

Aim:

- One Config Server (Replica set)
- Two Shard Servers
- One Mongos Router
- Sharding enabled for a database and collection

Name	Date modified	Type	Size
configsrv1	24-02-2025 23:26	File folder	
configsrv2	24-02-2025 23:26	File folder	
confisrv	24-02-2025 23:26	File folder	
shard2rep1	24-02-2025 23:27	File folder	
shard2rep2	24-02-2025 23:28	File folder	
shard2rep3	24-02-2025 23:28	File folder	
shardrep1	24-02-2025 23:27	File folder	
shardrep2	24-02-2025 23:27	File folder	
shardrep3	24-02-2025 23:27	File folder	

config server:

```
C:\Users\Gracey Das>mongod --configsvr --port=1030 --replSet="config-repl" --dbpath="C:\Sharding\configsrv1"
```

```
{
  "t": {
    "$date": "2025-02-23T21:34:30.943+05:30",
    "s": "I",
    "c": "NETWORK",
    "id": 4915701,
    "ctx": "-",
    "msg": "Initialized wire specification",
    "attr": {
      "spec": {
        "incomingExternalClient": {
          "minWireVersion": 0,
          "maxWireVersion": 17
        },
        "incomingInternalClient": {
          "minWireVersion": 0,
          "maxWireVersion": 21,
          "isInternalClient": true
        },
        "outgoing": {
          "minWireVersion": 6,
          "maxWireVersion": 17
        },
        "isInternalClient": true
      }
    }
  },
  "t": {
    "$date": "2025-02-23T21:34:30.959+05:30",
    "s": "I",
    "c": "CONTROL",
    "id": 23285,
    "ctx": "thread1",
    "msg": "Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"
  },
  "t": {
    "$date": "2025-02-23T21:34:31.980+05:30",
    "s": "I",
    "c": "NETWORK",
    "id": 4648602,
    "ctx": "thread1",
    "msg": "Implicit TCP FastOpen in use."
  }
}
```

```
C:\Users\Gracey Das>mongod --configsvr --port=1030 --replSet="config-repl" --dbpath="C:\Sharding\configsrv1"
```

```
{
  "t": {
    "$date": "2025-02-22T22:35:16.810+05:30",
    "s": "I",
    "c": "NETWORK",
    "id": 4915701,
    "ctx": "thread1",
    "msg": "Initialized wire specification",
    "attr": {
      "spec": {
        "incomingExternalClient": {
          "minWireVersion": 0,
          "maxWireVersion": 21
        },
        "incomingInternalClient": {
          "minWireVersion": 0,
          "maxWireVersion": 21,
          "isInternalClient": true
        },
        "outgoing": {
          "minWireVersion": 6,
          "maxWireVersion": 17
        },
        "isInternalClient": true
      }
    }
  },
  "t": {
    "$date": "2025-02-22T22:35:16.817+05:30",
    "s": "I",
    "c": "CONTROL",
    "id": 23285,
    "ctx": "thread1",
    "msg": "Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"
  },
  "t": {
    "$date": "2025-02-22T22:35:18.572+05:30",
    "s": "I",
    "c": "NETWORK",
    "id": 4648602,
    "ctx": "thread1",
    "msg": "Implicit TCP FastOpen in use."
  },
  "t": {
    "$date": "2025-02-22T22:35:18.575+05:30",
    "s": "I",
    "c": "REPL",
    "id": 5123008,
    "ctx": "thread1",
    "msg": "Successfully registered PrimaryOnlyService", "attr": {
      "service": "ReshardingCoordinatorService",
      "namespace": "config.reshardingOperations"
    }
  },
  "t": {
    "$date": "2025-02-22T22:35:18.575+05:30",
    "s": "I",
    "c": "REPL",
    "id": 5123008,
    "ctx": "thread1",
    "msg": "Successfully registered PrimaryOnlyService", "attr": {
      "service": "ConfigsvrCoordinatorService",
      "namespace": "config.sharding.configsvr-coordinators"
    }
  },
  "t": {
    "$date": "2025-02-22T22:35:18.575+05:30",
    "s": "I",
    "c": "REPL",
    "id": 5123008,
    "ctx": "thread1",
    "msg": "Successfully registered PrimaryOnlyService", "attr": {
      "service": "RenameCollectionParticipantService",
      "namespace": "config.localRenameParticipants"
    }
  },
  "t": {
    "$date": "2025-02-22T22:35:18.576+05:30",
    "s": "I",
    "c": "REPL",
    "id": 5123008,
    "ctx": "thread1",
    "msg": "Successfully registered PrimaryOnlyService", "attr": {
      "service": "ShardingDDLCoordinator",
      "namespace": "config.system.sharding.ddl-coordinators"
    }
  },
  "t": {
    "$date": "2025-02-22T22:35:18.576+05:30",
    "s": "I",
    "c": "REPL",
    "id": 5123008,
    "ctx": "thread1",
    "msg": "Successfully registered PrimaryOnlyService", "attr": {
      "service": "ReshardingDonorService",
      "namespace": "config.localReshardingOperations.donor"
    }
  },
  "t": {
    "$date": "2025-02-22T22:35:18.576+05:30",
    "s": "I",
    "c": "REPL",
    "id": 5123008,
    "ctx": "thread1",
    "msg": "Successfully registered PrimaryOnlyService", "attr": {
      "service": "ReshardingRecipientService",
      "namespace": "config.localReshardingOperations.recipient"
    }
  },
  "t": {
    "$date": "2025-02-22T22:35:18.576+05:30",
    "s": "I",
    "c": "REPL",
    "id": 5123008,
    "ctx": "thread1",
    "msg": "Successfully registered PrimaryOnlyService", "attr": {
      "service": "TenantMigrationDonorService",
      "namespace": "config.tenantMigrationDonors"
    }
  },
  "t": {
    "$date": "2025-02-22T22:35:18.576+05:30",
    "s": "I",
    "c": "REPL",
    "id": 5123008,
    "ctx": "thread1",
    "msg": "Successfully registered PrimaryOnlyService", "attr": {
      "service": "TenantMigrationRecipientService",
      "namespace": "config.tenantMigrationRecipients"
    }
  }
}
```

```
C:\Users\Gracey Das>mongod --configsvr --port=1030 --replSet="config-repl" --dbpath="C:\Sharding\configsrv2"
```

```
{ "t": { "$date": "2025-02-22T22:35:16.810+05:30", "s": "I", "c": "NETWORK", "id": 4915701, "ctx": "thread1", "msg": "Initialized wire specification", "attr": { "spec": { "incomingExternalClient": { "minWireVersion": 0, "maxWireVersion": 21 }, "incomingInternalClient": { "minWireVersion": 0, "maxWireVersion": 21 }, "outgoing": { "minWireVersion": 6, "maxWireVersion": 21, "isInternalClient": true } } } }, { "t": { "$date": "2025-02-22T22:35:16.817+05:30", "s": "I", "c": "CONTROL", "id": 23285, "ctx": "thread1", "msg": "Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'" } }, { "t": { "$date": "2025-02-22T22:35:18.572+05:30", "s": "I", "c": "NETWORK", "id": 4648602, "ctx": "thread1", "msg": "Implicit TCP FastOpen in use." } }, { "t": { "$date": "2025-02-22T22:35:18.575+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ReshardingCoordinatorService", "namespace": "config.reshardingOperations" } } }, { "t": { "$date": "2025-02-22T22:35:18.575+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ConfigsvrCoordinatorService", "namespace": "config.sharding_configsvr_coordinators" } } }, { "t": { "$date": "2025-02-22T22:35:18.575+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "RenameCollectionParticipantService", "namespace": "config.localRenameParticipants" } } }, { "t": { "$date": "2025-02-22T22:35:18.576+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ShardingDDLCoordinator", "namespace": "config.system.sharding.ddl_coordinators" } } }, { "t": { "$date": "2025-02-22T22:35:18.576+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ReshardingDonorService", "namespace": "config.localReshardingOperations.donor" } } }, { "t": { "$date": "2025-02-22T22:35:18.576+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ReshardingRecipientService", "namespace": "config.localReshardingOperations.recipient" } } }, { "t": { "$date": "2025-02-22T22:35:18.576+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "TenantMigrationDonorService", "namespace": "config.tenantMigrationDonors" } } }, { "t": { "$date": "2025-02-22T22:35:18.576+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "TenantMigrationRecipientService", "namespace": "config.tenantMigrationRecipients" } } }
```

