

# **SAP HANA Modeling for SAP Business One: Variables and Input Parameters**



Welcome to the topic on variables and input parameters.

## Objectives

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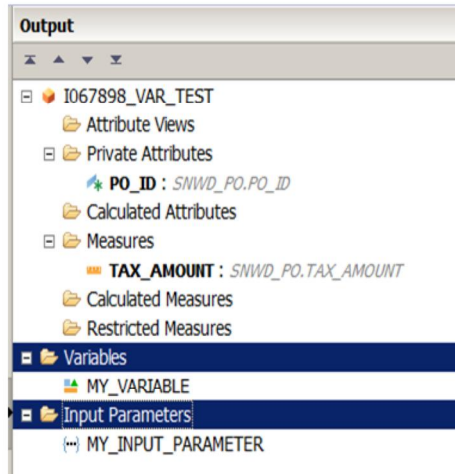


At the end of this course, you will be able to:

- Describe how to create Variables and Input Parameters

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## Object Types for Getting Data from Report Users



### Variable

- Bound to an attribute
- Used for filtering values
- Can only contain the values available in the related attribute

### Input Parameter

- Can contain any value the reporting user want to enter.
- Data type for the Input Parameter must be specified.

For query views, you can use variables and input parameters to get data from report users.

Variables are bound to attributes and are used for filtering. As such, they can only contain the values available in the attribute they relate to.

Input parameters can contain any value the reporting user wants to enter. Therefore, a data type for the input parameter must be specified.

## Concepts for Variables

- You use variables to filter data at runtime.
- You assign values to these variables by entering the value manually, or by selecting it from the drop-down list.
- You do not need to decide on the restriction on the value of attributes at the design time.



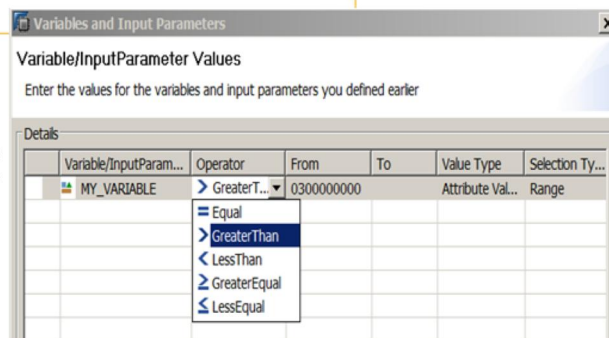
- You use variables to filter data at runtime. You assign values to these variables by entering the value manually, or by selecting it from the drop-down list.
- Using variables means that you do not need to decide on the restriction on the value of attributes at the design time.
- You can apply variables in the analytic and calculation views.
- If a calculation view is created using an analytic view with variables, those variables are also available in the calculation view but cannot be edited.

## Variable types

The following types of variables are supported:

Type	Description
<b>Single Value</b>	Use this to apply a filter to a Single Value
<b>Interval</b>	Use this where you want the user to specify a set start and end to a selected interval.
<b>Range</b>	Use this when you want the end user to be able to use operators such as "Greater Than" or "Less Than".

**Range Variable Example:**



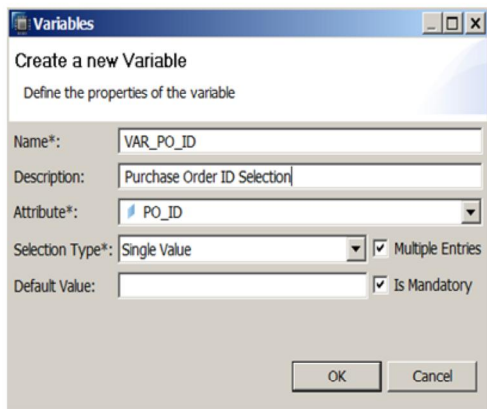
The following types of variables are supported:

Single Value: use this to apply a filter to a single value.

Interval: use this where you want the user to specify a set start and end to a selected interval.

Range: Use this when you want the end user to be able to use operators such as "Greater Than" or "Lesser Than"

## Creating Variables



Variables

Create a new Variable

Define the properties of the variable

Name\*: VAR\_PO\_ID

Description\*: Purchase Order ID Selection

Attribute\*: PO\_ID

Selection Type\*: Single Value

Multiple Entries ☒

Default Value:

Is Mandatory ☒

OK Cancel

Select the attribute to filter and define:

- **Selection Type:**  
Whether selections should be based on intervals, ranges or single values.
- **Multiple Entries:**  
Whether multiple values of the selection types should be allowed.
- **Default Value:**  
You have the option to define a default value for the variable.
- **Mandatory:**  
The variable can be set as mandatory.

A variable restricts the results in the view for the selected attribute. To create a variable, select the attribute in the view that you want to filter on, then define the following values:

**Selection Type:** You can choose whether selections should be based on intervals, ranges or single values.

**Multiple Entries:** You control whether multiple values of the selection types should be allowed.

**Default Value:** You have the option to define a default value for the variable.

You also have the option to set the variable as **Mandatory**.

