Description</i>	Specify the current workflow process you are designing.
	<i>ID</i>	Specify the ID of the current workflow process you are designing.
	<i>Name</i>	Specify the name of the current workflow process you are designing.
	<i>Workflow Version</i>	Specify the version of the current workflow process you are designing.

#### Note

The combination of the *ID* and the *Workflow Version* values defines a unique workflow process template.

---

# 4 Working with Workflow Projects in SAP Business One Studio

This section introduces how to work with the workflow projects in SAP Business One Studio.

## Prerequisites

You have configured the workflow service in SAP Business One Service Manager.

### 4.1 Creating Workflow Projects

You can create workflow projects to design the workflow process templates.

#### Procedure

1. In the SAP Business One Studio main window, choose the *Menu* button and choose *New* → *Project* → *Workflow*.  
Alternatively, on the *Start Page* of SAP Business One Studio, choose *Create Workflow*.
2. In the *New Project* window, specify the name and location of your new project.
3. Specify the package name.

#### Note

By default, the package name is the same as the project name.

The extension of a package (SAP Business One solution) file is *b1s*.

4. If you need to create a project that does not contain any workflow process templates, select the *Create Empty Project* checkbox.
5. Choose *OK*.  
A new page *NewProcess 1* appears in the design area of the SAP Business One Studio main window.  
You can design your workflow process template in the working pane.

### 4.2 Opening Workflow Projects or External Files

You can open existing workflow projects or *.xbm1* files to edit the workflow process templates.

#### Procedure

1. In the SAP Business One Studio main window, choose the *Menu* button and choose *Open* → *Solution/Project* or *Open* → *File*.

---

Alternatively, on the *Start Page* of SAP Business One Studio, choose *Open Project* or *Open File*.

2. Specify the existing project or the file you want to open and choose *Open*.

The solution hierarchy appears in the *Solution Explorer* window.

## 4.3 Docking Tool Windows

To dock the tool windows (*Toolbox* window, *Solution Explorer* window, and *Properties* window) to a designated area, perform the following steps:

1. Select the window you want to dock.
2. Drag the window from its current location towards the middle of the SAP Business One Studio main window. A guide diamond appears.
3. When the window you are dragging reaches the position where you want to dock it, move the pointer over the corresponding portion of the guide diamond and release the mouse button.

## 4.4 Workflow Process Template Examples

This section provides several workflow process templates and demonstrates how you can use the workflow elements to design different workflow process templates.

### Note

For more information about detailed examples, see the .xaml files in the downloaded .zip file.

## Getting Started

The three main actions listed below are needed for designing a workflow process template. They can be performed in the sequence you require:

### Select the workflow elements:

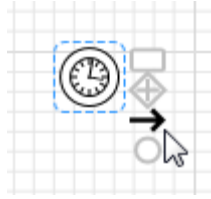
1. In the *Toolbox* window, select the workflow element you need.
2. Drag the element to an appropriate position in the working pane and release the mouse button.

### Specify the information of the workflow elements:

1. In the working pane, select the workflow element for which you want to specify the information.
2. In the *Properties* window of the selected element, choose different fields and specify the required information.

### Connect the workflow elements with the sequence flow:

1. In the working pane, select the element the flow path will pass first. Several grayed out elements appear on the right side of it.



3. Click and drag the sequence flow towards the next element.
4. Drop the sequence flow after it reaches the next element.

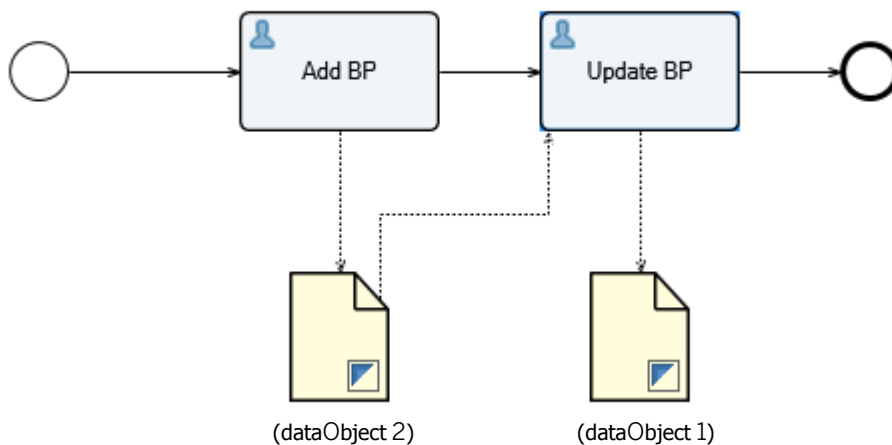
## 4.4.1 Example 1- Create Business Partners and Update Business Partners

### Scenario

When your company develops a new supplier, the purchase department adds the business partner to the system and registers its general information.

Then the finance department finds the record of this business partner and updates this record by adding the business partner's financial information, such as credit limit, bank information, tax code and so on.

### Process Image



## Element Used in the Example

Workflow Element Type	Elements Used
Event	Start Event and End Event
Task	User Task
DataObject	BusinessOne DataObject
Sequence Flow	Regular Sequence Flow

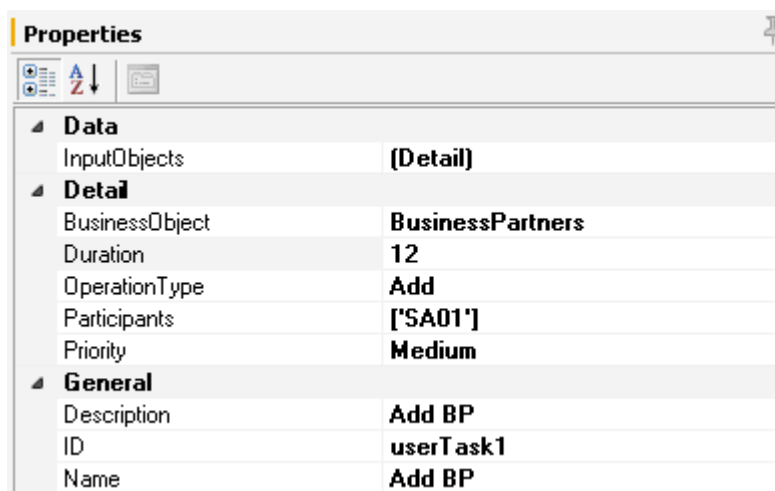
## Workflow Element Properties

To design a workflow process template for this scenario, specify the properties for the elements as follows:

### For the task "Add BP":

In this task, the staff of the purchase department needs to add a business partner master data record and enter the general information for this supplier in SAP Business One.

Specify the task properties as follows:



The screenshot shows a 'Properties' window with a tree view on the left and a table of properties on the right. The tree view has three main sections: 'Data', 'Detail', and 'General'. The 'Data' section contains 'InputObjects' with a value of '(Detail)'. The 'Detail' section contains 'BusinessObject' (BusinessPartners), 'Duration' (12), 'OperationType' (Add), 'Participants' ('SA01'), and 'Priority' (Medium). The 'General' section contains 'Description' (Add BP), 'ID' (userTask 1), and 'Name' (Add BP).

Section	Property	Value
Data	InputObjects	(Detail)
	<b>Detail</b>	
Detail	BusinessObject	BusinessPartners
	Duration	12
	OperationType	Add
	Participants	['SA01']
	Priority	Medium
General	Description	Add BP
	ID	userTask 1
	Name	Add BP

### **i** Note

- From the *BusinessObject* field, select *BusinessPartners. Business Partner Master Data* is one of the dataobjects supported by the workflow function in SAP Business One.
- Do not specify the *InputObjects* field in the *Data* section, since this task does not have input data.

### For DataObject 1:

Specify the properties of this dataobject as follows:

Properties	
<b>Detail</b>	
BusinessObject	BusinessPartners
BusinessObjectKey	
<b>General</b>	
Description	dataObject1
ID	dataObject1
Name	dataObject1

From the *BusinessObject* dropdown list, select *BusinessPartners*. *Business Partner Master Data* is one of the dataobjects supported by the workflow function in SAP Business One.

### For the task "Update BP":

In this task, the staff of the finance department needs to update the business partner master data for this supplier in SAP Business One by adding the financial information of this supplier to the record.