2] Connect to anyone of them using mongosh and Initiate Replica Set

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

```
Current Mongosh Log ID: 67ba0483cb204eeaf5f2a7e0
Connecting to: mongod://localhost:1030/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.1.3
Using MongoDB: 7.0.16
Using Mongosh: 2.1.3
mongosh 2.4.0 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
2025-02-22T22:33:34.153+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
2025-02-22T22:33:34.154+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 serve 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({ id: "config-repl", configsvr: true, members: [ { id: 0, host: "localhost:1030" }, { id: 1, host: "localhost:1040" }, { id: 2, host: "localhost:1050" } ] });
```

```
test> rs.initiate({ _id: "config-repl", configsvr: true, members: [ { _id: 0, host: "localhost:1030" }, { _id: 1, host: "localhost:1040" }, { _id: 2, host: "localhost:1050" } ] });
{ ok: 1 }
```

3] Check the status

```
rs.status();
```

```
members: [
  {
    _id: 0,
    name: 'localhost:1030',
    health: 1,
    state: 1,
    stateStr: 'PRIMARY',
    uptime: 530,
    optime: { ts: Timestamp({ t: 1740244341, i: 1 }), t: Long('1') },
    optimeDate: ISODate('2025-02-22T17:12:21.000Z'),
    lastAppliedWallTime: ISODate('2025-02-22T17:12:21.805Z'),
    lastDurableWallTime: ISODate('2025-02-22T17:12:21.805Z'),
    syncSourceHost: '',
    syncSourceId: -1,
    infoMessage: '',
    electionTime: Timestamp({ t: 1740244184, i: 1 }),
    electionDate: ISODate('2025-02-22T17:09:44.000Z'),
    configVersion: 1,
    configTerm: 1,
    self: true,
    lastHeartbeatMessage: ''
  },
  {
    _id: 1,
    name: 'localhost:1040',
    health: 1,
    state: 2,
    stateStr: 'SECONDARY',
    uptime: 169,
    optime: { ts: Timestamp({ t: 1740244341, i: 1 }), t: Long('1') },
    optimeDurable: { ts: Timestamp({ t: 1740244341, i: 1 }), t: Long('1') },
    optimeDate: ISODate('2025-02-22T17:12:21.000Z'),
    optimeDurableDate: ISODate('2025-02-22T17:12:21.000Z'),
    lastAppliedWallTime: ISODate('2025-02-22T17:12:21.805Z'),
    lastDurableWallTime: ISODate('2025-02-22T17:12:21.805Z'),
    lastHeartbeat: ISODate('2025-02-22T17:12:22.168Z'),
```

```
  },
  {
    _id: 2,
    name: 'localhost:1050',
    health: 1,
    state: 2,
    stateStr: 'SECONDARY',
    uptime: 169,
    optime: { ts: Timestamp({ t: 1740244341, i: 1 }), t: Long('1') },
    optimeDurable: { ts: Timestamp({ t: 1740244341, i: 1 }), t: Long('1') },
    optimeDate: ISODate('2025-02-22T17:12:21.000Z'),
    optimeDurableDate: ISODate('2025-02-22T17:12:21.000Z'),
    lastAppliedWallTime: ISODate('2025-02-22T17:12:21.805Z'),
    lastDurableWallTime: ISODate('2025-02-22T17:12:21.805Z'),
    lastHeartbeat: ISODate('2025-02-22T17:12:22.168Z'),
    lastHeartbeatRecv: ISODate('2025-02-22T17:12:21.152Z'),
    pingMs: Long('0'),
    lastHeartbeatMessage: '',
    syncSourceHost: 'localhost:1030',
    syncSourceId: 0,
    infoMessage: '',
    configVersion: 1,
    configTerm: 1
  }
],
ok: 1.
```


