VLBA – Cloud DevOps Technologies

Winter

(in German: VLBA – Cloud DevOps Technologies)

Module-ID: FIN-INF-120478

Abbreviation	Credit Points	Semester	Term	Duration	Language	Level
VLBA-CDOT	9	Winter	starting at 1.	1 Semester	english	Master

Link:	LSF
Limited accessability:	true
Responsibility:	Prof. Dr. Klaus Turowski
Lecturer:	Prof. Dr. Klaus Turowski
Classes:	• '- Lecture *VLBA Cloud DevOps Technologies* ◦ Exercise *VLBA Cloud DevOps Technologies* ◦ Consultation *VLBA - Cloud DevOps Technologien (Consultation)* ◦ Tutorial *VLBA - Cloud DevOps Technologien (Tutorial)*
Applicability in curriculum:	- M.Sc. INF: Informatik - M.Sc. INGINF: Informatik - M.Sc. WIF: Wirtschaftsinformatik - M.Sc. WIF: Informatik - M.Sc. DKE: Data Processing for Data Science - M.Sc. DKE: Applied Data Science - M.Sc. DE: Methoden der Informatik - M.Sc. VC: Computer Science

Intended learning outcomes:
Students ...

- know and understand specialized subject content that expands and deepens the Bachelor's degree.
- can independently analyze problems and identify alternative solutions. -know how to work with UNIX operating systems.
- are experienced in the theory and handling of container-based virtualization technologies such as Docker.
- know how to use higher programming languages (Python).
- know how to use various configuration and automation tools and languages such as Ansible, Salt and Terraform.
- have practical and theoretical knowledge of testing IT systems, particularly in relation to essential DevOps concepts such as Continuous Integration and Continuous Delivery.
- have the ability to design, create, test, commission and support IT systems.

Content:
In view of highly networked applications, big data and cloud computing, the careful planning and construction of architectures and landscapes of the corresponding information systems is more important than ever. In many cases, the lifecycle of a system does not end with the delivery of the solution, but rather the subsequent operation, monitoring and maintenance have become an essential part of this process. At this point, sophisticated paradigms and methods are required to facilitate the continuous development and operation of these systems while preventing errors, failures and other disruptions. The course is designed to teach the fundamentals as well as initial practical experience in the development and Table of Contents Part A (Winter) Page 248 - Part A Table of Contents Part B (Full) operation (DevOps) of systems in conjunction with dedicated cloud technologies. In addition to the theoretical basics, essential concepts and technologies are discussed and applied that enable the continuous integration, delivery and testing of corresponding systems.

Workload:
Attendance = 84 h: 21 h Lecture 21 h Exercise 21 h Consultation 21 h Tutorial Independend work = 186 h: 186 h working on several assignments that build on each other

Pre-examination requirements:	Type of examination:	Teaching method / lecture hours per week (SWS):
In order to qualify for the final project, certain requirements must be fulfilled. Details will be announced in the first lecture.	Hausarbeit	Vorlesung (2 SWS) Übung (2 SWS)

Prerequisites according to examination regulations:	Recommended prerequisites:
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Media:	Literature:

Comments:

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