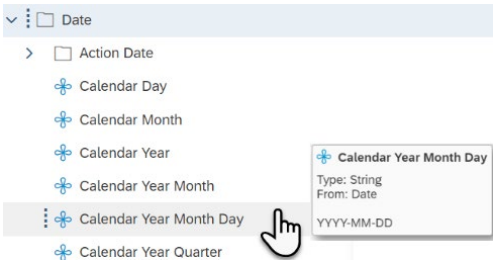
To allow chronological sorting, the data type for most date dimensions is text (string). You can change both the data type and date format. Hover over the date dimension to identify the data type and date format.

- ✓ Variables are the recommended best practice. Though functionality exists to create new columns and formulas within your query results table, variables provide more flexibility because they can easily be added and removed from reports, as well as copied and modified for other purposes.
- ✓ Changing the data type of a date field allows you to calculate the length of time between two dates. To use a date in a calculation, first create a variable.
- ✓ Changing the date format changes how the date is displayed. For example, you can change the date format from 2018-02-28 to 02/28/2018.

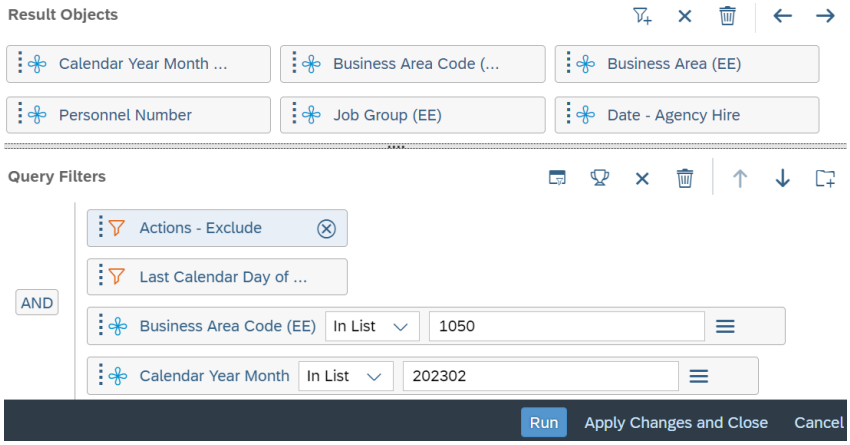


Changing Data Types for Date Calculations

For the examples in this job aid, create an ad hoc query using the WWA EDW Headcount and Personnel Actions universe so that you can convert the Date - Agency Hire data type from text to date to calculate employees' tenure with your agency.

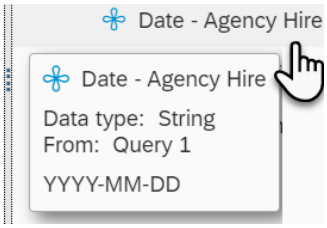
- ✓ In the Headcount and Personnel Actions universe, you must use the Actions - Exclude pre-defined filter when creating queries not related to actions.
- ✓ The pre-defined filter Last Calendar Day of Month Values is used when creating a query filter using Calendar Year Month.

In this example, we created an ad hoc query with result objects including Calendar Year Month Day, Business Area Code (EE), Business Area (EE), Personnel Number, Job Group (EE), Date - Agency Hire and query filters including Actions - Exclude, Last Calendar Day of Month Values, Business Area Code (in list = our agency), Calendar Year Month (in list = current month).



Sample results:

Calendar Year Month Day	Business Area Code (EE)	Business Area (EE)	Personnel Number	Job Group (EE)	Date - Agency Hire
2023-02-28	1050	Office of Fin		1050-002 P	2008-06-16
2023-02-28	1050	Office of Fin		1050-002 P	2014-07-01



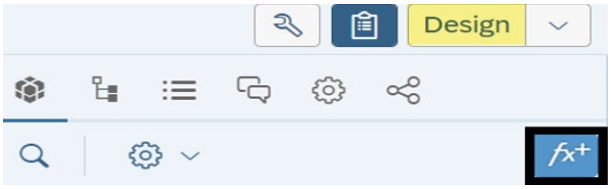
Convert Data Type: Text to Date (Date- Agency Hire)

In this example, we will convert the Date - Agency Hire data type from text to date.