| Initialize MongoDB Shards using shardsvr and replSet options to form a Replica Set of Shards mongod --shardsvr --port=1130 --dbpath="C:\shard-practice\shardrep1" --replSet="shard repl"

```
C:\Users\Gracey Das>mongod --shardsvr --port=1130 --dbpath="C:\shard-practice\shardrep1" --replSet="shard_rep1"
```

```
{ "t": { "$date": "2025-02-22T22:46:34.353+05:30", "s": "I", "c": "CONTROL", "id": 23285, "ctx": "thread1", "msg": "Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'" },
{ "t": { "$date": "2025-02-22T22:46:34.356+05:30", "s": "I", "c": "NETWORK", "id": 4915701, "ctx": "thread1", "msg": "Initialized wire specification", "attr": { "spec": { "incomingExternalClient": { "minWireVersion": 0, "maxWireVersion": 21 }, "incomingInternalClient": { "minWireVersion": 0, "maxWireVersion": 21 }, "outgoing": { "minWireVersion": 6, "maxWireVersion": 21 }, "isInternalClient": true } } },
{ "t": { "$date": "2025-02-22T22:46:36.168+05:30", "s": "I", "c": "NETWORK", "id": 4648602, "ctx": "thread1", "msg": "Implicit TCP FastOpen in use." },
{ "t": { "$date": "2025-02-22T22:46:36.170+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "RenameCollectionParticipantService", "namespace": "config.localRenameParticipants" } },
{ "t": { "$date": "2025-02-22T22:46:36.170+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ShardingDDLCoordinator", "namespace": "config.system.sharding.ddl coordinators" } },
{ "t": { "$date": "2025-02-22T22:46:36.170+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ReshardingDonorService", "namespace": "config.localReshardingOperations.donor" } },
{ "t": { "$date": "2025-02-22T22:46:36.170+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ReshardingRecipientService", "namespace": "config.localReshardingOperations.recipient" } },
{ "t": { "$date": "2025-02-22T22:46:36.170+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "TenantMigrationDonorService", "namespace": "config.tenantMigrationDonors" } },
{ "t": { "$date": "2025-02-22T22:46:36.170+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "TenantMigrationRecipientService", "namespace": "config.tenantMigrationRecipients" } },
{ "t": { "$date": "2025-02-22T22:46:36.171+05:30", "s": "I", "c": "CONTROL", "id": 5945603, "ctx": "thread1", "msg": "Multi threading initialized" },
{ "t": { "$date": "2025-02-22T22:46:36.171+05:30", "s": "I", "c": "TENANT_M", "id": 7091600, "ctx": "thread1", "msg": "Starting TenantMigrationAccessBlockerRegistry" },
{ "t": { "$date": "2025-02-22T22:46:36.172+05:30", "s": "I", "c": "CONTROL", "id": 4615611, "ctx": "initandlisten", "msg": "MongoDB starting", "attr": { "pid": 1372, "port": 1130, "dbPath": "C:\\shard-practice\\shardrep1", "architecture": "64-bit", "host": "LAPTOP-KPJK609R" } },
{ "t": { "$date": "2025-02-22T22:46:36.172+05:30", "s": "I", "c": "CONTROL", "id": 23398, "ctx": "initandlisten", "msg": "Target operating system minimum version", "attr": { "targetMinOS": "Windows 7/Windows Server 2008 R2" } },
{ "t": { "$date": "2025-02-22T22:46:36.172+05:30", "s": "I", "c": "CONTROL", "id": 23403, "ctx": "initandlisten", "msg": "Build Info", "attr": { "buildInfo": { "version": "7.0.16", "gitVersion": "18b94944cfd8a8e30b0e10243bc18268251c1f", "modules": [], "allocator": "tcmalloc", "environment": { "distmod": "windows", "distarch": "x86_64", "target_arch": "x86_64" } } } },
{ "t": { "$date": "2025-02-22T22:46:36.172+05:30", "s": "I", "c": "CONTROL", "id": 51765, "ctx": "initandlisten", "msg": "Operating System", "attr": { "os": { "name": "Microsoft Windows 10", "version": "10.0 (build 26100)" } } }
```

```
C:\Users\Gracey Das>mongod --shardsvr --port=1130 --dbpath="C:\Sharding\shardrep2" --replSet="shard_rep2"
```

```
{ "t": { "$date": "2025-02-22T22:48:29.425+05:30", "s": "I", "c": "NETWORK", "id": 4915701, "ctx": "thread1", "msg": "Initialized wire specification", "attr": { "spec": { "incomingExternalClient": { "minWireVersion": 0, "maxWireVersion": 21 }, "incomingInternalClient": { "minWireVersion": 0, "maxWireVersion": 21 }, "outgoing": { "minWireVersion": 6, "maxWireVersion": 21 }, "isInternalClient": true } } },
{ "t": { "$date": "2025-02-22T22:48:29.426+05:30", "s": "I", "c": "CONTROL", "id": 23285, "ctx": "thread1", "msg": "Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'" },
{ "t": { "$date": "2025-02-22T22:48:29.428+05:30", "s": "I", "c": "NETWORK", "id": 4648602, "ctx": "thread1", "msg": "Implicit TCP FastOpen in use." },
{ "t": { "$date": "2025-02-22T22:48:29.433+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "RenameCollectionParticipantService", "namespace": "config.localRenameParticipants" } },
{ "t": { "$date": "2025-02-22T22:48:29.433+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ShardingDDLCoordinator", "namespace": "config.system.sharding.ddl coordinators" } },
{ "t": { "$date": "2025-02-22T22:48:29.433+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ReshardingDonorService", "namespace": "config.localReshardingOperations.donor" } },
{ "t": { "$date": "2025-02-22T22:48:29.433+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ReshardingRecipientService", "namespace": "config.localReshardingOperations.recipient" } },
