

Author

- Laurent d'Orazio, Univ Rennes, CNRS, IRISA

1 Introduction

The context to be considered is games.

id	guid	title	release_temp
18	3030-18	Metal Slug X: Super Vehicle - 001	1999-03-18
41	3030-41	Virtua Fighter 2	1994-11-01
52	3030-52	Baldur's Gate	1998-12-21
211	3030-211	Beyond Oasis	1994-12-08
222	3030-222	Fire Emblem: Path of Radiance	2005-10-17
223	3030-223	Yu-Gi-Oh! Forbidden Memories	1999-12-09
230	3030-230	Ultima VII: The Black Gate	1992-04-16
236	3030-236	The Revenge of Shinobi	1989-12-02
243	3030-243	Street Fighter II: The World Warrior	1991-02-06
249	3030-249	Command & Conquer: Red Alert	1996-10-31
251	3030-251	LEGO Star Wars: The Video Game	2005-04-02
255	3030-255	Tales of Phantasia	1995-12-15
267	3030-267	Golden Sun	2001-08-01
292	3030-292	Hokuto no Ken 7 : Seiken Retsuden: Denshousha e no...	1993-12-24

Figura 1: Sample

2 Deployment

Docker pull command

```
docker pull mongo
```

Server (first time)

```
docker run -d -p 27017-27019:27017-27019 --name my_mongo mongo
```

Server (if already exists)

```
docker start my_mongo
```

Client shell

```
docker exec -it my_mongo bash  
mongosh
```

or

```
docker exec -it my_mongo mongosh
```

3 Import data

Copy local files on the container

```
docker cp ./games.json my_mongo:tmp/
```

In the OS prompt (not in Mongo client shell):

```
mongoimport --db games --collection game --type json --file /tmp/games.json --jsonArray
```

Note: The following queries can be written on string values (for CSV with). However, it is possible to convert fields in their appropriate types using the following command in Mongo client shell:

```
db.game.updateMany({}, [
  {$set:{
    id:{$toInt: "$id"},
    release_temp:{$toDate: "$release_temp"}
  } }
])
```

4 Activities

4.1 DML querying

Write the following queries

1. All fields of games.
2. Games id.
3. Titles and descriptions.
4. Titles.
5. Distinct titles.
6. Years of release.*
7. Games with a id less than 1000
8. Games in 2000 and id greater than 48000.
9. Games titles with a id less than 1000.
10. Games sorted by title.
11. Number of games per year.*
12. Number of games per year with at least 3 games.*
13. Games which title ends by 2.*
14. Games which id is between 1000 and 2000.

4.2 DDL and DML

1. Use DB TP
2. Insert in collection people 2 documents (id, name, age): (1, 'Alice', 20), (1, 'Bob', 35)
3. Display all databases
4. Display the current DB
5. Delete collection people

5 References

- **Lecture:** https://perso.univ-rennes1.fr/laurent.dorazio/data/teachings/big_data/big_data_mongodb.pdf