

Lab 1

MongoDB- CRUD Operations Demonstration (Practice and Self Study)

```
Atlas atlas-11p8k4-shard-0 [primary] myDB> use studentDB;
switched to db studentDB
Atlas atlas-11p8k4-shard-0 [primary] studentDB> show collections;

Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.createCollection("Student");
{ ok: 1 }
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.drop();
true
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.createCollection("Student");
{ ok: 1 }
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.insert({_id:1, StudName:"Michelle Jacintha", Grade:"VII", Hobbies:"Internet Surfing"});
{ acknowledged: true, insertedIds: { '_id': 1 } }
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.insert({_id:2, StudName:"Lando Norris", Grade:"VII", Hobbies:"Racing"});
{ acknowledged: true, insertedIds: { '_id': 2 } }
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.insert({_id:3, StudName:"Aryan David", Grade:"VII", Hobbies:"Skating"});
{ acknowledged: true, insertedIds: { '_id': 3 } }
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.insert({_id:4, StudName:"Gukesh D", Grade:"VII", Hobbies:"Chess"});
{ acknowledged: true, insertedIds: { '_id': 4 } }
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find();
[
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' },
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({StudName:"Aryan David"});
[
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' }
]
```

```
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({}, {StudName:1, Grade:1, _id:0});
[
  { StudName: 'Michelle Jacintha', Grade: 'VII' },
  { StudName: 'Lando Norris', Grade: 'VII' },
  { StudName: 'Aryan David', Grade: 'VII' },
  { StudName: 'Gukesh D', Grade: 'VII' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({}, {StudName:1, Grade:1, _id:2});
[
  { _id: 1, StudName: 'Michelle Jacintha', Grade: 'VII' },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII' },
  { _id: 3, StudName: 'Aryan David', Grade: 'VII' },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({_id:2}, {StudName:1, Grade:1, _id:1});
[ { _id: 2, StudName: 'Lando Norris', Grade: 'VII' } ]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({Grade:{Seq:"VII"}}).pretty();
[
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' },
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({Hobbies:{Sin:['Chess', 'Skating']}}).pretty();
[
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' }
]
```

```

Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({StudName:/^M/}).pretty();
[
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({StudName:/e/}).pretty();
[
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({Hobbies:{$nin:['Chess', 'Skating']}}).pretty();
[
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({StudName:/s$/}).pretty();
[
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({$or:[{_id:3}, {_id:4}]});
[
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' }
]

```

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Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.update({_id:3}, {$set:{Location:null}});
DeprecationWarning: Collection.update() is deprecated. Use updateOne, updateMany, or bulkWrite.
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({Location:{Seq:null}});
[
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' },
  {
    _id: 3,
    StudName: 'Aryan David',
    Grade: 'VII',
    Hobbies: 'Skating',
    Location: null
  },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.update({_id:4}, {$set:{Location:null}});
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}

```

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Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({$eq:null, $exists:true});
[
  {
    _id: 3,
    StudName: 'Aryan David',
    Grade: 'VII',
    Hobbies: 'Skating',
    Location: null
  },
  {
    _id: 4,
    StudName: 'Gukesh D',
    Grade: 'VII',
    Hobbies: 'Chess',
    Location: null
  }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.update({_id:4}, {$unset:{Location:null}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.update({_id:3}, {$unset:{Location:null}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find({$eq:null, $exists:true});
Atlas atlas-11p8k4-shard-0 [primary] studentDB>

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Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.count();
DeprecationWarning: Collection.count() is deprecated. Use countDocuments or estimatedDocumentCount.
4
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.count({Grade:"VII"});
4
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find().sort({StudName:1}).pretty();
[
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' },
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find().sort({StudName:-1}).pretty();
[
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' },
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' }
]

```

```

Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find().sort({Grade:1,Hobbies:-1}).pretty();
[
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' },
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find().sort({Grade:1,Hobbies:1}).pretty();
[
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' },
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' },
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find().skip(2).pretty();
[
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find().skip(1).pretty().sort({StudName:1})
[
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' },
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find().skip(1).pretty().sort({StudName:1})
[
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' },
  { _id: 2, StudName: 'Lando Norris', Grade: 'VII', Hobbies: 'Racing' },
  {
    _id: 1,
    StudName: 'Michelle Jacintha',
    Grade: 'VII',
    Hobbies: 'Internet Surfing'
  }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find().pretty().skip(db.Student.count()-2);
[
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.find().pretty().skip(2).limit(3);
[
  { _id: 3, StudName: 'Aryan David', Grade: 'VII', Hobbies: 'Skating' },
  { _id: 4, StudName: 'Gukesh D', Grade: 'VII', Hobbies: 'Chess' }
]
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.update({_id:1}, {$set:{age:20}});
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Atlas atlas-11p8k4-shard-0 [primary] studentDB> db.Student.update({_id:2}, {$set:{age:21}});
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Atlas atlas-11p8k4-shard-0 [primary] customerDB> db.customers.aggregate([
... { $group:{
...   _id: "custid",
...   minAccBal:{$min: "$Balance"},
...   maxAccBal:{$max: "$Balance"}
... }
... }
... ]});
[ { _id: 'custid', minAccBal: null, maxAccBal: null } ]
Atlas atlas-11p8k4-shard-0 [primary] customerDB> db.customers.aggregate([ { $group: { _id: "$custid", minAccBal: { $min: "$Balance"
}, maxAccBal: { $max: "$Balance" } } } ]);
[
  { _id: 3, minAccBal: null, maxAccBal: null },
  { _id: 2, minAccBal: null, maxAccBal: null },
  { _id: 1, minAccBal: null, maxAccBal: null }
]
Atlas atlas-11p8k4-shard-0 [primary] customerDB>

```