Specify the task properties as follows:

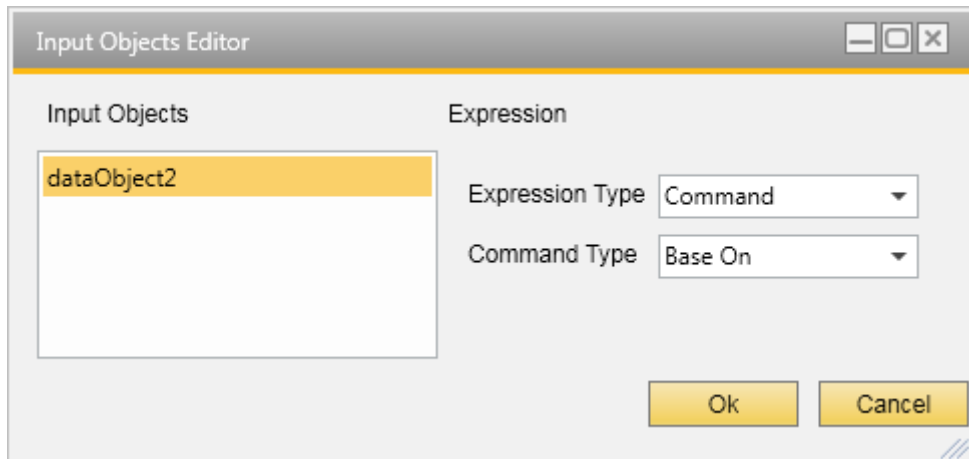
Properties	
<b>Data</b>	
InputObjects	(Detail)
<b>Detail</b>	
BusinessObject	BusinessPartners
Duration	12
OperationType	Update
Participants	['FI01']
Priority	High
<b>General</b>	
Description	Update BP
ID	userTask2
Name	Update BP

### **i** Note

- From the *BusinessObject* dropdown list, select *BusinessPartners*. *Business Partner Master Data* is one of the dataobjects supported by the workflow function in SAP Business One.
- From the *Operation Type* dropdown list, select *Update*. The purpose of this task is to update an existing dataobject.

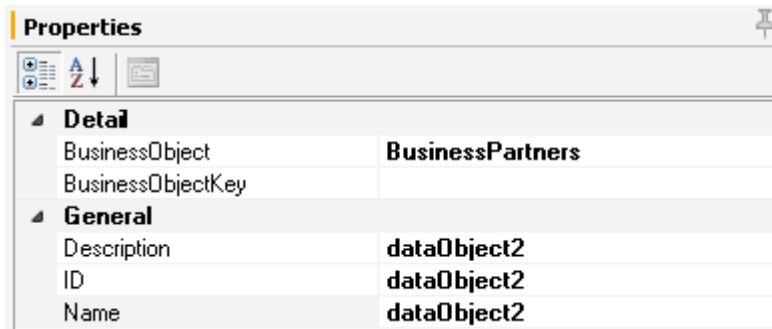
You must set the relation between the input data and the output data, so the relevant information will be linked to the output data when you process the task.

Specify the input object of this task as follows:



### For DataObject 2:

Specify the properties of this dataobject as follows:



From the *BusinessObject* dropdown list, select *BusinessPartners*. *Business Partner Master Data* is one of the dataobjects supported by the workflow function in SAP Business One.

## 4.4.2 Example 2 - Develop a New Customer and Provide a Sales Quotation

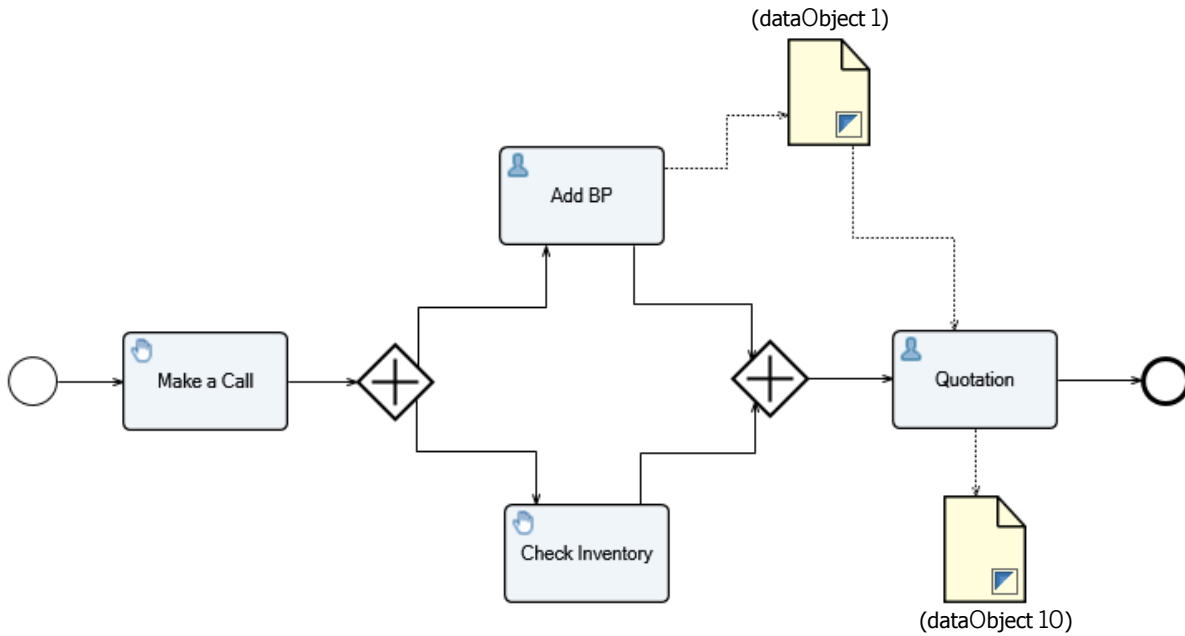
### Scenario

Your company gets a sales opportunity from a new customer. The sales department calls the customer to acquire basic information and learn the needs of the customer.

Next, the sales department records this customer in the system and confirms with the warehouse that they have the inventories the customer needs.

Finally, your company generates a sales quotation for this customer.

## Process Image



## Element Used in the Current Example

Workflow Element Type	Elements Used
Event	Start Event and End Event
Task	User Task and Manual Task
DataObject	BusinessOne DataObject
Sequence Flow	Regular Sequence Flow

## Workflow Element Properties

To design a workflow process template for this scenario, specify the properties for the elements as follows:

### For the task "Make a Call":

In this task, the sales department talks to the new customer by phone to acquire basic information and learn the needs of the customer.

This is a manual task which you do not process in SAP Business One.

Specify the properties of this task as follows:



Properties	
<b>Data</b>	
InputObjects	(Detail)
<b>Detail</b>	
Duration	
Participants	['SA01']
Priority	Medium
<b>General</b>	
Description	Make a Call
ID	manualTask1
Name	Make a Call

### For the Parallel Gateway:

The parallel gateway indicates where the flow path diverges or converges.

In this example, the process splits into two flow paths at the first parallel gateway; these two flow paths are parallel to each other. The users must process both of them.

The second parallel gateway waits for both of the flow paths to converge at this point, and then the process flows to the next workflow element.

### For the task "Add BP":

In this task, the sales department needs to add a business partner master data record and enter the general information for this new customer in SAP Business One.

Specify the task properties as follows:

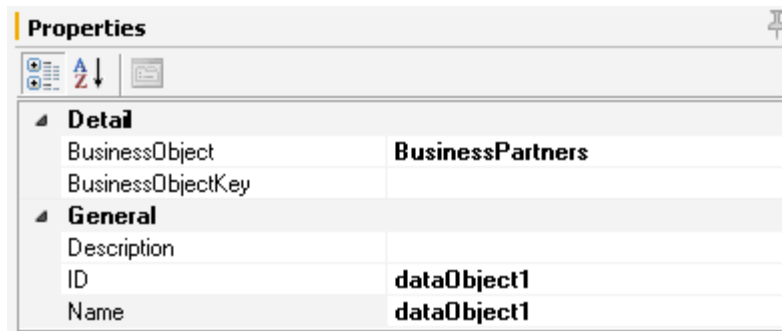
Properties	
<b>Data</b>	
InputObjects	(Detail)
<b>Detail</b>	
BusinessObject	BusinessPartners
Duration	3
OperationType	Add
Participants	['SA01']
Priority	High
<b>General</b>	
Description	Add BP
ID	userTask2
Name	Add BP

### **i** Note

From the *BusinessObject* dropdown list, select *BusinessPartners*. *Business Partner Master Data* is one of the dataobjects supported by the workflow function in SAP Business One.

