

# Uni Distributed Systems Topics

Topics for the distributed systems course at HdM Stuttgart

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## Meta

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These study materials are heavily based on professor Kriha's "Verteilte Systeme" lecture at HdM Stuttgart and prior work of fellow students.

**Found an error or have a suggestion?** Please open an issue on GitHub ([github.com/pojntfx/uni-distributedsystems-notes](https://github.com/pojntfx/uni-distributedsystems-notes)):



Figure 1: QR code to source repository



Figure 2: AGPL-3.0 license badge

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## Topics

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- I/O Process Models
- Delivery Guarantees
- Replication, Consensus, Eventual Consistency, FIFO, Reliable Broadcasting
- Synchronization, Shared Nothing/Shared Something
- Correctness, Liveness, Complexity, Failure Modes
- Fan-Out Architecture
- Two-Phase Commits (2PC)
- Sharding, Partitioning
- Information and Distribution Architecture
- Concrete design proposal, e.g. Twitter (Scalability, availability, security)