

TUGAS BASIS DATA LANJUT “MongoDB CRUD Operations”

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1. Insert Documents

```
C:\Windows\system32\cmd.exe - mongo
> db.motorSport.insertMany([ {Nama:"Kawasaki Ninja 250SL", Kapasitas_mesin:"249 cc", Kapasitas_bensin:"11 Liter", Dimensi: {Panjang:"1,935 mm", Lebar:"685 mm", Tinggi:"1,075 mm"}}, {Nama:"KTM Duke 250", Kapasitas_mesin:"248,8 cc", Kapasitas_bensin:"13.4 Liter", Dimensi: {Panjang:"2,026 mm", Lebar:"836 mm", Tinggi:"1,267 mm"}}, {Nama:"Yamaha MT-25", Kapasitas_mesin:"250 cc", Kapasitas_bensin:"14 Liter", Dimensi: {Panjang:"2,090 mm", Lebar:"745 mm", Tinggi:"1,035 mm"}} ])
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5c9f74bccfc7e4153e75eeca"),
    ObjectId("5c9f74bccfc7e4153e75eeeb"),
    ObjectId("5c9f74bccfc7e4153e75eecd")
  ]
}
> db.motorSport.find().pretty({})
{
  "_id" : ObjectId("5c9f74bccfc7e4153e75eeca"),
  "Nama" : "Kawasaki Ninja 250SL",
  "Kapasitas_mesin" : "249 cc",
  "Kapasitas_bensin" : "11 Liter",
  "Dimensi" : {
    "Panjang" : "1,935 mm",
    "Lebar" : "685 mm",
    "Tinggi" : "1,075 mm"
  }
}
```

```
C:\Windows\system32\cmd.exe - mongo
{
  "_id" : ObjectId("5c9f74bccfc7e4153e75eeeb"),
  "Nama" : "KTM Duke 250",
  "Kapasitas_mesin" : "248,8 cc",
  "Kapasitas_bensin" : "13.4 Liter",
  "Dimensi" : {
    "Panjang" : "2,026 mm",
    "Lebar" : "836 mm",
    "Tinggi" : "1,267 mm"
  }
}
{
  "_id" : ObjectId("5c9f74bccfc7e4153e75eecd"),
  "Nama" : "Yamaha MT-25",
  "Kapasitas_mesin" : "250 cc",
  "Kapasitas_bensin" : "14 Liter",
  "Dimensi" : {
    "Panjang" : "2,090 mm",
    "Lebar" : "745 mm",
    "Tinggi" : "1,035 mm"
  }
}
```

```
C:\Windows\system32\cmd.exe - mongo
> db.motor.insertOne({Nama:"Kawasaki Z250SL", Kapasitas_mesin:"249 cc", Kapasitas_bensin:"11 Liter", Dimensi:{Panjang:"1,935 mm", Lebar:"700 mm", Tinggi:"1,075 mm"}})
{
  "acknowledged" : true,
  "insertedId" : ObjectId("5c9f6f4bcfc7e4153e75eec6")
}
> db.motor.find().pretty({Nama:"Kawasaki Z250SL"})
{
  "_id" : ObjectId("5c9f6f03cfc7e4153e75eec5"),
  "Nama" : "Kawasaki Z250SL",
  "Kapasitas_mesin" : "249 cc",
  "Kapasitas_bensin" : "11 Liter",
  "Dimensi" : {
    "Panjang" : "1,935 mm",
    "Lebar" : "700 mm",
    "Tinggi" : "1,075 mm"
  }
}
```

2. Query Documents

A. Query on Embedded/Nested Document

```
C:\Windows\system32\cmd.exe - mongo
> db.queryEmbedded.find().pretty()
{
  "_id" : ObjectId("5c9f9174cfc7e4153e75eece"),
  "Nama" : "Kawasaki All New Ninja 250 FI",
  "Kapasitas_mesin" : "249 cc",
  "Kapasitas_tangki" : "14 liter",
  "Stok" : 10,
  "Dimensi" : {
    "Panjang" : "1,990 mm",
    "Lebar" : "710 mm",
    "Tinggi" : "1,125 mm"
  },
  "Tipe" : "ABS"
},
{
  "_id" : ObjectId("5c9f9174cfc7e4153e75eece"),
  "Nama" : "KTM Duke 250",
  "Kapasitas_mesin" : "248,8 cc",
  "Kapasitas_tangki" : "13.4 liter",
  "Stok" : 7,
  "Dimensi" : {
    "Panjang" : "2,026 mm",
    "Lebar" : "836 mm",
    "Tinggi" : "1,267 mm"
  },
  "Tipe" : "ABS"
}
```

