Practical Class 10

MongoDB

Martin Svoboda

martin.svoboda@fel.cvut.cz

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Charles University, Faculty of Mathematics and Physics

Czech Technical University in Prague, Faculty of Electrical Engineering

First Steps

Connect to our NoSQL server
- SSH / PuTTY and SFTP / WinSCP
- **nosql.ms.mff.cuni.cz:42222**

Start mongo shell
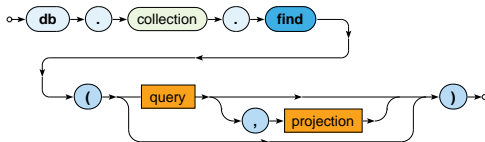- `mongo`

Switch to your database
- `use` `login`

Insert sample data into your database
- Empty your collections first
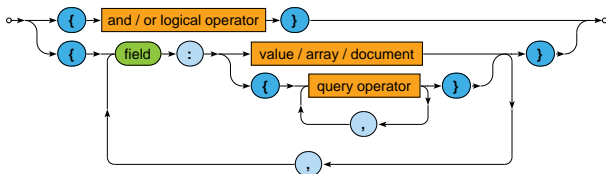- See `/home/DS2/mongodb/data.js`

Find Operation

Selects documents from a given collection

- Parameters
  - **Query**: description of documents to be selected
  - **Projection**: fields to be included / excluded in the result

Selection

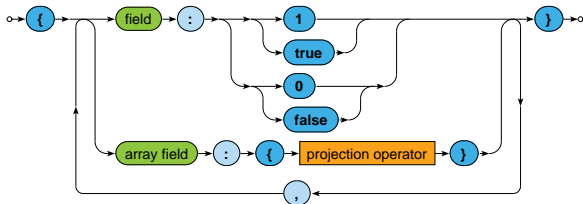**Query** parameter describes the documents we are interested in

Selection operators

- $eq, $neq, $lt, $lte, $gte, $gt, $in, $nin
- $and, $or, $not
- $exists, $regex, $text
- ...

Projection

Projection allows us to determine fields returned in the result

Projection operators
- $elemMatch, $slice,…

Exercise 1

Express the following MongoDB query

- **Find actors born in *1966* with first name *Jiri***

Exercise 2

Express the following MongoDB query

- **Find movies directed by *Jan Hrebejk***
- Note that the order of fields for first and last names can be arbitrary

Exercise 3

Express the following MongoDB query

- **Find actors with first name *Jiri* who played in *Medvidek* movie**
- Return names of these actors only

Exercise 4

Express the following MongoDB query

- **Find movies filmed between years *2000* and *2005* such that they have a director specified**
- Return movie identifier only
- Order the result by ratings in descending order and then by years in ascending order

Exercise 5

Express the following MongoDB query

- **Find actors who stared in *Samotari* or *Medvidek* movies**
- Return actor identifier only
- Propose two different approaches

Exercise 6

Express the following MongoDB query

- **Find actors who played in both *Samotari* and *Medvidek***
- Return actor identifier only
- Propose two different approaches

Exercise 7

Express the following MongoDB query

- **Find movies with Czech title equal to _Vratne lahve_**
- Return movie title only
- Note that there are two means how movie titles are defined

Exercise 8

Express the following MongoDB query

- **Find movies that have a *Czech Lion* award from *2005***
- Return movie identifier and all awards

Exercise 9

Express the following MongoDB query

- **Find movies that are *comedies* and *dramas* at the same time or
  have a rating *80* or more**
- Return movie identifier and at most 2 countries