

Day - 5 MongoDB Assignment

Create Collection

```
cust> db.createCollection("posts")
{ ok: 1 }
```

Insert Documents

```
cust> db.posts.insertOne({
  ... title: "Post Title 1",
  ... body: "Body of post.",
  ... category: "News",
  ... likes: 1,
  ... tags: ["news", "events"],
  ... date: Date()
  ...
})
{
  acknowledged: true,
  insertedId: ObjectId('69576d8557323074bbcc898d')
}

cust> db.posts.insertMany([
  ... {
    ... title: "Post Title 2",
    ... body: "Body of post.",
    ... category: "Event",
    ... likes: 2,
    ... tags: ["news", "events"],
    ... date: Date()
  ... },
  ... {
    ... title: "Post Title 3",
    ... body: "Body of post."
  }
])
```

```
...   category: "Technology",
...   likes: 3,
...   tags: ["news", "events"],
...   date: Date()
...
... },
...
... {
...   title: "Post Title 4",
...   body: "Body of post.",
...   category: "Event",
...   likes: 4,
...   tags: ["news", "events"],
...   date: Date()
...
... }
...
... ])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('69576f0657323074bbcc898e'),
    '1': ObjectId('69576f0657323074bbcc898f'),
    '2': ObjectId('69576f0657323074bbcc8990')
  }
}
```

Find Data

```
cust> db.posts.find()
[
{
  _id: ObjectId('69576d8557323074bbcc898d'),
  title: 'Post Title 1',
  body: 'Body of post.',
  category: 'News',
```

```
    likes: 1,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 12:32:29 GMT+0530 (India Standard Time)'  
,  
{  
    _id: ObjectId('69576f0657323074bbcc898e'),  
    title: 'Post Title 2',  
    body: 'Body of post.',  
    category: 'Event',  
    likes: 2,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'  
,  
{  
    _id: ObjectId('69576f0657323074bbcc898f'),  
    title: 'Post Title 3',  
    body: 'Body of post.',  
    category: 'Technology',  
    likes: 3,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'  
,  
{  
    _id: ObjectId('69576f0657323074bbcc8990'),  
    title: 'Post Title 4',  
    body: 'Body of post.',  
    category: 'Event',  
    likes: 4,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'  
}
```

```
]  
cust> db.posts.find( {category: "News"} )  
[  
{  
  _id: ObjectId('69576d8557323074bbcc898d'),  
  title: 'Post Title 1',  
  body: 'Body of post.',  
  category: 'News',  
  likes: 1,  
  tags: [ 'news', 'events' ],  
  date: 'Fri Jan 02 2026 12:32:29 GMT+0530 (India Standard Time)'  
}  
]
```