C:\Windows\system32\cmd.exe - mongo

```
{
  "_id" : ObjectId("5c9f9174cfc7e4153e75eecf"),
  "Nama" : "Kawasaki Ninja 250SL",
  "Kapasitas_mesin" : "249 cc",
  "Kapasitas_tangki" : "11 liter",
  "Stok" : 15,
  "Dimensi" : {
    "Panjang" : "1,935 mm",
    "Lebar" : "685 mm",
    "Tinggi" : "1,075 mm"
  },
  "Tipe" : "Non-ABS"
},
{
  "_id" : ObjectId("5c9f9174cfc7e4153e75eed0"),
  "Nama" : "Yamaha MT-25",
  "Kapasitas_mesin" : "250 cc",
  "Kapasitas_tangki" : "14 liter",
  "Stok" : 5,
  "Dimensi" : {
    "Panjang" : "2,090 mm",
    "Lebar" : "745 mm",
    "Tinggi" : "1,035 mm"
  },
  "Tipe" : "Non-ABS"
},
{
  "_id" : ObjectId("5c9f9174cfc7e4153e75eed1"),
  "Nama" : "Yamaha MT-15",
  "Kapasitas_mesin" : "155 cc",
  "Kapasitas_tangki" : "10,4 liter",
  "Stok" : 20,
  "Dimensi" : {
    "Panjang" : "1,965 mm",
    "Lebar" : "800 mm",
    "Tinggi" : "1,065 mm"
  },
  "Tipe" : "Non-ABS"
}
```

C:\Windows\system32\cmd.exe - mongo

```
> db.queryEmbedded.find( {"Dimensi":{"Panjang":"2,090 mm", "Lebar":"745 mm", "Tinggi":"1,035 mm"} , "Tipe":"Non-ABS"} )
{ "_id" : ObjectId("5c9f9174cfc7e4153e75eed0"), "Nama" : "Yamaha MT-25", "Kapasitas_mesin" : "250 cc", "Kapasitas_tangki" : "14 liter", "Stok" : 5, "Dimensi" : { "Panjang" : "2,090 mm", "Lebar" : "745 mm", "Tinggi" : "1,035 mm" }, "Tipe" : "Non-ABS" }
>
```

C:\Windows\system32\cmd.exe - mongo

```
> db.queryEmbedded.find( {"Dimensi.Lebar":"800 mm"} )
{ "_id" : ObjectId("5c9f9174cfc7e4153e75eed1"), "Nama" : "Yamaha MT-15", "Kapasitas_mesin" : "155 cc", "Kapasitas_tangki" : "10,4 liter", "Stok" : 20, "Dimensi" : { "Panjang" : "1,965 mm", "Lebar" : "800 mm", "Tinggi" : "1,065 mm" }, "Tipe" : "Non-ABS" }
>
```

```
C:\Windows\system32\cmd.exe - mongo
> db.queryEmbedded.find( {Stok:{$lt: 10}} )
{ "_id" : ObjectId("5c9f9174cfc7e4153e75eece"), "Nama" : "KTM Duke 250", "Kapasitas_mesin" : "248,8 cc", "Kapasitas_tangki" : "13.4 liter", "Stok" : 7, "Dimensi" : { "Panjang" : "2,026 mm", "Lebar" : "836 mm", "Tinggi" : "1,267 mm" }, "Tipe" : "ABS" }
{ "_id" : ObjectId("5c9f9174cfc7e4153e75eed0"), "Nama" : "Yamaha MT-25", "Kapasitas_mesin" : "250 cc", "Kapasitas_tangki" : "14 liter", "Stok" : 5, "Dimensi" : { "Panjang" : "2,090 mm", "Lebar" : "745 mm", "Tinggi" : "1,035 mm" }, "Tipe" : "Non-ABS" }
>
```

```
C:\Windows\system32\cmd.exe - mongo
> db.queryEmbedded.find( {Stok:{$lt: 15}, "Dimensi.Panjang":"1,990 mm", Tipe:"ABS"} )
{ "_id" : ObjectId("5c9f9174cfc7e4153e75eedc"), "Nama" : "Kawasaki All New Ninja 250 FI", "Kapasitas_mesin" : "249 cc", "Kapasitas_tangki" : "14 liter", "Stok" : 10, "Dimensi" : { "Panjang" : "1,990 mm", "Lebar" : "710 mm", "Tinggi" : "1,125 mm" }, "Tipe" : "ABS" }
>
```

