

In-Memory und Cloud-Technologien

Winter

(in German: In-Memory und Cloud-Technologien)

Module-ID: FIN-INF-120506

Abbreviation	Credit Points	Semester	Term	Duration	Language	Level
IMCloud	6	Winter	starting at 1.	2 Semester	english	Master

Link:	LSF
Limited accessibility:	
Responsibility:	Hon. Prof. Dr. Alexander Zeier
Lecturer:	Hon. Prof. Dr. Alexander Zeier
Classes:	• Vorlesung <i>In-Memory und Cloud-Technologien 1</i> • Vorlesung <i>In-Memory und Cloud-Technologien 2</i>
Applicability in curriculum:	- M.Sc. INF: Informatik - M.Sc. INGINF: Informatik - M.Sc. WIF: Informatik - M.Sc. DKE: Data Processing for Data Science - M.Sc. DE: Methoden der Informatik - M.Sc. VC: Computer Science

Intended learning outcomes:

The students ...

- are able to assess and creatively develop methods in their subject.
- can acquire new knowledge independently and make use of it.
- can contribute their own ideas to unfamiliar tasks and make decisions.
- can select, apply and then evaluate suitable solutions for new tasks
- can work scientifically independently.
- have an understanding of selected areas of specialization in economics, business informatics and computer science and their interrelationships
- can adapt existing data science methods to new problems.
- have in-depth, specialized knowledge of computer science and can apply this knowledge in engineering domains.
- can contribute digitization solutions for complex engineering systems in interdisciplinary projects.

Content:

In-memory technology and applications with a focus on SAP HANA:

- Explanation of in-memory technology with a focus on SAP HANA
- Row versus column main memory databases
- Compression, partitioning and indexing approaches
- Google Cloud technology and services
- Use of e.g. Anthos, Bigquery, and AutoML
- Development of high-availability solutions and backup strategies
- Expansion of the data layout without downtime
- Migration approaches for projects in which in-memory databases are used

Workload:

Attendance time = 56 h:

- 56 h lecture
- Independent work = 64 h:
- 60 h Preparation for the lecture and reading the recommended literature

Pre-examination requirements:	Type of examination:	Teaching method / lecture hours per week (SWS):
	One oral examination at the end of the course (Summer Semester).	Lecture (4SWS)

Prerequisites according to examination regulations:	Recommended prerequisites:

none	• Datenbanken I • Datenbanken II
------	---

Media:	Literature:
	Plattner, H., Zeier, A.: In-Memory Data Management: Technology and Applications, Springer Verlag, 2. Auflage, Mai 2012, ISBN 978-3642295744 Whitepaper HANA on Intel: Three Steps to Reinvent Your Enterprise as a Digital Disrupter von Prof. Dr. Alexander Zeier & Intel CTO Enterprise Ed Goldman, 2016. Cloud Computing, Blog (July 2020) zu Digital Decoupling. Title: Trapped by legacy systems, CIOs look for a way out https://www.accenture.com/us-en/blogs/cloud-computing/zeier-digitaldecoupling-sap-google-cloud

Comments:

Start in the Wintersemester.

Revision #1

Created 2026-10-01 07:44:54 UTC by Fakultät für Informatik

Updated 2026-10-01 07:44:54 UTC by Fakultät für Informatik