✓ Use formula **=ToDate([Date - Agency Hire];"yyyy-MM-dd")** for this example.

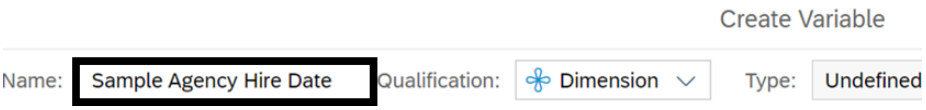
1. Select: **Add new variable.**

➔ WebI will display the create variable screen. It will include several options for you to build a variable.



2. Input: **Name.**

➔ This will be the name for your new variable.

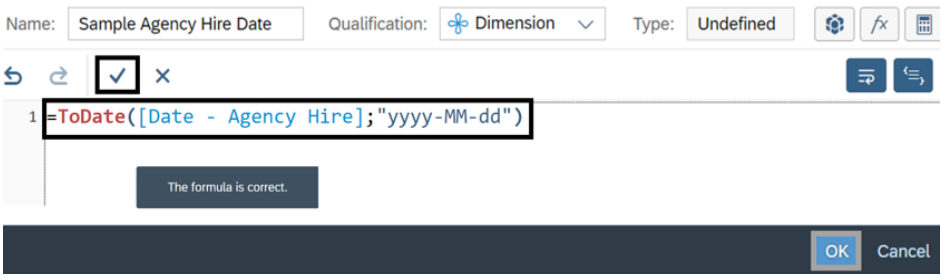


3. Input: **Formula.**

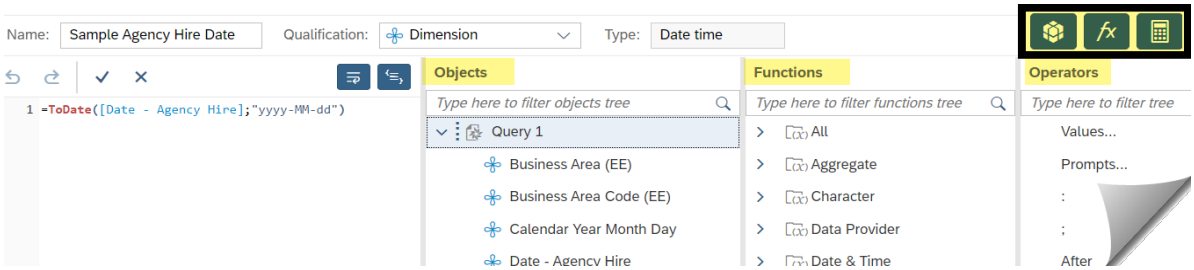
4. Select: **Checkmark ✓ to validate formula.**

5. Select: **Ok.**

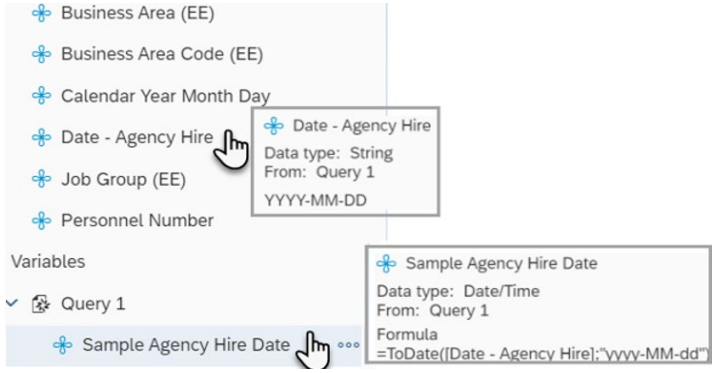
➔ WebI will add the new variable to the list of available objects for the query.



In this example, you can use the toggles to show/hide the query objects (document dictionary), functions, and operators that can be used to build or edit the formula.



In this example, the new variable is displayed in the list of available objects.