Update Document

```
cust> db.posts.updateOne({title:'Post Title 1'},{$set:{likes:2}})  
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0  
}  
cust> db.posts.find()  
[  
{  
  _id: ObjectId('69576d8557323074bbcc898d'),  
  title: 'Post Title 1',  
  body: 'Body of post.',  
  category: 'News',  
  likes: 2,  
  tags: [ 'news', 'events' ],
```

```
date: 'Fri Jan 02 2026 12:32:29 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69576f0657323074bbcc898e'),
  title: 'Post Title 2',
  body: 'Body of post.',
  category: 'Event',
  likes: 2,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69576f0657323074bbcc898f'),
  title: 'Post Title 3',
  body: 'Body of post.',
  category: 'Technology',
  likes: 3,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69576f0657323074bbcc8990'),
  title: 'Post Title 4',
  body: 'Body of post.',
  category: 'Event',
  likes: 4,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'

}
]

cust> db.posts.updateMany({}, { $inc: { likes: 1 } })
```

```
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 4,  
  modifiedCount: 4,  
  upsertedCount: 0  
}  
  
cust> db.posts.find()  
[  
  {  
    _id: ObjectId('69576d8557323074bbcc898d'),  
    title: 'Post Title 1',  
    body: 'Body of post.',  
    category: 'News',  
    likes: 3,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 12:32:29 GMT+0530 (India Standard Time)'  
  },  
  {  
    _id: ObjectId('69576f0657323074bbcc898e'),  
    title: 'Post Title 2',  
    body: 'Body of post.',  
    category: 'Event',  
    likes: 3,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'  
  },  
  {  
    _id: ObjectId('69576f0657323074bbcc898f'),  
    title: 'Post Title 3',  
    body: 'Body of post.',
```

```
category: 'Technology',
likes: 4,
tags: [ 'news', 'events' ],
date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69576f0657323074bbcc8990'),
  title: 'Post Title 4',
  body: 'Body of post.',
  category: 'Event',
  likes: 5,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'

}
]

cust> db.posts.updateMany({}, { $inc: { likes: 1 } })

{
  acknowledged: true,
  insertedId: null,
  matchedCount: 4,
  modifiedCount: 4,
  upsertedCount: 0
}

cust> db.posts.find()

[
  {
    _id: ObjectId('69576d8557323074bbcc898d'),
    title: 'Post Title 1',
    body: 'Body of post.',
    category: 'News',
    likes: 4,
```

```
tags: [ 'news', 'events' ],
date: 'Fri Jan 02 2026 12:32:29 GMT+0530 (India Standard Time)'
},
{
  _id: ObjectId('69576f0657323074bbcc898e'),
  title: 'Post Title 2',
  body: 'Body of post.',
  category: 'Event',
  likes: 4,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'
},
{
  _id: ObjectId('69576f0657323074bbcc898f'),
  title: 'Post Title 3',
  body: 'Body of post.',
  category: 'Technology',
  likes: 5,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'
},
{
  _id: ObjectId('69576f0657323074bbcc8990'),
  title: 'Post Title 4',
  body: 'Body of post.',
  category: 'Event',
  likes: 6,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'
}
]
```

```
cust> db.posts.updateMany({}, { $set: { likes: 1 } })  
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 4,  
  modifiedCount: 4,  
  upsertedCount: 0  
}  
  
cust> db.posts.find()  
[  
  {  
    _id: ObjectId('69576d8557323074bbcc898d'),  
    title: 'Post Title 1',  
    body: 'Body of post.',  
    category: 'News',  
    likes: 1,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 12:32:29 GMT+0530 (India Standard Time)'  
  },  
  {  
    _id: ObjectId('69576f0657323074bbcc898e'),  
    title: 'Post Title 2',  
    body: 'Body of post.',  
    category: 'Event',  
    likes: 1,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'  
  },  
  {  
    _id: ObjectId('69576f0657323074bbcc898f'),  
    title: 'Post Title 3',
```

```
body: 'Body of post.',  
category: 'Technology',  
likes: 1,  
tags: [ 'news', 'events' ],  
date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'  
,  
{  
  _id: ObjectId('69576f0657323074bbcc8990'),  
  title: 'Post Title 4',  
  body: 'Body of post.',  
  category: 'Event',  
  likes: 1,  
  tags: [ 'news', 'events' ],  
  date: 'Fri Jan 02 2026 12:38:54 GMT+0530 (India Standard Time)'  
}  
]  
cust> db.posts.aggregate([  
  ... // Stage 1: Only find documents that have more than 1 like  
  ... {  
    ... $match: { likes: { $gt: 1 } }  
  },  
  ... // Stage 2: Group documents by category and sum each categories likes  
  ... {  
    ... $group: { _id: "$category", totalLikes: { $sum: "$likes" } }  
  }  
  ... ])  
])
```

```
cust> use blog  
switched to db blog  
blog> db.createCollection("posts")  
{ ok: 1 }
```

```
blog> db.posts.insertOne(object)
```

```
ReferenceError: object is not defined
```

insertOne

```
blog> db.posts.insertOne({  
...   title: "Post Title 1",  
...   body: "Body of post.",  
...   category: "News",  
...   likes: 1,  
...   tags: ["news", "events"],  
...   date: Date()  
... })  
{  
  acknowledged: true,  
  insertedId: ObjectId('69579db857323074bbcc8991')  
}  
blog>
```

