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# Bachelor Thesis Topic

## Microservices, Understanding the Concept

### Motivation and Background

The term Microservices is often used but not well defined. [1] So the challenge is to identify useful definitions. As result, the import aspects of Microservices can be given and enable developers to create better software.

### Goals

The aim is to analyze actual existing definitions of Microservices and describe them by a the  $\beta$ MACH method [2,3] to identify differences, to describe possible advantages and give problems of the definitions.

### Description of the Task

The specific tasks are:

- SLR [4] to Microservice definitions
- Categorization of Definitions
- Analysis by  $\beta$ MACH

### Research Type

Theoretical Aspects:

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Industrial Relevance:

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Implementation

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### Prerequisite

The student should be enrolled in the bachelor of computer science program, and has completed the required course modules to start a bachelor thesis.

### Skills required

Literature analysis, very careful documentation of results, working carefully with citations, interest in understanding principles of software development.

### Contacts

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### References

[1] Hilbrich, Marcus; Lehmann, Fabian

Discussing Microservices: Definitions, Pitfalls, and their Relations

In: Accepted for publication on IEEE International Conference on Services Computing (IEEE SCC 2022), Forthcoming.

[2] Hilbrich, Marcus; Lehmann, Fabian

$\beta$ MACH — A Software Management Guidance

In: Reichelt, David Georg; Müller, Richard; Becker, Steffen; Hasselbring, Wilhelm; Hoorn, André; Kounev, Samuel; Koziolk, Anne; Reussner, Ralf (Ed.): Symposium on Software Performance 2021, CEUR-WS, Leipzig, Germany, 2022.

[3] Hilbrich, Marcus; Bountris, Vasilis

Are Workflows a Language to Solve Software Management Challenges? — A  $\beta$ MACH Based Analysis Inproceedings

In: 21st Intelligent Software Methodology Tools, and Techniques (SOMET 2022) (accepted), Forthcoming.

[4] Kitchenham, B. & Charters, S.

Guidelines for performing Systematic Literature Reviews in Softw. Engineering

Technical report, Ver. 2.3 EBSE Technical Report. EBSE, 2007