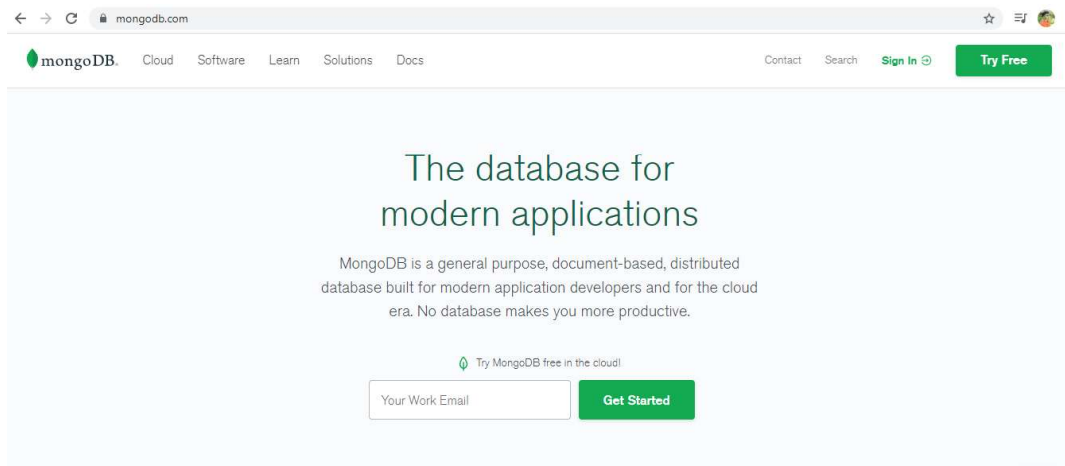
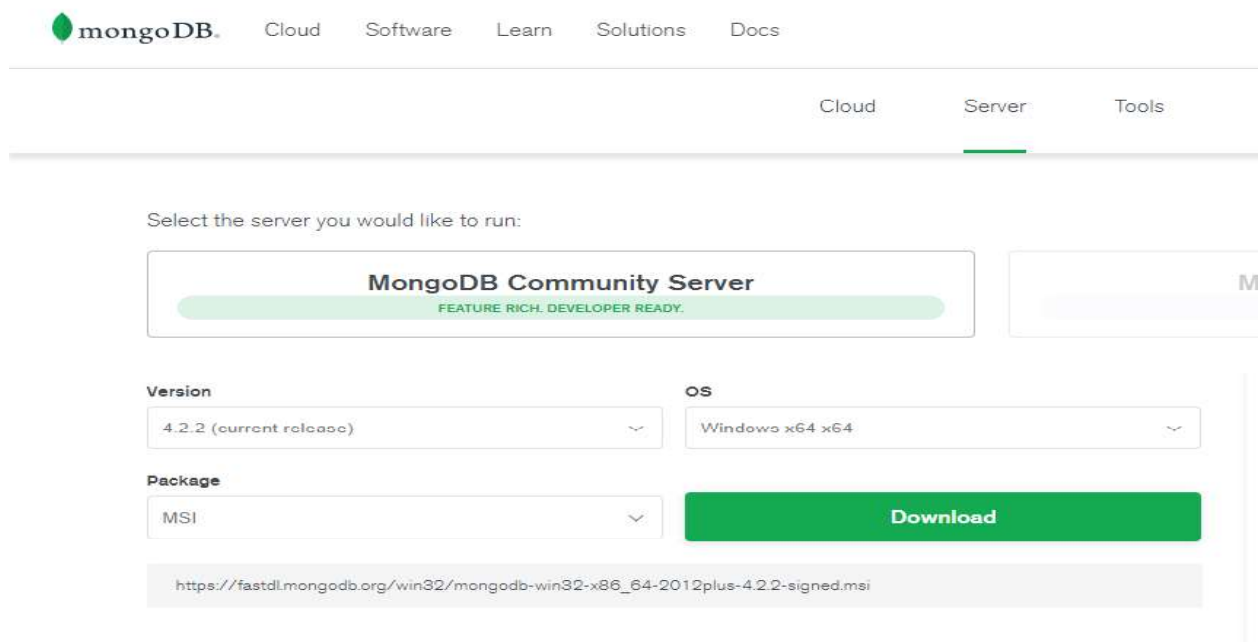


Steps for MongoDB installation:

- MongoDB is a free and open-source cross platform document oriented database.
- Open your browser and go to <https://www.mongodb.com/>