insertMany

```
blog> db.posts.insertMany([  
... {  
...   title: "Post Title 2",  
...   body: "Body of post.",  
...   category: "Event",  
...   likes: 2,  
...   tags: ["news", "events"],  
...   date: Date()  
... },  
... {  
...   title: "Post Title 3",  
...   body: "Body of post.",  
... }])  
blog>
```

```
...   category: "Technology",
...   likes: 3,
...   tags: ["news", "events"],
...   date: Date()
...
... },
...
... {
...
...   title: "Post Title 4",
...
...   body: "Body of post.",
...
...   category: "Event",
...
...   likes: 4,
...
...   tags: ["news", "events"],
...
...   date: Date()
...
... }
...
... ])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('69579dc657323074bbcc8992'),
    '1': ObjectId('69579dc657323074bbcc8993'),
    '2': ObjectId('69579dc657323074bbcc8994')
  }
}
blog> db.posts.find()
[
{
  _id: ObjectId('69579db857323074bbcc8991'),
  title: 'Post Title 1',
  body: 'Body of post.',
  category: 'News',
  likes: 1,
  tags: [ 'news', 'events' ],
}
```

```
date: 'Fri Jan 02 2026 15:58:08 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69579dc657323074bbcc8992'),
  title: 'Post Title 2',
  body: 'Body of post.',
  category: 'Event',
  likes: 2,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69579dc657323074bbcc8993'),
  title: 'Post Title 3',
  body: 'Body of post.',
  category: 'Technology',
  likes: 3,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69579dc657323074bbcc8994'),
  title: 'Post Title 4',
  body: 'Body of post.',
  category: 'Event',
  likes: 4,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

}
]

blog> db.posts.findOne()
```

```
{  
  _id: ObjectId('69579db857323074bbcc8991'),  
  title: 'Post Title 1',  
  body: 'Body of post.',  
  category: 'News',  
  likes: 1,  
  tags: [ 'news', 'events' ],  
  date: 'Fri Jan 02 2026 15:58:08 GMT+0530 (India Standard Time)'  
}  
  
blog> db.posts.find( {category: "News"} )  
[  
  {  
    _id: ObjectId('69579db857323074bbcc8991'),  
    title: 'Post Title 1',  
    body: 'Body of post.',  
    category: 'News',  
    likes: 1,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 15:58:08 GMT+0530 (India Standard Time)'  
}  
]  
  
blog> db.posts.find({}, {title: 1, date: 1})  
[  
  {  
    _id: ObjectId('69579db857323074bbcc8991'),  
    title: 'Post Title 1',  
    date: 'Fri Jan 02 2026 15:58:08 GMT+0530 (India Standard Time)'  
},  
  {  
    _id: ObjectId('69579dc657323074bbcc8992'),  
    title: 'Post Title 2',
```

```
date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69579dc657323074bbcc8993'),
  title: 'Post Title 3',
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69579dc657323074bbcc8994'),
  title: 'Post Title 4',
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

}
]

blog> db.posts.find({}, {_id: 0, title: 1, date: 1})
[
{
  title: 'Post Title 1',
  date: 'Fri Jan 02 2026 15:58:08 GMT+0530 (India Standard Time)'

},
{
  title: 'Post Title 2',
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

},
{
  title: 'Post Title 3',
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

},
{
  title: 'Post Title 4',
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

}
```

```
]

blog> db.posts.find({}, {category: 0})

[
{
  _id: ObjectId('69579db857323074bbcc8991'),
  title: 'Post Title 1',
  body: 'Body of post.',
  likes: 1,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 15:58:08 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69579dc657323074bbcc8992'),
  title: 'Post Title 2',
  body: 'Body of post.',
  likes: 2,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69579dc657323074bbcc8993'),
  title: 'Post Title 3',
  body: 'Body of post.',
  likes: 3,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69579dc657323074bbcc8994'),
  title: 'Post Title 4',
  body: 'Body of post.',
```

```
    likes: 4,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'  
}  
]  
  
blog> db.posts.find({}, {title: 1, date: 0})  
MongoServerError[Location31254]: Cannot do exclusion on field date in inclusion projection  
blog> db.posts.find({}, {title: 1, date: 0})  
MongoServerError[Location31254]: Cannot do exclusion on field date in inclusion projection  
blog> db.posts.find( { title: "Post Title 1" } )  
[  
{  
    _id: ObjectId('69579db857323074bbcc8991'),  
    title: 'Post Title 1',  
    body: 'Body of post.',  
    category: 'News',  
    likes: 1,  
    tags: [ 'news', 'events' ],  
    date: 'Fri Jan 02 2026 15:58:08 GMT+0530 (India Standard Time)'  
}  
]  
  
blog> db.posts.updateOne( { title: "Post Title 1" }, { $set: { likes: 2 } } )  
{  
    acknowledged: true,  
    insertedId: null,  
    matchedCount: 1,  
    modifiedCount: 1,  
    upsertedCount: 0  
}  
  
blog> db.posts.find( { title: "Post Title 1" } )  
[
```

```
{  
  _id: ObjectId('69579db857323074bbcc8991'),  
  title: 'Post Title 1',  
  body: 'Body of post.',  
  category: 'News',  
  likes: 2,  
  tags: [ 'news', 'events' ],  
  date: 'Fri Jan 02 2026 15:58:08 GMT+0530 (India Standard Time)'  
}  
]  
  
blog> db.posts.updateOne(  
... { title: "Post Title 5" },  
... {  
...   $set:  
...     {  
...       title: "Post Title 5",  
...       body: "Body of post.",  
...       category: "Event",  
...       likes: 5,  
...       tags: ["news", "events"],  
...       date: Date()  
...     }  
... },  
... { upsert: true }  
... )  
{  
  acknowledged: true,  
  insertedId: ObjectId('69579eda20cbc21198d563e1'),  
  matchedCount: 0,  
  modifiedCount: 0,  
  upsertedCount: 1
```

```
}

blog> db.posts.updateMany({}, { $inc: { likes: 1 } })

{
  acknowledged: true,
  insertedId: null,
  matchedCount: 5,
  modifiedCount: 5,
  upsertedCount: 0
}

blog> db.posts.deleteOne({ title: "Post Title 5" })

{ acknowledged: true, deletedCount: 1 }

blog> db.posts.deleteMany({ category: "Technology" })

{ acknowledged: true, deletedCount: 1 }

blog> db.posts.find()

[
  {
    _id: ObjectId('69579db857323074bbcc8991'),
    title: 'Post Title 1',
    body: 'Body of post.',
    category: 'News',
    likes: 3,
    tags: [ 'news', 'events' ],
    date: 'Fri Jan 02 2026 15:58:08 GMT+0530 (India Standard Time)'
  },
  {
    _id: ObjectId('69579dc657323074bbcc8992'),
    title: 'Post Title 2',
    body: 'Body of post.',
    category: 'Event',
    likes: 3,
    tags: [ 'news', 'events' ],
  }
]
```

```

date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'

},
{
  _id: ObjectId('69579dc657323074bbcc8994'),
  title: 'Post Title 4',
  body: 'Body of post.',
  category: 'Event',
  likes: 5,
  tags: [ 'news', 'events' ],
  date: 'Fri Jan 02 2026 15:58:22 GMT+0530 (India Standard Time)'
}
]

