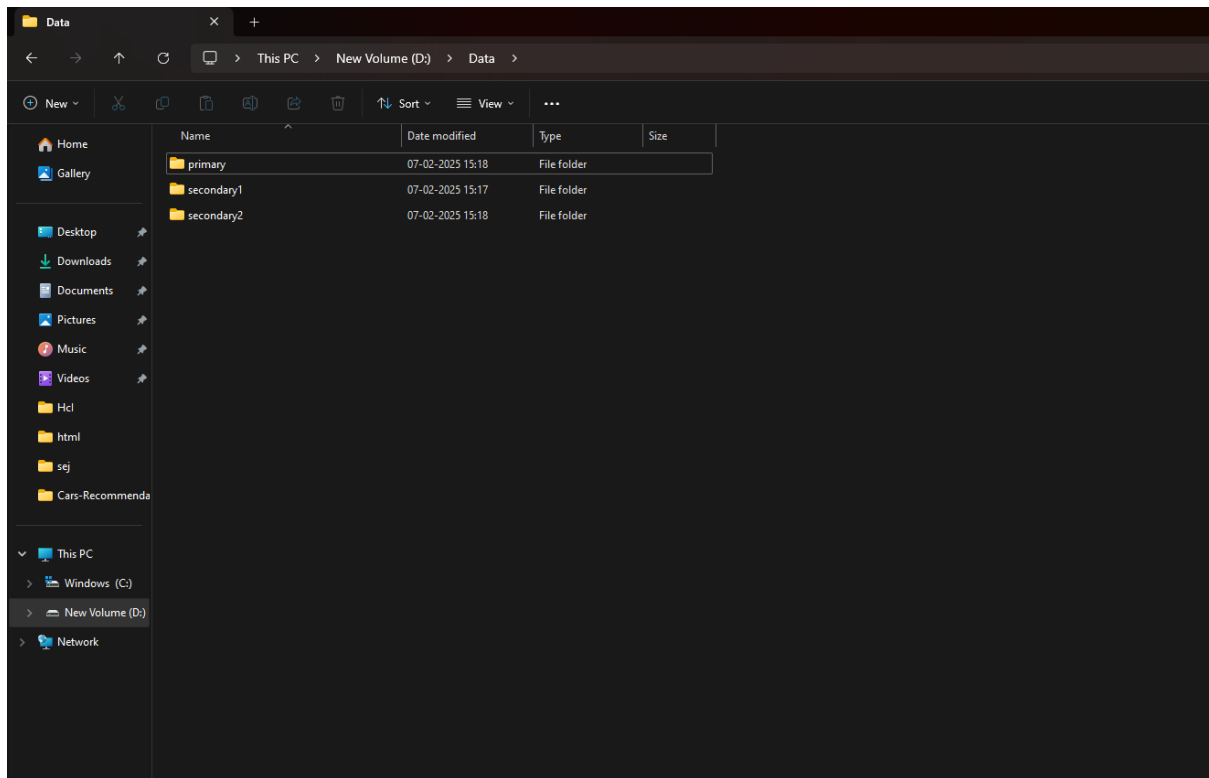


PRACTICAL 6



mongod --port=2717 --dbpath="D:\Data\primary" --replSet="test-replica-set"

```
PS C:\Users\Admin> mongod --port=2717 --dbpath="D:\Data\primary" --replSet="test-replica-set"
{"t":{"sdate":"2025-02-07T15:15:28.263+05:30"},"s":"I", "c":"NETWORK", "id":4915701, "ctx":"thread1","msg":"Initialze
reVersion":21},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":21},"outgoing":{"minWireVersion":6,"
{"t":{"sdate":"2025-02-07T15:15:28.267+05:30"},"s":"I", "c":"CONTROL", "id":23285, "ctx":"thread1","msg":"Aut
{"t":{"sdate":"2025-02-07T15:15:29.338+05:30"},"s":"I", "c":"NETWORK", "id":4648602, "ctx":"thread1","msg":"Imp
{"t":{"sdate":"2025-02-07T15:15:29.351+05:30"},"s":"I", "c":"REPL", "id":5123008, "ctx":"thread1","msg":"Suc
ace":"config.tenantMigrationDonors"}}
{"t":{"sdate":"2025-02-07T15:15:29.351+05:30"},"s":"I", "c":"REPL", "id":5123008, "ctx":"thread1","msg":"Suc
mespace":"config.tenantMigrationRecipients"}}
-----
```

