

1. MongoDB

- a. What is it?
- b. Architecture
- c. Advantages/Disadvantages
- d. Query Languages
- e. Data model
- f. Data storage

2. Distributed Databases

- a. Concepts
- b. Architectures
- c. Challenges with distribution
- d. Protocols
- e. Sync types
- f. Replication styles
- g. CAP Theorem
- h. Advantages/Disadvantages
- i. Horizontal/Vertical Scalability

3. NoSQL/NewSQL Databases

- a. Concepts
- b. Architectures
- c. Challenges with distribution
- d. Protocols
- e. Sync types
- f. Replication styles
- g. Advantages/Disadvantages
- h. In-Memory DBs
- i. In-Column DBS

4. Big Data
 - a. Architectures
 - b. Hadoop
 - c. File System
 - d. Distributed Processing mechanisms
 - i. Map/Reduce
 - e. Storage Systems
 - f. Parallel Systems
 - g. Data Lake
 - h. Data Warehouse
5. Roles, Responsibilities & Standard Procedures
6. RDBMS SQL Query Processing & Optimization
7. RDBMS SQL Physical Storage