B. Query an Array

```
C:\Windows\system32\cmd.exe - mongo
{
  "_id" : ObjectId("5ca0af5fefb8ee7f157d489d"),
  "Nama" : "KTM New Duke 250",
  "Stok" : 5,
  "Warna" : [
    "Oranye",
    "Putih"
  ],
  "Dimensi" : [
    2026,
    836,
    1267
  ],
  "Satuan" : "mm"
}
{
  "_id" : ObjectId("5ca0af5fefb8ee7f157d489e"),
  "Nama" : "Kawasaki Ninja 250SL",
  "Stok" : 15,
  "Warna" : [
    "Hitam",
    "Hijau"
  ],
  "Dimensi" : [
    1935,
    685,
    1075
  ],
  "Satuan" : "mm"
}
```

```
C:\Windows\system32\cmd.exe - mongo
> db.queryArray.insertMany([ {Nama:"Kawasaki All New Ninja 250 FI", Stok: 10, Warna:["Hijau", "Hitam"], Dimensi:[ 1990, 710, 1125], Satuan:"mm"}, {Nama:"KTM New Duke 250", Stok: 5, Warna:["Oranye", "Putih"], Dimensi:[ 2026, 836, 1267], Satuan:"mm"}, {Nama:"Kawasaki Ninja 250SL", Stok: 15, Warna:["Hitam", "Hijau"], Dimensi:[ 1935, 685, 1075], Satuan:"mm"}, {Nama:"Yamaha MT-25", Stok: 4, Warna:["Putih", "Hitam"], Dimensi:[ 2090, 745, 1035], Satuan:"mm"}, {Nama:"Yamaha MT-15", Stok: 13, Warna:["Putih", "Hitam"], Dimensi:[ 1965, 800, 1065], Satuan:"mm"} ]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5ca0af5fefb8ee7f157d489c"),
    ObjectId("5ca0af5fefb8ee7f157d489d"),
    ObjectId("5ca0af5fefb8ee7f157d489e"),
    ObjectId("5ca0af5fefb8ee7f157d489f"),
    ObjectId("5ca0af5fefb8ee7f157d48a0")
  ]
}
> db.queryArray.find().pretty()
{
  "_id" : ObjectId("5ca0af5fefb8ee7f157d489c"),
  "Nama" : "Kawasaki All New Ninja 250 FI",
  "Stok" : 10,
  "Warna" : [
    "Hijau",
    "Hitam"
  ],
  "Dimensi" : [
    1990,
    710,
    1125
  ],
  "Satuan" : "mm"
}
```

```

C:\Windows\system32\cmd.exe - mongo
{
  "_id" : ObjectId("5ca0af5fefb8ee7f157d489f"),
  "Nama" : "Yamaha MT-25",
  "Stok" : 4,
  "Warna" : [
    "Putih",
    "Hitam"
  ],
  "Dimensi" : [
    2090,
    745,
    1035
  ],
  "Satuan" : "mm"
},
{
  "_id" : ObjectId("5ca0af5fefb8ee7f157d48a0"),
  "Nama" : "Yamaha MT-15",
  "Stok" : 13,
  "Warna" : [
    "Putih",
    "Hitam"
  ],
  "Dimensi" : [
    1965,
    800,
    1065
  ],
  "Satuan" : "mm"
}

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArray.find({Warna:["Hitam", "Hijau"]})
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489e"), "Nama" : "Kawasaki Ninja 250SL", "Stok" : 15, "Warna" : [ "Hitam", "Hijau" ], "Dimensi" : [ 1935, 685, 1075 ], "Satuan" : "mm" }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArray.find( {Warna: { $all: ["Hitam", "Hijau"] } } )
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489c"), "Nama" : "Kawasaki All New Ninja 250 FI", "Stok" : 10, "Warna" : [ "Hijau", "Hitam" ], "Dimensi" : [ 1990, 710, 1125 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489e"), "Nama" : "Kawasaki Ninja 250SL", "Stok" : 15, "Warna" : [ "Hitam", "Hijau" ], "Dimensi" : [ 1935, 685, 1075 ], "Satuan" : "mm" }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArray.find( {Warna: "Hitam" } )
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489c"), "Nama" : "Kawasaki All New Ninja 250 FI", "Stok" : 10, "Warna" : [ "Hijau", "Hitam" ], "Dimensi" : [ 1990, 710, 1125 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489e"), "Nama" : "Kawasaki Ninja 250SL", "Stok" : 15, "Warna" : [ "Hitam", "Hijau" ], "Dimensi" : [ 1935, 685, 1075 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489f"), "Nama" : "Yamaha MT-25", "Stok" : 4, "Warna" : [ "Putih", "Hitam" ], "Dimensi" : [ 2090, 745, 1035 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d48a0"), "Nama" : "Yamaha MT-15", "Stok" : 13, "Warna" : [ "Putih", "Hitam" ], "Dimensi" : [ 1965, 800, 1065 ], "Satuan" : "mm" }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArray.find({Stok: {$gt: 10}})
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489e"), "Nama" : "Kawasaki Ninja 250SL", "Stok" : 15, "Warna" : [ "Hitam", "Hijau" ], "Dimensi" : [ 1935, 685, 1075 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d48a0"), "Nama" : "Yamaha MT-15", "Stok" : 13, "Warna" : [ "Putih", "Hitam" ], "Dimensi" : [ 1965, 800, 1065 ], "Satuan" : "mm" }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArray.find({Stok: {$gt: 10, $lt: 20}})
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489c"), "Nama" : "Kawasaki Ninja 250SL", "Stok" : 15, "Warna" : [ "Hitam", "Hijau" ], "Dimensi" : [ 1935, 685, 1075 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489d"), "Nama" : "Yamaha MT-15", "Stok" : 13, "Warna" : [ "Putih", "Hitam" ], "Dimensi" : [ 1965, 800, 1065 ], "Satuan" : "mm" }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArray.find({Dimensi: {$elemMatch: {$gt: 2000, $gt: 700, $lt: 1500}}})
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489c"), "Nama" : "Kawasaki All New Ninja 250 FI", "Stok" : 10, "Warna" : [ "Hijau", "Hitam" ], "Dimensi" : [ 1990, 710, 1125 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489d"), "Nama" : "KTM New Duke 250", "Stok" : 5, "Warna" : [ "Oranye", "Putih" ], "Dimensi" : [ 2026, 836, 1267 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489e"), "Nama" : "Kawasaki Ninja 250SL", "Stok" : 15, "Warna" : [ "Hitam", "Hijau" ], "Dimensi" : [ 1935, 685, 1075 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489f"), "Nama" : "Yamaha MT-25", "Stok" : 4, "Warna" : [ "Putih", "Hitam" ], "Dimensi" : [ 2090, 745, 1035 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d48a0"), "Nama" : "Yamaha MT-15", "Stok" : 13, "Warna" : [ "Putih", "Hitam" ], "Dimensi" : [ 1965, 800, 1065 ], "Satuan" : "mm" }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArray.find({"Dimensi.1": {$gt: 700}})
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489c"), "Nama" : "Kawasaki All New Ninja 250 FI", "Stok" : 10, "Warna" : [ "Hijau", "Hitam" ], "Dimensi" : [ 1990, 710, 1125 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489d"), "Nama" : "KTM New Duke 250", "Stok" : 5, "Warna" : [ "Oranye", "Putih" ], "Dimensi" : [ 2026, 836, 1267 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489e"), "Nama" : "Yamaha MT-25", "Stok" : 4, "Warna" : [ "Putih", "Hitam" ], "Dimensi" : [ 2090, 745, 1035 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d48a0"), "Nama" : "Yamaha MT-15", "Stok" : 13, "Warna" : [ "Putih", "Hitam" ], "Dimensi" : [ 1965, 800, 1065 ], "Satuan" : "mm" }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArray.find({"Warna": {$size: 2}})
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489c"), "Nama" : "Kawasaki All New Ninja 250 FI", "Stok" : 10, "Warna" : [ "Hijau", "Hitam" ], "Dimensi" : [ 1990, 710, 1125 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489d"), "Nama" : "KTM New Duke 250", "Stok" : 5, "Warna" : [ "Oranye", "Putih" ], "Dimensi" : [ 2026, 836, 1267 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489e"), "Nama" : "Kawasaki Ninja 250SL", "Stok" : 15, "Warna" : [ "Hitam", "Hijau" ], "Dimensi" : [ 1935, 685, 1075 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d489f"), "Nama" : "Yamaha MT-25", "Stok" : 4, "Warna" : [ "Putih", "Hitam" ], "Dimensi" : [ 2090, 745, 1035 ], "Satuan" : "mm" }
{ "_id" : ObjectId("5ca0af5fefb8ee7f157d48a0"), "Nama" : "Yamaha MT-15", "Stok" : 13, "Warna" : [ "Putih", "Hitam" ], "Dimensi" : [ 1965, 800, 1065 ], "Satuan" : "mm" }
>