```

Aggregation Pipelines

```

blog> db.posts.aggregate([
...  // Stage 1: Only find documents that have more than 1 like
...  {
...    $match: { likes: { $gt: 1 } }
...  },
...  // Stage 2: Group documents by category and sum each categories likes
...  {
...    $group: { _id: "$category", totalLikes: { $sum: "$likes" } }
...  }
... ])
[ { _id: 'News', totalLikes: 3 }, { _id: 'Event', totalLikes: 8 } ]

blog> db.listingsAndReviews.aggregate(
...  [ { $group : { _id : "$property_type" } } ]
... )

blog> db.movies.aggregate([ { $limit: 1 }])

```

```
blog> db.restaurants.aggregate([
```

```
...  {
...   $project: {
...     "name": 1,
...     "cuisine": 1,
...     "address": 1
...   }
... },
... {
...   $limit: 5
... }
... ])
```

```
blog> use blog
```

```
already on db blog
```

```
blog>
```

```
blog> db.createCollection("listingsAndReviews")
```

```
{ ok: 1 }
```

```
blog> db.createCollection("movies")
```

```
{ ok: 1 }
```

```
blog> db.createCollection("restaurants")
```

```
{ ok: 1 }
```

```
blog> db.listingsAndReviews.insertMany([
```

```
...  {
...   name: "Cozy Apartment in City Center",
...   property_type: "Apartment",
...   room_type: "Entire home/apt",
...   price: 2500,
...   address: { street: "MG Road", city: "Bengaluru", country: "India" },
```

```
...   host: { name: "Ravi", is_superhost: true }

... },
... {
...   name: "Budget Private Room",
...   property_type: "House",
...   room_type: "Private room",
...   price: 900,
...   address: { street: "Ameerpet", city: "Hyderabad", country: "India" },
...   host: { name: "Ramesh", is_superhost: false }

... },
... {
...   name: "Luxury Villa with Pool",
...   property_type: "Villa",
...   room_type: "Entire home/apt",
...   price: 12000,
...   address: { street: "Candolim", city: "Goa", country: "India" },
...   host: { name: "Rahul", is_superhost: true }

... },
... {
...   name: "Peaceful Farm Stay",
...   property_type: "Farm stay",
...   room_type: "Entire home/apt",
...   price: 4500,
...   address: { street: "Shamirpet", city: "Hyderabad", country: "India" },
...   host: { name: "Raghu", is_superhost: false }

... }
... ])

{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('6957a07f57323074bbcc8995'),
    '1': ObjectId('6957a07f57323074bbcc8996'),
    '2': ObjectId('6957a07f57323074bbcc8997')
  }
}
```

```
'1': ObjectId('6957a07f57323074bbcc8996'),
'2': ObjectId('6957a07f57323074bbcc8997'),
'3': ObjectId('6957a07f57323074bbcc8998')

}
}
```

