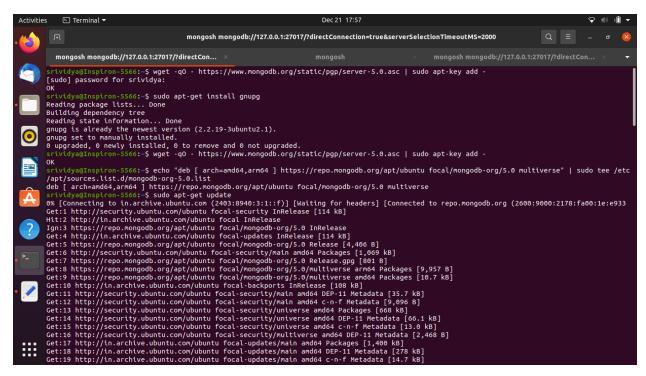
## **Installation Of mongodb**

MongoDB is an open source <u>NoSQL</u> database management program. NoSQL is used as an alternative to traditional relational databases. NoSQL databases are quite useful for working with large sets of distributed data. MongoDB is a tool that can manage document-oriented information, store or retrieve information.

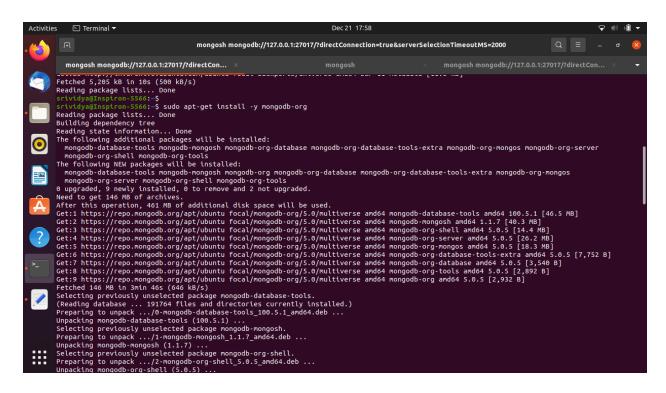
MongoDB makes use of records which are made up of documents that contain a data structure composed of field and value pairs. Documents are the basic unit of data in MongoDB. The documents are similar to <a href="JavaScript Object Notation">JavaScript Object Notation</a>, but use a variant called Binary JSON (BSON). The benefit of using BSON is that it accommodates more data types. The fields in these documents are similar to the columns in a relational database. Values contained can be a variety of data types, including other documents, arrays and arrays of documents, according to the MongoDB user manual. Documents will also incorporate a <a href="primary key">primary key</a> as a unique identifier.



srividya@Inspiron-5566:~\$ wget -qO https://www.mongodb.org/static/pgp/server-5.0.asc | sudo apt-key add -

srividya@Inspiron-5566:~\$ sudo apt-get install gnupg

echo "deb [ arch=amd64,arm64 ] https://repo.mongodb.org/apt/ubuntu focal/mongodb-org/5.0 multiverse" | sudo tee /etc/apt/sources.list.d/mongodb-org-5.0.list sudo apt-get update



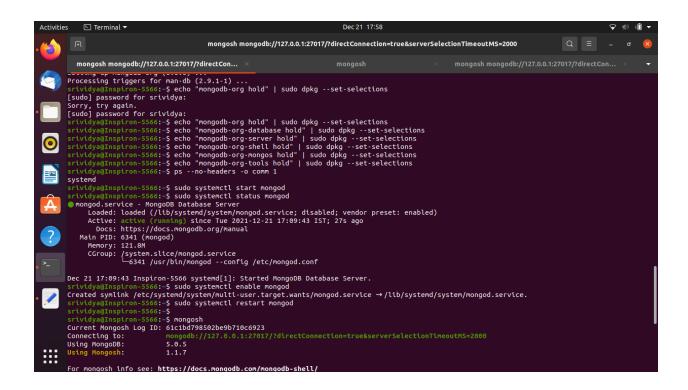
srividya@Inspiron-5566:~\$ sudo apt-get install -y mongodb-org

