



Lehrstuhl für Sicherheit in der Informatik
Prof. Dr. Claudia Eckert



Announcement: Student job in cooperation with Fraunhofer AISEC, Garching

Kubernetes and Cloud Native Computing

Tasks

Container based virtualization and Kubernetes have created a new paradigm of distributed system architecture and management. They have become the foundation in modern enterprise IT systems for service deployment and service management. This development has created a large cloud native ecosystem (cf. CNCF Cloud Native Landscape, <https://landscape.cncf.io/>). This large ecosystem poses a challenge when selecting appropriate technologies and products for specific use cases and security requirements.

As part of this student job, you will dive into the cloud native ecosystem. You will create an overview of available applications and evaluate them. You will analyze best practices and architectural patterns. From your analyses, you will develop security guidelines. In addition, you are going to validate your work practically by deploying Kubernetes clusters and applications.

The direction of this work is flexible and can encompass many aspects such as container-based virtualization, infrastructure management, networking or service management. We encourage you to pursue your own interest, explore them in depth and identify technological gaps. Moreover, you will have the opportunity to implement your solutions.

The monthly working time is 40 hours, but can be de-/increased on request.

Requirements

- Interest in or prior experience with Container based virtualization, Kubernetes and the cloud native ecosystem
- Basic knowledge of Go programming language
- Knowledge of distributed systems
- Ability to work self-directed and systematically

Contact

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