mongod --port=2727 --dbpath="D:\Data\secondary1" --replSet="test-replica-set"

```
C:\Users\Admin> mongod --port=2727 --dbpath="D:\Data\secondary1" --replSet="test-replica-set"
{"t":{"sdate":"2025-02-07T15:16:53.932+05:30"},"s":"I", "c":"NETWORK", "id":4915701, "ctx":"thread1","msg":"Initialze
reVersion":21},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":21},"outgoing":{"minWireVersion":6,"maxWire\
{"t":{"sdate":"2025-02-07T15:16:54.917+05:30"},"s":"I", "c":"CONTROL", "id":23285, "ctx":"thread1","msg":"Automatica
{"t":{"sdate":"2025-02-07T15:16:54.918+05:30"},"s":"I", "c":"NETWORK", "id":4648602, "ctx":"thread1","msg":"Implicit TC
{"t":{"sdate":"2025-02-07T15:16:54.919+05:30"},"s":"I", "c":"REPL", "id":5123008, "ctx":"thread1","msg":"Successfull
ace":"config.tenantMigrationDonors"}}
{"t":{"sdate":"2025-02-07T15:16:54.919+05:30"},"s":"I", "c":"REPL", "id":5123008, "ctx":"thread1","msg":"Successfull
```

mongod --port=2737 --dbpath="D:\Data\secondary2" --replSet="test-replica-set"

```
C:\Users\Admin> mongod --port=2737 --dbpath="D:\Data\secondary2" --replSet="test-replica-set"
{"t":{"sdate":"2025-02-07T15:18:23.316+05:30"},"s":"I", "c":"CONTROL", "id":23285, "ctx":"thread1","msg":"Automatically disabling TLS 1.0, to force-enable
{"t":{"sdate":"2025-02-07T15:18:24.376+05:30"},"s":"I", "c":"NETWORK", "id":4915701, "ctx":"thread1","msg":"Initialized wire specification","attr":{"spec":{"
reVersion":21},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":21},"outgoing":{"minWireVersion":6,"maxWireVersion":21},"isInternalClient":true}}
{"t":{"sdate":"2025-02-07T15:18:24.377+05:30"},"s":"I", "c":"NETWORK", "id":4648602, "ctx":"thread1","msg":"Implicit TCP FastOpen in use."}
{"t":{"sdate":"2025-02-07T15:18:24.378+05:30"},"s":"I", "c":"REPL", "id":5123008, "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","att
ace":"config.tenantMigrationDonors"}}
{"t":{"sdate":"2025-02-07T15:18:24.378+05:30"},"s":"I", "c":"REPL", "id":5123008, "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","att
mespace":"config.tenantMigrationRecipients"}}
```

PRACTICAL 6

```
Windows PowerShell X Command Prompt - mongod X Command Prompt - mongod X mongosh mongodbc://localhost X + v
Microsoft Windows [Version 10.0.22631.4751]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Admin>mongosh --host="localhost:2717"
Current Mongosh Log ID: 67a5d8953e715c0b5b0bf201
Connecting to:      mongodb://localhost:2717/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.2.0
Using MongoDB:      7.0.6
Using Mongosh:       2.2.0
mongosh 2.3.8 is available for download: https://www.mongodb.com/try/download/shell

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

-----
The server generated these startup warnings when booting
2025-02-07T15:15:29.417+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
2025-02-07T15:15:29.417+05:30: This server is bound to localhost. Remote systems will be unable to connect to this server. Start the server with --bind_ip <address> to specify
erve responses from, or with --bind_ip_all to bind to all interfaces. If this behavior is desired, start the server with --bind_ip 127.0.0.1 to disable this warning
-----

test> |
```