```

C. Query an Array of Embedded Documents

```
C:\Windows\system32\cmd.exe - mongo
> db.queryArrayEmbedded.insertMany([ {Nama:"Kawasaki All New Ninja 250 FI", Stok: [{Dealer:"A", Unit: 10}, {Dealer:"C", Unit: 12}]}, {Nama:"KTM New Duke 250", Stok: [{Dealer:"B", Unit: 5}]}, {Nama:"Kawasaki Ninja 250SL", Stok: [{Dealer:"A", Unit: 20}, {Dealer:"D", Unit: 14}]}, {Nama:"Yamaha MT-25", Stok: [{Dealer:"C", Unit: 5}, {Dealer:"D", Unit: 4}]}, {Nama:"Yamaha MT-15", Stok: [{Dealer:"A", Unit: 15}, {Dealer:"C", Unit: 20}]} ]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5ca0bd47efb8ee7f157d48a1"),
    ObjectId("5ca0bd47efb8ee7f157d48a2"),
    ObjectId("5ca0bd47efb8ee7f157d48a3"),
    ObjectId("5ca0bd47efb8ee7f157d48a4"),
    ObjectId("5ca0bd47efb8ee7f157d48a5")
  ]
}
```

```
C:\Windows\system32\cmd.exe - mongo
> db.queryArrayEmbedded.find().pretty()
{
  "_id" : ObjectId("5ca0bd47efb8ee7f157d48a1"),
  "Nama" : "Kawasaki All New Ninja 250 FI",
  "Stok" : [
    {
      "Dealer" : "A",
      "Unit" : 10
    },
    {
      "Dealer" : "C",
      "Unit" : 12
    }
  ]
}
{
  "_id" : ObjectId("5ca0bd47efb8ee7f157d48a2"),
  "Nama" : "KTM New Duke 250",
  "Stok" : [
    {
      "Dealer" : "B",
      "Unit" : 5
    }
  ]
}
```


C:\Windows\system32\cmd.exe - mongo

```
{
  "_id" : ObjectId("5ca0bd47efb8ee7f157d48a3"),
  "Nama" : "Kawasaki Ninja 250SL",
  "Stok" : [
    {
      "Dealer" : "A",
      "Unit" : 20
    },
    {
      "Dealer" : "D",
      "Unit" : 14
    }
  ]
}
{
  "_id" : ObjectId("5ca0bd47efb8ee7f157d48a4"),
  "Nama" : "Yamaha MT-25",
  "Stok" : [
    {
      "Dealer" : "C",
      "Unit" : 5
    },
    {
      "Dealer" : "D",
      "Unit" : 4
    }
  ]
}
{
  "_id" : ObjectId("5ca0bd47efb8ee7f157d48a5"),
  "Nama" : "Yamaha MT-15",
  "Stok" : [
    {
      "Dealer" : "A",
      "Unit" : 15
    },
    {
      "Dealer" : "C",
      "Unit" : 20
    }
  ]
}
```