{ "t": { "$date": "2025-02-22T22:48:29.433+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "TenantMigrationDonorService", "namespace": "config.tenantMigrationDonors" } },
{ "t": { "$date": "2025-02-22T22:48:29.433+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "TenantMigrationRecipientService", "namespace": "config.tenantMigrationRecipients" } },
{ "t": { "$date": "2025-02-22T22:48:29.433+05:30", "s": "I", "c": "CONTROL", "id": 5945603, "ctx": "thread1", "msg": "Multi threading initialized" },
{ "t": { "$date": "2025-02-22T22:48:29.433+05:30", "s": "I", "c": "TENANT_M", "id": 7091600, "ctx": "thread1", "msg": "Starting TenantMigrationAccessBlockerRegistry" },
{ "t": { "$date": "2025-02-22T22:48:29.435+05:30", "s": "I", "c": "CONTROL", "id": 4615611, "ctx": "initandlisten", "msg": "MongoDB starting", "attr": { "pid": 12980, "port": 1140, "dbPath": "C:\\shard-practice\\shardrep2", "architecture": "64-bit", "host": "LAPTOP-KPJK609R" } },
{ "t": { "$date": "2025-02-22T22:48:29.435+05:30", "s": "I", "c": "CONTROL", "id": 23398, "ctx": "initandlisten", "msg": "Target operating system minimum version", "attr": { "targetMinOS": "Windows 7/Windows Server 2008 R2" } },
{ "t": { "$date": "2025-02-22T22:48:29.435+05:30", "s": "I", "c": "CONTROL", "id": 23403, "ctx": "initandlisten", "msg": "Build Info", "attr": { "buildInfo": { "version": "7.0.16", "gitVersion": "18b94944cfd8a8e30b0e10243bc18268251c1f", "modules": [], "allocator": "tcmalloc", "environment": { "distmod": "windows", "distarch": "x86_64", "target_arch": "x86_64" } } } },
{ "t": { "$date": "2025-02-22T22:48:29.435+05:30", "s": "I", "c": "CONTROL", "id": 51765, "ctx": "initandlisten", "msg": "Operating System", "attr": { "os": { "name": "Microsoft Windows 10", "version": "10.0 (build 26100)" } } }
```

```
C:\Users\Gracey Das>mongod --shardsvr --port=1130 --dbpath="C:\Sharding\shardrep3" --replSet="shard_rep3"
```

```
{ "t": { "$date": "2025-02-22T22:49:12.872+05:30", "s": "I", "c": "CONTROL", "id": 23285, "ctx": "thread1", "msg": "Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'" },
{ "t": { "$date": "2025-02-22T22:49:12.876+05:30", "s": "I", "c": "NETWORK", "id": 4915701, "ctx": "thread1", "msg": "Initialized wire specification", "attr": { "spec": { "incomingExternalClient": { "minWireVersion": 0, "maxWireVersion": 21 }, "incomingInternalClient": { "minWireVersion": 0, "maxWireVersion": 21 }, "outgoing": { "minWireVersion": 6, "maxWireVersion": 21 }, "isInternalClient": true } } },
{ "t": { "$date": "2025-02-22T22:49:14.614+05:30", "s": "I", "c": "NETWORK", "id": 4648602, "ctx": "thread1", "msg": "Implicit TCP FastOpen in use." },
{ "t": { "$date": "2025-02-22T22:49:14.620+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "RenameCollectionParticipantService", "namespace": "config.localRenameParticipants" } },
{ "t": { "$date": "2025-02-22T22:49:14.620+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ShardingDDLCoordinator", "namespace": "config.system.sharding.ddl coordinators" } },
{ "t": { "$date": "2025-02-22T22:49:14.620+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ReshardingDonorService", "namespace": "config.localReshardingOperations.donor" } },
{ "t": { "$date": "2025-02-22T22:49:14.620+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "ReshardingRecipientService", "namespace": "config.localReshardingOperations.recipient" } },
{ "t": { "$date": "2025-02-22T22:49:14.620+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "TenantMigrationDonorService", "namespace": "config.tenantMigrationDonors" } },
{ "t": { "$date": "2025-02-22T22:49:14.620+05:30", "s": "I", "c": "REPL", "id": 5123008, "ctx": "thread1", "msg": "Successfully registered PrimaryOnlyService", "attr": { "service": "TenantMigrationRecipientService", "namespace": "config.tenantMigrationRecipients" } },
{ "t": { "$date": "2025-02-22T22:49:14.620+05:30", "s": "I", "c": "CONTROL", "id": 5945603, "ctx": "thread1", "msg": "Multi threading initialized" },
{ "t": { "$date": "2025-02-22T22:49:14.620+05:30", "s": "I", "c": "TENANT_M", "id": 7091600, "ctx": "thread1", "msg": "Starting TenantMigrationAccessBlockerRegistry" },
{ "t": { "$date": "2025-02-22T22:49:14.622+05:30", "s": "I", "c": "CONTROL", "id": 4615611, "ctx": "initandlisten", "msg": "MongoDB starting", "attr": { "pid": 11704, "port": 1150, "dbPath": "C:\\shard-practice\\shardrep3", "architecture": "64-bit", "host": "LAPTOP-KPJK609R" } },
{ "t": { "$date": "2025-02-22T22:49:14.622+05:30", "s": "I", "c": "CONTROL", "id": 23398, "ctx": "initandlisten", "msg": "Target operating system minimum version", "attr": { "targetMinOS": "Windows 7/Windows Server 2008 R2" } },
{ "t": { "$date": "2025-02-22T22:49:14.622+05:30", "s": "I", "c": "CONTROL", "id": 23403, "ctx": "initandlisten", "msg": "Build Info", "attr": { "buildInfo": { "version": "7.0.16", "gitVersion": "18b94944cfd8a8e30b0e10243bc18268251c1f", "modules": [], "allocator": "tcmalloc", "environment": { "distmod": "windows", "distarch": "x86_64", "target_arch": "x86_64" } } } },
{ "t": { "$date": "2025-02-22T22:49:14.622+05:30", "s": "I", "c": "CONTROL", "id": 51765, "ctx": "initandlisten", "msg": "Operating System", "attr": { "os": { "name": "Microsoft Windows 10", "version": "10.0 (build 26100)" } } }
```

