

# BIBD MINI PROJECT

## MongoDB

### What is MongoDB?

MongoDB is a **cross-platform document-oriented database program**. Classified as a NoSQL database program, MongoDB uses JSON -like documents with schema. MongoDB is developed by MongoDB Inc. and licensed under the Server-Side Public License.

### Installation of MongoDB

#### Step 1 — Download the MongoDB MSI Installer Package

- ☐ Download the current version of MongoDB.
- ☐ Make sure you **select MSI** as the package you want to download.

Select the server you would like to run:

**MongoDB Community Server**  
FEATURE RICH. DEVELOPER READY.

Version

4.0.3 (current release) ▼

OS

Windows 64-bit x64 ▼

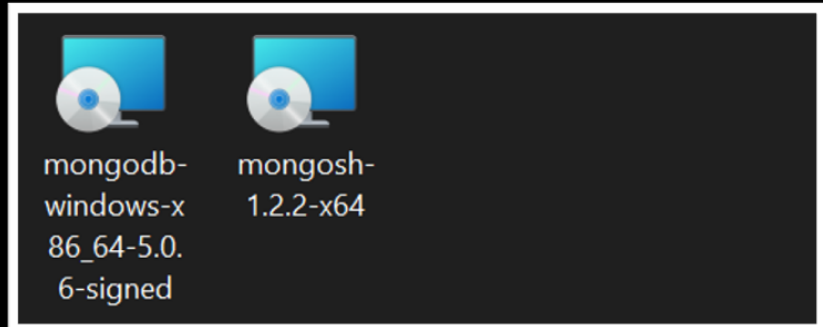
Package

MSI ▼

Download

## Step 2 — Install MongoDB with the Installation Wizard

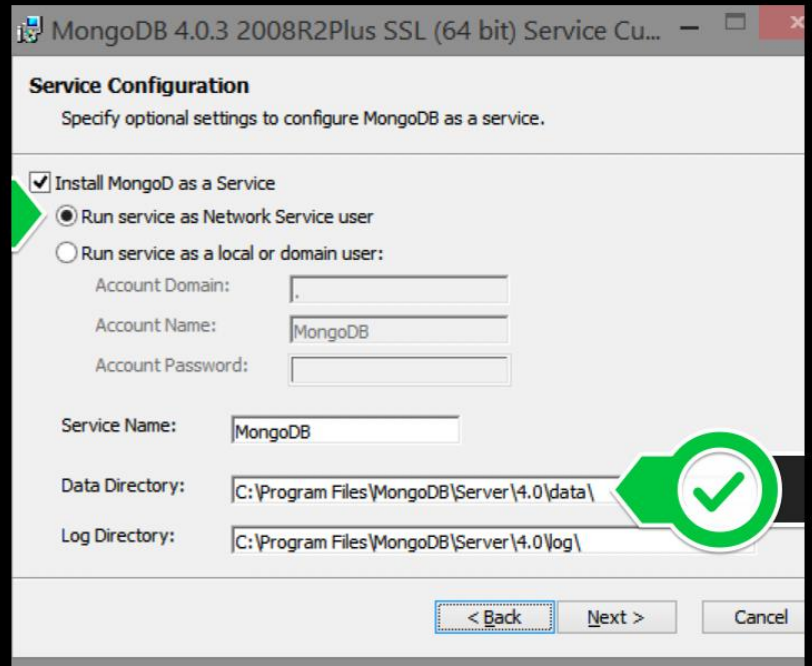
- ☐ Make sure you are logged in as a user with Admin privileges.
- ☐ Then navigate to your downloads folder and double click on the .msi package you just downloaded.
- ☐ This will launch the installation wizard.



