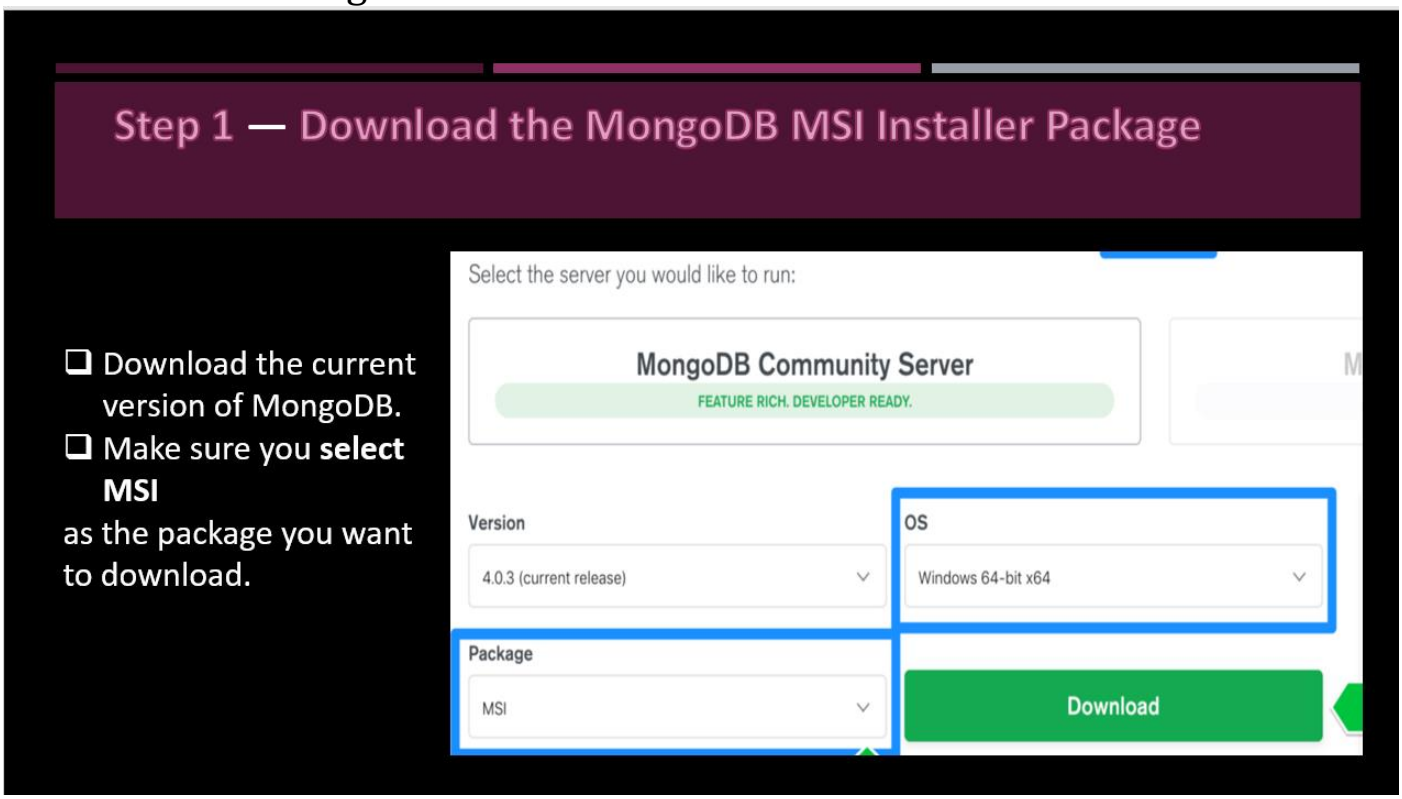
BIBD MINI PROJECT

MongoDB

What is MongoDB?