2) Initiate that Replica Set by connecting it to mongosh

mongosh --host="localhost:1130"

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

```
Current Mongosh Log ID: 67ba074c498d2c182c68aefb
Connecting to:  mongodb://localhost:1130/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.1.3
Using MongoDB:  7.0.16
Using Mongosh:  2.1.3
mongosh 2.4.0 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
2025-02-22T22:46:36.310+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
2025-02-22T22:46:36.310+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 serve responses from, or with --bind_ip_all to bind to all interfaces. If this behavior is desired, star
t the server with --bind_ip 127.0.0.1 to disable this warning
-----
test> |
```

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

```
shard_repl [direct: primary] test> |
```

3) Check the status

rs.status();

```

    name: 'localhost:1130',
    health: 1,
    state: 1,
    stateStr: 'PRIMARY',
    uptime: 457,
    optime: { ts: Timestamp({ t: 1740245042, i: 1 }), t: Long('1') },
    optimeDate: ISODate('2025-02-22T17:24:02.000Z'),
    lastAppliedWallTime: ISODate('2025-02-22T17:24:02.845Z'),
    lastDurableWallTime: ISODate('2025-02-22T17:24:02.845Z'),
    syncSourceHost: '',
    syncSourceId: -1,
    infoMessage: 'Could not find member to sync from',
    electionTime: Timestamp({ t: 1740244932, i: 1 }),
    electionDate: ISODate('2025-02-22T17:22:12.000Z'),
    configVersion: 1,
    configTerm: 1,
    self: true,
    lastHeartbeatMessage: ''
  },
  {
    _id: 1,
    name: 'localhost:1140',
    health: 1,
    state: 2,
    stateStr: 'SECONDARY',
    uptime: 129,
    optime: { ts: Timestamp({ t: 1740245042, i: 1 }), t: Long('1') },
    optimeDurable: { ts: Timestamp({ t: 1740245042, i: 1 }), t: Long('1') },
    optimeDate: ISODate('2025-02-22T17:24:02.000Z'),
    optimeDurableDate: ISODate('2025-02-22T17:24:02.000Z'),
    lastAppliedWallTime: ISODate('2025-02-22T17:24:02.845Z'),
    lastDurableWallTime: ISODate('2025-02-22T17:24:02.845Z'),
    lastHeartbeat: ISODate('2025-02-22T17:24:10.739Z'),
    lastHeartbeatRecv: ISODate('2025-02-22T17:24:11.269Z'),
    pingMs: Long('0'),
    lastHeartbeatMessage: '',
    syncSourceHost: 'localhost:1130',

```

```

  {
    _id: 2,
    name: 'localhost:1150',
    health: 1,
    state: 2,
    stateStr: 'SECONDARY',
    uptime: 129,
    optime: { ts: Timestamp({ t: 1740245042, i: 1 }), t: Long('1') },
    optimeDurable: { ts: Timestamp({ t: 1740245042, i: 1 }), t: Long('1') },
    optimeDate: ISODate('2025-02-22T17:24:02.000Z'),
    optimeDurableDate: ISODate('2025-02-22T17:24:02.000Z'),
    lastAppliedWallTime: ISODate('2025-02-22T17:24:02.845Z'),
    lastDurableWallTime: ISODate('2025-02-22T17:24:02.845Z'),
    lastHeartbeat: ISODate('2025-02-22T17:24:10.758Z'),
    lastHeartbeatRecv: ISODate('2025-02-22T17:24:11.249Z'),
    pingMs: Long('0'),
    lastHeartbeatMessage: '',
    syncSourceHost: 'localhost:1130',
    syncSourceId: 0,
    infoMessage: '',
    configVersion: 1,
    configTerm: 1
  }
],
ok: 1.