### For DataObject 1:

Specify the dataobject properties as follows:



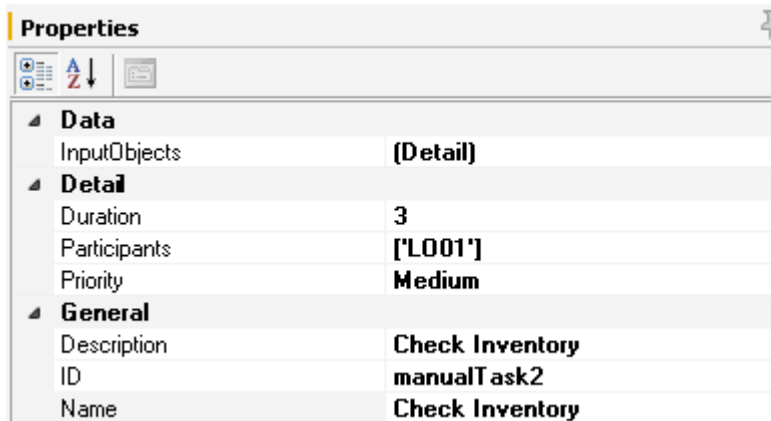
Form the *BusinessObject* dropdown list, select *BusinessPartners*. *Business Partner Master Data* is one of the dataobjects supported by the workflow function in SAP Business One.

### For the task "Check Inventory":

In this task, the sales department needs to confirm with the warehouse that the goods the customer needs are in stock.

This is a manual task which you do not process in SAP Business One.

Specify the task properties as follows:



### For the task "Quotation":

In this task, the sales department needs to generate and add a sales quotation in SAP Business One based on the agreement with this customer.

Specify the task properties as follows:

Properties	
<b>Data</b>	
InputObjects	(Detail)
<b>Detail</b>	
BusinessObject	Quotations
Duration	3
OperationType	Add
Participants	['SA01']
Priority	High
<b>General</b>	
Description	Quotation
ID	userTask3
Name	Quotation

**i** Note

From the *BusinessObject* field, select *Quotations. Sales Quotation* is one of the dataobjects supported by the workflow function in SAP Business One.

**For DataObject 10:**

Specify the dataobject properties as follows:

Properties	
<b>Detail</b>	
BusinessObject	Quotations
BusinessObjectKey	
<b>General</b>	
Description	
ID	dataObject10
Name	dataObject10

From the *BusinessObject* field, select *Quotations. Sales Quotation* is one of the dataobjects supported by the workflow function in SAP Business One.

### 4.4.3 Example 3 - Determining if a Sales Order Can Be Filled Without the Need to Purchase More Inventory

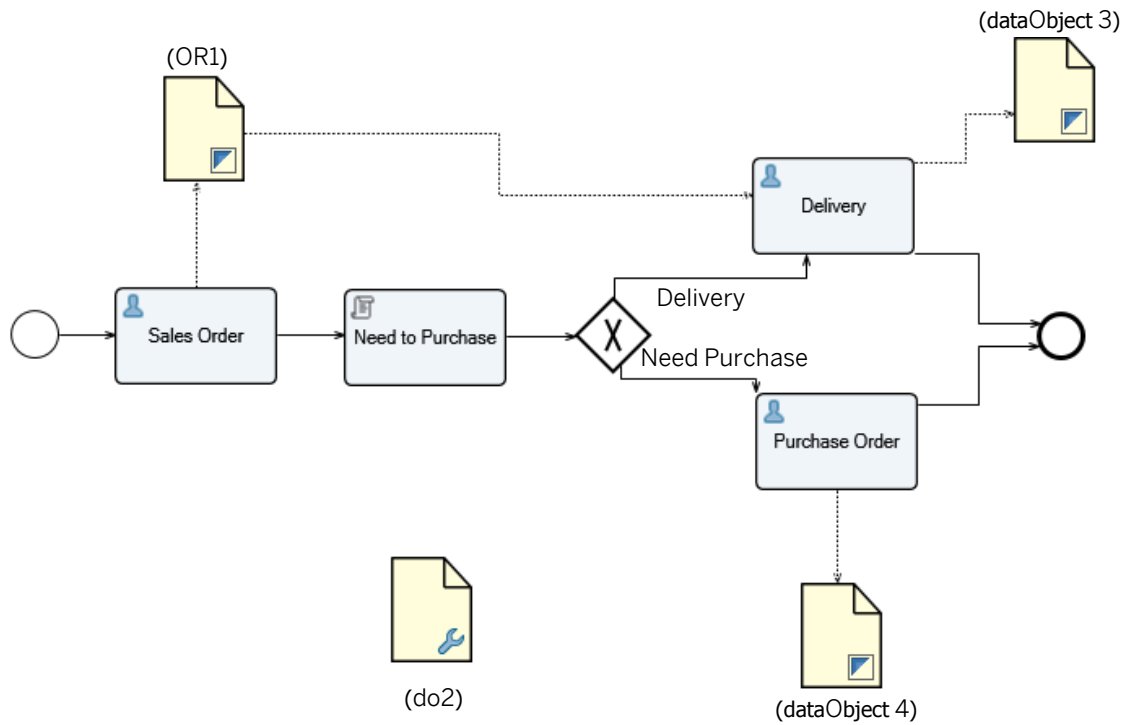
#### Scenario

Your company receives a purchase order from the customer. The sales manager asks to check if there is enough inventory, and then executes one of the following orders:

- If there is enough inventory, make the delivery to the customer.

- If there is not enough inventory, purchase to replenish the stock.

## Process Image



## Element Used in the Current Example

Workflow Element Type	Elements Used
Event	Start Event and End Event
Task	User Task and Script Task
DataObject	BusinessOne DataObject and Customized DataObject
Sequence Flow	Sequence Flow after Exclusive Gateway

## Workflow Element Properties

To design a workflow process template for this scenario, specify the properties for the elements as follows:

### For the task "Sales Order":

In this task, the manager needs to generate and add a sales order in SAP Business One.

Specify the task properties as follows:

Properties	
<b>Data</b>	
InputObjects	(Detail)
<b>Detail</b>	
BusinessObject	Orders
Duration	
OperationType	Add
Participants	['SA01']
Priority	Medium
<b>General</b>	
Description	Sales Order
ID	userTask1
Name	Sales Order

**i** Note

Form the *BusinessObject* dropdown list, select *Orders*. *Sales Order* is one of the dataobjects supported by the workflow function in SAP Business One.

**For the Customized Dataobject OR1:**

Specify the dataobject properties as follows:

Properties	
<b>Detail</b>	
BusinessObject	Orders
BusinessObjectKey	
<b>General</b>	
Description	
ID	OR1
Name	OR1

From the *BusinessObject* dropdown list, select *Orders*. *Sales Order* is one of the dataobjects supported by the workflow function in SAP Business One.

**For the task "Need to Purchase":**

For the sales item in the current task, the workflow service checks the following:

- The sales quantity specified in the current task
- The quantity in stock

The workflow service compares the check results. If the quantity in stock is less than the sales quantity, the current task defines the value of the variable "needPurchase" into "1".

Choose the *Script* field to open the *Script Editor* window. Specify the JavaScript as follows:

```

var order = CurrentProcess.B1Obj("OR1");
var total=0;
var itemCode;
var query;
var recordset;
var param;
var lineCnt = order.getDocumentLines().size();
    for (i=0; i<lineCnt; i++)
    {
        itemCode = order.getDocumentLines().get(i).getItemCode();
        query = "select onHand from OITM where itemcode = " + itemCode + """;
        print("The query is: " + query + "\r\n");
        recordset=company.getRecordset();
            param = company.getRecordsetParams();
            param.setQuery(query);
            recordset.doQuery(param);
            while (recordset.read()) {
                print("Reading from OITM\r\n");
                var fields = recordset.getFields().toArray();
                for (i=0;i<fields.length;i++) {
                    var fld = fields[i];
                    var onHand = fld.getColumnValue();
                    print("OnHand=" + onHand + ", quantity=" +
order.getDocumentLines().get(i).getQuantity() + "\r\n");
                    if(onHand< order.getDocumentLines().get
(i).getQuantity())
                    {
                        CurrentProcess.DataObject("do2").putItem("needPurchase", 1);
                        print("set needPurchase=1");
                    }
                }
            } // Exit Loop
        }
    }

```

**i** Note

You must use JavaScript to edit the script task.

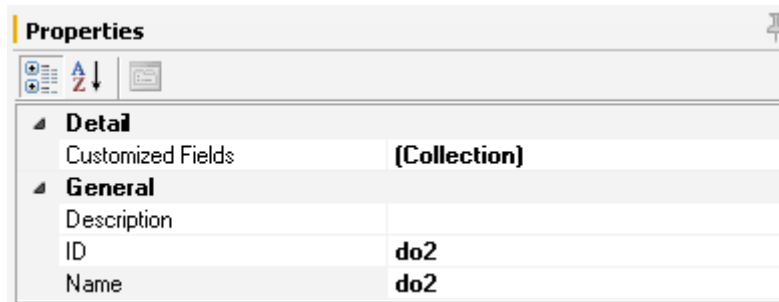
**➔** Recommendation

Use JavaScript to perform logics such as comparing, calculating, judging, and so on. Overly complicated logic may cause performance issues, for example, SQL queries or transactions that take a long time to execute.

