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**Advanced Databases and Information Systems**  
**Summerterm 2019**  
Discussion on 16/05/2019

### 3. Sheet: MongoDB

Install MongoDB following the instructions on <https://docs.mongodb.com/manual/installation/>. Recommended client GUI program is MongoDB Compass <https://www.mongodb.com/products/compass>. You can also query the databases with Shell. Two JSON datasets are provided:

- Mondial\_EUCountries.json can be found at ILIAS site.
- zips.json can be found unter <http://media.mongodb.org/zips.json>

Use mongoimport to import the datasets into your database.

#### **Exercise 1 (Mondial EU Countries)**

Use *Mondial\_EUCountries* to answer the following questions with MongoDB Aggregation expressions.

- What are the names of the countries with more than 10 million citizens and total area less than 200000 km<sup>2</sup>?
- What are the names of countries which have a smaller area than the Netherlands?
- What are the names of the countries which share a border with Germany while having a higher population growth than Germany?
- What are the names of the capitals which are situated at at least one waterside?

#### **Exercise 2 (Zipcode Data)**

Use *Zipcode* dataset to answer the query 'Return the largest and smallest cities by state'. Note that in the lecture a solution is given by using \$sort. Try to find another solution without using \$sort.