```

```
C:\Users\Gracey Das>mongod --shardsvr --port=1230 --dbpath="C:\Sharding\shard2rep1" --replSet="shard2_rep1"
```

```
{ "t":{"sdate":"2025-02-22T22:56:35.261+05:30"},"s":"I", "c":"CONTROL", "id":23285, "ctx":"thread1","msg":"Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"}
{"t":{"sdate":"2025-02-22T22:56:35.263+05:30"},"s":"I", "c":"NETWORK", "id":4915701, "ctx":"thread1","msg":"Initialized wire specification","attr":{"spec":{"incomingExternalClient":{"minWireVersion":0,"maxWireVersion":21},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":21},"outgoing":{"minWireVersion":6,"maxWireVersion":21},"isInternalClient":true}}}
{"t":{"sdate":"2025-02-22T22:56:35.263+05:30"},"s":"I", "c":"NETWORK", "id":4648602, "ctx":"thread1","msg":"Implicit TCP FastOpen in use."}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"RenameCollectionParticipantService","namespace":"config.localRenameParticipants"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"ShardingDDLCoordinator","namespace":"config.system.sharding.ddl coordinators"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"ReshardingDonorService","namespace":"config.localReshardingOperations.donor"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"ReshardingRecipientService","namespace":"config.localReshardingOperations.recipient"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"TenantMigrationDonorService","namespace":"config.tenantMigrationDonors"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"TenantMigrationRecipientService","namespace":"config.tenantMigrationRecipients"}}
{"t":{"sdate":"2025-02-22T22:56:35.268+05:30"},"s":"I", "c":"CONTROL", "id":5945603, "ctx":"thread1","msg":"Multi threading initialized"}
{"t":{"sdate":"2025-02-22T22:56:35.268+05:30"},"s":"I", "c":"TENANT_M", "id":7091600, "ctx":"thread1","msg":"Starting TenantMigrationAccessBlockerRegistry"}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":4615611, "ctx":"initandlisten","msg":"MongoDB starting","attr":{"pid":10372,"port":1230,"dbPath":"C:\\shard-practice\\shard2rep1","architecture":"64-bit","host":"LAPTOP-WPKJ609R"}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":23398, "ctx":"initandlisten","msg":"Target operating system minimum version","attr":{"targetMinOS":"Windows 7/Windows Server 2008 R2"}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":23403, "ctx":"initandlisten","msg":"Build Info","attr":{"buildInfo":{"version":"7.0.16","gitVersion":"18b9d9444cfdaa8e30b0e10243bc18268251c1f","modules":[],"allocator":"tcmalloc","environment":{"distmod":"windows","distarch":"x86_64","target_arch":"x86_64"}}}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":51765, "ctx":"initandlisten","msg":"Operating System","attr":{"os":{"name":"Microsoft Windows 10","version":"10.0 (build 26100)}}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":21951, "ctx":"initandlisten","msg":"Options set by command line","attr":{"options":{"net":{"port":1230},"replication":{"replSet":"shard2_rep1"},"sharding":{"clusterRole":"shardsvr"},"storage":{"dbPath":"C:\\shard-practice\\shard2rep1","journal":{"enabled":false}}}}}
```

```
C:\Users\Gracey Das>mongod --shardsvr --port=1230 --dbpath="C:\Sharding\shard2rep2" --replSet="shard2_rep1"
```

```
{ "t":{"sdate":"2025-02-22T22:56:35.261+05:30"},"s":"I", "c":"CONTROL", "id":23285, "ctx":"thread1","msg":"Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"}
{"t":{"sdate":"2025-02-22T22:56:35.263+05:30"},"s":"I", "c":"NETWORK", "id":4915701, "ctx":"thread1","msg":"Initialized wire specification","attr":{"spec":{"incomingExternalClient":{"minWireVersion":0,"maxWireVersion":21},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":21},"outgoing":{"minWireVersion":6,"maxWireVersion":21},"isInternalClient":true}}}
{"t":{"sdate":"2025-02-22T22:56:35.263+05:30"},"s":"I", "c":"NETWORK", "id":4648602, "ctx":"thread1","msg":"Implicit TCP FastOpen in use."}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"RenameCollectionParticipantService","namespace":"config.localRenameParticipants"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"ShardingDDLCoordinator","namespace":"config.system.sharding.ddl coordinators"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"ReshardingDonorService","namespace":"config.localReshardingOperations.donor"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"ReshardingRecipientService","namespace":"config.localReshardingOperations.recipient"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"TenantMigrationDonorService","namespace":"config.tenantMigrationDonors"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"TenantMigrationRecipientService","namespace":"config.tenantMigrationRecipients"}}
{"t":{"sdate":"2025-02-22T22:56:35.268+05:30"},"s":"I", "c":"CONTROL", "id":5945603, "ctx":"thread1","msg":"Multi threading initialized"}
{"t":{"sdate":"2025-02-22T22:56:35.268+05:30"},"s":"I", "c":"TENANT_M", "id":7091600, "ctx":"thread1","msg":"Starting TenantMigrationAccessBlockerRegistry"}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":4615611, "ctx":"initandlisten","msg":"MongoDB starting","attr":{"pid":10372,"port":1230,"dbPath":"C:\\shard-practice\\shard2rep1","architecture":"64-bit","host":"LAPTOP-WPKJ609R"}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":23398, "ctx":"initandlisten","msg":"Target operating system minimum version","attr":{"targetMinOS":"Windows 7/Windows Server 2008 R2"}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":23403, "ctx":"initandlisten","msg":"Build Info","attr":{"buildInfo":{"version":"7.0.16","gitVersion":"18b9d9444cfdaa8e30b0e10243bc18268251c1f","modules":[],"allocator":"tcmalloc","environment":{"distmod":"windows","distarch":"x86_64","target_arch":"x86_64"}}}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":51765, "ctx":"initandlisten","msg":"Operating System","attr":{"os":{"name":"Microsoft Windows 10","version":"10.0 (build 26100)}}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":21951, "ctx":"initandlisten","msg":"Options set by command line","attr":{"options":{"net":{"port":1230},"replication":{"replSet":"shard2_rep1"},"sharding":{"clusterRole":"shardsvr"},"storage":{"dbPath":"C:\\shard-practice\\shard2rep1","journal":{"enabled":false}}}}}
```

```
C:\Users\Gracey Das>mongod --shardsvr --port=1230 --dbpath="C:\Sharding\shard2rep3" --replSet="shard2_rep1"
```

```
{ "t":{"sdate":"2025-02-22T22:56:35.261+05:30"},"s":"I", "c":"CONTROL", "id":23285, "ctx":"thread1","msg":"Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"}
{"t":{"sdate":"2025-02-22T22:56:35.263+05:30"},"s":"I", "c":"NETWORK", "id":4915701, "ctx":"thread1","msg":"Initialized wire specification","attr":{"spec":{"incomingExternalClient":{"minWireVersion":0,"maxWireVersion":21},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":21},"outgoing":{"minWireVersion":6,"maxWireVersion":21},"isInternalClient":true}}}
{"t":{"sdate":"2025-02-22T22:56:35.263+05:30"},"s":"I", "c":"NETWORK", "id":4648602, "ctx":"thread1","msg":"Implicit TCP FastOpen in use."}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"RenameCollectionParticipantService","namespace":"config.localRenameParticipants"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"ShardingDDLCoordinator","namespace":"config.system.sharding.ddl coordinators"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"ReshardingDonorService","namespace":"config.localReshardingOperations.donor"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"ReshardingRecipientService","namespace":"config.localReshardingOperations.recipient"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"TenantMigrationDonorService","namespace":"config.tenantMigrationDonors"}}
{"t":{"sdate":"2025-02-22T22:56:35.267+05:30"},"s":"I", "c":"REPL", "id":"5123808", "ctx":"thread1","msg":"Successfully registered PrimaryOnlyService","attr":{"service":"TenantMigrationRecipientService","namespace":"config.tenantMigrationRecipients"}}
{"t":{"sdate":"2025-02-22T22:56:35.268+05:30"},"s":"I", "c":"CONTROL", "id":5945603, "ctx":"thread1","msg":"Multi threading initialized"}
{"t":{"sdate":"2025-02-22T22:56:35.268+05:30"},"s":"I", "c":"TENANT_M", "id":7091600, "ctx":"thread1","msg":"Starting TenantMigrationAccessBlockerRegistry"}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":4615611, "ctx":"initandlisten","msg":"MongoDB starting","attr":{"pid":10372,"port":1230,"dbPath":"C:\\shard-practice\\shard2rep1","architecture":"64-bit","host":"LAPTOP-WPKJ609R"}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":23398, "ctx":"initandlisten","msg":"Target operating system minimum version","attr":{"targetMinOS":"Windows 7/Windows Server 2008 R2"}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":23403, "ctx":"initandlisten","msg":"Build Info","attr":{"buildInfo":{"version":"7.0.16","gitVersion":"18b9d9444cfdaa8e30b0e10243bc18268251c1f","modules":[],"allocator":"tcmalloc","environment":{"distmod":"windows","distarch":"x86_64","target_arch":"x86_64"}}}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":51765, "ctx":"initandlisten","msg":"Operating System","attr":{"os":{"name":"Microsoft Windows 10","version":"10.0 (build 26100)}}}
{"t":{"sdate":"2025-02-22T22:56:35.269+05:30"},"s":"I", "c":"CONTROL", "id":21951, "ctx":"initandlisten","msg":"Options set by command line","attr":{"options":{"net":{"port":1230},"replication":{"replSet":"shard2_rep1"},"sharding":{"clusterRole":"shardsvr"},"storage":{"dbPath":"C:\\shard-practice\\shard2rep1","journal":{"enabled":false}}}}}
```

