

Lab on Multidimensional Modeling and Design

Objectives

1. **Multidimensional design:** Given a set of KPIs and queries, together with the available data sources, create an MD schema design that satisfies the needs.
2. **Relational translation:** Given a multidimensional (MD) conceptual schema, translate it into a relational schema.

Activities

1. The first objective can be achieved via the following activities:
 - Given the required KPIs and queries, create independent MD schemas (e.g., for each query), in the Indyco builder tool, that satisfy (i.e., that can answer) these information requirements.
 - Given the required MD schemas, consider integrating them:
 - you obtain a unified MD schema that satisfies all the information requirements at once, and
 - the unified MD schema has the minimal structural complexity (regarding the number of classes, attributes, and relationships).
2. For the second objective, given a simple multidimensional (i.e., galaxy) schema:
 - Propose a logical database schema (i.e., a set of CREATE TABLE statements) corresponding to that multidimensional schema.

Required Knowledge

- Taught material: Multidimensional modelling and Advanced multidimensional modelling (see the corresponding slides in Moodle).