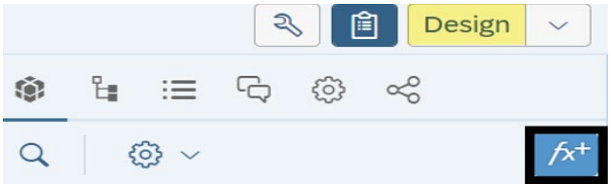
Calculate Days Between Formula (Current Date)

In this example, we will create a new variable to calculate the days between the agency hire date and the current date. Dividing by 365 will provide the amount of years instead of days.

✓ Use formula **=DaysBetween([Sample Agency Hire Date];CurrentDate())/365** for this example.

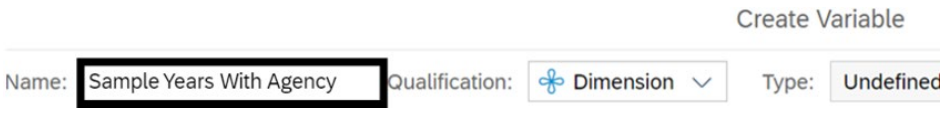
1. Select: **Add new variable.**

➔ WebI will display the create variable screen. It will include several options for you to build a variable.



2. Input: **Name.**

➔ This will be the name for your new variable.



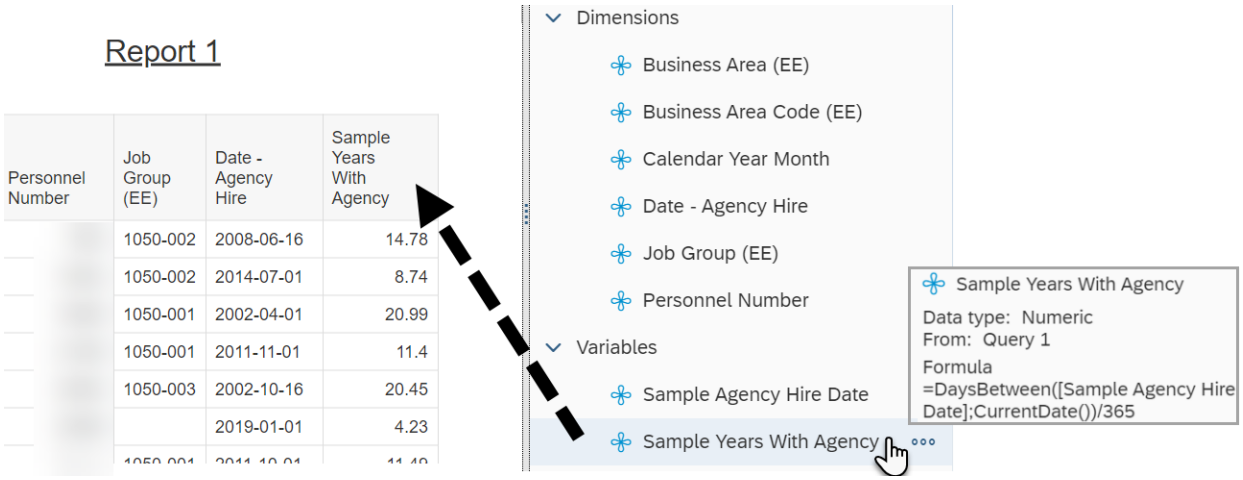
3. Input: **Formula.**

4. Select: **Checkmark ✓ to validate formula.**

5. Select: **Ok.**

➔ WebI will add the new variable to the list of available objects for the query.

In this example, we added the new variable to the report results.



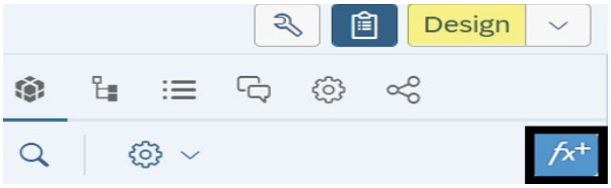
Convert Data Type: Text to Date (Calendar Year Month Day)

In this example, we will create a new variable to convert the Calendar Year Month Day data type from text to date so that we can calculate the employees' tenure with our agency as of the last day of the calendar month.

