

CMD-L1: Introduction to Scientific Databases

Person in charge and Representative	Vidal
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Semester	1
Topic cluster	Computational method development
Duration/Credit	6 lectures of 1.5 hours (to be discussed)
Time	The exact date incl. time will be announced separately
Place	Online. Dial-in data are sent separately
Prerequisite for the lecture	None
Aim of the lecture	<p>This lecture aims at achieving the following objectives:</p> <ul style="list-style-type: none">● Study the different levels and components of a database management system.● Study existing data models (e.g., the Entity Relationship and the relational) and learn existing methodologies for modeling scientific databases using these data models.● Design scientific databases using conceptual data models (e.g., the Entity Relationship) and translate these designs into relational databases.● Learn declarative languages to represent queries against scientific relational databases. These languages include the relational algebra and SQL.● Define typical queries over scientific relational databases● Learn declarative languages to define and manage scientific relational databases.● Implement scientific relational databases● Study criteria for high-quality designs of scientific relational databases.