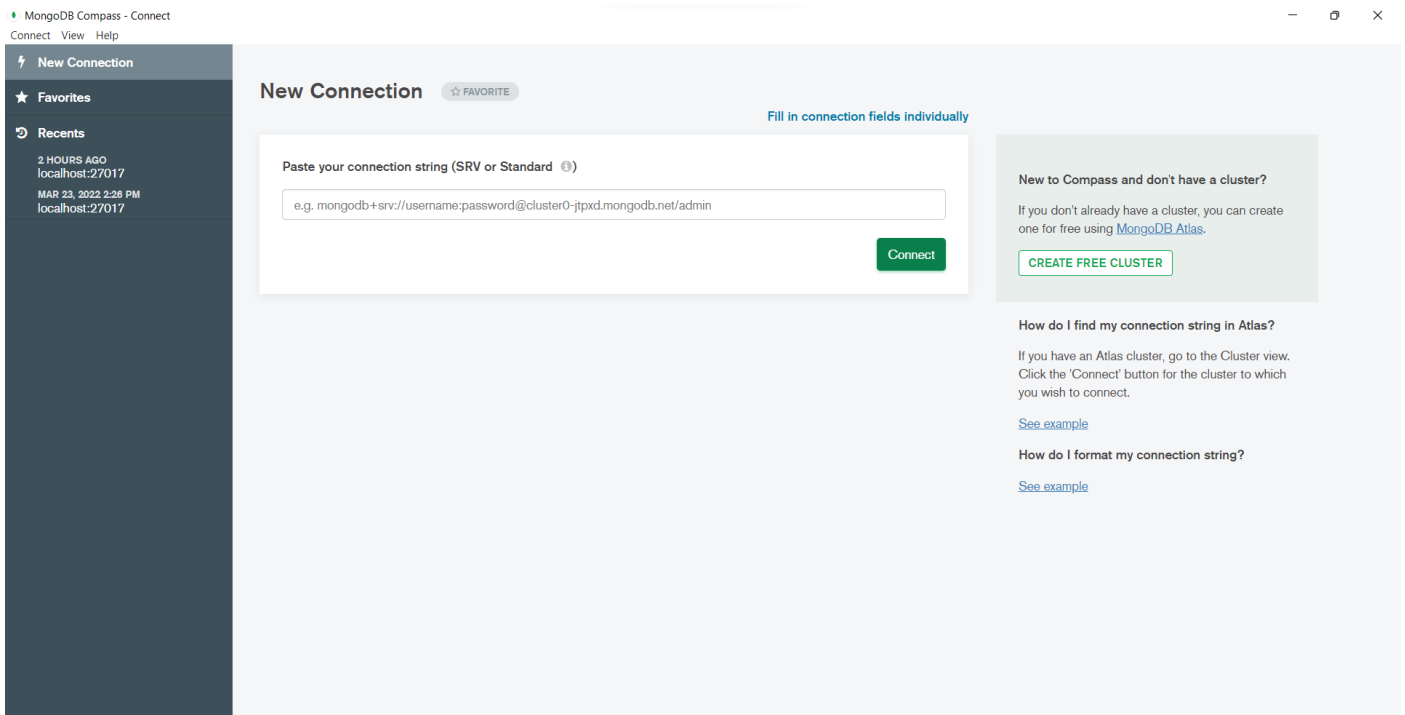
- ☐ Click Next to start installation.
- ☐ Accept the license agreement then click Next.
- ☐ Select the "Complete Setup".



- ❑ Select “Run service as Network Service user” which is given by default.



- After installing need to connect MongoDB Compass with Localhost so we can access the database



- After clicking on connect, localhost get connected then we can create database, collection & can also execute command by compass.
- But we will do the command on PowerShell.
- Open PowerShell

```
Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Maresh>
```

## ➤ Starting with MongoDB Command on powershell

### View all databases

show dbs

```
> show dbs
admin    0.000GB
config  0.000GB
local    0.000GB
msc       0.000GB
```

### Create a new or switch databases

use dbName

```
> use msc
switched to db msc
```

### View current Database

db

```
> db
msc
```

Create a collection named 'comments'

```
db.createCollection('comments')
```

```
> db.createCollection('comments')
{ "ok" : 1 }
```

Insert One Row

```
db.comments.insert({
  'name': 'Mack',
  'lang': 'JavaScript',
  'member_since': 5
})
```

```
> db.comments.insert({
... 'name': 'Mack',
... 'lang': 'JavaScript',
... 'member_since': 5})
WriteResult({ "nInserted" : 1 })
```

Show all Rows in a Collection

&amp;

Show all Rows in a Collection (Prettified)

```
db.comments.find()
```

```
db.comments.find().pretty()
```

```
> db.comments.find()
{ "_id" : ObjectId("623ddd37e49c8c312d52e187"), "name" : "Mack", "lang" : "JavaScript", "member_since" : 5 }
> db.comments.find().pretty()
{
  "_id" : ObjectId("623ddd37e49c8c312d52e187"),
  "name" : "Mack",
  "lang" : "JavaScript",
  "member_since" : 5
}
```

## Insert many Rows

```

db.comments.insertMany([
  {
    'name': 'Harry',
    'lang': 'JavaScript',
    'member_since': 5
  },
  {
    'name': 'Rohan',
    'lang': 'Python',
    'member_since': 3
  },
  {
    'name': 'Lovish',
    'lang': 'Java',
    'member_since': 4
  }
])

```

```

> db.comments.insertMany([
...   {
...     'name': 'Harry',
...     'lang': 'JavaScript',
...     'member_since': 5
...   },
...   {
...     'name': 'Rohan',
...     'lang': 'Python',
...     'member_since': 3
...   },
...   {
...     'name': 'Lovish',
...     'lang': 'Java',
...     'member_since': 4
...   }
... ])
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("623ddd62e49c8c312d52e188"),
    ObjectId("623ddd62e49c8c312d52e189"),
    ObjectId("623ddd62e49c8c312d52e18a")
  ]
}

```

## Search in a MongoDB Database

`db.comments.find({lang:'Python'})`

```
> db.comments.find({lang:'Python'})
{ "_id" : ObjectId("623ddd62e49c8c312d52e189"), "name" : "Rohan", "lang" : "Python", "member_since" : 3 }
```