✓ Use formula **=ToDate([Calendar Year Month Day];"yyyy-MM-dd")** for this example.

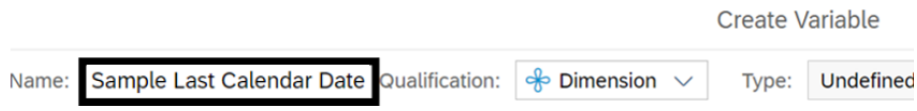
1. Select: **Add new variable.**

➔ WebI will display the create variable screen. It will include several options for you to build a variable.



2. Input: **Name.**

➔ This will be the name for your new variable.

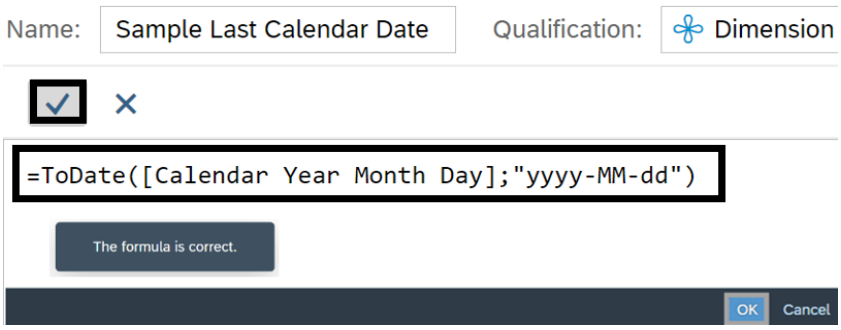


3. Input: **Formula.**

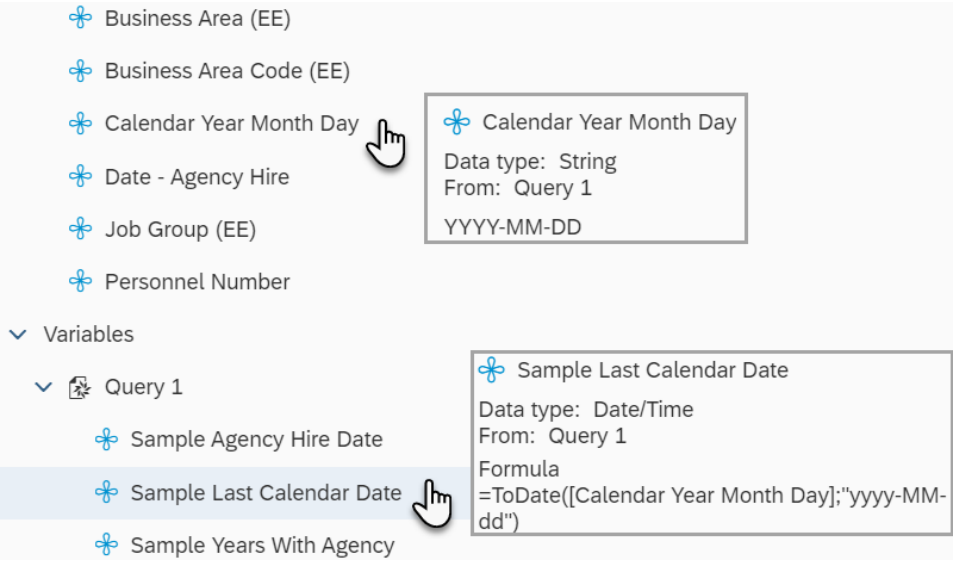
4. Select: **Checkmark ✓ to validate formula.**

5. Select: **Ok.**

➔ WebI will add the new variable to the list of available objects for the query.



In this example, the new variable is displayed in the list of available objects.