C:\Windows\system32\cmd.exe - mongo

```
> db.queryArrayEmbedded.find({"Stok": {"Dealer": "A", "Unit": 10}})
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a1"), "Nama" : "Kawasaki All New Ninja 250 FI", "Stok" : [ { "Dealer" : "A", "Unit" : 10 }, { "Dealer" : "C", "Unit" : 12 } ] }
>
```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArrayEmbedded.find({'Stok.Unit': {$lte: 10}})
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a1"), "Nama" : "Kawasaki All New Ninja 250 FI", "Stok" : [ { "Dealer" : "A", "Unit" : 10 }, { "Dealer" : "C", "Unit" : 12 } ] }
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a2"), "Nama" : "KTM New Duke 250", "Stok" : [ { "Dealer" : "B", "Unit" : 5 } ] }
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a4"), "Nama" : "Yamaha MT-25", "Stok" : [ { "Dealer" : "C", "Unit" : 5 }, { "Dealer" : "D", "Unit" : 4 } ] }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArrayEmbedded.find({'Stok.0.Unit': {$lte: 5}})
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a2"), "Nama" : "KTM New Duke 250", "Stok" : [ { "Dealer" : "B", "Unit" : 5 } ] }
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a4"), "Nama" : "Yamaha MT-25", "Stok" : [ { "Dealer" : "C", "Unit" : 5 }, { "Dealer" : "D", "Unit" : 4 } ] }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArrayEmbedded.find({'Stok': {$elemMatch: {Unit: 10, Dealer:"A"}}})
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a1"), "Nama" : "Kawasaki All New Ninja 250 FI", "Stok" : [ { "Dealer" : "A", "Unit" : 10 }, { "Dealer" : "C", "Unit" : 12 } ] }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArrayEmbedded.find({'Stok': {$elemMatch: {Unit: {$gt: 10, $lte: 20}}}})
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a1"), "Nama" : "Kawasaki All New Ninja 250 FI", "Stok" : [ { "Dealer" : "A", "Unit" : 10 }, { "Dealer" : "C", "Unit" : 12 } ] }
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a3"), "Nama" : "Kawasaki Ninja 250SL", "Stok" : [ { "Dealer" : "A", "Unit" : 20 }, { "Dealer" : "D", "Unit" : 14 } ] }
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a5"), "Nama" : "Yamaha MT-15", "Stok" : [ { "Dealer" : "A", "Unit" : 15 }, { "Dealer" : "C", "Unit" : 20 } ] }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArrayEmbedded.find({'Stok.Unit': {$gt: 10, $lte: 20}})
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a1"), "Nama" : "Kawasaki All New Ninja 250 FI", "Stok" : [ { "Dealer" : "A", "Unit" : 10 }, { "Dealer" : "C", "Unit" : 12 } ] }
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a3"), "Nama" : "Kawasaki Ninja 250SL", "Stok" : [ { "Dealer" : "A", "Unit" : 20 }, { "Dealer" : "D", "Unit" : 14 } ] }
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a5"), "Nama" : "Yamaha MT-15", "Stok" : [ { "Dealer" : "A", "Unit" : 15 }, { "Dealer" : "C", "Unit" : 20 } ] }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryArrayEmbedded.find({'Stok.Unit': 5, "Stok.Dealer": "B"})
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a2"), "Nama" : "KTM New Duke 250", "Stok" : [ { "Dealer" : "B", "Unit" : 5 } ] }
>
> db.queryArrayEmbedded.find({'Stok.Unit': 5, "Stok.Dealer": "C"})
{ "_id" : ObjectId("5ca0bd47efb8ee7f157d48a4"), "Nama" : "Yamaha MT-25", "Stok" : [ { "Dealer" : "C", "Unit" : 5 }, { "Dealer" : "D", "Unit" : 4 } ] }
>

```

D. Project Fields to Return from Query

```
C:\Windows\system32\cmd.exe - mongo
> db.queryProject.insertMany([ {Nama:"Kawasaki All New Ninja 250 FI", Status:"Ready", Dimensi:{P: 1990, L: 710, T: 1125,
Tipe:"ABS"}, Stok:[{Dealer:"A", Unit: 15}], {Nama:"KTM New Duke 250", Status:"Inden", Dimensi:{P: 2026, L: 836, T: 126
7, Tipe:"ABS"}, Stok:[{Dealer:"B", Unit: 5}], {Nama:"Kawasaki Ninja 250SL", Status:"Ready", Dimensi:{P: 1935, L: 685, T
: 1075, Tipe:"ABS"}, Stok:[{Dealer:"C", Unit: 17}], {Nama:"Yamaha MT-25", Status:"Inden", Dimensi:{P: 2090, L: 745, T:
1035, Tipe:"Non-ABS"}, Stok:[{Dealer:"A", Unit: 6}], {Nama:"Yamaha MT-15", Status:"Ready", Dimensi:{P: 1965, L: 800, T:
1065, Tipe:"Non-ABS"}, Stok:[{Dealer:"A", Unit: 10}, {Dealer:"C", Unit: 15}] ]])
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5ca0c736efb8ee7f157d48a6"),
    ObjectId("5ca0c736efb8ee7f157d48a7"),
    ObjectId("5ca0c736efb8ee7f157d48a8"),
    ObjectId("5ca0c736efb8ee7f157d48a9"),
    ObjectId("5ca0c736efb8ee7f157d48aa")
  ]
}
```