## Limit the number of rows in output

`db.comments.find().limit(2)`

```
> db.comments.find().limit(2)
{ "_id" : ObjectId("623ddd37e49c8c312d52e187"), "name" : "Mack", "lang" : "JavaScript", "member_since" : 5 }
{ "_id" : ObjectId("623ddd62e49c8c312d52e188"), "name" : "Harry", "lang" : "JavaScript", "member_since" : 5 }
> db.comments.find().limit(2).pretty()
{
  "_id" : ObjectId("623ddd37e49c8c312d52e187"),
  "name" : "Mack",
  "lang" : "JavaScript",
  "member_since" : 5
}

{
  "_id" : ObjectId("623ddd62e49c8c312d52e188"),
  "name" : "Harry",
  "lang" : "JavaScript",
  "member_since" : 5
}
```

## Count the number of rows in the output

`db.comments.find().count()`

```
>
> db.comments.find().count()
4
>
>
```

Update a row & if upsert is true than new row is created

```
db.comments.update({name: 'Shubham'},  
{'name': 'Shubham',  
  'lang': 'JavaScript',  
  'member_since': 51  
}, {upsert: true})
```

```
>  
>  
> db.comments.update({name: 'Shubham'},  
... {'name': 'Shubham',  
...   'lang': 'JavaScript',  
...   'member_since': 51  
... }, {upsert: true})  
writeResult({  
  "nMatched" : 0,  
  "nUpserted" : 1,  
  "nModified" : 0,  
  "_id" : ObjectId("623ddf355b429b6f457ce311")  
})
```



## Mongodb Increment Operator

```
db.comments.update({name: 'Rohan'},  
{ $inc: {  
  member_since: 2  
}})
```

## Mongodb Rename Operator

```
db.comments.update({name: 'Rohan'},  
{ $rename: {  
  member_since: 'member'  
}})
```

## Delete Row

```
db.comments.remove({name: 'Harry'})
```

```
>  
> db.comments.update({name: 'Rohan'},  
... { $inc: {  
...   member_since: 2  
... }})  
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })  
>  
>  
>  
> db.comments.update({name: 'Rohan'},  
... { $rename: {  
...   member_since: 'member'  
... }})  
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })  
>  
>  
> db.comments.remove({name: 'Harry'})  
WriteResult({ "nRemoved" : 1 })  
>
```

## Less than/Greater than/ Less than or Eq/Greater than or Eq command

```
db.comments.find({member_since: {$lt: 90}})
```

```
db.comments.find({member_since: {$lte: 90}})
```

```
db.comments.find({member_since: {$gt: 90}})
```

```
db.comments.find({member_since: {$gte: 90}})
```

```
> db.comments.find({member_since: {$lt: 90}})
{ "_id" : ObjectId("623ddd37e49c8c312d52e187"), "name" : "Mack", "lang" : "JavaScript", "member_since" : 5 }
{ "_id" : ObjectId("623ddd62e49c8c312d52e18a"), "name" : "Lovish", "lang" : "Java", "member_since" : 4 }
{ "_id" : ObjectId("623ddf355b429b6f457ce311"), "name" : "Shubham", "lang" : "JavaScript", "member_since" : 5 }
> db.comments.find({member_since: {$lt: 90}}).pretty()
{
  "_id" : ObjectId("623ddd37e49c8c312d52e187"),
  "name" : "Mack",
  "lang" : "JavaScript",
  "member_since" : 5
}
{
  "_id" : ObjectId("623ddd62e49c8c312d52e18a"),
  "name" : "Lovish",
  "lang" : "Java",
  "member_since" : 4
}
{
  "_id" : ObjectId("623ddf355b429b6f457ce311"),
  "name" : "Shubham",
  "lang" : "JavaScript",
  "member_since" : 5
}
```

```
> db.comments.find({member_since: {$gte: 90}}).pretty()
{
  "_id" : ObjectId("623ddf355b429b6f457ce311"),
  "name" : "Shubham",
  "lang" : "JavaScript",
  "member_since" : 90
}
```

## ➤ Final collection data in the database

```
db.comments.find().pretty()

{"_id" : ObjectId("623ddd37e49c8c312d52e187"),
 "name" : "Mack",
 "lang" : "JavaScript",
 "member_since" : 5

{"_id" : ObjectId("623ddd62e49c8c312d52e189"),
 "name" : "Rohan",
 "lang" : "Python",
 "member" : 5

{"_id" : ObjectId("623ddd62e49c8c312d52e18a"),
 "name" : "Lovish",
 "lang" : "Java",
 "member_since" : 4

{"_id" : ObjectId("623ddf355b429b6f457ce311"),
 "name" : "Shubham",
 "lang" : "JavaScript",
 "member_since" : 60}
```

The screenshot shows the MongoDB Compass interface for the 'msc.comments' collection. The top bar indicates 4 documents, 20.5KB storage size, 77B average size, 1 index, and 36.9KB total size. The 'Documents' tab is active, showing a list of 4 documents. The filter bar is set to '{ field: 'value' }'. The document list shows the following data:

Document	_id	name	lang	member_since
1	ObjectId("623ddd37e49c8c312d52e187")	Mack	JavaScript	5
2	ObjectId("623ddd62e49c8c312d52e189")	Rohan	Python	5
3	ObjectId("623ddd62e49c8c312d52e18a")	Lovish	Java	4
4	ObjectId("623ddf355b429b6f457ce311")	Shubham	JavaScript	60