

Non-Relational Databases

MongoDB --- 5

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9 – MongoDB Backup & Restore

- General aspects of mongodump
 - mongodump creates backups of MongoDBs (binary export)
 - mongodump is an essential part of every MongoDB backup strategy
 - mongorestore restores a MongoDB from MongoDB backups
 - mongodump uses mongod or mongos
 - mongodump can backup MongoDBs directly from the data files
 - Even without having any active mongod running!
 - caution: mongodump overwrites existing dumps!

9 – MongoDB Backup & Restore

- **Backup of system collections**
 - Following the „least privilege principle“ you need role **backup** to be able to dump all databases.
 - To dump a special database you need at least read access to this database. Role **backup** has this access right.
 - If one wants to dump collection `system.profile` of any of your database, one needs the roles **clusterAdmin** and **dbAdmin**.
 - If one wants to dump user specific roles, one needs access to database **admin**, there all users and roles are stored.
 - If one wants to dump all users of a special database, one has to search these users in collection `admin.system.users`. Roles **backup** and **userAdminAnyDatabase** are allowed to do so.
 - If one wants to dump all role definitions of a special database, one has to search these roles in collection `admin.system.roles`. Roles **backup** and **userAdminAnyDatabase** are allowed to do so.

9 – MongoDB Backup & Restore

- **mongodump**

- syntax

mongodump [options]

- important optionen

```
--help
--verbose                or          -v
--quiet
--host <hostname><:port> or          -h <hostname><:port>
--port <port>             default value: 27017
--username <username>    or          -u <username>
--password <password>    or          -p <password>
--authenticationDatabase <db>    authenticate against <db>
--db <database>           or          -d <database>
--collection <collection>    or          -c <collection>
--out <path>               or          -o <path>    default: dump
--query <json>             or          -q <json>
--repair
--dumpDbUsersAndRoles
```

9 – MongoDB Backup & Restore

- **mongodump**

- examples

1. Create a backup user in database “admin” with role “backup” with password “nosql”.

```
use admin
```

```
db.createUser({user:"backupUser",pwd:"nosql",roles:[{role:"backup",db:"admin"}]})
```

2. Backup of collection mycol in MongoDB mydb:

```
mongodump -u backupUser -p nosql  
--authenticationDatabase admin  
--collection mycol --db mydb --out yourDumpSubDir
```

3. Example. Hint: there are no shortcuts for –port and –authenticationDatabase.

```
mongodump -h mongodb1.example.net --port 37017  
-u backupUser -p nosql  
--authenticationDatabase admin  
-c mycol -d mydb  
-o /opt/backup/mongodump-2014-12-16
```

9 – MongoDB Backup & Restore

- General aspects of mongorestore
 - mongorestore can restore MongoDBs dumps made with mongodump
 - mongorestore is an essential part of every MongoDB backup strategy
 - mongorestore uses mongod or mongos
 - mongorestore can restore MongoDBs directly from the data files
 - Even without having any active mongod running!
 - mongorestore may replace or add dumps to existing MongoDBs
- caution:
 - mongorestore overwrites existing indices and generates new indices!
 - all mongorestore operations are inserts, no updates.

9 – MongoDB Backup & Restore

- **mongorestore**

- syntax

`mongorestore [options] [<<pathToDump>>]`

- important options

```
--help
--verbose                or      -v
--quiet
--host <hostname><:port> or      -h <hostname><:port>
--port <port>             default value: 27017
--username <username>    or      -u <username>
--password <password>    or      -p <password>
--authenticationDatabase <db>  authenticate against <db>
--db <database>          or      -d <database>
--collection <collection> or      -c <collection>
--filter <json>
--drop
--noIndexRestore
```

9 – MongoDB Backup & Restore

- mongorestore

- examples

1. Restore collection mycol to targetDB from dump in dump/oldDBdump:

```
mongorestore -u backupUser -p nosql  
              --authenticationDatabase admin  
              --collection mycol --db mydb dump/oldDBdump
```

2. Restore all MongoDBs from dump on host mongodb1.example.net under port 37017 with authentication

```
mongorestore --host mongodb1.example.net --port 37017  
              --username backupUser --password nosql  
              --authenticationDatabase admin  
              /opt/backup/mongodump-2014-12-16
```


Literature

- MongoDB Mongodump
<http://docs.mongodb.org/manual/reference/program/mongodump/>
- MongoDB Mongorestore
<http://docs.mongodb.org/manual/reference/program/mongorestore/>