```
Select C:\Windows\system32\cmd.exe - mongo
> db.queryProject.find().pretty()
{
  "_id" : ObjectId("5ca0c736efb8ee7f157d48a6"),
  "Nama" : "Kawasaki All New Ninja 250 FI",
  "Status" : "Ready",
  "Dimensi" : {
    "P" : 1990,
    "L" : 710,
    "T" : 1125,
    "Tipe" : "ABS"
  },
  "Stok" : [
    {
      "Dealer" : "A",
      "Unit" : 15
    }
  ]
},
{
  "_id" : ObjectId("5ca0c736efb8ee7f157d48a7"),
  "Nama" : "KTM New Duke 250",
  "Status" : "Inden",
  "Dimensi" : {
    "P" : 2026,
    "L" : 836,
    "T" : 1267,
    "Tipe" : "ABS"
  },
  "Stok" : [
    {
      "Dealer" : "B",
      "Unit" : 5
    }
  ]
}
```

cmd C:\Windows\system32\cmd.exe - mongo

```
{
  "_id" : ObjectId("5ca0c736efb8ee7f157d48a8"),
  "Nama" : "Kawasaki Ninja 250SL",
  "Status" : "Ready",
  "Dimensi" : {
    "p" : 1935,
    "L" : 685,
    "T" : 1075,
    "Tipe" : "ABS"
  },
  "Stok" : [
    {
      "Dealer" : "C",
      "Unit" : 17
    }
  ]
}
{
  "_id" : ObjectId("5ca0c736efb8ee7f157d48a9"),
  "Nama" : "Yamaha MT-25",
  "Status" : "Inden",
  "Dimensi" : {
    "p" : 2090,
    "L" : 745,
    "T" : 1035,
    "Tipe" : "Non-ABS"
  },
  "Stok" : [
    {
      "Dealer" : "A",
      "Unit" : 6
    }
  ]
}
```

C:\Windows\system32\cmd.exe - mongo

```
{
  "_id" : ObjectId("5ca0c736efb8ee7f157d48aa"),
  "Nama" : "Yamaha MT-15",
  "Status" : "Ready",
  "Dimensi" : {
    "P" : 1965,
    "L" : 800,
    "T" : 1065,
    "Tipe" : "Non-ABS"
  },
  "Stok" : [
    {
      "Dealer" : "A",
      "Unit" : 10
    },
    {
      "Dealer" : "C",
      "Unit" : 15
    }
  ]
}
```

C:\Windows\system32\cmd.exe - mongo

```
> db.queryProject.find({Status:"Ready"})
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a6"), "Nama" : "Kawasaki All New Ninja 250 FI", "Status" : "Ready", "Dimensi" : { "P" : 1990, "L" : 710, "T" : 1125, "Tipe" : "ABS" }, "Stok" : [ { "Dealer" : "A", "Unit" : 15 } ] }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a8"), "Nama" : "Kawasaki Ninja 250SL", "Status" : "Ready", "Dimensi" : { "P" : 1935, "L" : 685, "T" : 1075, "Tipe" : "ABS" }, "Stok" : [ { "Dealer" : "C", "Unit" : 17 } ] }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48aa"), "Nama" : "Yamaha MT-15", "Status" : "Ready", "Dimensi" : { "P" : 1965, "L" : 800, "T" : 1065, "Tipe" : "Non-ABS" }, "Stok" : [ { "Dealer" : "A", "Unit" : 10 }, { "Dealer" : "C", "Unit" : 15 } ] }
```

C:\Windows\system32\cmd.exe - mongo

```
> db.queryProject.find({Status:"Ready"}, {Nama: 1, Status: 1})
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a6"), "Nama" : "Kawasaki All New Ninja 250 FI", "Status" : "Ready" }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a8"), "Nama" : "Kawasaki Ninja 250SL", "Status" : "Ready" }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48aa"), "Nama" : "Yamaha MT-15", "Status" : "Ready" }
```

C:\Windows\system32\cmd.exe - mongo

```
> db.queryProject.find({Status:"Ready"}, {Nama: 1, Status: 1, _id: 0})
{ "Nama" : "Kawasaki All New Ninja 250 FI", "Status" : "Ready" }
{ "Nama" : "Kawasaki Ninja 250SL", "Status" : "Ready" }
{ "Nama" : "Yamaha MT-15", "Status" : "Ready" }
```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryProject.find({Status:"Ready"}, {Status: 0, Stok: 0})
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a6"), "Nama" : "Kawasaki All New Ninja 250 FI", "Dimensi" : { "P" : 1990, "L" : 710, "T" : 1125, "Tipe" : "ABS" } }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a8"), "Nama" : "Kawasaki Ninja 250SL", "Dimensi" : { "P" : 1935, "L" : 685, "T" : 1075, "Tipe" : "ABS" } }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48aa"), "Nama" : "Yamaha MT-15", "Dimensi" : { "P" : 1965, "L" : 800, "T" : 1065, "Tipe" : "Non-ABS" } }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryProject.find(
... {Status:"Ready"},
... {Nama: 1, Status: 1, "Dimensi.Tipe": 1}
... )
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a6"), "Nama" : "Kawasaki All New Ninja 250 FI", "Status" : "Ready", "Dimensi" : { "Tipe" : "ABS" } }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a8"), "Nama" : "Kawasaki Ninja 250SL", "Status" : "Ready", "Dimensi" : { "Tipe" : "ABS" } }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48aa"), "Nama" : "Yamaha MT-15", "Status" : "Ready", "Dimensi" : { "Tipe" : "Non-ABS" } }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryProject.find( {Status:"Ready"}, { "Dimensi.Tipe": 0 } )
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a6"), "Nama" : "Kawasaki All New Ninja 250 FI", "Status" : "Ready", "Dimensi" : { "P" : 1990, "L" : 710, "T" : 1125 }, "Stok" : [ { "Dealer" : "A", "Unit" : 15 } ] }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a8"), "Nama" : "Kawasaki Ninja 250SL", "Status" : "Ready", "Dimensi" : { "P" : 1935, "L" : 685, "T" : 1075 }, "Stok" : [ { "Dealer" : "C", "Unit" : 17 } ] }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48aa"), "Nama" : "Yamaha MT-15", "Status" : "Ready", "Dimensi" : { "P" : 1965, "L" : 800, "T" : 1065 }, "Stok" : [ { "Dealer" : "A", "Unit" : 10 }, { "Dealer" : "C", "Unit" : 15 } ] }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryProject.find( {Status:"Ready"}, {Nama: 1, Status: 1, "Stok.Unit": 1} )
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a6"), "Nama" : "Kawasaki All New Ninja 250 FI", "Status" : "Ready", "Stok" : [ { "Unit" : 15 } ] }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a8"), "Nama" : "Kawasaki Ninja 250SL", "Status" : "Ready", "Stok" : [ { "Unit" : 17 } ] }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48aa"), "Nama" : "Yamaha MT-15", "Status" : "Ready", "Stok" : [ { "Unit" : 10 }, { "Unit" : 15 } ] }
>