rs.initiate()

```
test> rs.initiate()
{
  info2: 'no configuration specified. Using a default configuration for the set',
  me: 'localhost:2717',
  ok: 1
}
```

rs.add({host:"localhost:2727"})

```
test-replica-set [direct: primary] test> rs.add({host:"localhost:2727"})
{
  ok: 1,
  '$clusterTime': {
    clusterTime: Timestamp({ t: 1738922348, i: 1 }),
    signature: {
      hash: Binary.createFromBase64('AAAAAAAAAAAAAAAAAAAAAAAAAAAA=', 0),
      keyId: Long('0')
    }
  },
  operationTime: Timestamp({ t: 1738922348, i: 1 })
}
test-replica-set [direct: primary] test> rs.add({host:"localhost:2737"})
{
  ok: 1,
  '$clusterTime': {
    clusterTime: Timestamp({ t: 1738922357, i: 1 }),
    signature: {
      hash: Binary.createFromBase64('AAAAAAAAAAAAAAAAAAAAAAAAAAAA=', 0),
      keyId: Long('0')
    }
  },
  operationTime: Timestamp({ t: 1738922357, i: 1 })
}
```

PRACTICAL 6

To check if both the ports are available

```
test-replica-set [direct: primary] test> rs.status()
{
  set: 'test-replica-set',
  date: ISODate('2025-02-07T10:00:30.370Z'),
  myState: 1,
  term: Long('1'),
  syncSourceHost: '',
  syncSourceId: -1,
  heartbeatIntervalMillis: Long('2000'),
  majorityVoteCount: 2,
  writeMajorityCount: 2,
  votingMembersCount: 3,
  writableVotingMembersCount: 3,
  optimes: {
    lastCommittedOpTime: { ts: Timestamp({ t: 1738922429, i: 4 }), t: Long('1') },
    lastCommittedWallTime: ISODate('2025-02-07T10:00:29.700Z'),
    readConcernMajorityOpTime: { ts: Timestamp({ t: 1738922429, i: 4 }), t: Long('1') },
    appliedOpTime: { ts: Timestamp({ t: 1738922429, i: 4 }), t: Long('1') },
    durableOpTime: { ts: Timestamp({ t: 1738922429, i: 4 }), t: Long('1') },
    lastAppliedWallTime: ISODate('2025-02-07T10:00:29.700Z'),
    lastDurableWallTime: ISODate('2025-02-07T10:00:29.700Z')
  },
  lastStableRecoveryTimestamp: Timestamp({ t: 1738922377, i: 1 }),
  electionCandidateMetrics: {
    lastElectionReason: 'electionTimeout',
    lastElectionDate: ISODate('2025-02-07T09:56:47.253Z'),
    electionTerm: Long('1'),
    lastCommittedOpTimeAtElection: { ts: Timestamp({ t: 1738922207, i: 1 }), t: Long('-1') },
    lastSeenOpTimeAtElection: { ts: Timestamp({ t: 1738922207, i: 1 }), t: Long('-1') },
    numVotesNeeded: 1,
    priorityAtElection: 1,
    electionTimeoutMillis: Long('10000'),
    newTermStartDate: ISODate('2025-02-07T09:56:47.286Z'),
    wMajorityWriteAvailabilityDate: ISODate('2025-02-07T09:56:47.308Z')
  },
  members: [
    {
      _id: 0,
      name: 'localhost:2717',
      health: 1,
      state: 1,
      stateStr: 'PRIMARY',
      uptime: 902,
      optime: { ts: Timestamp({ t: 1738922429, i: 4 }), t: Long('1') },
      optimeDate: ISODate('2025-02-07T10:00:29.000Z'),
      lastAppliedWallTime: ISODate('2025-02-07T10:00:29.700Z'),
      lastDurableWallTime: ISODate('2025-02-07T10:00:29.700Z'),
      syncSourceHost: '',
      syncSourceId: -1,
      infoMessage: ''
    }
  ]
}
```

