Advanced Seminar/ Hauptseminar

Data Management in the Cloud
Winter Term 2015

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ECTS: 6 (2HS)

Description
Internet-based services like e-mail, blogging, social networks, search engines or e-commerce are rapidly expanding. This leads to a new scale of data generated and consumed (Big Data) which creates new challenges and requirements for data management systems. Cloud Computing is another new paradigm that allows to provisioning computing infrastructure in an automated manner. Combining those areas cloud based data management allows satisfying following new requirements: Availability; Scalability; Elasticity; Performance; Multi-tenancy; Load and Tenant balancing; Fault Tolerance; Ability to run in heterogeneous environments.

In this Advanced Seminar (Hauptseminar) new technologies and IT systems for Cloud Data Management will be covered. Amongst others, we will offer topics in following areas:

- Cloud Computing Fundamentals
- Cloud based Data Management Systems
  - NoSQL Systems
  - Database-as-a-Service
  - Virtualized Database Servers
- Database Replication of Cloud Data Management Systems
- Big data processing systems like MapReduce Framework
- Performance evaluation of Cloud Data Management Systems

Remarks
- This advanced seminar is for students in the following study programmes only: Master/Diplom Informatik and Softwaretechnik, Master Computer Science (STE).
- The seminar topics will be introduced and assigned to the participants in KW30. The exact date will be published on the web site below.
- In this advanced seminar, each student will work on one specific topic. Basic literature will be provided by the advisors. Results will be summarized in a document of about 20 pages and a 45 minutes presentation.

Prerequisites
Basic knowledge on database systems and information systems, e.g. lecture "Modellierung".

Further Information
http://www.ipvs.uni-stuttgart.de/abteilungen/as/lehre/lehrveranstaltungen/hauptseminare/WS1516/HSEM