

docker-compose up -d

```
Creating network "lab3_default" with the default driver
Pulling shard02-a (mongo:4.0)...
4.0: Pulling from library/mongo
be8ec4e48d7f: Pull complete
33b8b485aff0: Pull complete
d887158cc58c: Pull complete
05895bb28c18: Pull complete
554956c5520b: Pull complete
1129bf37b6f0: Pull complete
0a961c831444: Pull complete
002e342bfc39: Pull complete
280988dec1a3: Pull complete
61d8211e21fa: Pull complete
64495f90b8bc: Pull complete
8062028ffe44: Pull complete
210a8bc0d1f9: Pull complete
Digest: sha256:3f9486460ebe5814efb763e0986861f3bf1346ae186f2a246ee35e7e9bf964d6
Status: Downloaded newer image for mongo:4.0
Creating shard-02-node-a ...
Creating shard-01-node-c ...
Creating shard-02-node-c ...
Creating shard-01-node-a ...
Creating shard-03-node-c ...
Creating shard-02-node-a
Creating shard-02-node-b ...
Creating mongo-config-02 ...
Creating shard-01-node-c
```

sudo sh init_rs.sh

```
MongoDB shell version v4.0.21
connecting to: mongodb://127.0.0.1:27017/?gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("3c08a22c-a076-4fc0-a914-b70d9c0b4622") }
MongoDB server version: 4.0.21
{
    "ok" : 1,
    "operationTime" : Timestamp(1608395994, 1),
    "$gleStats" : {
        "lastOpTime" : Timestamp(1608395994, 1),
        "electionId" : ObjectId("000000000000000000000000")
    },
    "lastCommittedOpTime" : Timestamp(0, 0),
    "$clusterTime" : {
        "clusterTime" : Timestamp(1608395994, 1),
        "signature" : {
            "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAA="),
            "keyId" : NumberLong(0)
        }
    }
}
bye
MongoDB shell version v4.0.21
connecting to: mongodb://127.0.0.1:27017/?gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("5155b8a7-7c9f-4261-8d43-11e371b4193e") }
MongoDB server version: 4.0.21
{
    "ok" : 1,
    "operationTime" : Timestamp(1608395995, 1),
    "$clusterTime" : {
        "clusterTime" : Timestamp(1608395995, 1),
        "signature" : {
            "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAA="),
            "keyId" : NumberLong(0)
        }
    }
}
bye
MongoDB shell version v4.0.21
connecting to: mongodb://127.0.0.1:27017/?gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("e4ce97ac-72ae-4f3e-858a-985af395208b") }
MongoDB server version: 4.0.21
{
    "ok" : 1,
    "operationTime" : Timestamp(1608395996, 1),
    "$clusterTime" : {
        "clusterTime" : Timestamp(1608395996, 1),
        "signature" : {
            "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAA="),
            "keyId" : NumberLong(0)
        }
    }
}
```

```
docker-compose exec router01 sh -c "mongo < .scripts/init-router.js"
```

```
MongoDB shell version v4.0.21
connecting to: mongodb://127.0.0.1:27017/?gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("b4860391-8025-4f71-a82a-3e0eb2b7582c") }
MongoDB server version: 4.0.21
{
  "shardAdded" : "rs-shard-01",
  "ok" : 1,
  "operationTime" : Timestamp(1608396092, 8),
  "$clusterTime" : {
    "clusterTime" : Timestamp(1608396092, 8),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  }
}
{
  "shardAdded" : "rs-shard-01",
  "ok" : 1,
  "operationTime" : Timestamp(1608396092, 8),
  "$clusterTime" : {
    "clusterTime" : Timestamp(1608396092, 8),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  }
}
{
  "shardAdded" : "rs-shard-01",
  "ok" : 1,
  "operationTime" : Timestamp(1608396092, 8),
  "$clusterTime" : {
    "clusterTime" : Timestamp(1608396092, 8),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  }
}
{
  "shardAdded" : "rs-shard-02",
  "ok" : 1,
  "operationTime" : Timestamp(1608396092, 14),
  "$clusterTime" : {
    "clusterTime" : Timestamp(1608396092, 14),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  }
}
```