Creating instance for secondary1 and secondary2

```
Microsoft Windows [Version 10.0.22631.4751]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Admin>mongosh --host="localhost:2727"
Current Mongosh Log ID: 67a5db71fab833dbb48bf201
Connecting to: mongod://localhost:2727/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.2.0
Using MongoDB:
  7.0.6
Using Mongosh:
  2.2.0
mongosh 2.3.8 is available for download: https://www.mongodb.com/try/download/shell

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

-----
The server generated these startup warnings when booting
2025-02-07T15:16:54.972+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
2025-02-07T15:16:54.972+05:30: This server is bound to localhost. Remote systems will be unable to connect to this server. Start the server with --bind_ip <address> to specify which IP addresses it should s
erve responses from, or with --bind_ip_all to bind to all interfaces. If this behavior is desired, start the server with --bind_ip 127.0.0.1 to disable this warning
-----

test-replica-set [direct: secondary] test> |
```

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```
Microsoft Windows [Version 10.0.22631.4751]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Admin>mongosh --host=localhost:27377
Current Mongosh Log ID: 67a5de5a3e715c0b5b8bf201
Connecting to: mongod://localhost:27377?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.2.0
Using MongoDB: 7.0.6
Using Mongosh: 2.2.0
Mongosh 2.3.9 is available for download: https://www.mongodb.com/try/download/shell
For mongosh info see: https://docs.mongodb.com/mongosh-shell/

-----
The server generated these startup warnings when booting
2025-02-07T15:18:24.432+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
2025-02-07T15:18:24.433+05:30: This server is bound to localhost. Remote systems will be unable to connect to this server. Start the server with --bind_ip <address> to specify which IP addresses it should s
erve responses from, or with --bind_ip_all to bind to all interfaces. If this behavior is desired, start the server with --bind_ip 127.0.0.1 to disable this warning

test-replica-set [direct: secondary] test> |
```

First we see all the servers have same database using **show dbs** command

Creating database Practical and performing CRUD operations

Insertion of data

```
test-replica-set [direct: primary] test> use practice;
switched to db practice
test-replica-set [direct: primary] practice> db.users.insertMany([{"name":"sej", age:22}, {"name":"mansi", age:21}]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('67a5de5a3e715c0b5b8bf202'),
    '1': ObjectId('67a5de5a3e715c0b5b8bf203')
  }
}
```

Checking if the file is replicated in secondary server

```
test-replica-set [direct: secondary] test> use practice;
switched to db practice
test-replica-set [direct: secondary] practice> db.users.find();
[
  { _id: ObjectId('67a5de5a3e715c0b5b8bf202'), name: 'sej', age: 22 },
  { _id: ObjectId('67a5de5a3e715c0b5b8bf203'), name: 'mansi', age: 21 }
]
test-replica-set [direct: secondary] practice> |
```

Updating Data

```
test-replica-set [direct: primary] practice> db.users.updateOne({"name":"mansi"},{$set:{age:23}});
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}

test-replica-set [direct: secondary] practice> db.users.find();
[
  { _id: ObjectId('67a5de5a3e715c0b5b8bf202'), name: 'sej', age: 22 },
  { _id: ObjectId('67a5de5a3e715c0b5b8bf203'), name: 'mansi', age: 23 }
]
```

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Deleting Data

```
test-replica-set [direct: primary] practice> db.users.deleteOne({name:"mansi"});  
{ acknowledged: true, deletedCount: 1 }
```

```
test-replica-set [direct: secondary] practice> db.users.find();  
[ { _id: ObjectId('67a5de5a3e715c0b5b8bf202'), name: 'sej', age: 22 } ]
```