

Types of Relationships in an AtScale Cube

This section explains the types of relationships you can model in an AtScale cube. A relationship creates a physical dataset and a logical dimension, and adds an *instance* of the dimension to the cube.

- [One-to-Many Relationships](#) When modeling data in a star schema format, dimension-to-fact relationships are typically one-to-many. This means that each record in the fact dataset can link to one (and only one) record in the dimension dataset, but a record in the dimension dataset can be associated with many fact records.
- [Many-to-Many Relationships](#) Real-world use cases do not always align with the one-to-many star schema. Some relationships can only be represented as a many-to-many relationship. This occurs when a fact record refers to more than one row in a dimension dataset. In AtScale, this is modeled by defining a dimension relationship. This relationship resolves the many-to-many relationship.
- [Role-Playing Relationships](#) Whenever you create a relationship to a dimension, whether from a fact dataset to a dimension or from one dimension to another dimension, an *instance* of that dimension is added to the cube. In some cases, the same dimension may be referenced in more than one context in the same cube. A relationship is what differentiates multiple instances of the same dimension in a cube.
- [Multi-Fact Relationships](#) A multi-fact model is when you want to analyze measures that originate from multiple fact datasets. This is possible in AtScale, provided that both fact datasets have relationships to common dimensions.