

## Relationship types

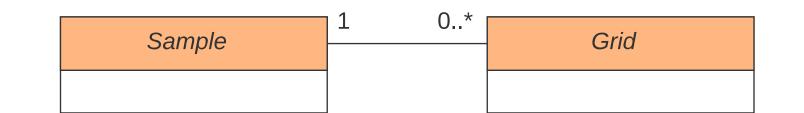
One-to-one: The entity on the left is always related to exactly one entity on the right.

Example: A map has exactly one file attached, and it is obligatory to add a file attachment to a map entity.



One-to-many (optional): The entity on the left may be related to many entities on the right.

Example: A sample may engender many grids but a grid is always related to exactly one sample. It is possible for a sample to not be related to any grid.



One-to-many (mandatory): The entity on the left is always related to at least one entity on the right.

Example: A sample consists of at least one sample component (protein or ligand), but a sample component is always related to exactly one sample. Note however that protein and ligand entities can be used as sample components for many samples.

Sample Sample component

Many-to-many: entity on the left side is related to many entities on the right side of the relation and vice versa.

Example: A map may yield many models and a model may be derived from many maps. In this case it is possible to have a map that is not related to any model but every model has to be linked to at least one map

