



Bachelor's Thesis in Computer Science and Media

How does an Event Sourcing architecture compare to CRUD systems with an independent audit log, when it comes to scalability, performance and traceability?

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Submitted on 2026/03/02

to obtain the degree of Bachelor of Science

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Ehrenwörtliche Erklärung

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1 Introduction

I will build an API using two different architectural approaches.

1.1 Motivation

1.2 Research question(s)

1.3 Goals and non goals

1.4 Structure of the paper

2 Basics

2.1 Layered Architecture Foundation (CRUD)

2.2 DDD Architectural Foundations

2.3 Traceability and auditing in IT systems

2.3.1 Why is traceability a business requirement

2.3.2 Audit Logs

2.3.3 Event Streams

2.3.4 Rebuilding state from an audit log and an event stream

2.4 Event Sourcing and event-driven architectures

2.5 (Eventual) Consistency

2.6 Scalability of systems

3 Related Work

4 Proposed Method

4.1 Project requirements

4.2 Performance

4.3 Scalability or flexibility (TODO)

4.4 Traceability

4.5 Tech Stack

5 Implementation

5.1 CRUD implementation

5.2 ES/CQRS implementation

5.3 Infrastructure

6 Results

8 Glossary

Glossary

API API stands for *Application Programming Interface*. It describes the public interface of a module or service, often exposed over a network.

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