Aggregation \$group

```
blog> db.listingsAndReviews.aggregate([{$group: {_id: "$property_type"} }])

[
  {_id: 'House'},
  {_id: 'Villa'},
  {_id: 'Farm stay'},
  {_id: 'Apartment'}
]

blog> db.movies.insertMany([
  ... {
    ... title: "Inception",
    ... year: 2010,
    ... genres: ["Action", "Sci-Fi", "Thriller"],
    ... runtime: 148,
    ... imdb: { rating: 8.8, votes: 2000000 }
  ... },
  ... {
    ... title: "Interstellar",
    ... year: 2014,
    ... genres: ["Adventure", "Drama", "Sci-Fi"],
    ... runtime: 169,
    ... imdb: { rating: 8.7, votes: 1900000 }
  ... },
  ... {
    ... title: "3 Idiots",
    ... year: 2009,
    ... genres: ["Drama", "Romantic", "Comedy"],
    ... runtime: 145,
    ... imdb: { rating: 8.4, votes: 1800000 }
  ... }
])
```

```
...   year: 2009,  
...   genres: ["Comedy", "Drama"],  
...   runtime: 170,  
...   imdb: { rating: 8.4, votes: 450000 }  
... }  
... ])  
{  
  acknowledged: true,  
  insertedIds: {  
    '0': ObjectId('6957a08e57323074bbcc8999'),  
    '1': ObjectId('6957a08e57323074bbcc899a'),  
    '2': ObjectId('6957a08e57323074bbcc899b')  
  }  
}
```

Aggregation \$limit

```
blog> db.movies.aggregate([{$limit: 1}])  
[  
  {  
    _id: ObjectId('6957a08e57323074bbcc8999'),  
    title: 'Inception',  
    year: 2010,  
    genres: [ 'Action', 'Sci-Fi', 'Thriller' ],  
    runtime: 148,  
    imdb: { rating: 8.8, votes: 2000000 }  
  }]
```

```
blog> db.restaurants.insertMany([  
  ... {  
    ...   name: "Paradise Biryani",
```

```
...   cuisine: "Indian",
...   address: {
...     building: "12",
...     street: "MG Road",
...     city: "Hyderabad",
...     zipcode: "500003"
...
...   }
...
... },
...
... {
...   name: "Taco Fiesta",
...   cuisine: "Mexican",
...   address: {
...     building: "88",
...     street: "Church Street",
...     city: "Bengaluru",
...     zipcode: "560001"
...
...   }
...
... },
...
... {
...   name: "Sushi Zen",
...   cuisine: "Japanese",
...   address: {
...     building: "5A",
...     street: "Bandra West",
...     city: "Mumbai",
...     zipcode: "400050"
...
...   }
...
... },
...
... {
...   name: "Spice Hub",
...   cuisine: "Indian",
```

```
...   address: {
...     building: "44",
...     street: "Ameerpet",
...     city: "Hyderabad",
...     zipcode: "500016"
...
...   }
...
... },
...
{
...
  name: "Pasta Corner",
  cuisine: "Italian",
  address: {
    building: "21",
    street: "Koramangala",
    city: "Bengaluru",
    zipcode: "560034"
...
  }
...
},
...
{
...
  name: "Dragon Wok",
  cuisine: "Chinese",
  address: {
    building: "9",
    street: "Park Street",
    city: "Kolkata",
    zipcode: "700016"
...
  }
...
}
...
])}

{
  acknowledged: true,
  insertedIds: {
```

```
'0': ObjectId('6957a0d957323074bbcc899c'),  
'1': ObjectId('6957a0d957323074bbcc899d'),  
'2': ObjectId('6957a0d957323074bbcc899e'),  
'3': ObjectId('6957a0d957323074bbcc899f'),  
'4': ObjectId('6957a0d957323074bbcc89a0'),  
'5': ObjectId('6957a0d957323074bbcc89a1')  
}  
}
```

Aggregation \$project

```
{ $project: { name: 1, cuisine: 1, address: 1 } },  
... { $limit: 5 }  
... ])
```

Uncaught:

