



MongoDB find

Summary: in this tutorial, you'll learn how to use the MongoDB `find()` method to select documents from a collection.

Introduction to the MongoDB `find()` method

The `find()` method finds the documents that satisfy a specified condition and returns a cursor to the matching documents.

The following shows the syntax of the `find()` method:

```
db.collection.find(query, projection)
```

Similar to the `findOne()` (<https://mongodbtutorial.org/mongodb-crud/mongodb-findone/>) method, the `find()` method accepts two optional arguments.

1) query

The `query` is a document that specifies the criteria for selecting documents from the collection. If you omit the `query` or pass an empty document(`{}`), the `find()` returns a cursor that returns all documents in the collection.

2) projection

The `projection` is a document that specifies the fields in the matching documents to return. If you omit the `projection` argument, the `find()` method returns all fields in the matching documents.

By default, the `find()` method includes the `_id` field in the matching documents unless you explicitly specify `_id: false` in the `projection` document.

Since the mongo shell automatically iterates the cursor returned by the `find()` method, you don't need to do any extra steps to get the document from the cursor.

By default, the mongo shell shows up the first 20 documents. To continue iteration, you type the `it` command in the shell.

The MongoDB find() method examples

We'll use the following `books` collection for the demonstration:

```
{ "isbn" : "1933988673", "categories" : [ "Open Source", "Mobile" ] },
  "Second Edition", "isbn" : "1935182722", "categories" : [ "Java" ] },
  "Sample", "isbn" : "1617290084", "categories" : [ "Software Engineering" ] },
  "isbn" : "1933988746", "categories" : [ "Internet" ] },
  "isbn" : "1935182420", "categories" : [ "Internet" ] },
  "eXtreme Programming in Action", "isbn" : "1933988312", "categories" : [ "Internet" ] },
  "eXtreme Programming in Action", "isbn" : "1933988320", "categories" : [ "Web Development" ] },
  "isbn" : "1933988797", "categories" : [ "Internet" ] },
  "isbn" : "1935182234", "categories" : [ "Java" ] },
  "isbn" : "193518217X", "categories" : [ "Java" ] },
  "isbn" : "1933988509", "categories" : [ "Web Development" ] },
  "isbn" : "1933988762", "categories" : [ "Internet" ] },
  "isbn" : "1884777384", "categories" : [ "Miscellaneous" ] },
  "eXtreme Programming 2008 in Action", "isbn" : "1933988592", "categories" : [ "Microsoft .NET" ] },
  "eXtreme Programming Development in .NET", "isbn" : "1933988711", "categories" : [ "Microsoft" ] },
  "isbn" : "1935182870", "categories" : [ "Next Generation Databases" ] },
  "eXtreme Programming Development with PowerBuilder 6.0", "isbn" : "1884777686", "categories" : [
    "PowerBuilder", "eXtreme Programming" ],
  "eXtreme Programming Development with PowerBuilder 7", "isbn" : "1884777864", "categories" : [ "PowerBuilder", "eXtreme Programming" ],
  "isbn" : "1884777686", "categories" : [ "PowerBuilder" ] },
  "eXtreme Programming Development with Java 3D", "isbn" : "1884777902", "categories" : [ "Java", "Computer Graphics" ],
  "isbn" : "193239415X", "categories" : [ "Java" ] },
  "eXtreme Programming (Chinese Edition)", "categories" : [ "Java" ] },
  "eXtreme Programming Development with Hibernate", "isbn" : "1932394885", "categories" : [ "Java" ] },
```

```
'isbn' : "1930110529", "categories" : [ "Internet" ] },
, "isbn" : "1932394826", "categories" : [ "Web Development" ] },
ftware", "isbn" : "133046192", "categories" : [ "Object-Oriented Programming", "S"
in Action", "isbn" : "1933988649", "categories" : [ "Java" ] },
, "isbn" : "1933988355", "categories" : [ "Web Development" ] },
Second Edition", "isbn" : "1935182323", "categories" : [ "Java" ] }
```

1) Using MongoDB find() method to retrieve all documents from a collection

The following example uses the `find()` method with no parameters to return all documents from the `books` collection:

```
db.books.find()
```

In the mongo shell, the statement returns the first 20 documents with all available fields in the matching documents.

If you type `it` command and press enter, you'll see the next 20 documents.

2) Using MongoDB find() method to search for a specific document

The following example uses the `find()` method to search for the document with id 10:

```
db.books.find({_id: 10})
```

The statement returns the document whose `_id` is 10. Since it doesn't have the `projection` argument, the returned document includes all available fields:

```
[
  {
    _id: 10,
    title: 'OSGi in Depth',
    isbn: '193518217X',
```

```
    categories: [ 'Java' ]  
  }  
]
```

3) Using MongoDB find() method to return selected fields

The following example uses the `find()` method to search for documents whose category is `Java`. It returns the fields `_id`, `title` and `isbn`:

```
db.books.find({ categories: 'Java'}, { title: 1, isbn: 1})
```

Output:

```
[  
  {  
    _id: 2,  
    title: 'Android in Action, Second Edition',  
    isbn: '1935182722'  
  },  
  { _id: 9, title: 'Griffon in Action', isbn: '1935182234' },  
  { _id: 10, title: 'OSGi in Depth', isbn: '193518217X' },  
  {  
    _id: 21,  
    title: '3D User Interfaces with Java 3D',  
    isbn: '1884777902'  
  },  
  { _id: 22, title: 'Hibernate in Action', isbn: '193239415X' },  
  { _id: 23, title: 'Hibernate in Action (Chinese Edition)' },  
  {  
    _id: 24,  
    title: 'Java Persistence with Hibernate',  
    isbn: '1932394885'  
  },  
]
```

```
{ _id: 28, title: 'Hibernate Search in Action', isbn: '1933988649' },
{
  _id: 30,
  title: 'jQuery in Action, Second Edition',
  isbn: '1935182323'
}
]
```

To remove the `_id` field from the matching documents, you need to explicitly specify `_id: 0` in the `projection` argument like this:

```
db.books.find({ categories: 'Java'}, { title: 1, isbn: 1, _id: 0})
```

Output:

```
[
  { title: 'Android in Action, Second Edition', isbn: '1935182722' },
  { title: 'Griffon in Action', isbn: '1935182234' },
  { title: 'OSGi in Depth', isbn: '193518217X' },
  { title: '3D User Interfaces with Java 3D', isbn: '1884777902' },
  { title: 'Hibernate in Action', isbn: '193239415X' },
  { title: 'Hibernate in Action (Chinese Edition)' },
  { title: 'Java Persistence with Hibernate', isbn: '1932394885' },
  { title: 'Hibernate Search in Action', isbn: '1933988649' },
  { title: 'jQuery in Action, Second Edition', isbn: '1935182323' }
]
```

Note that you'll learn how to construct more complex conditions using operators in the next tutorials.

Summary

- Use the `find()` method to select the documents from a collection and returns a cursor referencing the matching documents.