MongoDB Shards – DONE

Now, initialize a Query Router which is a mongos process

mongos --port=1330 --configdb="config-repl/localhost:1030,
localhost:1040, localhost:1050"

```
C:\Users\Gracey Das>mongos --port=1330 --configdb="config-repl/localhost:1030, localhost:1040, localhost:1050"
```

```
{ "t": { "$date": "2025-02-22T23:06:07.361+05:30" }, "s": "I", "c": "NETWORK", "id": "4915701", "ctx": "thread1", "msg": "Initialized wire specification", "attr": { "spec": { "incomingExternalClient": { "minWireVersion": 0, "maxWireVersion": 21 }, "incomingInternalClient": { "minWireVersion": 0, "maxWireVersion": 21 }, "outgoing": { "minWireVersion": 21, "maxWireVersion": 21 }, "isInternalClient": true } } } }
{ "t": { "$date": "2025-02-22T23:06:07.373+05:30" }, "s": "I", "c": "CONTROL", "id": "23285", "ctx": "thread1", "msg": "Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'" } }
{ "t": { "$date": "2025-02-22T23:06:08.602+05:30" }, "s": "I", "c": "NETWORK", "id": "4648602", "ctx": "thread1", "msg": "Implicit TCP FastOpen in use." } }
{ "t": { "$date": "2025-02-22T23:06:08.603+05:30" }, "s": "I", "c": "HEALTH", "id": "5936503", "ctx": "thread1", "msg": "Fault manager changed state ", "attr": { "state": "StartupCheck" } }
{ "t": { "$date": "2025-02-22T23:06:08.609+05:30" }, "s": "W", "c": "CONTROL", "id": "22120", "ctx": "thread1", "msg": "Access control is not enabled for the database. Read and write access to data and configuration is unrestricted", "tags": [ "startupWarnings" ] } }
{ "t": { "$date": "2025-02-22T23:06:08.610+05:30" }, "s": "W", "c": "CONTROL", "id": "22140", "ctx": "thread1", "msg": "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 serve 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", "tags": [ "startupWarnings" ] } }
{ "t": { "$date": "2025-02-22T23:06:08.613+05:30" }, "s": "I", "c": "CONTROL", "id": "23403", "ctx": "mongosMain", "msg": "Build Info", "attr": { "buildInfo": { "version": "7.0.16", "gitVersion": "18b949444cfdaa88e30b0e10243bc18268251c1f", "modules": [], "allocator": "tcmalloc", "environment": { "distmod": "windows", "distarch": "x86_64", "target_arch": "x86_64" } } } } }
{ "t": { "$date": "2025-02-22T23:06:08.613+05:30" }, "s": "I", "c": "CONTROL", "id": "51765", "ctx": "mongosMain", "msg": "Operating System", "attr": { "os": { "name": "Microsoft Windows 10", "version": "10.0 (build 26100)" } } } }
{ "t": { "$date": "2025-02-22T23:06:08.613+05:30" }, "s": "I", "c": "CONTROL", "id": "21951", "ctx": "mongosMain", "msg": "Options set by command line", "attr": { "options": { "net": { "port": 1330 }, "sharding": { "configDB": "config-repl/localhost:1030,localhost:1040,localhost:1050" } } } } }
{ "t": { "$date": "2025-02-22T23:06:08.620+05:30" }, "s": "I", "c": "NETWORK", "id": "4603701", "ctx": "mongosMain", "msg": "Starting Replica Set Monitor", "attr": { "protocol": "streamable", "uri": "config-repl/localhost:1030,localhost:1040,localhost:1050" } } }
{ "t": { "$date": "2025-02-22T23:06:08.622+05:30" }, "s": "I", "c": "-", "id": "4333223", "ctx": "mongosMain", "msg": "RSM now monitoring replica set", "attr": { "replicaSet": "config-repl", "nReplicaSetMembers": 3 } } }
{ "t": { "$date": "2025-02-22T23:06:08.622+05:30" }, "s": "I", "c": "-", "id": "4333226", "ctx": "mongosMain", "msg": "RSM host was added to the topology", "attr": { "replicaSet": "config-repl", "host": "localhost:1030" } } }
{ "t": { "$date": "2025-02-22T23:06:08.623+05:30" }, "s": "I", "c": "-", "id": "4333226", "ctx": "mongosMain", "msg": "RSM host was added to the topology", "attr": { "replicaSet": "config-repl", "host": "localhost:1040" } } }
{ "t": { "$date": "2025-02-22T23:06:08.623+05:30" }, "s": "I", "c": "-", "id": "4333226", "ctx": "mongosMain", "msg": "RSM host was added to the topology", "attr": { "replicaSet": "config-repl", "host": "localhost:1050" } } }
```

1] Connect to 'mongos' using 'mongosh'

```
C:\Users\Gracey Das>mongosh --host="localhost:1330"SS
```

```
Current Mongosh Log ID: 67ba0b4b3ce3cee2d8dd87a2
Connecting to: mongos://localhost:1330/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.1.3
Using MongoDB: 7.0.16
Using Mongosh: 2.1.3
mongosh 2.4.0 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
2025-02-22T23:06:08.609+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
2025-02-22T23:06:08.610+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 serve 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
-----
[direct: mongos] test>
```

2] Add Shard Replica Set to Sharded Cluster

This will be repeated for all the Shard ReplicaSets we have configured

```
sh.addShard("shard_repl/localhost:1130,localhost:1140,localhost:1150");
```