SyntaxError: Missing semicolon. (1:32)

```
> 1 | { $project: { name: 1, cuisine: 1, address: 1 } },  
| ^  
2 | { $limit: 5 }  
3 | ])  
4 |
```

```
blog> db.restaurants.aggregate([  
... { $project: { name: 1, cuisine: 1, address: 1 } },  
... { $limit: 5 }  
... ])  
[  
{  
_id: ObjectId('6957a0d957323074bbcc899c'),  
name: 'Paradise Biryani',
```

```
cuisine: 'Indian',
address: {
    building: '12',
    street: 'MG Road',
    city: 'Hyderabad',
    zipcode: '500003'
},
{
    _id: ObjectId('6957a0d957323074bbcc899d'),
    name: 'Taco Fiesta',
    cuisine: 'Mexican',
    address: {
        building: '88',
        street: 'Church Street',
        city: 'Bengaluru',
        zipcode: '560001'
    }
},
{
    _id: ObjectId('6957a0d957323074bbcc899e'),
    name: 'Sushi Zen',
    cuisine: 'Japanese',
    address: {
        building: '5A',
        street: 'Bandra West',
        city: 'Mumbai',
        zipcode: '400050'
    }
},
{

```

```

_id: ObjectId('6957a0d957323074bbcc899f'),
name: 'Spice Hub',
cuisine: 'Indian',
address: {
  building: '44',
  street: 'Ameerpet',
  city: 'Hyderabad',
  zipcode: '500016'
},
{
  _id: ObjectId('6957a0d957323074bbcc89a0'),
  name: 'Pasta Corner',
  cuisine: 'Italian',
  address: {
    building: '21',
    street: 'Koramangala',
    city: 'Bengaluru',
    zipcode: '560034'
  }
}
]

```

Aggregation \$sort

```

blog> db.listingsAndReviews.aggregate([
...  {
...    $sort: { "accommodates": -1 }
...  },
...  {
...    $project: {

```

```

...   "name": 1,
...   "accommodates": 1
...
... },
...
... {
...   $limit: 5
...
... }
...
... ]))

[
{
  _id: ObjectId('6957a07f57323074bbcc8995'),
  name: 'Cozy Apartment in City Center'
},
{
  _id: ObjectId('6957a07f57323074bbcc8996'),
  name: 'Budget Private Room'
},
{
  _id: ObjectId('6957a07f57323074bbcc8997'),
  name: 'Luxury Villa with Pool'
},
{
  _id: ObjectId('6957a07f57323074bbcc8998'),
  name: 'Peaceful Farm Stay'
}
]

```

Aggregation \$match

```

blog> db.listingsAndReviews.aggregate([
...   { $match : { property_type : "House" } },

```

```
... { $limit: 2 },
... { $project: {
...   "name": 1,
...   "bedrooms": 1,
...   "price": 1
... }}
...
])
[
{
  _id: ObjectId('6957a07f57323074bbcc8996'),
  name: 'Budget Private Room',
  price: 900
}
]
```

