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Create and Manage a DBLP Database

We propose to create and manage a DBLP database containing an excerpt of a scientific publications database (DBLP).

Database Creation

1. Create the database named **"DBLP"**.
2. Create a collection named **"publis"** within the database.
3. Insert the following document into the created collection:


```
{
  "type": "Book",
  "title": "BASE analysis of NoSQL database",
  "year": 2015,
  "publisher": "Elsevier",
  "authors": ["Chandra Ganesh"],
  "source": "DBLP"
}
```


4. Create and insert two more publications of type **"Article"** from **Google Scholar** or the following conference page: https://dblp.uni-trier.de/db/journals/vldb/vldb23.html
5. Display the content of the collection.
6. Import the data from the practical session into MongoDB:
    - Download the dataset file **dblp.json** from the classroom.
    - Import the file using **MongoCompass** or the mongoimport command. Run the following command in the same directory as the file:

```
mongoimport --host localhost:27017 --db DBLP --collection publis --jsonArray --type json --file dblp.json
```

Notes:

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- **Execution Location:**
  The above command must be executed in a terminal from the same directory as the dblp.json file, not in the **Mongo shell**.
- **Dependency for mongoimport:**
  The mongoimport command requires the binary files to be installed:
    - Go to the official MongoDB website for **mongosync**: https://www.mongodb.com/try/download/mongosync
    - Download the tools: **"MongoDB Command Line Database Tools"**.
    - Extract the folder and copy/paste the files into the bin folder of your installed MongoDB version.
    - Re-run the import command.
    - The operation may take a few seconds (118,000 items to insert).
- **Verify Data Insertion:**
  Use the following commands in the **Mongo console** to verify data insertion:

db.publis.count()

db.publis.find()

Database Queries

Write MongoDB queries to answer the following questions:

1. Display all publications of type **Book**.
2. Display the list of publications since **2012**.
3. Display the list of publications of type **Book** since **2012**.
4. Display the list of publications authored by **"Michael Schmitz"**.
5. Retrieve the list of all distinct publishers (**publisher**).
6. Retrieve the list of all distinct authors (**authors**).
7. Sort the publications of **"Toru Ishida"** by book title and start page.
8. Project the result to display only the publication title and pages.
9. Count the number of publications by **"Toru Ishida"**.
10. Count the number of publications since **2011**, grouped by type.

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11. Count the number of publications per author and sort the result in ascending order.