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MSc Data Science and AI
Practical 5: Sharding using MongoDB

Create a folder and in that folder make 9 files/folders with names -> primary, secondary1, secondary2, server1, server2, server3, server4, server5, server6 as shown below

REPLICATION

****OPEN CMD AND RUN FOLLOWING COMMANDS****

```
C:\Users\LENOVO>cd C:\mogoshard
```

```
start mongod --port=50000 --replSet="Server1" --dbpath="C:\mongoshard\primary"
```

```
start mongod --port=50001 --replSet="Server1" --dbpath="C:\mongoshard\secondary1"
```

```
start mongod --port=50002 --replSet="Server1" --dbpath="C:\mongoshard\secondary2"
```

****OPEN CMD AND RUN FOLLOWING COMMANDS****

Microsoft Windows [Version 10.0.22621.3155]
(c) Microsoft Corporation. All rights reserved.

```
C:\Users\LENOVO>mongosh --port=50000
Current Mongosh Log ID: 65f08313daf480d082a47e42
Connecting to:      mongodb://127.0.0.1:50000/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh-7.0.5
Using MongoDB:      7.0.5
Using Mongosh:      2.1.5
```

For mongosh info see: <https://docs.mongodb.com/mongodb-shell/>

The server generated these startup warnings when booting
2024-03-12T21:59:01.395+05:30: Access control is not enabled for the database. Read and write access to data and system databases will be allowed. This warning can be suppressed by setting access-control-mode to 'deny'.
2024-03-12T21:59:01.396+05:30: This server is bound to localhost. Remote systems will be unable to connect to this server unless 'bind_ip' is explicitly set to '*' or ':::'. To bind the server to all interfaces, use --bind_ip_all. To bind to specific IP addresses it should serve responses from, or with --bind_ip_all to bind to all interfaces. If this behavior is desired, restart the server with the appropriate options and disable this warning.

```
test> rs.initiate({
...   _id:"Server1",
...   members:[
...     {id:0, host:"localhost:50000"},
...     {id:1, host:"localhost:50001"},
...     {id:2, host:"localhost:50002"}
...   ]
... });
{ ok: 1 }
Server1 [direct: secondary] test>
```

CONFIG SERVERS

OPEN CMD AND RUN FOLLOWING COMMANDS

```
C:\Users\LENOVO>cd C:\mogoshard
```

```
start mongod --configsvr --port=1030 --replSet="Server1" --dbpath="C:\mogoshard\server1"
```

```
start mongod --configsvr --port=1040 --replSet="Server1" --dbpath="C:\mogoshard\server2"
```

```
start mongod --configsvr --port=1050 --replSet="Server1" --dbpath="C:\mogoshard\server3"
```

OPEN CMD AND RUN FOLLOWING COMMANDS

```
Microsoft Windows [Version 10.0.22621.3155]  
(c) Microsoft Corporation. All rights reserved.
```

```
C:\Users\LENOVO>mongosh --host="localhost:1030"
```

```
Current Mongosh Log ID: 65f084803e226f2421899c2c
```

```
Connecting to:      mongodb://localhost:1030/?directConnection=true&serverSelectionTimeoutMS=2000&appName=Mongosh
```

```
Using MongoDB:      7.0.5
```

```
Using Mongosh:      2.1.5
```

For mongosh info see: <https://docs.mongodb.com/mongoddb-shell/>

The server generated these startup warnings when booting

2024-03-12T22:04:01.822+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted.

2024-03-12T22:04:01.823+05:30: This server is bound to localhost. Remote systems will be unable to connect to this server. To allow remote systems to connect, use the --bind_ip_all option. To bind to all interfaces, use --bind_ip_all. To bind to specific IP addresses it should serve responses from, or with --bind_ip_all to bind to all interfaces. If this behavior is desired, restart the server with this warning.

```
test> rs.initiate({  
...   _id:"Server1",  
...   configsvr:true,  
...   members:[  
...     {id:0, host:"localhost:1030"},  
...     {id:1, host:"localhost:1040"},  
...     {id:2, host:"localhost:1050"}  
...   ]  
... })  
{ ok: 1 }  
Server1 [direct: other] test>
```

SHARDS

OPEN CMD AND RUN FOLLOWING COMMANDS

```
C:\Users\LENOVO>cd C:\mogoshard
```

```
start mongod --shardsvr --port=1130 --dbpath="C:\mogoshard\shard1" --replSet="Server1"
```

```
start mongod --shardsvr --port=1140 --dbpath="C:\mogoshard\shard2" --replSet="Server1"
```

```
start mongod --shardsvr --port=1150 --dbpath="C:\mongoshard\shard3" --replSet="Server1"
```

****OPEN CMD AND RUN FOLLOWING COMMANDS****

~~~~~  
Microsoft Windows [Version 10.0.22621.3155]  
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```
C:\Users\LENOVO>mongosh --host="localhost:1130"  
Current Mongosh Log ID: 65f0868d80f995ab2c101aae  
Connecting to:      mongodb://localhost:1130/?directConnection=true&serverSelectionTimeoutMS=2000&appName=Mongosh  
Using MongoDB:      7.0.5  
Using Mongosh:      2.1.5
```

For mongosh info see: <https://docs.mongodb.com/mongosh-shell/>

-----  
The server generated these startup warnings when booting  
2024-03-12T22:13:29.993+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted.  
2024-03-12T22:13:29.994+05:30: This server is bound to localhost. Remote systems will be unable to connect to this server. To allow remote systems to connect, either configure this server with --bind\_ip\_all to bind to all interfaces, or with --bind\_ip\_ip\_addresses to bind to specific  
which IP addresses it should serve responses from, or with --bind\_ip\_all to bind to all interfaces. If this behavior is desired, start the server with the --quiet option to suppress this warning  
-----

```
test> rs.initiate({  
...   _id:"Server1",  
...   members: [  
...     { _id: 0, host: "localhost:1130"},  
...     { _id: 1, host: "localhost:1140"},  
...     { _id: 2, host: "localhost:1150"}  
...   ]  
... })  
{ ok: 1 }  
Server1 [direct: other] test>
```