```

```

C:\Windows\system32\cmd.exe - mongo
> db.queryProject.find( {Status:"Ready"}, {Nama: 1, Status: 1, Stok: {$slice: -1}} )
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a6"), "Nama" : "Kawasaki All New Ninja 250 FI", "Status" : "Ready", "Stok" : [ { "Dealer" : "A", "Unit" : 15 } ] }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48a8"), "Nama" : "Kawasaki Ninja 250SL", "Status" : "Ready", "Stok" : [ { "Dealer" : "C", "Unit" : 17 } ] }
{ "_id" : ObjectId("5ca0c736efb8ee7f157d48aa"), "Nama" : "Yamaha MT-15", "Status" : "Ready", "Stok" : [ { "Dealer" : "C", "Unit" : 15 } ] }
>

```

E. Query for Null or Missing Fields

C:\Windows\system32\cmd.exe - mongo

```
> db.queryNull.insertMany([
... {_id: 1, item: null},
... {_id: 2}
... ])
{ "acknowledged" : true, "insertedIds" : [ 1, 2 ] }
> db.queryNull.find().pretty()
{ "_id" : 1, "item" : null }
{ "_id" : 2 }
>
```

C:\Windows\system32\cmd.exe - mongo

```
> db.queryNull.find({item: null})
{ "_id" : 1, "item" : null }
{ "_id" : 2 }
> db.queryNull.find({item: {$type: 10}})
{ "_id" : 1, "item" : null }
> db.queryNull.find({item: {$exists: false}})
{ "_id" : 2 }
>
```

3. Update Documents

C:\Windows\system32\cmd.exe - mongo

```
> use kendaraan
switched to db kendaraan
> db.update.insertMany([
... {Nama:"Kawasaki All New Ninja 250 FI", Unit: 10, Dimensi:{P: 1990, L: 710, T: 1125, Tipe:"ABS"}, Status:"Ready"},
... {Nama:"KTM New Duke 250", Unit: 5, Dimensi:{P: 2026, L: 836, T: 1267, Tipe:"ABS"}, Status:"Inden"},
... {Nama:"Kawasaki Ninja 250SL", Unit: 12, Dimensi:{P: 1935, L: 685, T: 1075, Tipe:"ABS"}, Status:"Ready"},
... {Nama:"Yamaha MT-25", Unit: 4, Dimensi:{P: 2090, L: 745, T: 1035, Tipe:"Non-ABS"}, Status:"Inden"},
... {Nama:"Yamaha MT-15", Unit: 15, Dimensi:{P: 1965, L: 800, T: 1065, Tipe:"Non-ABS"}, Status:"Ready"}
... ])
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5ca5046c1b716a82b0b8a46d"),
    ObjectId("5ca5046c1b716a82b0b8a46e"),
    ObjectId("5ca5046c1b716a82b0b8a46f"),
    ObjectId("5ca5046c1b716a82b0b8a470"),
    ObjectId("5ca5046c1b716a82b0b8a471")
  ]
}
>
```

C:\Windows\system32\cmd.exe - mongo

```
> db.update.find().pretty()
{
  "_id" : ObjectId("5ca5046c1b716a82b0b8a46d"),
  "Nama" : "Kawasaki All New Ninja 250 FI",
  "Unit" : 10,
  "Dimensi" : {
    "p" : 1990,
    "L" : 710,
    "T" : 1125,
    "Tipe" : "ABS"
  },
  "Status" : "Ready"
},
{
  "_id" : ObjectId("5ca5046c1b716a82b0b8a46e"),
  "Nama" : "KTM New Duke 250",
  "Unit" : 5,
  "Dimensi" : {
    "p" : 2026,
    "L" : 836,
    "T" : 1267,
    "Tipe" : "ABS"
  },
  "Status" : "Inden"
}
```