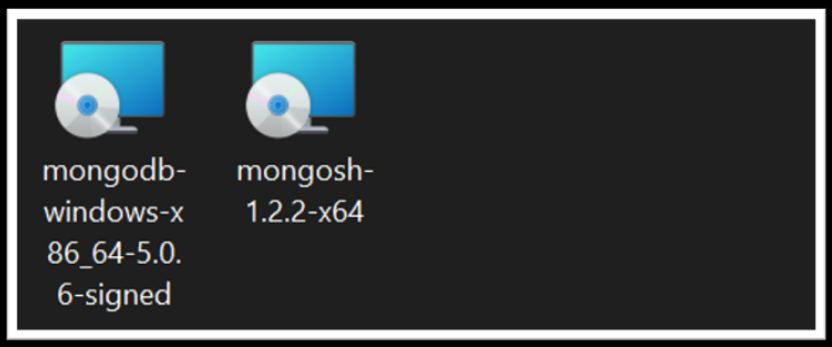
MongoDB is a **cross-platform document-oriented database program**. Classified as a NoSQL database program, MongoDB uses JSON -like documents with schema. MongoDB is developed by MongoDB Inc. and licensed under the Server-Side Public License.

Installation of MongoDB

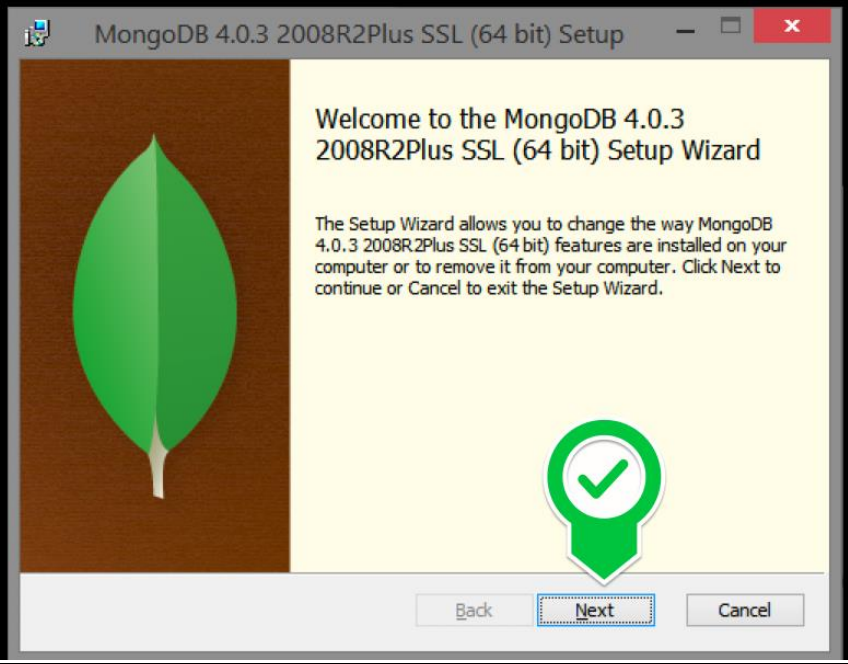


Step 2 — Install MongoDB with the Installation Wizard

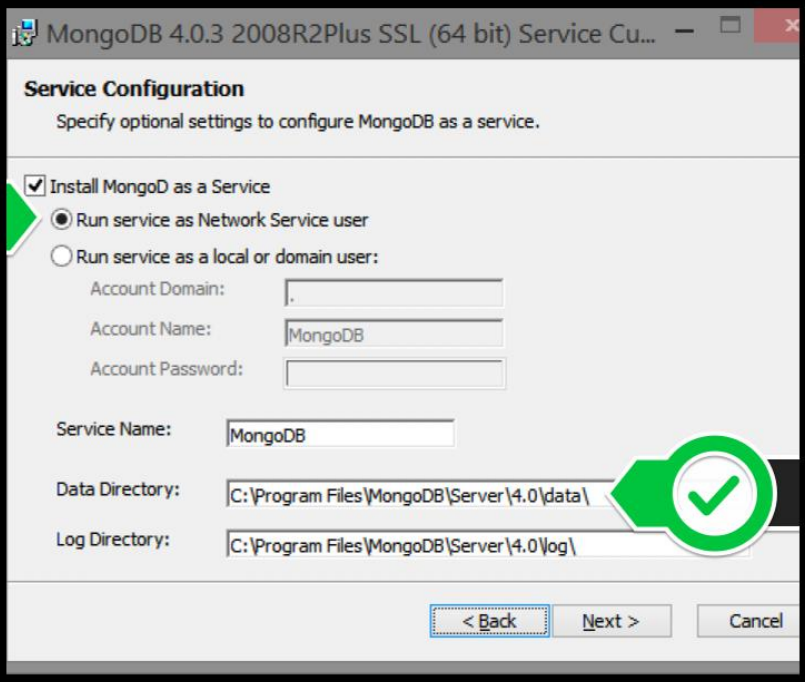
- Make sure you are logged in as a user with Admin privileges.
- Then navigate to your downloads folder and double click on the .msi package you just downloaded.
- This will launch the installation wizard.



