

MongoDB mapReduce

```
db.collection.mapReduce(...);
```

语法结构:

```
db.collection.mapReduce(  
    <map>,  
    <reduce>,  
    {  
        out: <collection>,  
        query: <document>,  
        sort: <document>,  
        limit: <number>,  
        finalize: <function>,  
        scope: <document>,  
        jsMode: <boolean>,  
        verbose: <boolean>,  
        bypassDocumentValidation: <boolean>  
    }  
)
```

```
db.user.mapReduce(  
{  
    map : 函数  
    reduce : 函数  
    [, query : 文档, 发往map函数前先过滤文档]  
    [, sort : 文档, 发往map函数前先给文档排序]  
    [, limit : 整数, 发往map函数的文档数量上限]  
    [, out : 字符串, 统计结果保存的集合, 必传]  
    [, keepTemp : 布尔值, 链接关闭时临时结果集合是否保存]  
    [, finalize : 函数, 将reduce的结果送给这个函数, 做最后的处理]  
    [, scope : 文档, js代码中要用到的变量]  
    [, jsMode : 布尔值, 是否减少执行过程中BSON和JS的转换, 默认true] //注: false时 BSON-->JS-->map-->BSON-->JS--  
    >reduce-->BSON,可处理非常大的mapreduce,//true时BSON-->js-->map-->reduce-->BSON  
    [, verbose : 布尔值, 是否产生更加详细的服务器日志, 默认true]  
});
```

添加数据:

```
db.user.insertMany([  
    {  
        uid:1001,  
        username:"liqingjiang",  
        age:25,  
        hobbies:[  
            "run","basketball","music","dog","coding"  
        ]  
    },  
    {  
        uid:1002,  
        username:"zhangyanhui",  
        age:25,  
        hobbies:[  
            "run","basketball","music","cat"  
        ]  
    },  
    {  
        uid:1003,
```

```

    username:"dukeqiang",
    age:25,
    hobbies:[
      "run","music","coding"
    ]
  },
  {
    uid:1004,
    username:"liupenghua",
    age:24,
    hobbies:[
      "cat","basketball","football","music"
    ]
  },
  {
    uid:1005,
    username:"cunyushun",
    age:24,
    hobbies:[
      "run","basketball","music","coding"
    ]
  },
  {
    uid:1006,
    username:"zhangyuliang",
    age:26,
    hobbies:[
      "run","basketball","coding","cat"
    ]
  },
  {
    uid:1007,
    username:"lanfanfan",
    age:24,
    hobbies:[
      "run","music","dog","cat","iPhone"
    ]
  },
  {
    uid:1008,
    username:"lanhuanhuan",
    age:26,
    hobbies:[
      "run","music","cat","iPhone"
    ]
  }
]
})

```

实例：

1. 统计同龄人个数

```

var map = function(){
  emit(this.age, 1);
}

var reduce = function(key, values){
  return Array.sum(values);
}

db.user.mapReduce(
  map,
  reduce,
  {
    out:"user_age"
  }
)

```

#2. 同龄人的名字

```

var map = function(){
  emit(this.age, this.username);
}

var reduce = function(key, values){
  var ret = {age:key, names:values};
  return ret;
}

db.user.mapReduce(
  map,
  reduce,
  {
    out:"user_name"
  }
)

```

```
}  
)
```

##3. 同龄人的uid 和 username

```
var map = function(){  
  emit(this.age, {uid:this.uid, username:this.username})  
}  
  
var reduce = function(key, values){  
  var ret = {age:key, users:values}  
  return ret;  
}  
  
db.user.mapReduce(  
  map,  
  reduce,  
  {  
    out:"names"  
  }  
)
```

##4. 相同性别的平均薪资

```
var map = function(){  
  emit(this.sex, this.salary)  
}  
  
var reduce = function(key, values){  
  var ret = {count: values.length, salary: Array.sum(values)};  
  return ret;  
}  
  
var finalize = function(key, rval){  
  rval.avg = rval.salary / rval.count;  
  return rval;  
}  
  
db.user.mapReduce(  
  map,  
  reduce,  
  {  
    out:"salary",  
    finalize:finalize  
  }  
)
```

相同年龄的平均薪资

```
var map = function(){  
  emit(this.age, this.salary)  
}  
  
var reduce = function(key, values){  
  var ret = {count: values.length, salary: Array.sum(values)};  
  return ret;  
}  
  
var finalize = function(key, rval){  
  rval.avg = rval.salary / rval.count;  
  return rval;  
}  
  
db.user.mapReduce(  
  map,  
  reduce,  
  {  
    out:"salary age",  
    finalize:finalize  
  }  
)
```