Aggregation \$addFields

```
blog> db.restaurants.aggregate([
... {
...   $addFields: {
...     avgGrade: { $avg: "$grades.score" }
...   }
... },
... {
...   $project: {
...     "name": 1,
...     "avgGrade": 1
...   }
... },
... {
...   $limit: 5
}
```

```
... }
...
])
[
{
  _id: ObjectId('6957a0d957323074bbcc899c'),
  name: 'Paradise Biryani',
  avgGrade: null
},
{
  _id: ObjectId('6957a0d957323074bbcc899d'),
  name: 'Taco Fiesta',
  avgGrade: null
},
{
  _id: ObjectId('6957a0d957323074bbcc899e'),
  name: 'Sushi Zen',
  avgGrade: null
},
{
  _id: ObjectId('6957a0d957323074bbcc899f'),
  name: 'Spice Hub',
  avgGrade: null
},
{
  _id: ObjectId('6957a0d957323074bbcc89a0'),
  name: 'Pasta Corner',
  avgGrade: null
}
]
blog> db.restaurants.find()
```

```
{  
  _id: ObjectId('6957a0d957323074bbcc899c'),  
  name: 'Paradise Biryani',  
  cuisine: 'Indian',  
  address: {  
    building: '12',  
    street: 'MG Road',  
    city: 'Hyderabad',  
    zipcode: '500003'  
  },  
},  
{  
  _id: ObjectId('6957a0d957323074bbcc899d'),  
  name: 'Taco Fiesta',  
  cuisine: 'Mexican',  
  address: {  
    building: '88',  
    street: 'Church Street',  
    city: 'Bengaluru',  
    zipcode: '560001'  
  },  
},  
{  
  _id: ObjectId('6957a0d957323074bbcc899e'),  
  name: 'Sushi Zen',  
  cuisine: 'Japanese',  
  address: {  
    building: '5A',  
    street: 'Bandra West',  
    city: 'Mumbai',  
    zipcode: '400050'  
}
```

```
    },
},
{
  _id: ObjectId('6957a0d957323074bbcc899f'),
  name: 'Spice Hub',
  cuisine: 'Indian',
  address: {
    building: '44',
    street: 'Ameerpet',
    city: 'Hyderabad',
    zipcode: '500016'
  }
},
{
  _id: ObjectId('6957a0d957323074bbcc89a0'),
  name: 'Pasta Corner',
  cuisine: 'Italian',
  address: {
    building: '21',
    street: 'Koramangala',
    city: 'Bengaluru',
    zipcode: '560034'
  }
},
{
  _id: ObjectId('6957a0d957323074bbcc89a1'),
  name: 'Dragon Wok',
  cuisine: 'Chinese',
  address: {
    building: '9',
    street: 'Park Street',
  }
}
```

```
        city: 'Kolkata',
        zipcode: '700016'

    }

}

]

blog> db.restaurants.updateMany(
... { grades: { $exists: false } },
... {
...   $set: {
...     grades: [
...       { date: new Date("2025-01-10"), grade: "A", score: 12 },
...       { date: new Date("2025-03-12"), grade: "B", score: 18 },
...       { date: new Date("2025-05-21"), grade: "A", score: 9 }
...     ]
...   }
... }
... )
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 6,
  modifiedCount: 6,
  upsertedCount: 0
}

blog> db.restaurants.findOne({}, { name: 1, grades: 1 })
{
  _id: ObjectId('6957a0d957323074bbcc899c'),
  name: 'Paradise Biryani',
  grades: [
    {
      date: ISODate('2025-01-10T00:00:00.000Z'),
      grade: "A",
      score: 12
    },
    {
      date: ISODate('2025-03-12T00:00:00.000Z'),
      grade: "B",
      score: 18
    },
    {
      date: ISODate('2025-05-21T00:00:00.000Z'),
      grade: "A",
      score: 9
    }
  ]
}
```

```
        grade: 'A',
        score: 12
    },
    {
        date: ISODate('2025-03-12T00:00:00.000Z'),
        grade: 'B',
        score: 18
    },
    { date: ISODate('2025-05-21T00:00:00.000Z'), grade: 'A', score: 9 }
]
}

blog> db.restaurants.updateOne(
... { name: "Paradise Biryani" },
... {
...   $set: {
...     grades: [
...       { date: new Date("2025-01-02"), grade: "A", score: 10 },
...       { date: new Date("2025-03-05"), grade: "B", score: 17 },
...       { date: new Date("2025-06-18"), grade: "A", score: 8 }
...     ]
...   }
... }
... )
{
    acknowledged: true,
    insertedId: null,
    matchedCount: 1,
    modifiedCount: 1,
    upsertedCount: 0
}
blog> db.restaurants.updateOne(
```

```
... { name: "Taco Fiesta" },
... {
...   $set: {
...     grades: [
...       { date: new Date("2025-02-10"), grade: "B", score: 20 },
...       { date: new Date("2025-04-14"), grade: "A", score: 11 },
...       { date: new Date("2025-07-01"), grade: "B", score: 19 }
...     ]
...   }
... }
...
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}

}
blog> db.restaurants.updateOne(
... { name: "Sushi Zen" },
... {
...   $set: {
...     grades: [
...       { date: new Date("2025-01-20"), grade: "A", score: 7 },
...       { date: new Date("2025-05-02"), grade: "A", score: 9 },
...       { date: new Date("2025-08-11"), grade: "A", score: 6 }
...     ]
...   }
... }
...
{

```

```
acknowledged: true,  
insertedId: null,  
matchedCount: 1,  
modifiedCount: 1,  
upsertedCount: 0  
}  
  
blog> db.restaurants.updateOne(  
... { name: "Spice Hub" },  
... {  
...   $set: {  
...     grades: [  
...       { date: new Date("2025-02-01"), grade: "C", score: 26 },  
...       { date: new Date("2025-04-10"), grade: "B", score: 18 },  
...       { date: new Date("2025-06-22"), grade: "B", score: 16 }  
...     ]  
...   }  
... }  
... )  
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0  
}  
  
blog> db.restaurants.updateOne(  
... { name: "Pasta Corner" },  
... {  
...   $set: {  
...     grades: [  
...       { date: new Date("2025-03-09"), grade: "B", score: 15 },
```

```
...     { date: new Date("2025-05-30"), grade: "A", score: 10 },
...     { date: new Date("2025-09-05"), grade: "B", score: 14 }
...
...   ]
...
... }
...
... )
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