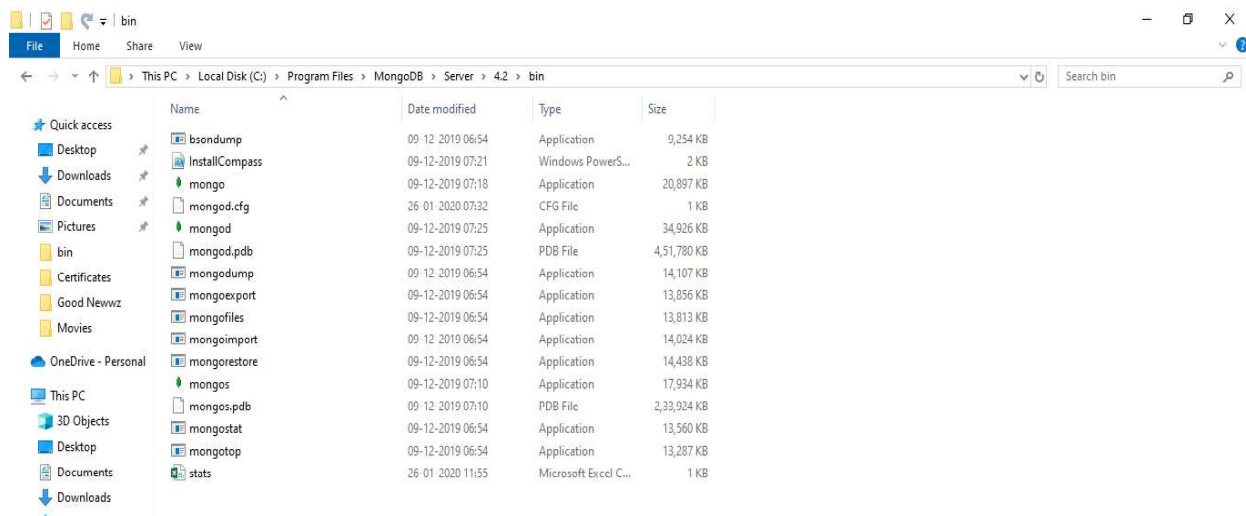


- On the right upper most corner click the Try Free tab.
- Select Server out of the three options available.
- Select the current version and set the OS to Windows and then click Download.

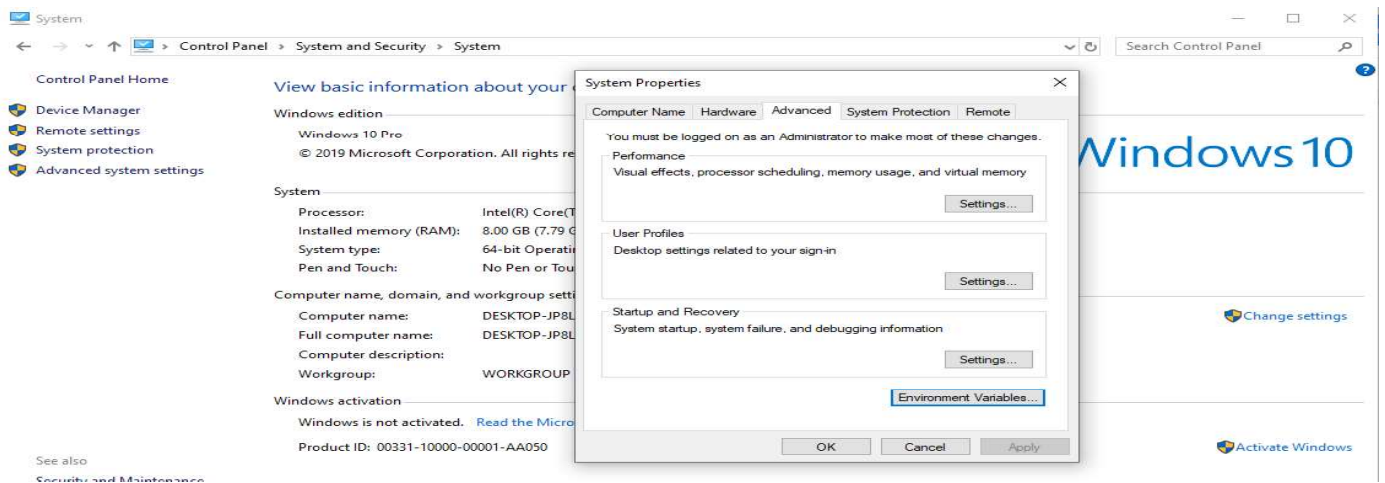


- Once it is downloaded, open it to run the installer wizard.

