inf111 - Advanced Database Practical

Module label
Advanced Database Practical

Module code
inf111

Credit points
6.0 KP

Workload
180 h

Used in course of study
- Master’s Programme Business Informatics > Bereichswahlmodule
- Master’s Programme Computing Science > Praktische Informatik

Contact person
Module responsibility
- Marco Grawunder
- Die im Modul Lehrenden

Authorized examiners
- Marco Grawunder
- Die im Modul Lehrenden

Entry requirements
- Informationssysteme I

Skills to be acquired in this module
Objective of the module/skills:
The module enhances the previous knowledge of databases and information systems. In the context of a professional database system the students realize, implement, install and optimize the system. Theoretical and mathematical approaches are additional contents. Additionally the course provides the capability both to describe the differences between NoSQL Databases and (Object-)Relational Databases and how to use them.

Professional competence
The students:
- name realisation techniques, implementations und programming of database systems
- program and implement database oriented system routines
- administer a professional database system
- identify database system performance problems and solve them appropriately

Methodological competence*
The students:
- make optimisation decisions during the modelling phase
- construct optimisation strategies mathematically

Social competence
The students:
- develop appropriate implementations for given problems in a team

Self-competence
The students:
- acknowledge the limits of their ability to cope with pressure during the implementation of database specific solutions

Module contents
Content of the Module:
The module is a practical course. It is a continuation of the modules Information Systems I and Information Systems II. This module especially deals with the technical and theoretical concepts of database systems. Practical database implementation approaches and optimisation concepts are additional content of the module.

In detail the module provides: low-level database management programming, aspects of catalogue systems implementation, optimisation strategies based on different parallelisation and partitioning strategies, query concepts and modification.

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Reader's advisory

Suggested reading:

- Held Andrea (2007), Oracle 10g Addison-Wesley.
- Oracle 10g, Das Programmierhandbuch, Galileo Computing
- Oracle Database 11g, DBA-Handbuch, Oracle Press-Hanser Verlag
- NoSQL (2011) Hanser Verlag

Links
Language of instruction	German
Duration (semesters)	1 Semester
Module frequency	jährlich
Module capacity	unlimited
Modullevel	AS (Akzentsetzung / Accentuation)
Modulart	je nach Studiengang Pflicht oder Wahlpflicht
Lern-/Lehrform / Type of program	1 PR
Vorkenntnisse / Previous knowledge	- Operating systems skills

Examination	Time of examination	Type of examination
Final exam of module	at the end of the lecture period	hands-on exercises and oral exam

Course type	Practical

SWS	4.00
Frequency	SuSe
Workload attendance	56 h