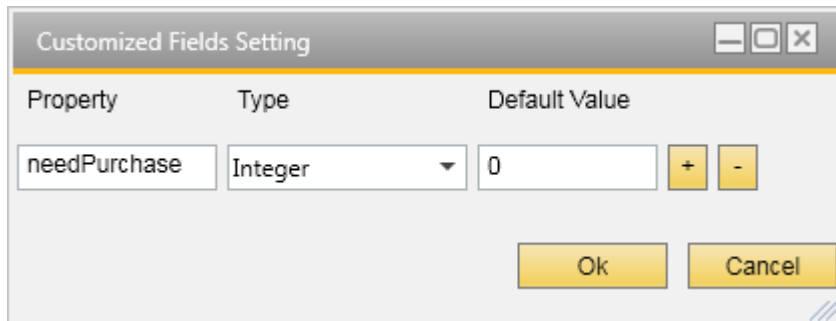
**For the Customized Dataobject "do2":**

In this customized dataobject, the variable is "needPurchase". By default, the value of this variable is "0".

Specify the dataobject properties as follows:



Choose the *Customized Fields* field to open the *Customized Fields Setting* window. Specify the customized fields as follows:



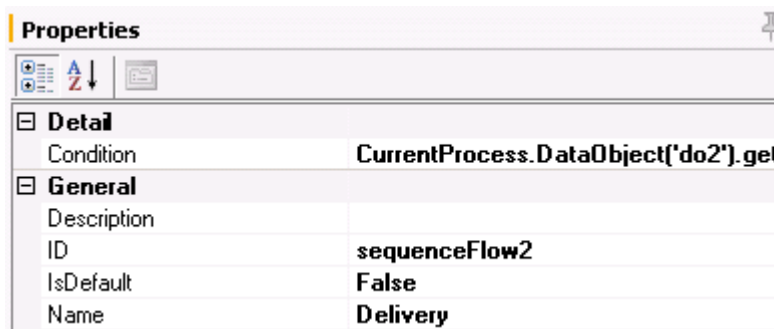
### For the Sequence Flows that Follow the Exclusive Gateway

The exclusive gateway indicates where the process splits into more than one flow path; each sequence flow that follows the exclusive gateway has a flow condition. Every time the process reaches the exclusive gateway, the workflow service checks the value of a specified variable and compares it with the flow conditions. The process only flows to the sequence flow for which the conditions are met.

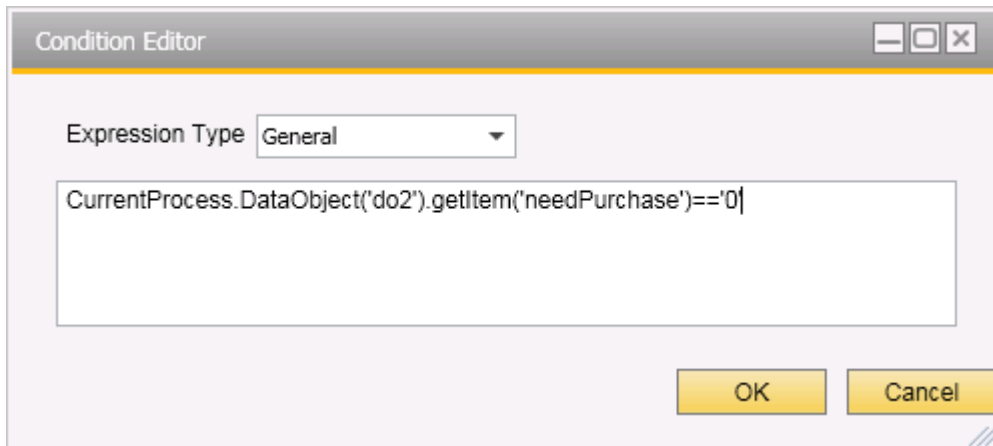
### The Sequence Flow Between the Exclusive Gateway and Task "Delivery"

For this sequence flow, the flow condition is: the value of the variable "needPurchase" is "0". This means that when the value of the variable "needPurchase" is "0", the process flows to the task "Delivery".

Specify the properties of this sequence flow as follows:



Choose the *Condition* field to open the *Condition Editor* window. Specify the flow condition as follows:



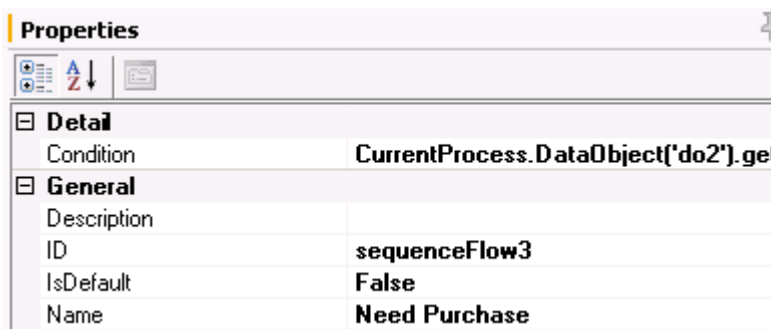
**i** Note

In the *Condition Editor* window, you must use JavaScript to edit the flow condition.

**The Sequence Flow Between the Exclusive Gateway and Task "Purchase Order"**

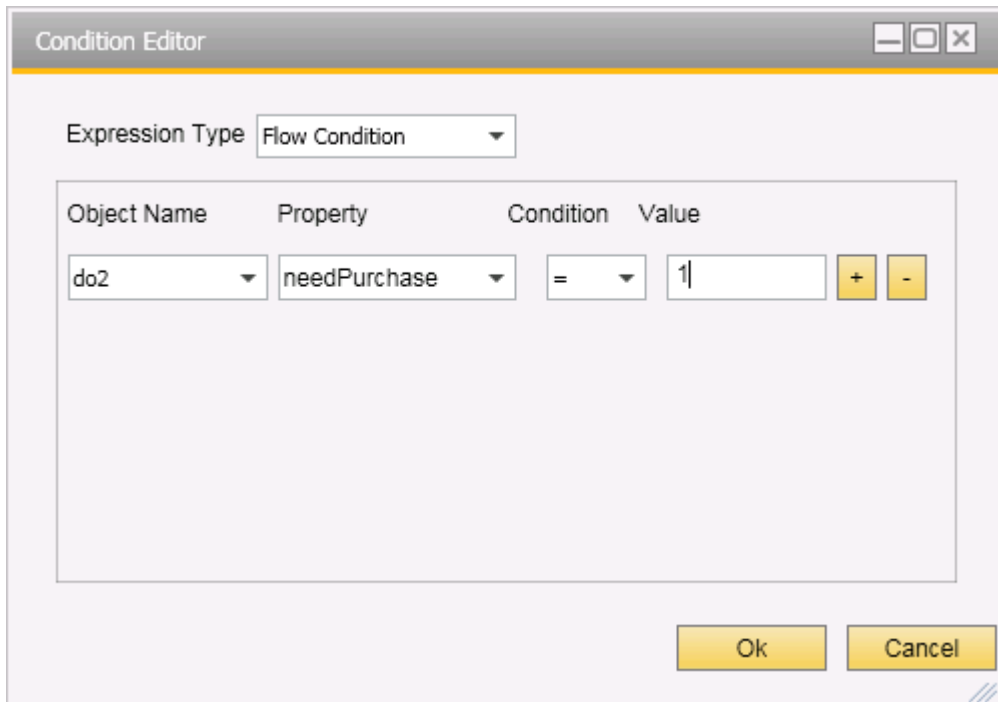
For this sequence flow, the flow condition is: the value of the variable "needPurchase" is equal to "1". This means that when the value of the variable "needPurchase" is "1", the process flows to task "Purchase Order".

Specify the properties of this sequence flow as follows:



Choose the *Condition* field to open the *Condition Editor* window. Specify the flow condition as follows:





**i** Note

If your company has any UDFs, you can select it/them from the *Property* dropdown list here.

**For the task "Delivery":**

In this task, the warehouse needs to add a delivery document in SAP Business One and deliver the goods to the customer.