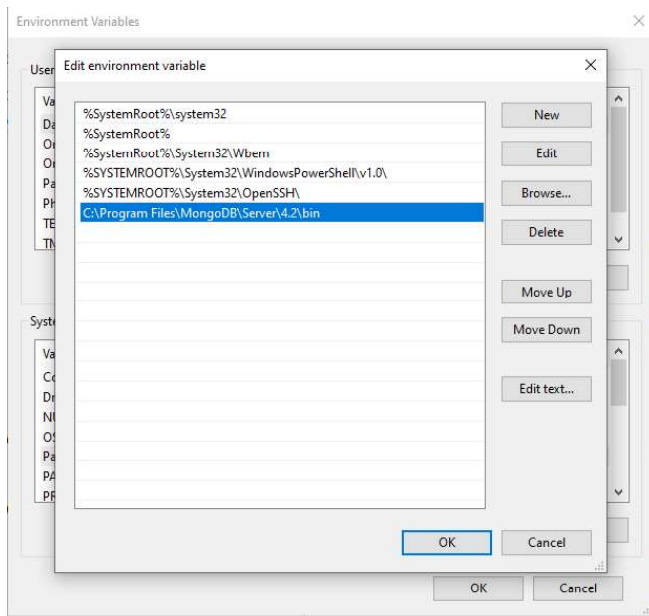
- Accept the agreement by checking the checkbox and clicking Next.
- In setup window, select complete option.
- The next page will be Service Configuration. Do not change the default selections and click Next.
- Next page will ask you whether to install MongoDB compass or not. Check the box to ensure it is selected and click Next.
- After the installation is successfully completed click Finish.
- It will ask you to restart your system, you can do it manually later as well.
- Now go to mongodb folder and copy the bin folder directory path.



- Go to Control Panel>System and Security>System and select Advanced system settings.



- Click on Environment Variables and select PATH under System Variables.
- Double click and copy the path which we copied earlier and click OK.



- Now open Command Prompt and start mongod server by typing mongod.
- Open another Command Prompt and start mongod shell by typing mongo. Command show dbs will show all the existing databases.

```
Command Prompt - mongo
C:\Users\DrBekal>mongo
MongoDB shell version v4.2.2
connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("4c5a7ae6-b81f-455d-bd23-54b3ad87f5d8") }
MongoDB server version: 4.2.2
Server has startup warnings:
2020-01-26T07:44:13.297+0530 I CONTROL [initandlisten]
2020-01-26T07:44:13.297+0530 I CONTROL [initandlisten] ** WARNING: Access control is not enabled for the database.
2020-01-26T07:44:13.297+0530 I CONTROL [initandlisten] **      Read and write access to data and configuration is
unrestricted.
2020-01-26T07:44:13.391+0530 I CONTROL [initandlisten]
---
Enable MongoDB's free cloud-based monitoring service, which will then receive and display
metrics about your deployment (disk utilization, CPU, operation statistics, etc).

The monitoring data will be available on a MongoDB website with a unique URL accessible to you
and anyone you share the URL with. MongoDB may use this information to make product
improvements and to suggest MongoDB products and deployment options to you.

To enable free monitoring, run the following command: db.enableFreeMonitoring()
To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
---
> show dbs
admin 0.000GB
config 0.000GB
local 0.000GB
mytest 0.000GB
```

Creating database, collection and inserting values:

```
> show dbs
admin 0.000GB
config 0.000GB
local 0.000GB
> use mytest
switched to db mytest
> db.createCollection("Cricket")
{ "ok" : 1 }
> db.Cricket.createIndex({"No":10},{unique:true})
{
  "createdCollectionAutomatically" : false,
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "ok" : 1
}
> db.Cricket.insert({No:1,Name:"Sachin Tendulkar",Average:44.80,Country:"India",Highest:200})
WriteResult({ "nInserted" : 1 })
> db.Cricket.find()
{ "_id" : ObjectId("5e2d338ba4be5641a298ea68"), "No" : 1, "Name" : "Sachin Tendulkar", "Average" : 44.8, "Country" : "India", "Highest" : 200 }
> exit
bye
```

Creating a CSV file: stats.csv

```
File Edit Format View Help
No,Name,Average,Country,Highest
18,Virat Kohli,59.77,India,183
07,MS Dhoni,50.68,India,183
17,AB Devilliers,55.29,South Africa,176
31,David Warner,46.30,Australia,179
22,Kane Williamson,47.9,New Zealand,148
```

Copy this file to the mongodb bin directory.

