1. Create 4 different folders :configData,data1,data2,data3

**Create the config server**

1. In the first terminal : type the following command

mongod --configsvr --replSet rs1 --dbpath "C:\Users\anjum\OneDrive\Desktop\sharding\configData" --port 100

1. In the second terminal type the following command

mongo --port 100 --host localhost:100

1. In the same second terminal now type the following command:
2. rs.initiate( { \_id: "rs1", configsvr: true, members: [ { \_id : 0, host : "localhost:100" } ] } )

**Create the Shard Replica Sets**

1. Start each member of the shard replica set.

mongod --shardsvr --replSet shardrs1 --dbpath “C:\Users\anjum\OneDrive\Desktop\sharding\data1” –port 1000

mongod --shardsvr --replSet shardrs1 --dbpath “C:\Users\anjum\OneDrive\Desktop\sharding\data2” –port 1002

mongod --shardsvr --replSet shardrs1 --dbpath “C:\Users\anjum\OneDrive\Desktop\sharding\data3” –port 1002

1. Connect to one member of the shard replica set.

Connect a mongo shell to one of the replica set members.

mongo --port 1000

1. Now as part of terminal created in the before step(step 7) type the following command

rs.initiate(

{

\_id : "shardrs1",

members: [

{ \_id : 0, host : "localhost:1000" },

{ \_id : 1, host : " localhost:1001" },

{ \_id : 2, host : " localhost:1002" }

]

}

)

**Connect a mongos to the Sharded Cluster**

1. Connect a mongos to the cluster

mongos --configdb rs1/localhost:1000 –port 3000

1. Now in a new terminal type the following command:

mongo –port 3000

1. Now in the terminal openend as part of step 10 type the following command:

sh.addShard( "shardrs1/localhost:2000")

sh.addShard( "shardrs1/localhost:2001")

sh.addShard( "shardrs1/localhost:2002")

**Enable Sharding for a Database**

1. Before you can shard a collection, you must enable sharding for the collection’s database. Enabling sharding for a database does not redistribute data but make it possible to shard the collections in that database.

Once you enable sharding for a database, MongoDB assigns a primary shard for that database where MongoDB stores all data in that database.

Use the sh.enableSharding() method to enable sharding on the target database.

**sh.enableSharding("amadeusDb")**

**Shard a Collection**

1. To shard a collection, use the sh.shardCollection() method.

Must specify the full namespace of the collection and a document containing the shard key.

The database must have sharding enabled.

Your selection of shard key affects the efficiency of sharding, as well as your ability to take advantage of certain sharding features such as zones.

If the collection already contains data, you must create an index on the shard key using the db.collection.createIndex() method before using shardCollection().

If the collection is empty, MongoDB creates the index as part of sh.shardCollection().

The following operation shards the target collection:

sh.shardCollection("amadeusDb.restaurant", { \_id:1 } )

1. In the same terminal do the following

use amadeusDb

db.bank.insert({});

1. To see the status of the shard give the command

sh.status()

1. To see the various chunks and the meta info :

db.bank.getShardDistribution()