Specify the task properties as follows:

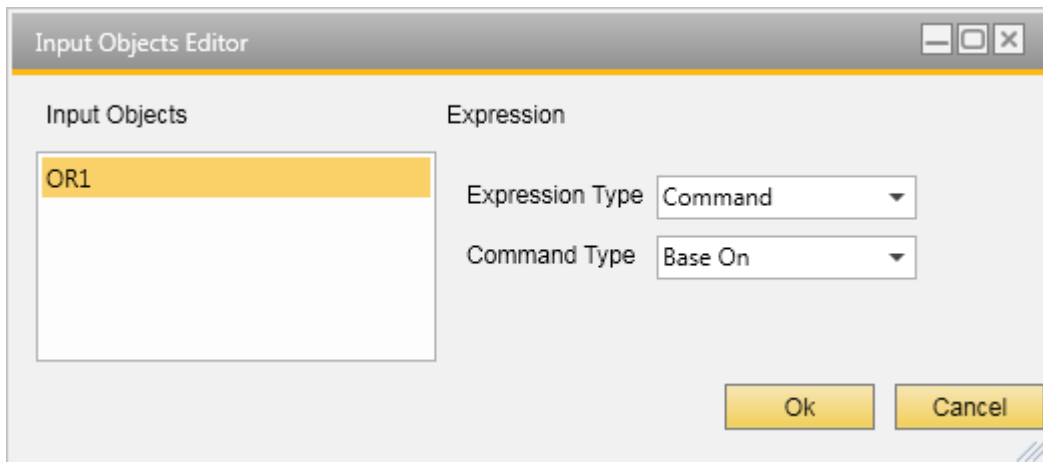
Properties	
<b>Data</b>	
InputObjects	(Detail)
<b>Detail</b>	
BusinessObject	DeliveryNotes
Duration	
OperationType	Add
Participants	['L001']
Priority	Medium
<b>General</b>	
Description	Delivery
ID	userTask2
Name	Delivery

## **i** Note

- Form the *BusinessObject* dropdown list, select *DeliveryNotes*. *Delivery* is one of the dataobjects supported by the workflow function in SAP Business One.
- From the *Operation Type* dropdown list, select *Add*. The purpose of this task is to generate a dataobject based on an existing one.

In this task, the operation is to generate a delivery based on an existing sales order. You must set the relation between the input data and the output data, so the relevant information will be linked to the delivery when you process this task.

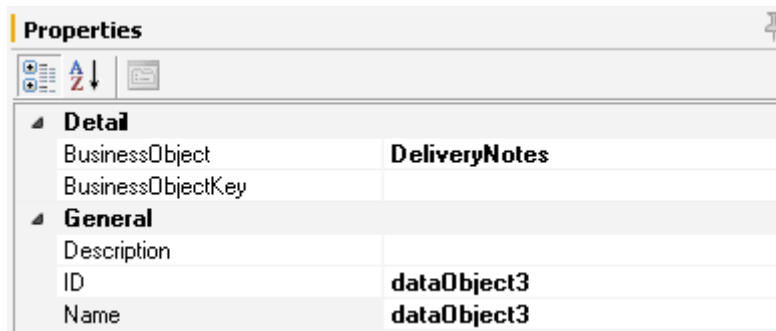
Specify the input object of this task as follows:



Input Objects	Expression
OR1	Expression Type: Command Command Type: Base On

### **For DataObject 3:**

Specify the dataobject properties as follows:



Properties	
<b>Detail</b>	
BusinessObject	DeliveryNotes
BusinessObjectKey	
<b>General</b>	
Description	
ID	dataObject3
Name	dataObject3

Form the *BusinessObject* dropdown list, select *DeliveryNotes*. *Delivery* is one of the data objects supported by the workflow function in SAP Business One.

### **For the task "Purchase Order":**

In this task, the relevant employees need to add a purchase order in SAP Business One and purchase some goods from the supplier.

Specify the task properties as follows:

Properties	
<b>Data</b>	
InputObjects	(Detail)
<b>Detail</b>	
BusinessObject	PurchaseOrders
Duration	
OperationType	Add
Participants	['PU01']
Priority	Medium
<b>General</b>	
Description	Purchase Order
ID	userTask3
Name	Purchase Order

**i** Note

Form the *BusinessObject* dropdown list, select *PurchaesOrders*. *Purchase Order* is one of the dataobjects supported by the workflow function in SAP Business One.

**For DataObject 4:**

Specify the dataobject properties as follows:

Properties	
<b>Detail</b>	
BusinessObject	PurchaseOrders
BusinessObjectKey	
<b>General</b>	
Description	
ID	dataObject4
Name	dataObject4

Form the *BusinessObject* dropdown list, select *PurchaesOrders*. *Purchase Order* is one of the dataobjects supported by the workflow function in SAP Business One.

## 4.4.4 Example 4 - Biweekly Administration Purchase

### Scenario

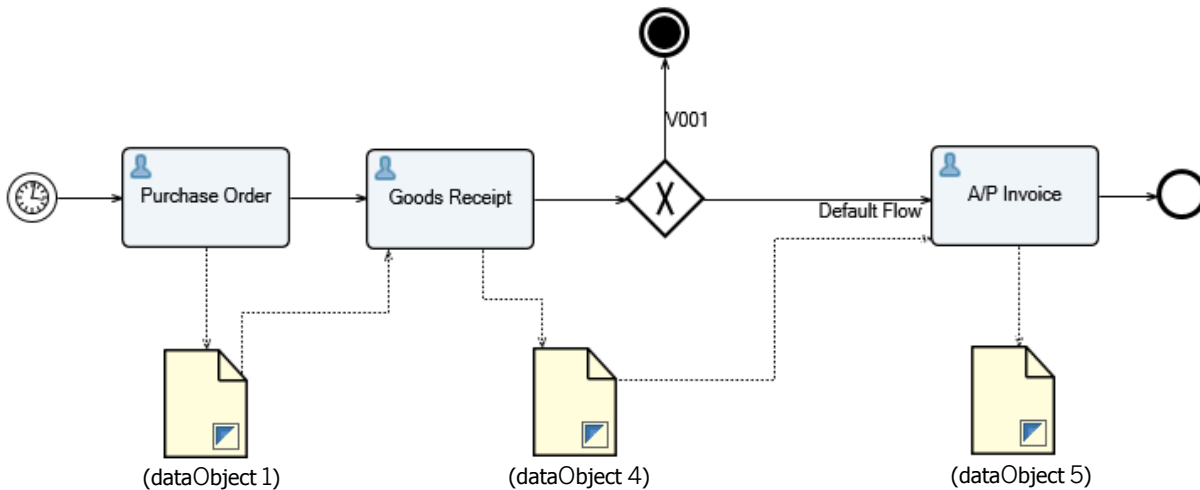
As of 08/30/2012, the administration department of your company purchases office supplies every two weeks. Most of the suppliers are big firms; however, one supplier, with the code V001, is a small grocery store that cannot issue invoices.

The purchase order is always issued to the suppliers at 10 am on Monday, and the goods are delivered to your company during the week.

- If the supplier is not V001, ask the supplier for the invoice and pass it on to the A/P accountant to create an A/P invoice.
- If the supplier is V001, take no further action.

The purchase process is then finished.

## Process Image



## Element Used in the Current Example

Workflow Element Type	Elements Used
Event	Timer Start Event and End Event
Task	User Task
DataObject	BusinessOne DataObject
Sequence Flow	Sequence Flow after Exclusive Gateway

## Workflow Element Properties

To design a workflow process template for this scenario, specify the properties for the elements as follows:

### For the Timer Start Event:

In this scenario, the purchase process takes place every two weeks. The purchase order is always issued to the suppliers at 10 am on a Monday.

Specify the task properties as follows:

Properties									
<ul style="list-style-type: none"> <li>Detail           <table border="1"> <tr> <td>Condition</td> <td>expr:'R/2012-09-03T18:00:00+08:00'</td> </tr> </table> </li> <li>General           <table border="1"> <tr> <td>Description</td> <td></td> </tr> <tr> <td>ID</td> <td>startEvent1</td> </tr> <tr> <td>Name</td> <td>startEvent1</td> </tr> </table> </li> </ul>		Condition	expr:'R/2012-09-03T18:00:00+08:00'	Description		ID	startEvent1	Name	startEvent1
Condition	expr:'R/2012-09-03T18:00:00+08:00'								
Description									
ID	startEvent1								
Name	startEvent1								

Specify the timer settings of this task as follows:

Timer Setting	
<input type="radio"/> One Time	
Date	Select a date [15]
Time	0 : 0 : 0
<input checked="" type="radio"/> Recurrence	
Time	10 : 0 : 0
Range	Start 8/30/2012 [15]
End	<input checked="" type="radio"/> No end date <input type="radio"/> End after [ ] Occurrences <input type="radio"/> End by Select a date [15]
Pattern	Weekly
Recur Every	2 Week(s) on Monday
<input type="button" value="Ok"/> <input type="button" value="Cancel"/>	

**For the task "Purchase Order":**

In this task, the administration manager needs to add a purchase order in SAP Business One for the items that are in short supply.

Specify the task properties as follows:

Properties	
<b>Data</b>	
InputObjects	<b>(Detail)</b>
<b>Detail</b>	
BusinessObject	<b>PurchaseOrders</b>
Duration	
OperationType	<b>Add</b>
Participants	<b>['admin']</b>
Priority	<b>Medium</b>
<b>General</b>	
Description	<b>Purchase Order</b>
ID	<b>userTask1</b>
Name	<b>Purchase Order</b>

### **i** Note

- From the *BusinessObject* field, select *PurchaseOrders*. *Purchase Order* is one of the dataobjects supported by the workflow function in SAP Business One.
- Do not specify the *InputObjects* field in the *Data* section, since this task does not have input data.

