

Logical Operators in MongoDB:

Name	Description
\$and	Joins query clauses with a logical AND returns all documents that match the conditions of both clauses.
\$not	Inverts the effect of a query expression and returns documents that do <i>not</i> match the query expression.
\$nor	Joins query clauses with a logical NOR returns all documents that fail to match both clauses.
\$or	Joins query clauses with a logical OR returns all documents that match the conditions of either clause.

Finding students with fullTime as false and age greater than equal to 38:

```
school> db.students.find({$and: [{fullTime: false}, {age: {$gte: 38}}] })  
[  
  {  
    _id: ObjectId('698075a0c41c5afdf628ca0'),  
    name: 'patrick',  
    age: 38,  
    gpa: 1.5,  
    fullTime: false  
  },  
  {  
    _id: ObjectId('69807a96aa017ce650cd809b'),  
    name: 'Name3',  
    age: 42,  
    gpa: 6.2,  
    fullTime: false  
  }  
]
```

Using Or Operator: fullTime: true or age: {\$gte: 38}

```
school> db.students.find({$or: [{fullTime: true}, {age: {$gte: 38}}] })  
[  
  {  
    _id: ObjectId('698075a0c41c5afdf628ca0'),  
    name: 'patrick',  
    age: 38,  
    gpa: 1.5,  
    fullTime: false  
  },  
  {  
    _id: ObjectId('69807a96aa017ce650cd8099'),  
    name: 'Name3',  
    age: 42,  
    gpa: 6.2,  
    fullTime: false  
  }  
]
```

```

        name: 'Name1',
        age: 12,
        gpa: 1.2,
        fullTime: true
    },
{
    _id: ObjectId('69807a96aa017ce650cd809a'),
    name: 'Name2',
    age: 22,
    gpa: 2.4,
    fullTime: true
},
{
    _id: ObjectId('69807a96aa017ce650cd809b'),
    name: 'Name3',
    age: 42,
    gpa: 6.2,
    fullTime: false
}
]

```

Using nor operator: Both the condition to be false like fullTime: false, age < 38

school> **db.students.find({\$nor: [{fullTime: true}, {age: {\$gte: 38}}]})**

```

[
{
    _id: ObjectId('69808144c41c5afdf628ca4'),
    name: 'Larry',
    age: 32,
    gpa: 3.2,
    fullTime: false,
    registerDate: ISODate('2026-02-02T10:49:40.654Z'),
    graduationDate: null,
    courses: [ 'Biology', 'Chemistry', 'Calculus' ],
    address: { street: '123 Fake St.', city: 'Bik Bottom', zip: 12345 }
},
{
    _id: ObjectId('69804ab8864a660af4628ca0'),
    name: 'spongebob',
    age: 30,
    gpa: 3.2,
    fullTime: false
},
{
    _id: ObjectId('698075a0c41c5afdf628ca1'),
    name: 'sandy',

```

```

        age: 27,
        gpa: 4,
        fullTime: false
    },
    {
        _id: ObjectId('698075a0c41c5afdf628ca2'),
        name: 'gary',
        age: 18,
        gpa: 2.5,
        fullTime: false
    },
    {
        _id: ObjectId('69807998aa017ce650cd8097'),
        name: 'mongo',
        age: 32,
        gpa: 3.2,
        fullTime: false
    }
]
-----
```

For age less than or equal to 18:

```

school> db.students.find({age: {$lte: 18}})
[
{
    _id: ObjectId('698075a0c41c5afdf628ca2'),
    name: 'gary',
    age: 18,
    gpa: 2.5,
    fullTime: false
},
{
    _id: ObjectId('69807a96aa017ce650cd8099'),
    name: 'Name1',
    age: 12,
    gpa: 1.2,
    fullTime: true
}
]
```

If in compass, making age: null where name is Name1:

Find Int64

MaxKey MinKey Null Object String BSONNR Times Undefined Int32 Double Boolean

Cancel Update

```
{age: {$lte: 18}}
```

DATA UPDATE DELETE EXPORT DATA EXPORT CODE

25 1 - 2 of 2 < > ⌂ ⌂

`_id: ObjectId('698075a0c41c5afdf628ca2')`
`name : "gary"`
`age: 18`
`gpa: 2.5`
`fullTime: false`

`_id: ObjectId('69807a96aa017ce650cd8099')`
`name : "Name1"`
`age: null`
`gpa: 1.2`

`name : "Name1"`
`age: null`
`gpa: 1.2`
`fullTime: true`

ment modified.

```
_id: ObjectId('69807a96aa017ce650cd8099')
name : "Name1"
age: null
gpa: 1.2
fullTime: true
```

Now if Check again, Document with name: Name1 is not available:

school> db.students.find({age: {\$lte: 18}})

```
[  

  {  

    _id: ObjectId('698075a0c41c5afdf628ca2'),  

    name: 'gary',  

    age: 18,  

    gpa: 2.5,  

    fullTime: false  

  }  

]
```

Lets use Not operator(where null value for age is included):

school> db.students.find({age: {\$not: {\$lte: 18}}})

```
[  

  {  

    _id: ObjectId('69808144c41c5afdf628ca4'),  

    name: 'Larry',  

    age: 32,  

    gpa: 3.2,  

    fullTime: false,  

    registerDate: ISODate('2026-02-02T10:49:40.654Z'),  

    graduationDate: null,
```

```
courses: [ 'Biology', 'Chemistry', 'Calculus' ],
address: { street: '123 Fake St.', city: 'Bik Bottom', zip: 12345 }
},
{
  _id: ObjectId('69804ab8864a660af4628ca0'),
  name: 'spongebob',
  age: 30,
  gpa: 3.2,
  fullTime: false
},
{
  _id: ObjectId('698075a0c41c5afdf628ca0'),
  name: 'patrick',
  age: 38,
  gpa: 1.5,
  fullTime: false
},
{
  _id: ObjectId('698075a0c41c5afdf628ca1'),
  name: 'sandy',
  age: 27,
  gpa: 4,
  fullTime: false
},
{
  _id: ObjectId('69807998aa017ce650cd8097'),
  name: 'mongo',
  age: 32,
  gpa: 3.2,
  fullTime: false
},
{
  _id: ObjectId('69807a96aa017ce650cd8099'),
  name: 'Name1',
  age: null,
  gpa: 1.2,
  fullTime: true
},
{
  _id: ObjectId('69807a96aa017ce650cd809a'),
  name: 'Name2',
  age: 22,
  gpa: 2.4,
  fullTime: true
}
```

```
},
{
  _id: ObjectId('69807a96aa017ce650cd809b'),
  name: 'Name3',
  age: 42,
  gpa: 6.2,
  fullTime: false
}
]
```