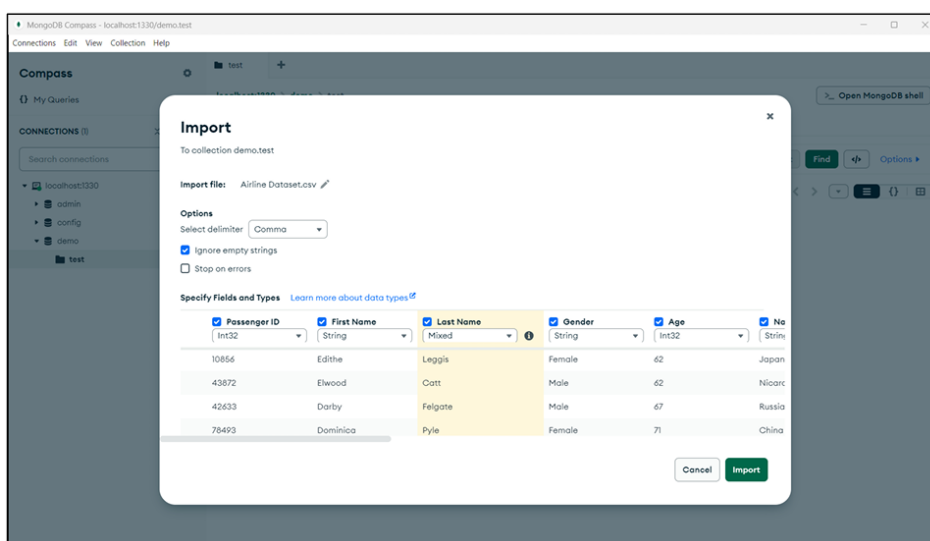
```
[direct: mongos] test> sh.addShard("shard_repl/localhost:1130,localhost:1140,localhost:1150");
{
  shardAdded: 'shard_repl',
  ok: 1,
  '$clusterTime': {
    clusterTime: Timestamp({ t: 1740246081, i: 2 }),
    signature: {
      hash: Binary.createFromBase64('AAAAAAAAAAAAAAAAAAAAAAAAAAAA=', 0),
      keyId: Long('0')
    }
  },
  operationTime: Timestamp({ t: 1740246081, i: 2 })
}
[direct: mongos] test> |
```

```
sh.addShard("shard2_repl/localhost:1230,localhost:1240,localhost:1250");
```

```
[direct: mongos] test> sh.addShard("shard2_repl/localhost:1230,localhost:1240,localhost:1250");
{
  shardAdded: 'shard2_repl',
  ok: 1,
  '$clusterTime': {
    clusterTime: Timestamp({ t: 1740246146, i: 9 }),
    signature: {
      hash: Binary.createFromBase64('AAAAAAAAAAAAAAAAAAAAAAAAAAAA=', 0),
      keyId: Long('0')
    }
  },
  operationTime: Timestamp({ t: 1740246145, i: 4 })
}
[direct: mongos] test> |
```


sh.status());

```
[direct: mongos] test> sh.status();
shardingVersion
{ _id: 1, clusterId: ObjectId('67ba04d8f57f52c1ba4ba10b') }
---
shards
[
  {
    _id: 'shard2_repl',
    host: 'shard2_repl/localhost:1230,localhost:1240,localhost:1250',
    state: 1,
    topologyTime: Timestamp({ t: 1740246145, i: 2 })
  },
  {
    _id: 'shard_repl',
    host: 'shard_repl/localhost:1130,localhost:1140,localhost:1150',
    state: 1,
    topologyTime: Timestamp({ t: 1740246080, i: 3 })
  }
]
---
active mongoses
[ { '7.0.16': 1 } ]
---
autosplit
{ 'Currently enabled': 'yes' }
---
balancer
{
  'Currently enabled': 'yes',
  'Currently running': 'no',
  'Failed balancer rounds in last 5 attempts': 0,
  'Migration Results for the last 24 hours': 'No recent migrations'
}
```



Now, go to current cmd/powershell terminal (not a new one) and type

use demo

show collections

```
[direct: mongos] test> use demo
switched to db demo
[direct: mongos] demo> show collections
test
[direct: mongos] demo> |
```

sh.enableSharding("demo");

```
[direct: mongos] demo> sh.enableSharding("demo");
{
  ok: 1,
  '$clusterTime': {
    clusterTime: Timestamp({ t: 1740247896, i: 1 }),
    signature: {
      hash: Binary.createFromBase64('AAAAAAAAAAAAAAAAAAAAAAAAAAAA=', 0),
      keyId: Long('0')
    }
  },
  operationTime: Timestamp({ t: 1740247896, i: 1 })
}
[direct: mongos] demo> |
```

sh.shardCollection("demo.test", {Age:1});

```
[direct: mongos] demo> sh.shardCollection("demo.test", {Age:1});
{
  collectionssharded: 'demo.test',
  ok: 1,
  '$clusterTime': {
    clusterTime: Timestamp({ t: 1740247923, i: 31 }),
    signature: {
      hash: Binary.createFromBase64('AAAAAAAAAAAAAAAAAAAAAAAAAAAA=', 0),
      keyId: Long('0')
    }
  },
  operationTime: Timestamp({ t: 1740247923, i: 31 })
}
[direct: mongos] demo> |
```

```
sh.status();
```

```
[direct: mongos] demo> sh.status();
shardingVersion
{ _id: 1, clusterId: ObjectId('67ba04d8f57f52c1ba4ba10b') }
---
shards
[
  {
    _id: 'shard2_repl',
    host: 'shard2_repl/localhost:1230,localhost:1240,localhost:1250',
    state: 1,
    topologyTime: Timestamp({ t: 1740246145, i: 2 })
  },
  {
    _id: 'shard_repl',
    host: 'shard_repl/localhost:1130,localhost:1140,localhost:1150',
    state: 1,
    topologyTime: Timestamp({ t: 1740246080, i: 3 })
  }
]
---
active mongoses
[ { '7.0.16': 1 } ]
---
autosplit
{ 'Currently enabled': 'yes' }
---
```