\$ echo "mongodb-org hold" | sudo dpkg --set-selections srividya@Inspiron-5566:~\$ echo "mongodb-org-database hold" | sudo dpkg --set-selections srividya@Inspiron-5566:~\$ echo "mongodb-org-server hold" | sudo dpkg --set-selections srividya@Inspiron-5566:~\$ echo "mongodb-org-shell hold" | sudo dpkg --set-selections

srividya@Inspiron-5566:~\$ echo "mongodb-org-mongos hold" | sudo dpkg --set-selections srividya@Inspiron-5566:~\$ echo "mongodb-org-tools hold" | sudo dpkg --set-selections srividya@Inspiron-5566:~\$ ps --no-headers -o comm 1

You will get below one on terminal:-

#### systemd



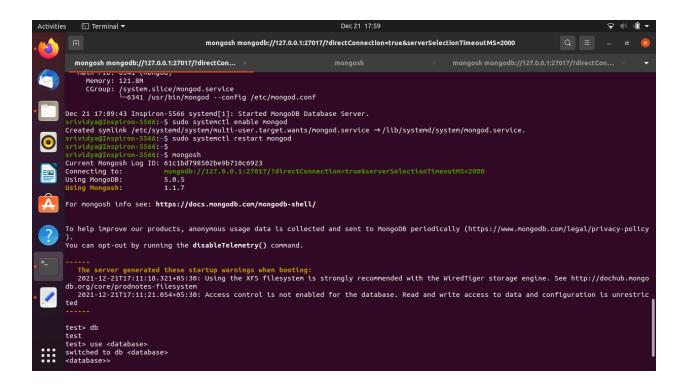
\$ sudo systemetl start mongod

\$ sudo systemctl status mongod

\$ sudo systemctl enable mongod

\$ sudo systemctl restart mongod

\$ mongosh



# Creating database:

After writing mongosh on terminal you will get test>

test> use <demodb>

I have created my database 'demodb'

switched to db <demodb>

<demodb>> use demodb

switched to db demodb

And if we type **test> db** it will give the current database.

### **CRUD Operations:**

#### insert:

```
demodb> db.myCollection.insertOne( { x: 1 } );
 acknowledged: true,
 insertedId: ObjectId("61c1c1b523f0ad46d925a87c")
demodb> db.getCollection("3 test").find()
demodb> db.getCollection("3-test").find()
demodb> db.getCollection("stats").find()
insert:
demodb> db.movies.insertOne(
 {
      title: "The Favourite",
      genres: ["Drama", "History"],
      runtime: 121,
      rated: "R",
      year: 2018,
      directors: [ "Yorgos Lanthimos" ],
      cast: [ "Olivia Colman", "Emma Stone", "Rachel Weisz" ],
      type: "movie"
 }
```

On the terminal you will get like this

```
acknowledged: true,
 insertedId: ObjectId("61c1c29123f0ad46d925a87d")
demodb> db.inventory.find( { title: "The Favourite" } )
We will read data by giving ->demodb> db.movies.find( {} )
update:
db.movies.updateOne(
      {title: "The Favourite"},
      {$set: {hero: "Derik"}},
      {upsert: true}
)
demodb> db.movies.find( {} )
id: ObjectId("61c1c29123f0ad46d925a87d"),
      title: 'The Favourite',
      genres: [ 'Drama', 'History' ],
      runtime: 121,
      rated: 'R',
      year: 2018,
      directors: ['Yorgos Lanthimos'],
      cast: [ 'Olivia Colman', 'Emma Stone', 'Rachel Weisz' ],
```

```
type: 'movie'
 }
]
UPDATE:
db.c20160712.updateOne (\\
      { "Attribute" : "good" },
      { $set: {"Type" : "DVD", "Title" : "Matrix, The", "Released" : 1999,
"Genre": "Action" } },
      { upsert: true }
);
db.c20160712.updateOne(
      { "Attribute" : "good" },
      { $set: {"Type" : "Drama"} },
      { upsert: true }
);
 acknowledged: true,
 insertedId: ObjectId("61c2bc2c41fdb920cd086021"),
 matchedCount: 0,
 modifiedCount: 0,
 upsertedCount: 1
```

