

#ASLI ENGINEERING

Non Relational Databases

SWIPE

BY

ARPIT BHAYANI

Non-Relational Databases

It is a very broad generalization of databases

that are non-relational (MySQL, PostgreSQL, etc)

But this does not mean all non-relational databases are similar

What makes Non-Relational databases interesting?

Most non-relational databases stand out-of-the box!!

= ↗ =

Horizontal Scalability

We talk about 3 most important types of NoSQL databases

Document DBs MongoDB, Elasticsearch

- Mostly JSON based
 - Supports complex queries → almost like relational (sql) databases
 - Partial updates to documents possible
 - closest to relational database
- ↓
- "user-id": —,
"total-posts": 270
- can do total-posts + 1 } without re-writing the entire document
- in-app notification service, catalog service

Key Value Stores (Redis, DynamoDB, Aerospike)

- Extremely simple databases GET (K)
- Limited functionalities (GET, PUT, DEL) PUT (K, V)
- Meant for key-based access pattern DEL (K)
- Does not support complex queries (aggregations) most of the
- Can be heavily sharded and partitioned ↑ usecases
- Use case: profile data, order data, auth data, messages, etc

* You can use relational databases and document DBs as KV stores

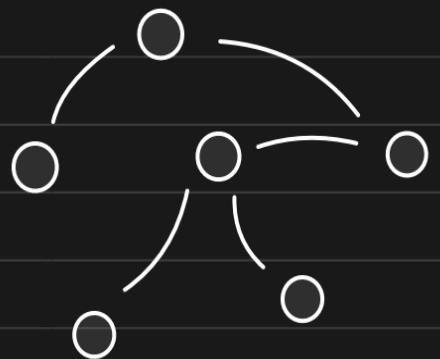
Graph Databases (Neo4j, Neptune, DGraph)

- * What if our graph data structure had a database

- it stores data that are represented as nodes, edges, and relations

eg: A ————— B
Follows

Arpit ————— iPad
Bought



- Great for running complex graph algorithms
- Powerful to model Social Networks, Recommendations & Fraud Detection

Exercise

On your local machine, spin up MongoDB, Redis and Neo4j
and play around with them