

Distributed Systems

Introduction

Today's Topic

- Syllabus
- History
- Basic Concepts
- CAP

Syllabus: Themes

Level 1

- LSM
- B-Tree
- BSON

Syllabus: Themes

Level 2

- Replication
- Sharding
- Consistency
- Eventual Consistency
- ACID
- Oplog

Syllabus: Themes

Level 3

- Vector clock
- Paxos, Raft
- MapReduce

Syllabus: Themes

Level 4

- Persistent Data Structures
- Message Queue
- MMAP

Syllabus: Assessment

- Bloom Filters
- Replication
- Sharding
- Consistency
- Map Reduce
- Vector clock

History

- SQL
- NoSQL
- NewSQL

Schema

Big Data

- Volume
- Variety
- Velocity
- “Difficult” Data

Data Model

- Structures
- Constraints
- Operations

Database

- Sharing
- Data Model Enforcement
- Scaling
- Flexibility

CAP

- Consistency
- Availability
- Partition Tolerance