згенеровано rides.csv

```
total 786M
drwxr-xr-x 2 root root 4,0K rpy 19 18:38 configdb
drwxr-xr-x 2 root root 4,0K rpy 19 18:38 db
-rw-r--r-- 1 root root 786M rpy 19 19:18 rides.csv
```

```
sudo sh import_and_query_data.sh
```

```
MongoDB shell version v4.0.21
connecting to: mongodb://127.0.0.1:27017/?gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("972f6bd6-efca-4336-a578-e086ae3c9f17") }
MongoDB server version: 4.0.21
{
  "ok" : 1,
  "operationTime" : Timestamp(1608398413, 5),
  "$clusterTime" : {
    "clusterTime" : Timestamp(1608398413, 5),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  }
}
{
  "collectionsharded" : "taxi.rides",
  "collectionUUID" : UUID("28d2475d-3de4-4b75-a379-ab183e8be668"),
  "ok" : 1,
  "operationTime" : Timestamp(1608398413, 49),
  "$clusterTime" : {
    "clusterTime" : Timestamp(1608398413, 49),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  }
}
bye
```

```
2020-12-19T17:23:50.582+0000 [########################################] taxi.rides 676MB/785MB (86.1%)
2020-12-19T17:23:53.582+0000 [########################################] taxi.rides 684MB/785MB (87.1%)
2020-12-19T17:23:56.582+0000 [########################################] taxi.rides 695MB/785MB (88.5%)
2020-12-19T17:23:59.582+0000 [########################################] taxi.rides 707MB/785MB (90.0%)
2020-12-19T17:24:02.582+0000 [########################################] taxi.rides 718MB/785MB (91.4%)
2020-12-19T17:24:05.582+0000 [########################################] taxi.rides 730MB/785MB (92.9%)
2020-12-19T17:24:08.582+0000 [########################################] taxi.rides 742MB/785MB (94.5%)
2020-12-19T17:24:11.582+0000 [########################################] taxi.rides 755MB/785MB (96.1%)
2020-12-19T17:24:14.582+0000 [########################################] taxi.rides 768MB/785MB (97.8%)
2020-12-19T17:24:17.582+0000 [########################################] taxi.rides 781MB/785MB (99.4%)
2020-12-19T17:24:18.645+0000 [########################################] taxi.rides 785MB/785MB (100.0%)
2020-12-19T17:24:18.645+0000 imported 5000000 documents
MongoDB shell version v4.0.21
connecting to: mongodb://127.0.0.1:27017/?gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("3cb82189-fe25-43e6-be74-16381b522b34") }
MongoDB server version: 4.0.21
switched to db taxi
100
bye
```

docker-compose down -v --rmi all --remove-orphans

```
Stopping shard-03-node-a ... done
Stopping shard-03-node-b ... done
Stopping mongo-config-03 ... done
Stopping mongo-config-01 ... done
Stopping shard-01-node-b ... done
Stopping router-01 ... done
Stopping router-02 ... done
Stopping mongo-config-02 ... done
Stopping shard-02-node-b ... done
Stopping shard-03-node-c ... done
Stopping shard-02-node-c ... done
Stopping shard-01-node-a ... done
Stopping shard-01-node-c ... done
Stopping shard-02-node-a ... done
Removing shard-03-node-a ... done
Removing shard-03-node-b ... done
Removing mongo-config-03 ... done
Removing mongo-config-01 ... done
Removing shard-01-node-b ... done
Removing router-01 ... done
Removing router-02 ... done
Removing mongo-config-02 ... done
Removing shard-02-node-b ... done
Removing shard-03-node-c ... done
Removing shard-02-node-c ... done
```