

Understanding How Virtualize Uses Data Sources

Another way to parameterize tools is with values stored in a data source.

Virtualize can parameterize tools with values from any of the following types of data sources:

- CSV files
- Databases
- Excel spreadsheets
- Tables created in (or copied into) the internal table editor.
- File
- Writable
- Aggregate
- Data group

Tip- Generating a Data Source Template for Populating Message Elements

Manually creating a data source for parameterizing large, complex XML messages can be time-consuming and tedious.

For a fast way to accomplish this, have Virtualize automatically generate a CSV data source template based on the structure of the request or response message that you want to parameterize. Columns in the generated data source are automatically mapped to the appropriate elements in the request or response message. The only thing you need to do is add values to the generated data source template.

For details, see [Generating a Data Source Template for Populating Message Elements](#).

Want to dynamically specify different data sources for the same tool?

You can achieve this with data groups. See below for details.

Understanding Data Groups and Aggregate Data Source

Virtualize lets you create and use two types of combined data sources:

- A **data group** can include a number of similar data sources that have at least one column in common; it allows you to select which data group should be applied at any given time. This is especially useful if you want to dynamically specify different data sources for the same tool. You can quickly switch which data source is active at any given time—without having to edit tools or data sources.
- An **aggregate data source** takes a number of different data sources and treats them as a combined data source. This is especially useful if you would like to have a tool draw values from multiple data sources.

A Data Group is similar to an Aggregate Data Source in the sense that they are both made up of other data sources. However, a Data Group allows access to only the common columns shared across all data sources; an Aggregate Data Source aggregates all of the columns from the various data sources. Moreover, an Aggregate Data Source makes all data values available at a single time. A Data Group allows you to determine which set of values is used at any given time.