

课堂练习1: 插入文档

1. 使用insert()和insertOne()往course集合中分别插入以下2个文档: `[{'course_id': 'BIO-101', 'title': 'Intro. to Biology', 'dept_name': 'Biology'}, {'course_id': 'BIO-301', 'title': 'Genetics', 'dept_name': 'Biology'}]`

```
> db.course.insert({'course_id': 'BIO-101',
'title': 'Intro. to Biology', 'dept_name': 'Biology'})
WriteResult({ "nInserted" : 1 })
> db.course.insertOne({'course_id': 'BIO-301',
'title': 'Genetics', 'dept_name': 'Biology'})
{
  "acknowledged" : true,
  "insertedId" : ObjectId("5c05dc01b9c0697c445754a1")
}
```

2. 使用insertMany()往course集合插入以下三个文档: `[{'course_id': 'BIO-399', 'title': 'Computational Biology', 'dept_name': 'Biology'}, {'course_id': 'CS-101', 'title': 'Intro. to Computer Science', 'dept_name': 'Comp. Sci.'}, {'course_id': 'CS-190', 'title': 'Game Design', 'dept_name': 'Comp. Sci.'}]`

```
> var x = [{'course_id': 'BIO-399', 'title': 'Computational Biology',
'dept_name': 'Biology'},
{'course_id': 'CS-101', 'title': 'Intro. to Computer Science',
'dept_name': 'Comp. Sci.'},
{'course_id': 'CS-190', 'title': 'Game Design',
'dept_name': 'Comp. Sci.'}]
> db.course.insertMany(x)
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5c05dcc3b9c0697c445754a2"),
    ObjectId("5c05dcc3b9c0697c445754a3"),
    ObjectId("5c05dcc3b9c0697c445754a4")
  ]
}
```

课堂练习2: 更新文档

```
> db.course.find({}, {_id:0})
{ "course_id" : "BIO-101", "title" : "Intro. to Biology",
  "dept_name" : "Biology" }
{ "course_id" : "BIO-301", "title" : "Comp. Bio.",
  "dept_name" : "Biology" }
```

```
{ "course_id" : "BIO-399", "title" : "Computational Biology",
  "dept_name" : "Biology" }
{ "course_id" : "CS-101", "title" : "Intro. to Computer Science",
  "dept_name" : "Comp. Sci." }
{ "course_id" : "CS-190", "title" : "Game Design",
  "dept_name" : "Comp. Sci." }
```

1. 将course集合中course_id为'BIO-301'的文档的title更新为'Comp. Bio.'。

```
> db.course.update({course_id: 'BIO-301'}, {$set: {title:'Comp. Bio.'}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.course.find({course_id:"BIO-301"},{_id:0})
{ "course_id" : "BIO-301", "title" : "Comp. Bio.", "dept_name" : "Biology" }
```

2. 给所有course集合中dept_name为'Comp. Sci.'的文档插入新增1个field: credits: 4。

```
> db.course.update({dept_name: 'Comp. Sci.'}, {$set: {credits:4}},
  {multi:true, upsert:true})
WriteResult({ "nMatched" : 2, "nUpserted" : 0, "nModified" : 2 })
> db.course.find({dept_name: 'Comp. Sci.'}, {'_id':0})
{ "course_id" : "CS-101", "title" : "Intro. to Computer Science",
  "dept_name" : "Comp. Sci.", "credits" : 4 }
{ "course_id" : "CS-190", "title" : "Game Design",
  "dept_name" : "Comp. Sci.", "credits" : 4 }
```

3. 将course_id为"CS-190"的文档的credits的值增加1。

```
> db.course.update({course_id: "CS-190"}, {$inc:{credits:1}})
WriteResult({ "nMatched" : 1, "nUpserted" : 1, "nModified" : 1 })
> db.course.find({course_id:"CS-190"}, projection={_id:0})
{ "course_id" : "CS-190", "title" : "Game Design",
  "dept_name" : "Comp. Sci.", "credits" : 5 }
```

4. 将course集合所有文档的dept_name重命名为deptName。

```
> db.course.update({}, {$rename:{dept_name:"deptName"}}, {multi:true})
WriteResult({ "nMatched" : 5, "nUpserted" : 0, "nModified" : 5 })
> db.course.find({},projection={_id:0, title:0})
{ "course_id" : "BIO-101", "deptName" : "Biology" }
{ "course_id" : "BIO-301", "deptName" : "Biology" }
{ "course_id" : "BIO-399", "deptName" : "Biology" }
{ "course_id" : "CS-101", "credits" : 4, "deptName" : "Comp. Sci." }
{ "course_id" : "CS-190", "credits" : 4, "deptName" : "Comp. Sci." }
```

课堂练习3: 删除文档

```
> db.course.find({}, projection={_id:0})
{ "course_id" : "BIO-101", "title" : "Intro. to Biology",
  "deptName" : "Biology" }
{ "course_id" : "BIO-301", "title" : "Comp. Bio.",
  "deptName" : "Biology" }
{ "course_id" : "BIO-399", "title" : "Computational Biology",
  "deptName" : "Biology" }
{ "course_id" : "CS-101", "title" : "Intro. to Computer Science",
  "credits" : 4, "deptName" : "Comp. Sci." }
{ "course_id" : "CS-190", "title" : "Game Design",
  "credits" : 4, "deptName" : "Comp. Sci." }
```

1. 用deleteOne()删除course集合中course_id为"BCS-101"的1个文档。

```
> db.course.deleteOne({course_id: "BCS-101"})
{ "acknowledged" : true, "deletedCount" : 0 }
```

2. 用deleteMany()删除course集合中deptName为"Biology"的所有文档。

```
> db.course.deleteMany({deptName: "Biology"})
{ "acknowledged" : true, "deletedCount" : 3 }
```

3. 用findOneAndDelete()删除course集合中course_id为"CS-101"的1个文档。

```
> db.course.findOneAndDelete({course_id: "CS-101"})
{
  "_id" : ObjectId("5c05dcc3b9c0697c445754a3"),
  "course_id" : "CS-101",
  "title" : "Intro. to Computer Science",
  "credits" : 4,
  "deptName" : "Comp. Sci."
}
> db.course.find({}, projection={_id:0})
{ "course_id" : "CS-190", "title" : "Game Design",
  "credits" : 4, "deptName" : "Comp. Sci." }
```