### **For DataObject 1:**

Specify the dataobject properties as follows:

Properties	
<b>Detail</b>	
BusinessObject	<b>PurchaseOrders</b>
BusinessObjectKey	
<b>General</b>	
Description	
ID	<b>dataObject1</b>
Name	<b>dataObject1</b>

From the *BusinessObject* dropdown list, select *PurchaseOrders*. *Purchase Order* is one of the dataobjects supported by the workflow function in SAP Business One.

### **For the task "Goods Receipt":**

In this task, when the goods are delivered to your company, the administration assistant compares the goods with the purchase order and generates a goods receipt PO in SAP Business One.

Specify the task properties as follows:

Properties	
<b>Data</b>	
InputObjects	(Detail)
<b>Detail</b>	
BusinessObject	PurchaseDeliveryNotes
Duration	
OperationType	Add
Participants	['admin']
Priority	Medium
<b>General</b>	
Description	Goods Receipt
ID	userTask2
Name	Goods Receipt

**i** Note

- o From the *BusinessObject* dropdown list, select *PurchaseDeliveryNotes*. *Goods Receipt PO* is one of the dataobjects supported by the workflow function in SAP Business One.
- o From the *Operation Type* dropdown list, select *Add*. The purpose of this task is to generate a dataobject based on an existing one.

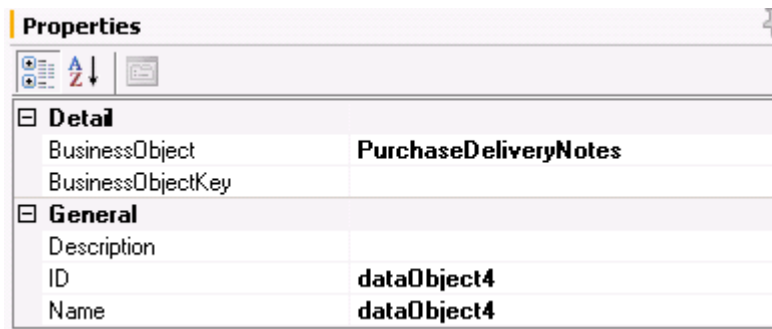
In this task, the operation is to generate a goods receipt PO based on an existing purchase order. You must set the relation between the input data and the output data, so the relevant information will be linked to the goods receipt PO when you process this task.

Specify the input object of this task as follows:

Input Objects	Expression
dataObject1	Expression Type: Command
	Command Type: Base On

**For DataObject 4:**

Specify the dataobject properties as follows:



From the *BusinessObject* dropdown list, select *PurchaseDeliveryNotes*. *Goods Receipt PO* is one of the dataobjects that SAP Business One supports.

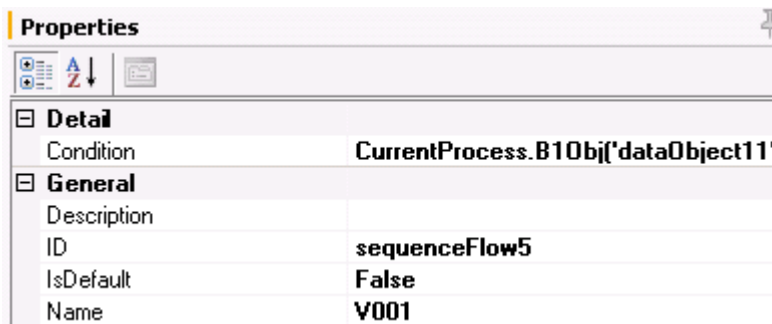
### For the Sequence Flows that Follow the Exclusive Gateway

The exclusive gateway indicates where the process splits into more than one flow path; each sequence flow that follows the exclusive gateway has a flow condition. When the process reaches the exclusive gateway, the workflow service checks the value of a specified variable, and compares it with the flow conditions. The process only flows to the sequence flow for which the condition is met.

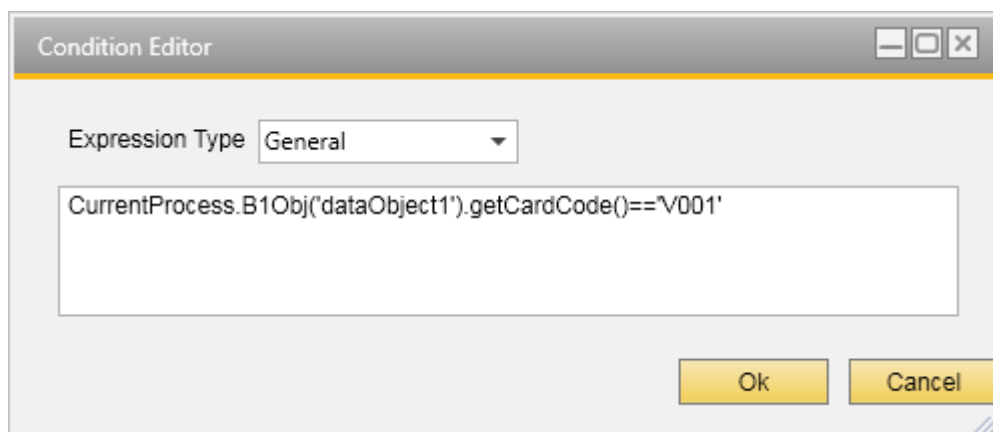
### The Sequence Flow Between Task "Goods Receipt" and the Terminate End Event

For this sequence flow, the flow condition is: the code of the supplier in task "Purchase Order" is "V001". This means that when the supplier in "Purchase Order" is "V001", the process flows to the terminate end event.

Specify the properties of this sequence flow as follows:



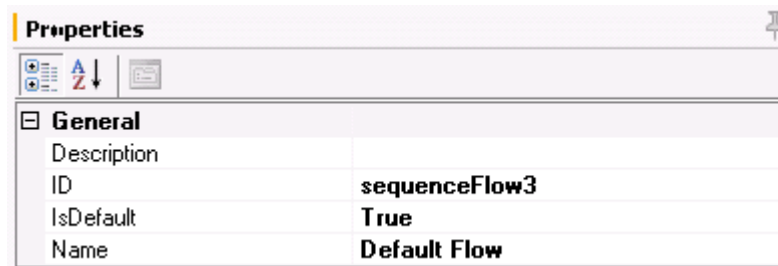
Choose the *Condition* field to open the *Condition Editor* window. Specify the flow condition as follows:





## The Sequence Flow Between Task "Goods Receipt" and Task "A/P Invoice"

This sequence flow is the default flow path to process when none of rest flow paths meet the process conditions. Specify the properties of this sequence flow as follows:

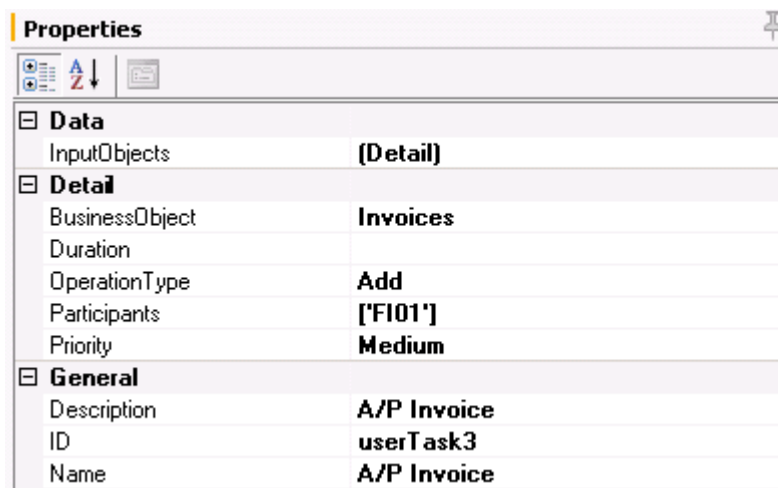


Properties	
<b>General</b>	
Description	
ID	sequenceFlow3
IsDefault	True
Name	Default Flow

## For the task "A/P Invoice":

In this task, the A/P accountant needs to get the invoice from the supplier and add an A/P invoice in SAP Business One.

