

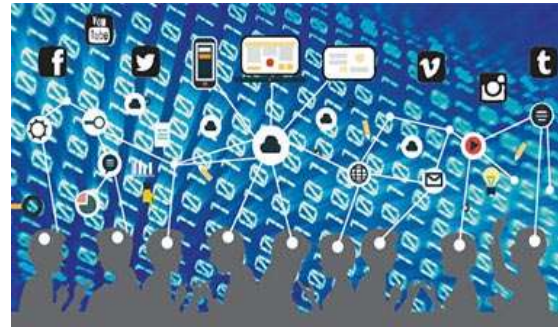
## Advanced Topics in Data Management

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**Lecturers:** Prof. Dr. B. Mitschang, Dr. H. Schwarz  
**Contact:** Holger Schwarz, holger.schwarz@ipvs.uni-stuttgart.de  
**Language:** English

### Description

To capture, manage, process and analyze large volumes of data is crucial in modern information systems. This is often characterized by the term big data. Some of the main driving forces are the available huge set of web-based and mobile applications like email, blogs, social networks and e-commerce as well as the growing usage of sensors. This is true for the private, the commercial and the scientific sector, respectively. It results in multiple challenges for the large scale data management, as for example:



- How to manage large volumes of data (e.g. in the cloud) in order to achieve the appropriate availability, scalability, consistency, performance and fault tolerance for the individual applications?
- How to analyze the data efficiently? Which infrastructures, data management systems (NoSQL) and algorithms (data mining) are most appropriate?
- How to integrate heterogeneous data (structured, unstructured, semi-structured, stream-based) in such a way that the comprehensive analysis is supported?
- How to address the challenges of managing, processing and analyzing IoT data (internet of things)?

In this advanced seminar, we address current technologies and systems for large scale data management that address the above mentioned challenges.

### Remarks

- **The seminar topics will be introduced and assigned to the participants in KW29. 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 30 minutes presentation.

### Prerequisites

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



### Further Information

[https://www.ipvs.uni-stuttgart.de/abteilungen/as/lehre/lehrveranstaltungen/hauptseminare/WS1718/HSEM?\\_\\_locale=en](https://www.ipvs.uni-stuttgart.de/abteilungen/as/lehre/lehrveranstaltungen/hauptseminare/WS1718/HSEM?__locale=en)