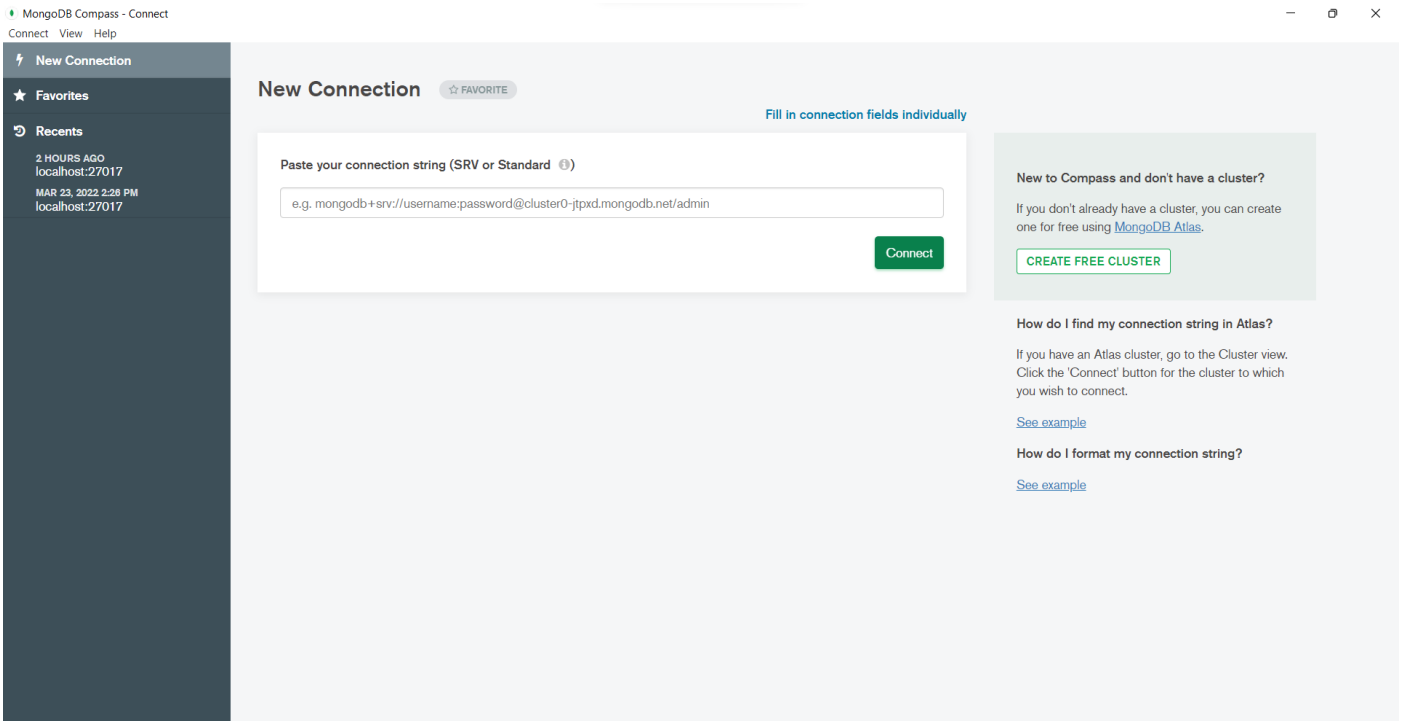
- Click Next to start installation.
- Accept the license agreement then click Next.
- Select the “Complete Setup”.



