Distributed Systems – Fault Tolerance

Lab 1

2020/2021

Naive replication

Assume that a server may crash and stop providing the service. Attempt to provide fault tolerant operation by having multiple servers and clients contacting them all for service.

Steps

1. Re-implement the bank client to connect to multiple servers. Propose a simple strategy to keep servers synchronized.

2. Test multiple servers with a single client. Fail a server by killing the process.

3. Test multiple servers with multiple clients. Fail a server by killing the process.

4. Discuss problems found and speculate about solutions.

Learning Outcomes   Recognize the usefulness of one-to-many communication for fault tolerant distributed systems. Understand the challenges for fault tolerant replication.