On-Demand Training: Join Types Transcript

INTRO

Welcome to this Connecting to Data Video on Join Types. If you haven't already done so, I recommend watching the first video in this series which covers the basics on Connecting to Data.

JOIN TYPES

Depending on your data source, Tableau Desktop offers several options for joins, including Inner, Left, Right, and Full Outer Joins. But what do the various join types mean? Here is a simple excel file to demonstrate the basic concepts. It isn't perfectly correct but it does a good job covering the core idea.

Joining tables is a way of combining information from tables based on a field they share. Joins are always made ON a specific field (or fields). Here we have two tables and we need to decide which field we want to have as the common element between them. The table on the left contains sibling information, and the table on the right contains eye color information. We'll join these tables on the field "name".

LEFT JOINS

A left join brings in all the information for the rows from the table on the left (siblings) and any information from table on the right (eye color) for rows with the same name as the sibling table. Therefore we get all the information from the siblings table, and for the names that are also listed in the eye color table, Taylor and Alex, we get their eye color. If a name from the siblings table is not present in the eye color table, we get a null, such as for Shannon and Tracy.

Let's see what this looks like in Tableau. As you can see, a left join pulls in all the rows for the table on the left (Siblings) and fills in Eye Color when it can, with null if that name is not present in the table on the right.

RIGHT JOINS

In a right join, it's the reverse. We have all the names from the right table (eye color), and for those rows we get the sibling information if it exists.

As you can see, the output list of names varies between a left and right join because we're changing which table comes in first. Shannon and Tracy do not exist in the eye color table, so they show up in the left join only. Morgan doesn't exist in the left table, so she only shows up in the right join.

INNER AND OUTER JOINS

An inner join preserves only the rows that have the same key field, in our case name, between both tables. We only get information for names that are listed in both tables – and there are no nulls.

An outer join brings in all names listed in all tables, and fills in nulls wherever there isn't information for a given column for that row.

CONCLUSION

That's a quick primer on join types. As a reminder, not all join types are supported by all data sources. There's a lot Tableau can do with data connections. For more information on data connections in Tableau, check out the other videos in in the Connecting to Data series.