Calculations

Calculation files define custom MDX expressions for creating calculated metrics in AtScale. They can be used to combine, evaluate, or manipulate other metrics defined in the model. For example, you can do simple math operations to combine metrics, or simple comparison operations to return a given metric value when certain conditions are met.

In SML, calculation files are a subset of metrics. The separation of calculation metrics from other types enables you to easily create boilerplate calculations that can be used across multiple metrics.

Calculation files support the following properties.

Unique_name

- ▲ **Type:** string
- ▲ **Required:** Y

The unique name of the calculation. This must be unique across all repositories and subrepositories.

Object_type

- ▲ **Type:** const
- ▲ **Required:** Y

The type of object defined by the file. For calculations, the value of this property must be `metric_calc`.

Label

- ▲ **Type:** string
- ▲ **Required:** Y

The name of the calculation as it appears in AtScale. This value does not need to be unique.

Expression

- ▲ **Type:** string
- ▲ **Required:** Y

The MDX expression to use for the calculation.

This expression must be written in MDX syntax, surrounded by quotes ("). Additionally, it can only operate on existing metrics in the model, and must return a numeric value.

> 📄 **Note:** AtScale only supports a small subset of MDX functions and operators. For more information, see MDX Reference.

Description

- ▲ **Type:** string
- ▲ **Required:** N

A description of the calculation.

Format

- ▲ **Type:** string
- ▲ **Required:** N

The format of the values returned by the calculation. You can use one of AtScale's built-in named formats, or a custom string format.

Supported named formats:

- ▲ fixed
- ▲ general number
- ▲ none
- ▲ percent
- ▲ scientific
- ▲ standard

Custom format strings should be in quotes (") and contain one to four sections, separated by semicolons. For more information on defining custom format strings, see Number Format Strings.

Is_hidden

- ▲ **Type:** boolean
- ▲ **Required:** N

Determines whether the calculation is visible in BI tools.

Supported values:

- ▲ true

- ▲ `false`

Mdx_aggregation_function

- ▲ **Type:** string
- ▲ **Required:** N

The aggregation function to use when this calculation is referenced via the Aggregate MDX function.

> 📄 **Note:** AtScale recommends including this property if you plan on referencing the calculation from calculation groups. Otherwise, you may encounter errors at query time. For more information on calculation groups, see Using Calculation Groups and Dimensions.

Supported values:

- ▲ `SUM`
- ▲ `MAX`
- ▲ `MIN`
- ▲ `COUNT`
- ▲ `AVG`