LU04c - ERM and ERD

Entity-Relationship Model = ERM

The Entity-Relationship Model (ERM) is a **conceptual data-model** used in database design to represent relationships between data entities in a system. An entity is a real-world object or concept, such as customer or product, and each entity has specific attributes that describe it. **ERM serves as a blueprint for creating databases, ensuring that data is accurately captured and linked**. The following illustration shows a database of students, their teachers and the rooms in which the lessons are are held.

ERM / ERD Editor

Draw.io is a powerful visualisation editor, which is available as an online version as well as an offline app.

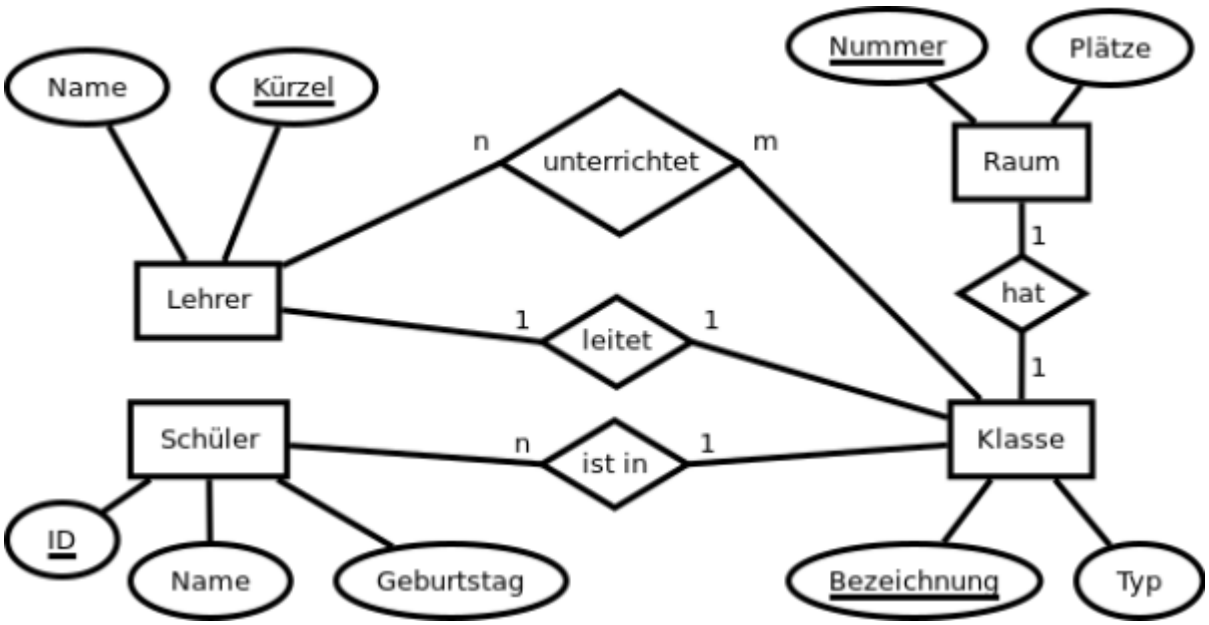
- Available: ERD/ERD Editor Draw.io
- The necessary icons are offered on the left hand side, under the category „Entiry Relation“.
- The save function is quite obvious an needs no further explaination
- After you have completed your assignment, you can „Datei > Export > PNG/JPG/…“ your data model.