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

PS C:\Users\Mahesh>
```

- 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

&

Show all Rows in a Collection (Prettified)

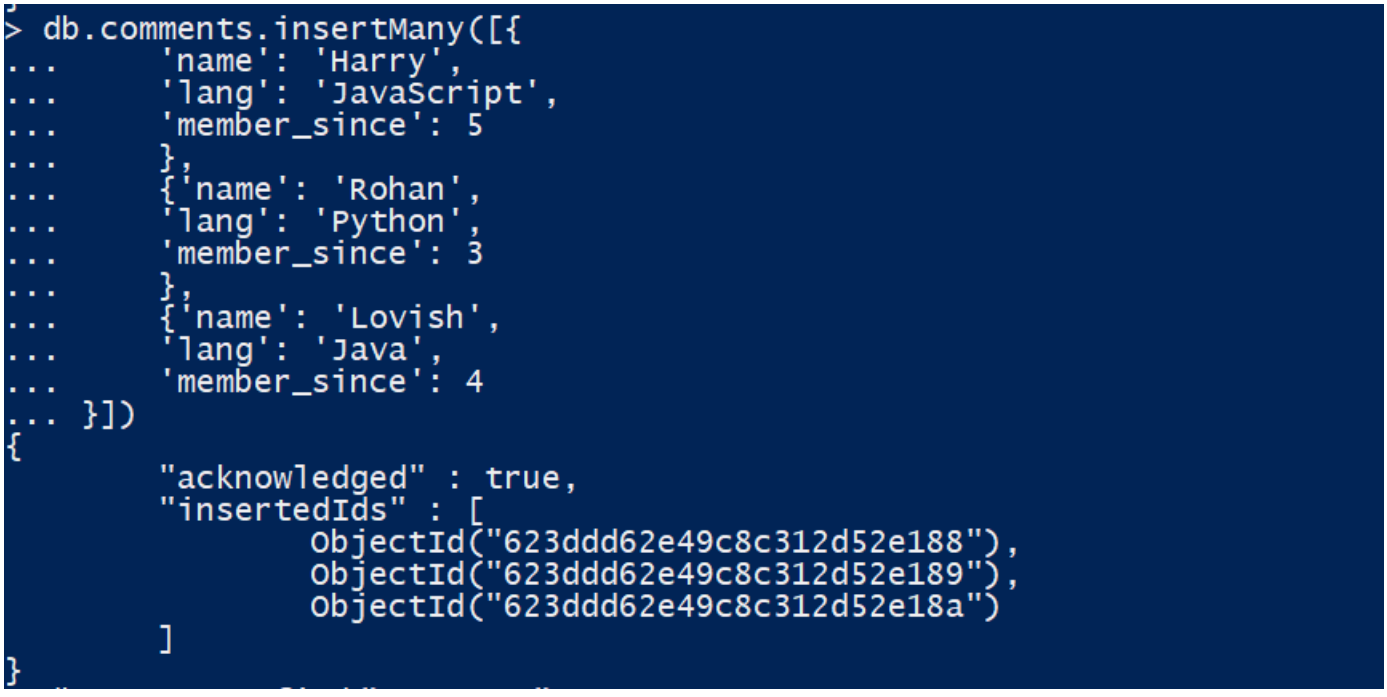
db.comments.find()

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
}])
```



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
}
>
```

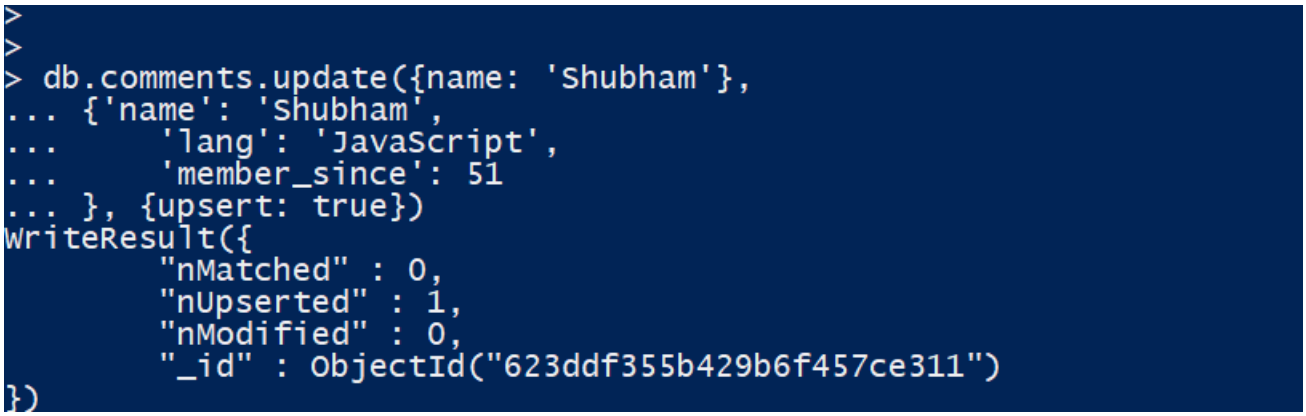
Count the number of rows in the output

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})
```



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
}
```