Specify the task properties as follows:



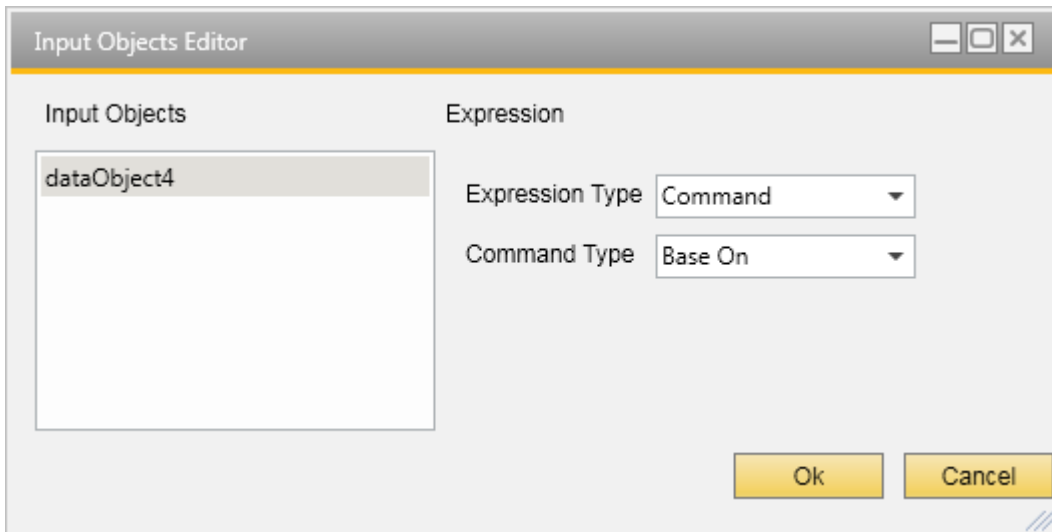
Properties	
<b>Data</b>	
InputObjects	(Detail)
<b>Detail</b>	
BusinessObject	Invoices
Duration	
OperationType	Add
Participants	['FI01']
Priority	Medium
<b>General</b>	
Description	A/P Invoice
ID	userTask3
Name	A/P Invoice

### **i** Note

- From the *BusinessObject* dropdown list, select *Invoices*. *A/P Invoice* is one of the dataobjects supported by the workflow function in SAP Business One.
- From the *Operation Type* dropdown list, select *Add*. The purpose of this task is to generate a dataobject based on an existing one.

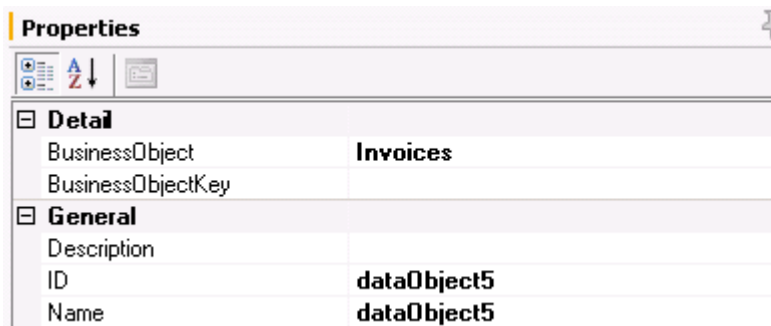
In this task, the operation is to generate an A/P invoice based on an existing goods receipt PO. You must set the relation between the input data and the output data, so the relevant information will be linked to the A/P invoice when you process this task.

Specify the input object of this task as follows:



### For DataObject 5:

Specify the properties of this dataobject as follows:



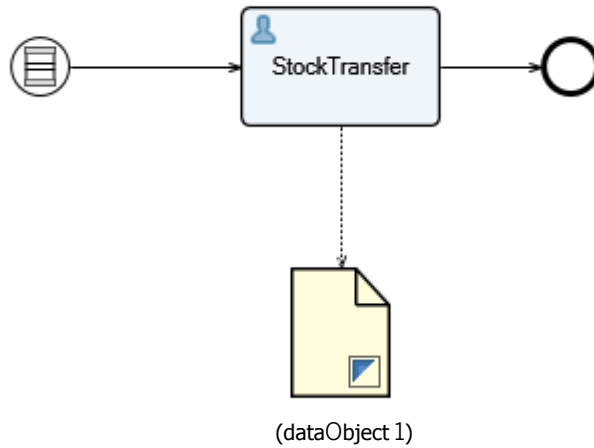
From the *BusinessObject* dropdown list, select *Invoices*. *A/P Invoice* is one of the dataobjects supported by the workflow function in SAP Business One.

## 4.4.5 Example 5 - Check Inventory Level and Transfer

### Scenario

Your company wants to build an inventory checking and transferring system. The system checks the quantity of the inventory in warehouse 02, and whenever the quantity is less than 100, the main warehouse transfers inventories to warehouse 02 to replenish the stock.

## Process Image



## Element Used in the Current Example

Workflow Element Type	Elements Used
Event	Conditional Start Event and End Event
Task	User Task
DataObject	BusinessOne DataObject
Sequence Flow	Regular Sequence Flow

## Workflow Element Properties

To design a workflow process template for this scenario, specify the properties for the elements as follows:

### For the Conditional Start Event:

In this scenario, define a condition to check the quantity of the inventory in warehouse 02. Whenever the quantity of the inventory falls below 100, the process starts.

Specify the task properties as follows:

**Properties**

**Detail**  
 Condition `var param = company.getRecords`

**General**  
 Description `startEvent1`  
 ID `startEvent1`  
 Name `startEvent1`

Choose the *Condition* field to open the *Script Editor* window. Specify the JavaScript as follows:

```

var param = company.getRecordsetParams();
var query = "select * from OITW where WhsCode = 02 and OnHand < 100"
//print(query);
param.setQuery(query);
var recordset=company.getRecordset();
recordset.doQuery(param);
recordset.read() > 0;
    
```

**i** Note

- o You must use JavaScript to edit the script task.
- o The start of a conditional event depends on the return value of the codes. The event starts only if the return value of the codes is "true".

**For the task "Stock Transfer":**

In this task, the staff of the main warehouse needs to add an inventory transfer in SAP Business One, so as to transfer the inventory to warehouse 02.

Specify the task properties as follows:

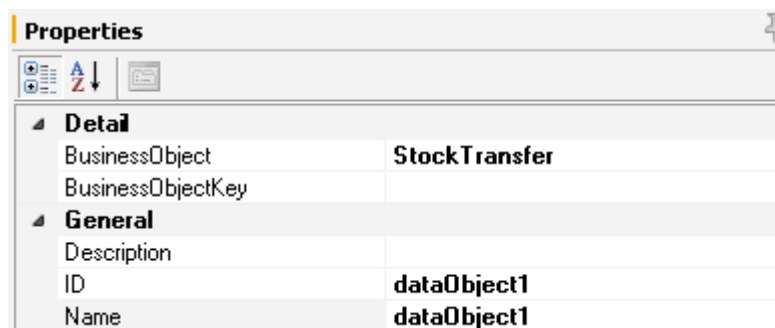
Properties	
<b>Data</b>	
InputObjects	(Detail)
<b>Detail</b>	
BusinessObject	Stock Transfer
Duration	12
OperationType	Add
Participants	['manager']
Priority	Medium
<b>General</b>	
Description	Stock Transfer
ID	userTask1
Name	Stock Transfer

**i** Note

- o From the *BusinessObject* dropdown list, select *Stock Transfer. Inventory Transfer* is one of the dataobjects supported by the workflow function in SAP Business One.
- o Do not specify the *InputObjects* field in the *Data* section, since this task does not have input data.

### For DataObject 1:

Specify the properties of this dataobject as follows:




From the *BusinessObject* dropdown list, select *Stock Transfer*. *Inventory Transfer* is one of the dataobjects supported by the workflow function in SAP Business One.

## 4.5 Exporting the Workflow Process Templates

After you finish designing a workflow process in SAP Business One Studio, you must export it as an `.xbm1` file, and then import the `.xbm1` file into SAP Business One as a workflow template.

### Procedure

1. In the toolbar, click  (*Export*).  
The *Save* window appears.
2. In the *Save* window, specify the location to which to export the `.xbm1` file.
3. Specify the name for the `.xbm1` file and choose the *Save* button.

After exporting the template, instead of modifying the template in SAP Business One Studio, you can modify it by modifying the content of the `.xbm1` file.

#### Recommendation

In the `.xbm1` file, modify only the parameters of the templates. Modifying the structures of the template in the `.xbm1` file may cause errors in the template.

To modify the structures of the workflow process templates, use SAP Business One Studio.

## 4.6 Adding, Renaming, Deleting, or Copying Workflow Process Templates in a Project

You can use the *Solution Explorer* window to add, rename, delete, or copy workflow process templates for your project.

---

## 4.6.1 Adding Workflow Process Templates

You can add new or existing processes to a workflow project.

### Adding New Workflow Process Templates to the Project

To add new process templates to your project, in the *Solution Explorer* window, right-click the project and choose *New Process*.

A new process page appears in the *Solution Explorer* window.

You can now design the new workflow process template.