Importing data from stat.csv:

```
C:\Program Files\MongoDB\Server\4.2\bin>mongoimport -d mytest -c Cricket --type csv --file stats.csv --headerline
2020-01-26T12:17:18.221+0530 connected to: mongodb://localhost/
2020-01-26T12:17:18.227+0530 5 document(s) imported successfully. 0 document(s) failed to import.
```

Data after importing:

```
> show dbs
admin    0.000GB
config  0.000GB
local    0.000GB
mytest   0.000GB
> use mytest
switched to db mytest
> db.Cricket.find()
{ "_id" : ObjectId("5e2d338ba4be5641a298ea68"), "No" : 1, "Name" : "Sachin Tendulkar", "Average" : 44.8, "Country" : "India", "Highest" : 200 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abc9"), "No" : 17, "Name" : "AB Devilliers", "Average" : 55.29, "Country" : "South Africa", "Highest" : 176 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abca"), "No" : 18, "Name" : "Virat Kohli", "Average" : 59.77, "Country" : "India", "Highest" : 183 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abcb"), "No" : 7, "Name" : "MS Dhoni", "Average" : 50.68, "Country" : "India", "Highest" : 183 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abcc"), "No" : 31, "Name" : "David Warner", "Average" : 46.3, "Country" : "Australia", "Highest" : 179 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abcd"), "No" : 22, "Name" : "Kane Williamson", "Average" : 47.9, "Country" : "New Zealand", "Highest" : 148 }
> exit
bye
```

Exporting this data:

```
C:\Program Files\MongoDB\Server\4.2\bin>mongoexport -d mytest -c Cricket --out C:\Users\DrBekal\Desktop\st.csv
2020-01-26T12:33:58.493+0530   connected to: mongodb://localhost/
2020-01-26T12:33:58.580+0530   exported 6 records
```

Exported data:

```
st - Notepad
File Edit Format View Help
[{"_id":{"_id":"5e2d338ba4be5641a298ea68"},"No":1,"Name":"Sachin Tendulkar","Average":44.8,"Country":"India","Highest":200.0}
{"_id":{"_id":"5e2d35f69f9436d70759abc9"},"No":17,"Name":"AB Devilliers","Average":55.29,"Country":"South Africa","Highest":176}
{"_id":{"_id":"5e2d35f69f9436d70759abca"},"No":18,"Name":"Virat Kohli","Average":59.77,"Country":"India","Highest":183}
{"_id":{"_id":"5e2d35f69f9436d70759abcb"},"No":7,"Name":"MS Dhoni","Average":50.68,"Country":"India","Highest":183}
{"_id":{"_id":"5e2d35f69f9436d70759abcc"},"No":31,"Name":"David Warner","Average":46.3,"Country":"Australia","Highest":179}
{"_id":{"_id":"5e2d35f69f9436d70759abcd"},"No":22,"Name":"Kane Williamson","Average":47.9,"Country":"New Zealand","Highest":148}]
```