```
blog> db.restaurants.aggregate([
...   { $addFields: { avgGrade: { $avg: "$grades.score" } } },
...   { $project: { name: 1, avgGrade: 1 } },
...   { $limit: 5 }
... ])
```

```
[
{
  _id: ObjectId('6957a0d957323074bbcc899c'),
  name: 'Paradise Biryani',
  avgGrade: 11.666666666666666
},
{
  _id: ObjectId('6957a0d957323074bbcc899d'),
  name: 'Taco Fiesta',
  avgGrade: 16.666666666666668
},
{
  _id: ObjectId('6957a0d957323074bbcc899e'),
```

```
        name: 'Sushi Zen',
        avgGrade: 7.333333333333333
    },
    {
        _id: ObjectId('6957a0d957323074bbcc899f'),
        name: 'Spice Hub',
        avgGrade: 20
    },
    {
        _id: ObjectId('6957a0d957323074bbcc89a0'),
        name: 'Pasta Corner',
        avgGrade: 13
    }
]
```

Aggregation \$count

```
blog> db.restaurants.aggregate([
...   {
...     $match: { "cuisine": "Chinese" }
...   },
...   {
...     $count: "totalChinese"
...   }
... ])
```

```
[ { totalChinese: 1 } ]
```

Aggregation \$lookup

```
blog> db.comments.aggregate([
...   {
```

```
...   $lookup: {
...     from: "movies",
...     localField: "movie_id",
...     foreignField: "_id",
...     as: "movie_details",
...   },
... },
... {
...   $limit: 1
... }
... ])
```

blog> use blog

already on db blog

blog> db.comments.countDocuments()

0

blog> db.movies.findOne({}, { _id: 1, title: 1 })

```
{ _id: ObjectId('6957a08e57323074bbcc8999'), title: 'Inception' }
```

blog> const m1 = db.movies.findOne({ title: "Inception" }, { _id: 1 })

blog> const m2 = db.movies.findOne({ title: "Interstellar" }, { _id: 1 })

blog>

blog> db.comments.insertMany([

```
... {
...   name: "Nanda",
...   email: "nanda@example.com",
...   text: "Amazing movie!",
...   date: new Date(),
...   movie_id: m1._id
```

```
... },
... {
...   name: "Ravi",
...   email: "ravi@example.com",
...   text: "Mind-blowing visuals.",
...   date: new Date(),
...   movie_id: m1._id
...
... },
... {
...   name: "Rahul",
...   email: "rahul@example.com",
...   text: "Loved the soundtrack.",
...   date: new Date(),
...   movie_id: m2._id
...
... }
...
])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('6957ad7657323074bbcc89a2'),
    '1': ObjectId('6957ad7657323074bbcc89a3'),
    '2': ObjectId('6957ad7657323074bbcc89a4')
  }
}
}

blog> db.comments.aggregate([
... {
...   $lookup: {
...     from: "movies",
...     localField: "movie_id",
...     foreignField: "_id",
...     as: "movie_details"
...   }
... ])
```

```
...    }
... },
... { $limit: 1 }
... ])
[
{
  _id: ObjectId('6957ad7657323074bbcc89a2'),
  name: 'Nanda',
  email: 'nanda@example.com',
  text: 'Amazing movie!',
  date: ISODate('2026-01-02T11:35:18.811Z'),
  movie_id: ObjectId('6957a08e57323074bbcc8999'),
  movie_details: [
    {
      _id: ObjectId('6957a08e57323074bbcc8999'),
      title: 'Inception',
      year: 2010,
      genres: [ 'Action', 'Sci-Fi', 'Thriller' ],
      runtime: 148,
      imdb: { rating: 8.8, votes: 2000000 }
    }
  ]
}
]

blog> db.comments.findOne({}, { movie_id: 1 })

{
  _id: ObjectId('6957ad7657323074bbcc89a2'),
  movie_id: ObjectId('6957a08e57323074bbcc8999')
}

blog> db.movies.findOne({}, { _id: 1 })

{ _id: ObjectId('6957a08e57323074bbcc8999') }
```

```
blog> db.comments.updateMany(  
... { movie_id: { $type: "string" } },  
... [{ $set: { movie_id: { $toObjectId: "$movie_id" } } }]  
... )  
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 0,  
  modifiedCount: 0,  
  upsertedCount: 0  
}  
blog>
```