Youtube tutorials

- Youtube DE: ERM einfach erklärt

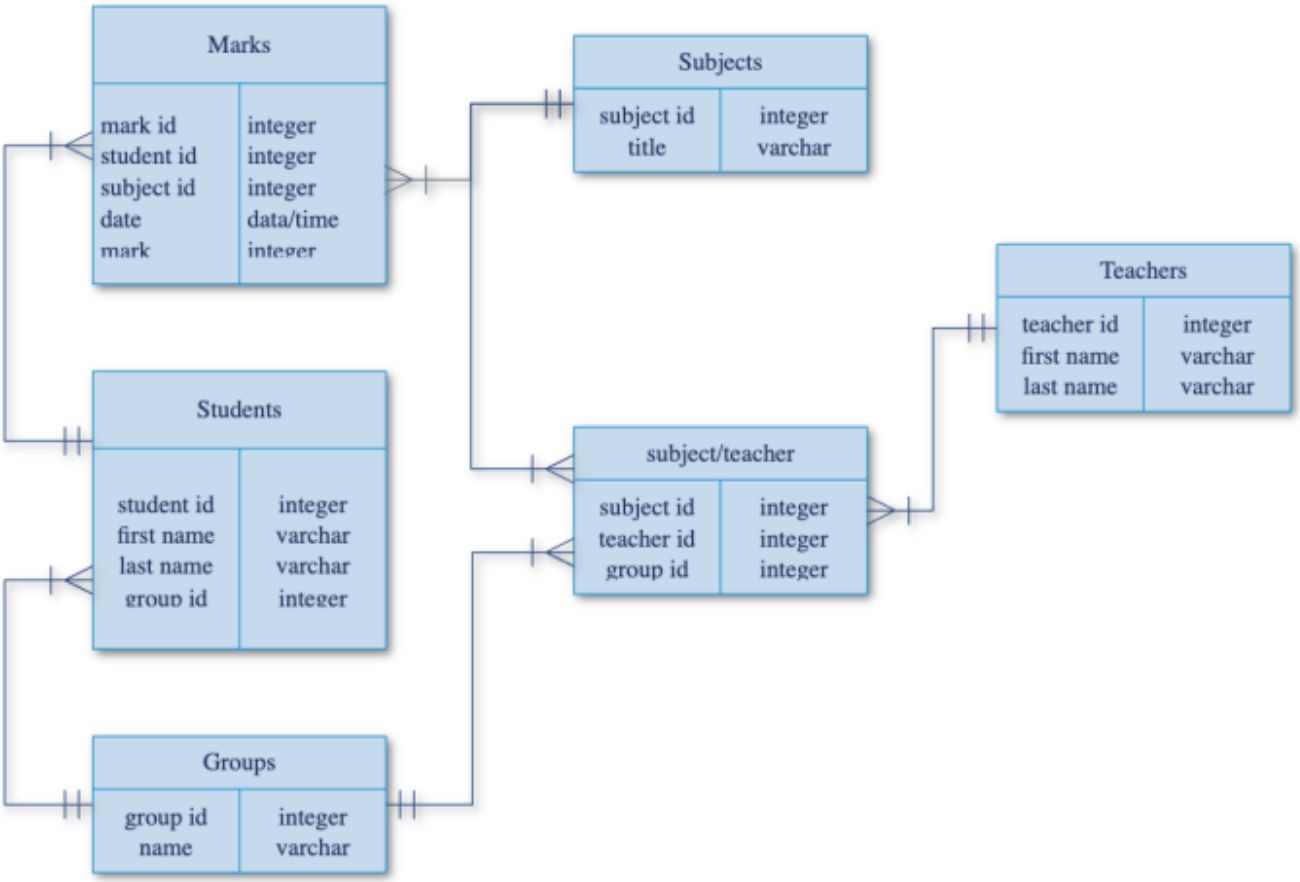
Additional Youtube tutorials

- Youtube DE: ER-Modell - Teil 1
- Youtube DE: ER-Modell - Teil 2



Entity-Relationship Diagram = ERD

An Entity-Relationship Diagram (ERD) is the **graphical representation** of the ERM, visualizing entities, attributes, and their relationships. Commonly it is also known as the **logical model**, and basicly using the Crow's Foot notation, ERDs clarify the structure of the database before development begins, making them essential for communicating design, ensuring normalization, and preventing errors. Below is an ERD of a school administration database.



Additonal material

- Youtube DE: Kardinalitäten und Primärschlüssel im ERM
- Youtube EN: Entity Relationship Diagram (ERD) - Part 1
- Youtube EN: Entity Relationship Diagram (ERD) - Part 2

Vocabulary

English	German
blueprint	Bauplan, Entwurf
to prevent	verindern

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