Read:

```
demodb> db.c20160712.find( {} )
 {
      id: ObjectId("61c2bc2c41fdb920cd086021"),
      Attribute: 'good',
      Genre: 'Action',
      Released: 1999,
      Title: 'Matrix, The',
      Type: 'DVD'
 }
]
Delete:
demodb> db.c20160712.deleteOne( {Type: 'DVD'} )
Deleting database:
demodb> use sample
switched to db sample
sample> db.dropDatabase()
{ ok: 1, dropped: 'sample' }
Sort
collist = mydb.get_collection("customers3")
 mydoc = collist.find().sort("name", -1)
```

Limit

```
db.customers4.find().limit(5)
It will print documents upto given limit
result:-[
 { id: 1, name: 'John', address: 'Highway 37' },
 { _id: 2, name: 'Peter', address: 'Lowstreet 27' },
 { _id: 3, name: 'Amy', address: 'Apple st 652' },
 { _id: 4, name: 'Hannah', address: 'Mountain 21' },
 { id: 5, name: 'Michael', address: 'Valley 345' }
]
skip
db.customers4.find().limit(5).skip(3)
Index
mydb.indexpymongo.create index('salary')
O/p:
_id_
Salary 1
Aggregate:
db.movies.aggregate([{ $match: { year : 2018 } }], { comment :
"match all movies from 1995" } ).pretty()
id: ObjectId("61c4707175e4c02bd15da594"),
      title: 'The Favourite',
      genres: ['Drama', 'History'],
      runtime: 121,
```

```
rated: 'R',
       year: 2018,
       directors: ['Yorgos Lanthimos'],
       cast: [ 'Olivia Colman', 'Emma Stone', 'Rachel Weisz' ],
       type: 'movie'
 }
1
db.orders.find({})
{ id: 0, productName: 'Steel beam', status: 'new', quantity: 10 },
 { id: 1, productName: 'Steel beam', status: 'urgent', quantity: 20 },
 { _id: 2, productName: 'Steel beam', status: 'urgent', quantity: 30 },
 { _id: 3, productName: 'Iron rod', status: 'new', quantity: 15 },
 { id: 4, productName: 'Iron rod', status: 'urgent', quantity: 50 },
 { id: 5, productName: 'Iron rod', status: 'urgent', quantity: 10 }
]
     db.orders.aggregate([{ $project: { productName: 1, total: {$add: [
       "$ id","$quantity"]} } }])
$Sum
db.orders.aggregate([
       { $match: { status: "urgent" } },
       { Sgroup: { id: "$productName", sumQuantity: { $sum: "$quantity" } } }
...])
O/P:
```

```
{ id: 'Iron rod', sumQuantity: 60 },
 { _id: 'Steel beam', sumQuantity: 50 }
]
$add:
db.orders.aggregate([{ $project: { productName: 1, total: {$add: [ "$_id", "$quantity"]} }
}])
$floor:
db.samples.find({})
db.samples.aggregate([
       { $project: { value: 1, floorValue: { $floor: "$value" } } }
...])
O/P:
 { id: 1, value: 9.25, floorValue: 9 },
 { id: 2, value: 7.25, floorValue: 7 }
Distinct:
db.customers4.distinct("name")
O/P:[
 'Amy',
              'Ben',
 'Betty', 'Chuck',
 'Hannah', 'John',
 'Michael', 'Peter',
 'Richard', 'Sandy',
```

```
'Susan', 'Vicky',

'Viola', 'William'

db.management.insertOne({ _id: 2, empNumber: "xyz987", feedback: { management: 2, environment: 3 }, department: "B" })

db.management.find({})

db.createView( "management1", "survey", [{ $project: { "management": "$feedback.management", department: 1 } }])
```

]