### Adding Existing Workflow Process Templates to the Project

The following procedure lets you add existing process templates to your project.

#### Procedure

1. In the *Solution Explorer* window, right-click the project and choose *Add Existing Process*.  
The *Add Existing Item* window appears.
2. Select the `.xbm1` file you want to add, and choose the *Open* button.

The workflow process template appears in the *Solution Explorer* window.

## 4.6.2 Renaming Workflow Process Templates

The following procedure lets you rename the workflow process templates in your project.

#### Procedure

1. In the *Solution Explorer* window, right-click a workflow process template, and choose *Rename*.
2. Specify the new name for the process template, and press `Enter` on your keyboard.

The new name of the workflow process template appears in the *Solution Explorer* window.

## 4.6.3 Deleting Workflow Process Templates

The following procedure lets you delete workflow process templates in your project.

---

## Procedure

1. In the *Solution Explorer* window, right-click a workflow process template, and choose *Delete*.  
A *System Message* window appears to inform you the process will be deleted.
2. Choose the *OK* button.  
The workflow process template disappears from the *Solution Explorer* window.

## 4.6.4 Copying Workflow Process Templates

The following procedure lets you copy the workflow process templates in your project.

### Procedure

1. In the *Solution Explorer* window, right-click the workflow process template you want to copy, and choose *Copy*.
2. In the *Solution Explorer* window, right-click the project to which you want to copy the workflow process templates, and choose *Paste*.

#### Note

You can paste the workflow process template to the current workflow project, or you can open another workflow project and paste the workflow process template there.

## 5 Additional Information

### 5.1 Configuration File of the Workflow Service

The configuration file of the workflow service is where the settings of the workflow service are defined.

To view this file, navigate to ...SAP\SAP Business One ServerTools\Workflow\b1-workflow-manager.xml

```
<?xml version="1.0" encoding="utf-8"?>
<WorkflowManagerConfig xmlns:xsi=
"http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd=
"http://www.w3.org/2001/XMLSchema" DBServerPath="pvgd50821378a"
DBType="dst_MSSQL2008" JavaXmxOption="512m"
CondEventStartInterval="10">
  <CompanyDBs>
    <CompanyDBConfig DBName="workflow_test" Password=
"AQAAANCMnd8BFdERjHoAwE/Cl+sBAAAy91sBtvEn0iDnqmWln9YcAQAAAC
AAAA&#xD; &#xA;AAADZgAAwAAAAABAAAADDgZldd2f6EqQDLNm6YIjSAAAAAS
AAACgAAAAEAAAAJiP&#xD; &#xA;vSYS0gh9qE4WzhZ3OVIQAAAA8fBp/GHgLp
BgMIznxmox0hQAAAA9L9XQIWm3Qmd7&#xD; &#xA;8yVZja5MAJAOAQ==&#xD;
&#xA;" />
  </CompanyDBs>
  <DIISetting Address="127.0.0.1" Port="61179" />
  <LogConfig Info="0" Err="1" Warn="1" Debug="1" MaxFileSize="5"
>C:\Program Files (x86)\SAP\SAP Business One
ServerTools\Workflow\Log\WorkflowEngine.log</LogConfig>
</WorkflowManagerConfig>
```

- In the `JavaXmxOption` attribute, the value of `512m` means the default value of the maximum Java heap size is 512m.  
You can modify this value as needed.
- In the `CondEventStartInterval` attribute, the value of `10` means that by default, the workflow service checks the conditions defined in the conditional start events every 10 minutes to see if any instances need to be started.  
You can modify this value as needed.

### 5.2 Configuration File of Workflow Data Access

The configuration file of the workflow service is where the settings of workflow data access are defined. Workflow data access serves as a bridge that connects the workflow service and the company databases.



To view this file, navigate to ...SAP\SAP Business One ServerTools\Workflow\  
SBO\_WorkflowDataAccess.exe.config

```
<configuration>
  <configSections>
    <sectionGroup name="applicationSettings" type=
      "System.Configuration.ApplicationSettingsGroup, System, Version=4.0.0.0,
      Culture=neutral, PublicKeyToken=b77a5c561934e089" >
      <section name="DIWebKitInstance.Properties.Settings" type=
        "System.Configuration.ClientSettingsSection, System, Version=4.0.0.0,
        Culture=neutral, PublicKeyToken=b77a5c561934e089" requirePermission="false" />
    </sectionGroup>
  </configSections>
  <applicationSettings>
    <DIWebKitInstance.Properties.Settings>
      <setting name="AutoEndTransactionDuration" serializeAs="String">
        <value>00:03:00</value>
      </setting>
      <setting name="MemoryThresholdMB" serializeAs="String">
        <value>1024</value>
      </setting>
      <setting name="IdleThresholdMinute" serializeAs="String">
        <value>30</value>
      </setting>
      <setting name="EnableSSL" serializeAs="String">
        <value>True</value>
      </setting>
      <setting name="DomainName" serializeAs="String">
        <value />
      </setting>
    </DIWebKitInstance.Properties.Settings>
  </applicationSettings>
</configuration>
```

- The workflow service creates a transaction to communicate with the company databases whenever it needs to process or execute the logics.

By default, if the idle time of the transaction is more than three minutes, the workflow service ends the current transaction and starts a new one.

To change the default transaction restart time, modify the value in the following `value` tag.

```
<setting name="AutoEndTransactionDuration" serializeAs="String">
  <value>00:03:00</value>
</setting>
```

- Once the workflow service starts to process or execute the logics, the workflow data access creates a working process for each company you have activated in SAP Business One Service Manager. For more information, see [Configuring the Workflow Service in SAP Business One Service Manager](#).

By default, when the memory of the working process reaches 1024m, the workflow data access creates a new working process to replace it.

To change the default threshold memory of the working process, modify the value in the following `value` tag:

```
<setting name="MemoryThresholdMB" serializeAs="String">
  <value>1024</value>
</setting>
```

- Once the workflow service starts to process or execute the logics, the workflow data access creates a working process for each company you have activated in SAP Business One Service Manager. For more information, see [Configuring the Workflow Service in SAP Business One Service Manager](#).

By default, if the working process is idle for more than 30 minutes, the workflow service ends the current process and starts a new one.

To change the default threshold memory of the working process, modify the value in the following `value` tag:

```
<setting name="IdleThresholdMinute" serializeAs="String">
  <value>30</value>
</setting>
```

## 5.3 Supported SAP Business One Objects

The following table shows the data objects that are currently supported by the workflow function in SAP Business One.

Data Object Name in DI API	Window Name in SAP Business One
Activity	Activity
BankChargesAllocationCodes	Bank Charges Allocation Codes
BillofExchangeTransactions	Bill of Exchange Transactions
BusinessPartner	Business Partner Master Data
CorrectionInvoice	A/R Correction Invoice
CorrectionInvoiceReversal	A/R Correction Invoice Reversal
CorrectionPurchaseInvoice	A/P Correction Invoice
CorrectionPurchaseInvoiceReversal	A/P Correction Invoice Reversal
CashDiscounts	Cash Discount
CreditNotes	A/R Credit Memo
DeliveryNote	Delivery
Deposits	Deposit
DownPaymentInvoices	A/R Down Payment Invoice
DownPaymentRequests	A/R Down Payment Request
DunningTerms	Dunning Terms
IncomingPayments	Incoming Payments

Data Object Name in DI API	Window Name in SAP Business One
InventoryGenEntry	Goods Receipt
InventoryGenExit	Goods Issue
InventoryTransferRequest	Inventory Transfer Request
Invoices	A/R Invoice
Item	Item List - Selection Criteria
JournalEntries	Journal Entry
JournalVouchers	Journal Vouchers
LandedCosts	Landed Costs
MaterialGroups	Material Groups - Setup
MaterialRevaluation	Inventory Revaluation
Order	Sales Order and Purchase Order
ProductionOrder	Production Order
ProductTrees	Bill of Materials
PurchaseCreditNotes	A/P Credit Memo
PurchaseDeliveryNotes	Goods Receipt PO
PurchaseDownPaymentInvoices	A/P Down Payment Invoice
PurchaseDownPaymentRequests	A/P Down Payment Request
PurchaseInvoices	A/P Invoice
PurchaseOrders	Purchase Order
PurchaseQuotations	Purchase Quotation
PurchaseReserveInvoices	A/P Reserve Invoice
PurchaseReturns	Goods Return
Quotations	Sales Quotation
ReserveInvoices	A/R Reserve Invoice
Return	Return
SalesForecasts	Forecasts
SalesOpportunities	Sales Opportunity
ServiceCalls	Service Call
StockTransfer	Inventory Transfer
User	Users - Setup
VendorPayments	Outgoing Payments

---

Data Object Name in DI API	Window Name in SAP Business One
WizardPaymentMethods	Payment Methods



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