C:\Windows\system32\cmd.exe - mongo

```
{
  "_id" : ObjectId("5ca5046c1b716a82b0b8a46f"),
  "Nama" : "Kawasaki Ninja 250SL",
  "Unit" : 12,
  "Dimensi" : {
    "p" : 1935,
    "L" : 685,
    "T" : 1075,
    "Tipe" : "ABS"
  },
  "Status" : "Ready"
},
{
  "_id" : ObjectId("5ca5046c1b716a82b0b8a470"),
  "Nama" : "Yamaha MT-25",
  "Unit" : 4,
  "Dimensi" : {
    "p" : 2090,
    "L" : 745,
    "T" : 1035,
    "Tipe" : "Non-ABS"
  },
  "Status" : "Inden"
},
{
  "_id" : ObjectId("5ca5046c1b716a82b0b8a471"),
  "Nama" : "Yamaha MT-15",
  "Unit" : 15,
  "Dimensi" : {
    "p" : 1965,
    "L" : 800,
    "T" : 1065,
    "Tipe" : "Non-ABS"
  },
  "Status" : "Ready"
}
>
```

C:\Windows\system32\cmd.exe - mongo

```
> db.update.updateOne(
... {Nama:"Kawasaki Ninja 250SL"},
... {
... $set: {"Dimensi.Tipe": "Non-ABS", Status: "Inden"},
... $currentDate: {lastModified: true}
... }
... )
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
>
```

C:\Windows\system32\cmd.exe - mongo

```
> db.update.updateMany(
... {"Unit": {$lt: 15}},
... {
... $set: {"Dimensi.Tipe": "ABS", Status:"Ready"},
... $currentDate: {lastModified: true}
... }
... )
{ "acknowledged" : true, "matchedCount" : 4, "modifiedCount" : 4 }
>
```

C:\Windows\system32\cmd.exe - mongo

```
> db.update.replaceOne(
... {Nama:"Yamaha MT-15"},
... {Nama:"Yamaha MT-15", Stok:[{Dealer:"A", Unit: 20}, {Dealer:"B", Unit: 17}]}
... )
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
>
```

C:\Windows\system32\cmd.exe - mongo

```
> db.delete.deleteOne({"Dimensi.Tipe": "Non-ABS"})
{ "acknowledged" : true, "deletedCount" : 1 }
> db.delete.find()
{ "_id" : ObjectId("5ca50cf11b716a82b0b8a472"), "Nama" : "Kawasaki All New Ninja 250 FI", "Unit" : 10, "Dimensi" : { "P" : 1990, "L" : 710, "T" : 1125, "Tipe" : "ABS" }, "Status" : "Ready" }
{ "_id" : ObjectId("5ca50cf11b716a82b0b8a474"), "Nama" : "Kawasaki Ninja 250SL", "Unit" : 12, "Dimensi" : { "P" : 1935, "L" : 685, "T" : 1075, "Tipe" : "ABS" }, "Status" : "Ready" }
>
```

4. Delete Documents

```
C:\Windows\system32\cmd.exe - mongo
> db.delete.insertMany([ {Nama:"Kawasaki All New Ninja 250 FI", Unit: 10, Dimensi:{P: 1990, L: 710, T: 1125, Tipe:"ABS"}, Status:"Ready"}, {Nama:"KTM New Duke 250", Unit: 5, Dimensi:{P: 2026, L: 836, T: 1267, Tipe:"ABS"}, Status:"Inden"}, {Nama:"Kawasaki Ninja 250SL", Unit: 12, Dimensi:{P: 1935, L: 685, T: 1075, Tipe:"ABS"}, Status:"Ready"}, {Nama:"Yamaha MT-25", Unit: 4, Dimensi:{P: 2090, L: 745, T: 1035, Tipe:"Non-ABS"}, Status:"Inden"}, {Nama:"Yamaha MT-15", Unit: 15, Dimensi:{P: 1965, L: 800, T: 1065, Tipe:"Non-ABS"}, Status:"Ready"} ])
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5ca50cf11b716a82b0b8a472"),
    ObjectId("5ca50cf11b716a82b0b8a473"),
    ObjectId("5ca50cf11b716a82b0b8a474"),
    ObjectId("5ca50cf11b716a82b0b8a475"),
    ObjectId("5ca50cf11b716a82b0b8a476")
  ]
}
```

```
C:\Windows\system32\cmd.exe - mongo
> db.delete.deleteMany({Status:"Inden"})
{ "acknowledged" : true, "deletedCount" : 2 }
> db.delete.find()
{ "_id" : ObjectId("5ca50cf11b716a82b0b8a472"), "Nama" : "Kawasaki All New Ninja 250 FI", "Unit" : 10, "Dimensi" : { "P" : 1990, "L" : 710, "T" : 1125, "Tipe" : "ABS" }, "Status" : "Ready" }
{ "_id" : ObjectId("5ca50cf11b716a82b0b8a474"), "Nama" : "Kawasaki Ninja 250SL", "Unit" : 12, "Dimensi" : { "P" : 1935, "L" : 685, "T" : 1075, "Tipe" : "ABS" }, "Status" : "Ready" }
{ "_id" : ObjectId("5ca50cf11b716a82b0b8a476"), "Nama" : "Yamaha MT-15", "Unit" : 15, "Dimensi" : { "P" : 1965, "L" : 800, "T" : 1065, "Tipe" : "Non-ABS" }, "Status" : "Ready" }
>
```