## Input parameter concepts

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You might want to take input from the user and process it, returning dynamic data based on the user selection.

Using **Input Parameters** makes this possible.

Sometimes using a variable is not enough. You might want to do more than restrict the value of an attribute in a view.

You might want to take input from the user and process it, returning dynamic data based on the user selection.

Using Input Parameters makes this possible.

## Input parameter types

The following types of Input variables are supported:

Type	Description
<b>Direct</b>	Use this to specify an input parameter as currency and date during currency conversion, and target unit during unit of measure conversion.
<b>Column</b>	Use this when the value of a parameter comes from an attribute or table column.
<b>Static List</b>	Use this when the value of a parameter comes from a user-defined list of values.
<b>Derived from Table</b>	Use this when the value of a parameter comes from a table column based on some filter conditions and you do not need to provide any input at runtime.

The following types of Input variables are supported:

**Direct:** Use this to specify an input parameter as currency and date during currency conversion, and target unit during unit of measure conversion.

**Column:** Use this when the value of a parameter comes from an attribute or table column.

**Static List:** Use this when the value of a parameter comes from a user-defined list of values.

**Derived from Table:** Use this when the value of a parameter comes from a table column based on some filter conditions and you do not need to provide any input at runtime.



## Example of an Input Parameter

Imagine that you have an Aging Query.

You would like to use the same query to run aging for accounts receivable or vendor liabilities.

You can use an input parameter for *Business Partner Type* to allow the report user to make this decision when running the report.



Imagine that you have an Aging Query.

You would like to use the same query to run aging for accounts receivable or vendor liabilities.

You can use an input parameter for Business Partner Type to allow the report user to make this decision when running the report.

When running the report the user could choose Customer or Vendor.

## Input Parameters definition

### Edit Input Parameter Definition

Input parameters are used to parameterize the view execution such as, to parameterize currency conversion, calculated columns or

Name: P\_BusinessPartnerType

Label: Business Partner Type

Parameter Type: Static List ☐ Is Mandatory

Default Value

☒ Constant ☐ Expression

Value: C

Static List

Data Type: NVARCHAR Length: 1 Scale:

Name	Description
C	Customer
S	Vendor

Add Remove

Here is the input parameter definition for our example

- Choose any suitable parameter type, for example a StaticList type.
- Define whether the parameter is mandatory.
- Set any default values. In this case "Customer"
- Define the data type for the parameter.
- This shows a list of values for our static list.

When creating an input parameter definition, first add a name and give it a descriptive label.

Choose a suitable parameter type, for example a StaticList type. We used this type for the input parameter for our Aging Query because the value of this parameter will come from a user-defined list of values.

You have the option to define whether a parameter is mandatory. You also can set a default value. In this case, we have chosen to set a constant value of C.

Input parameters must have a data type defined because they are not directly associated with an attribute unlike variables.

In this example we chose to have a static list with values that the user can choose, therefore we entered the values "Customer" or "Vendor" in a list of values.

## Case Study Variable

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### Create a Variable to filter the NetSales by year

- ❑ Create a Variable in our Query View:
  - ❑ Link the Variable to the YEAR attribute
- ❑ Run the Data Preview, you will be prompted to enter a YEAR before the view is executed.

Create a Variable to filter the NetSales by year

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## Case Study: Input Parameter

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**We are going to calculate the commission charges based on an input parameter: % commission.**

**Add an Input Parameter to your Query view where the user will enter a % commission on sales:**

**❑ Create the Input Parameter:**

- ☐ Type – Decimal (21,6)

**❑ Create a calculated column**

- ☐ Call the calculated column “Commission Total”
- ☐ Multiply the NetSales with the % Discount Input Parameter and divide by 100.

We are going to calculate the commission charges based on an input parameter: % commission.

Add an Input Parameter to your Query view where the user will enter a % commission on sales:

**❑ Create the Input Parameter:**

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- ☐ Call the calculated column “Commission Total”
- ☐ Multiply the NetSales with the % Discount Input Parameter and divide by 100.

## Summary

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Here are some key points:

- For query views, you can use variables and input parameters to get data from report users.
- Variables are bound to attributes and are used for filtering.
- Variables can only contain the values available in the attribute they relate to. You do not need to decide on the restriction on the value of attributes at the design time.
- Input parameters are more flexible. They can contain any value the reporting user wants to enter.
- A data type for the input parameter must be specified.

- Variables are bound to attributes and are used for filtering.
- As such, they can only contain the values available in the attribute they relate to. You do not need to decide on the restriction on the value of attributes at the design time.
- Input parameters are more flexible. They can contain any value the reporting user wants to enter.
- Therefore, a data type for the input parameter must be specified.

## Thank you

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This concludes the topic on variables and  
input parameters.

Thank you for your time.

This concludes the topic on variables and input parameters in the SAP Business One, version for SAP HANA. Thank you for your time.

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