

# Distributed Computing II

April 4, 2022

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Presented for the Software Architecture course  
at the University of Queensland



THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA

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Software Architecture

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## 1 Scalable Software

### 1.1 Scaling Up

### 1.2 Scaling Out

## 2 Load Balancing

## 3 Replication

### 3.1 Leaders and Followers

### 3.2 Multi-leader Replication

#### 3.2.1 Conflict Resolution

### 3.3 Leaderless

## 4 Partitioning/Sharding

### 4.1 Partition by Primary Key

### 4.2 Partition by Secondary Index

### 4.3 Re-balancing

## 5 Transactions

### 5.1 ACID