NoSQL (MongoDB) vs SQL

✔Easier to evolve the data model, which makes maintaining and evolving applications easier

✔Scale rapidly

✔Can handle huge amounts of data with lower costs

✗ Multi document transactions are limited

✗ Not ideal for advanced searching, reporting, business intelligence

✔Works very well when the data model is stable

✔Full transaction support

✔Extremely good for data mining, business intelligence, etc

✗Difficult to evolve when model gets complicated

✗More difficult to scale

NoSQL (MongoDB) vs SQL

Database	Database
Table	Collection
Rows	Document
Columns	Fields
Indexes	Indexes
Relationships	Sub-documents (references)

Insert vs Save

INSERT

- If the object has no Id (Id is null), a new Id will get generated
- If the object has an Id value:
    - If Id value not already present in the collection, will use it to insert
    - **Else, MongoDB will throw a Duplicate Key Exception**

SAVE

- If the object has no Id (Id is null), a new Id will get generated
- If the object has Id value:
    - If Id value not already present, will use it
    - **If Id value present, will update the document**
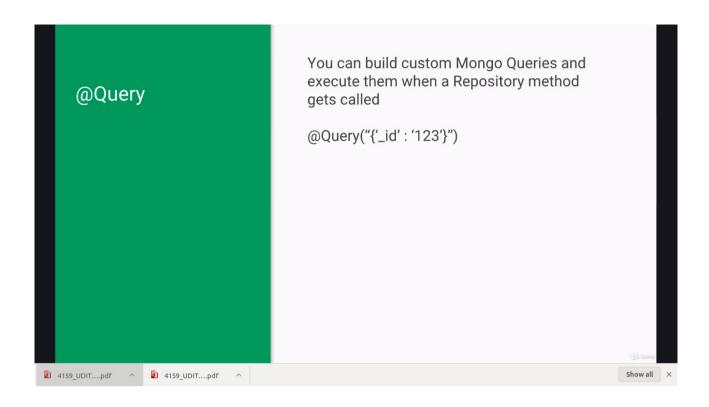

Method Name Composition

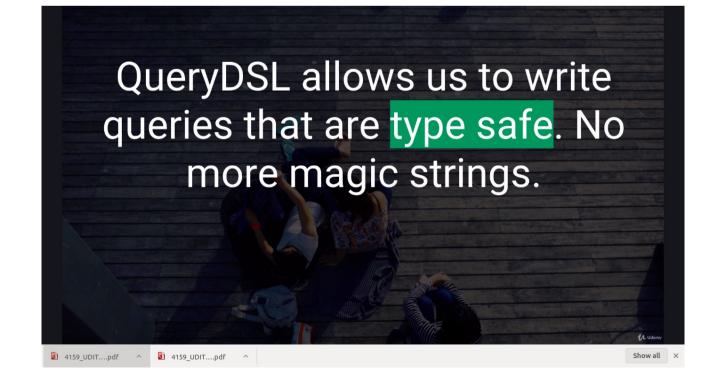Spring Data can provide proxy implementation of queries based on method names:

- **findByLastname**

- **findByAgeLessThan**

- **findByActiveTrue**

https://docs.spring.io/spring-data/jpa/docs/current/reference/html/

@Query

You can build custom Mongo Queries and execute them when a Repository method gets called

@Query("{'_id' : '123'}")

QueryDSL allows us to write queries that are type safe. No more magic strings.

Process

Scans all classes annotated with @Document, and their children

Generates "query types" during the process goal of Maven build. For example, for a LegoSet class => QLegoSet class

We can then use query types in our code to build complex queries in a type safe manner

Implementation

Average Rating Report Feature

Create the aggregation/projection in Mongo Query Language

Define a class model for the projection (AvgRatingModel)

Build projection using MongoTemplate class