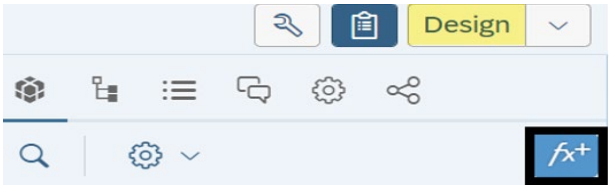


Calculate Days Between Formula: Last Day of Calendar Year Month

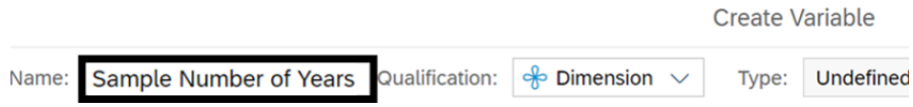
In this example, we will create a new variable to calculate the employees' tenure with our agency as of the last day of the calendar month. Dividing by 365 will provide the amount of years instead of days.

✓ Use formula **=DaysBetween([Sample Agency Hire Date];[Sample Last Calendar Date])/365** for this example.

1. Select: **Add new variable.**
➔ WebI will display the create variable screen. It will include several options for you to build a variable.

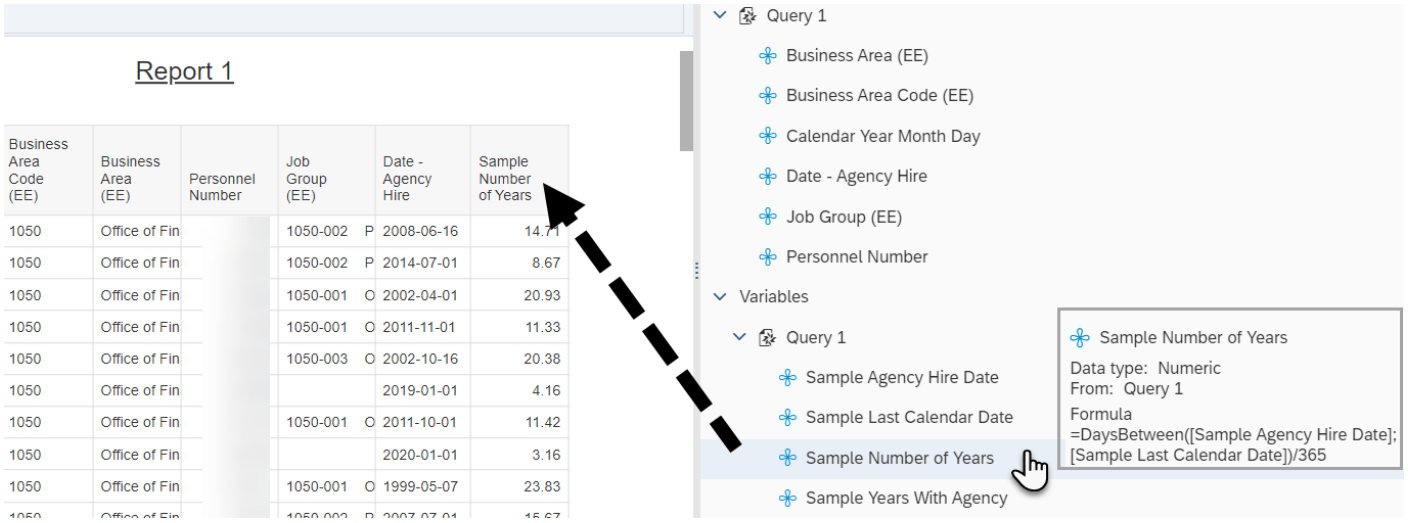


2. Input: **Name.**
➔ This will be the name for your new variable.



3. Input: **Formula.**
4. Select: **Checkmark ✓ to validate formula.**
5. Select: **Ok.**
➔ WebI will add the new variable to the list of available objects for the query.

In this example, we added the new variable to the report results.



Format Date Types

Use the date variables that you created if you want to change the format displayed in your results.

✓ Calendar Year Month Day and Date - Agency Hire cannot be changed because they are text.