3 Aggregate Queries:

\$sort is used to sort according to the Highest Score. -1 denotes descending order while 1 denotes ascending order.

```
> db.Cricket.aggregate([{$sort:{Highest:-1}}])
{ "_id" : ObjectId("5e2d338ba4be5641a298ea68"), "No" : 1, "Name" : "Sachin Tendulkar", "Average" : 44.8, "Country" : "India", "Highest" : 200 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abc9"), "No" : 17, "Name" : "AB Devilliers", "Average" : 55.29, "Country" : "South Africa", "Highest" : 176 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abca"), "No" : 18, "Name" : "Virat Kohli", "Average" : 59.77, "Country" : "India", "Highest" : 183 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abcb"), "No" : 7, "Name" : "MS Dhoni", "Average" : 50.68, "Country" : "India", "Highest" : 183 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abcc"), "No" : 31, "Name" : "David Warner", "Average" : 46.3, "Country" : "Australia", "Highest" : 179 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abcd"), "No" : 22, "Name" : "Kane Williamson", "Average" : 47.9, "Country" : "New Zealand", "Highest" : 148 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abce"), "No" : 3, "Name" : "Ross Taylor", "Average" : 50.92, "Country" : "New Zealand", "Highest" : 165 }
{ "_id" : ObjectId("5e2d40021350cd46c30407e3"), "No" : 3, "Name" : "Ross Taylor", "Average" : 50.92, "Country" : "New Zealand", "Highest" : 165 }
{ "_id" : ObjectId("5e2d40251350cd46c30407e4"), "No" : 4, "Name" : "Joe Root", "Average" : 51.3, "Country" : "England", "Highest" : 160 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abce"), "No" : 3, "Name" : "Ross Taylor", "Average" : 50.92, "Country" : "New Zealand", "Highest" : 165 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abce"), "No" : 3, "Name" : "Ross Taylor", "Average" : 50.92, "Country" : "New Zealand", "Highest" : 165 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abce"), "No" : 3, "Name" : "Ross Taylor", "Average" : 50.92, "Country" : "New Zealand", "Highest" : 165 }
```



```
> db.Cricket.aggregate([{$sort:{Highest:1}}])
{ "_id" : ObjectId("5e2d3f9b1350cd46c30407e1"), "No" : 5, "Name" : "Steve Smith", "Average" : 42.68, "Country" : "Australia", "Highest" : 115 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abcd"), "No" : 22, "Name" : "Kane Williamson", "Average" : 47.9, "Country" : "New Zealand", "Highest" : 148 }
{ "_id" : ObjectId("5e2d40251350cd46c30407e4"), "No" : 4, "Name" : "Joe Root", "Average" : 51.3, "Country" : "England", "Highest" : 160 }
{ "_id" : ObjectId("5e2d40021350cd46c30407e3"), "No" : 3, "Name" : "Ross Taylor", "Average" : 50.92, "Country" : "New Zealand", "Highest" : 165 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abc9"), "No" : 17, "Name" : "AB Devilliers", "Average" : 55.29, "Country" : "South Africa", "Highest" : 176 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abcc"), "No" : 31, "Name" : "David Warner", "Average" : 46.3, "Country" : "Australia", "Highest" : 179 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abca"), "No" : 18, "Name" : "Virat Kohli", "Average" : 59.77, "Country" : "India", "Highest" : 183 }
{ "_id" : ObjectId("5e2d35f69f9436d70759abcb"), "No" : 7, "Name" : "MS Dhoni", "Average" : 50.68, "Country" : "India", "Highest" : 183 }
{ "_id" : ObjectId("5e2d338ba4be5641a298ea68"), "No" : 1, "Name" : "Sachin Tendulkar", "Average" : 44.8, "Country" : "India", "Highest" : 200 }
{ "_id" : ObjectId("5e2d3fc41350cd46c30407e2"), "No" : 9, "Name" : "Rohit Sharma", "Average" : 49.12, "Country" : "India", "Highest" : 264 }
>
```

\$group is used to group the entries by Countries and \$sum, \$max and \$avg can be used to calculate the sum, maximum and average values respectively.

```
> db.Cricket.aggregate([{$group:{_id:"$Country",No_of_Players:{sum:1}}})
{ "_id" : "England", "No_of_Players" : 1 }
{ "_id" : "South Africa", "No_of_Players" : 1 }
{ "_id" : "New Zealand", "No_of_Players" : 2 }
{ "_id" : "Australia", "No_of_Players" : 2 }
{ "_id" : "India", "No_of_Players" : 4 }
>
```

```
> db.Cricket.aggregate([{$group:{_id:"$Country",Highest:{max:"$Highest"}}})
{ "_id" : "India", "Highest" : 264 }
{ "_id" : "England", "Highest" : 160 }
{ "_id" : "South Africa", "Highest" : 176 }
{ "_id" : "Australia", "Highest" : 179 }
{ "_id" : "New Zealand", "Highest" : 165 }
>
```

```
> db.Cricket.aggregate([{$group:{_id:"$Country",Average:{avg:"$Average"}}})
{ "_id" : "South Africa", "Average" : 55.29 }
{ "_id" : "New Zealand", "Average" : 49.41 }
{ "_id" : "England", "Average" : 51.3 }
{ "_id" : "India", "Average" : 51.0925 }
{ "_id" : "Australia", "Average" : 44.489999999999995 }
>
```