

Spring 2018 CS185C Section 1

Introduction to NoSQL databases

Instructor: Dr. Kim

Days and Time: TR 10:30 – 11:45

Course Prerequisites: CS157A or equivalent

Course Description

NoSQL Data Models: Key-Value, Wide Column, Document, and Graph Stores. CAP Theorem. Distribution Models. Current NoSQL Databases: Configuration and Deployment, CRUD operations, Indexing, Replication, and Sharding. Public Data Sets. API Coding and Application Development. NoSQL in the Cloud. Team Project.

Course Topics

- Why NoSQL? Features of NoSQL Databases
- NoSQL Data Models
- NoSQL Distribution Models
- MongoDB
- API coding with MongoDB
- Cassandra
- API coding with Cassandra
- NoSQL in the cloud
- Processing NoSQL data: Map-Reduce, Hadoop Hive

Type	Example	
Key-Value Store	 redis	 riak
Wide Column Store	 HBASE	 cassandra
Document Store	 mongoDB	 CouchDB <small>relax</small>
Graph Store	 Neo4j	 InfiniteGraph <small>The Distributed Graph Database</small>