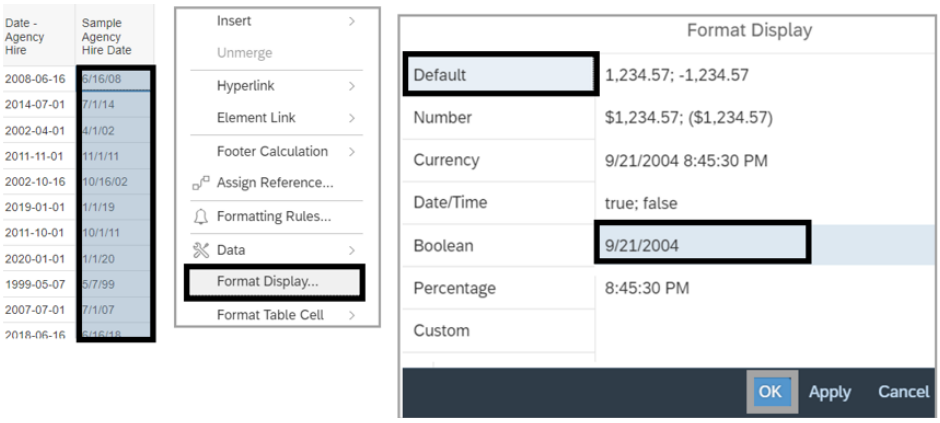
1. Select: **Data column.**
2. Right-click: **Data column.**
3. Select: **Format Display.**

➔ WebI will display format options for the data.

4. Select: **Format option for the data.**
5. Select: **Ok.**

➔ WebI includes several different format types. You can select a pre-defined format or create a custom format.

In this example, we select a default date format.



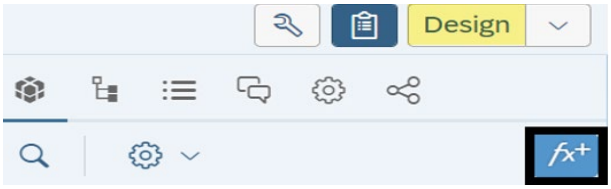
In this example, the format displayed before the change is month/day/2-digit year and the format displayed after the change is month/day/4-digit year.

Format Dates in Variable Editor

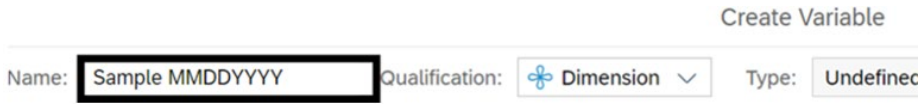
In this example, we will create a new variable to change the way text is displayed. Changing the display format of the date text does not change the data type. The new variable will be a text string and will not be recognized as a number.

- ✓ Use formula **=Substr([Calendar Year Month Day];6;2)+"/"+Right([Calendar Year Month Day];2)+"/"+Left([Calendar Year Month Day];4)** for this example. Substr() will return part of a string, Right() will return the last characters of a string, and Left() will return the first characters of a string. In this example, a Calendar Year Month Day of 2023-02-28 will be displayed as 02/28/2023.

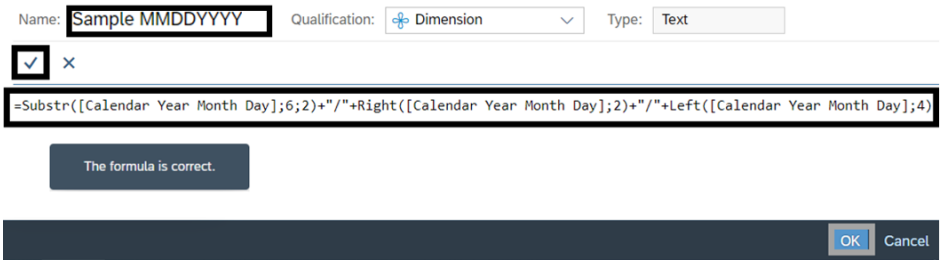
1. Select: **Add new variable.**
➔ WebI will display the create variable screen. It will include several options for you to build a variable.



2. Input: **Name.**
➔ This will be the name for your new variable.



3. Input: **Formula.**
4. Select: **Checkmark ✓ to validate formula.**
5. Select: **Ok.**
➔ WebI will add the new variable to the list of available objects for the query.



In this example, we added the new variable to the report results.