

In this lecture, we will discuss...

✧ \$group



\$group

- ✧ Similar to “GROUP BY” in RDBMS
- ✧ Groups documents by some **specified** expression
- ✧ The output documents contain an **_id** field which contains the **distinct group** by key
- ✧ The output documents can also contain **computed fields** that hold the **values** of some accumulator expression grouped by the \$group's **_id** field



\$group

Command	Description
\$sum	Returns a sum for each group.
\$avg	Returns an average for each group.
\$max	Returns the highest expression value for each group.
\$min	Returns the lowest expression value for each group.
\$push	Returns an array of expression values for each group.
\$addToSet	Returns an array of unique expression values for each group. Order of the array elements is undefined.



\$sum

- ✧ Returns a **sum** for each group
- ✧ **Ignores** non-numeric values
- ✧

```
db[:zip].find.aggregate([  
  :$group=>{:_id=>'$state',  
  :population=>{:$sum=>'$pop'}}},  
  :$limit=>5]).each {|r| pp r}
```

\$avg

- ✧ Returns an **average** for each group
- ✧ **Ignores** non-numeric values
- ✧

```
db[:zip].find.aggregate([{: $group=>{  
  :_id=>'$state',  
  :ave_population=>{: $avg=>'$pop' }  
}],{: $limit=>5}]).each {|r| pp r}
```

\$max

✧ Returns the **highest expression value** for each group

✧ `db[:zip].find().aggregate([{: $group=> {
 :_id=>' $state',
 :max_zip=>{: $max=>' $pop' } } },

{: $limit=>5}]).each {|r| pp r}`



\$min

- ✧ Returns the **lowest expression value** for each group
- ✧

```
db[:zip].find().aggregate([{: $group=> {  
  :_id=>' $state',  
  :min_zip=>{: $min=>' $pop' } } },  
{: $limit=>5} ] ).each {|r| pp r}
```

\$push

- ✧ Returns an **array** of **all values** that result from **applying an expression** to each document in a group of documents that **share** the same group by key
- ✧

```
db[:zip].find().aggregate([{: $group => { _id => { :city => '$city', :state => '$state' }, :zip => { :$push => { '$_id' } } }, { :$limit => 15 } ] ).each {|r| pp r}
```



\$addToSet

✧ Returns an **array** of all **unique values** that result from **applying an expression** to each document in a group of documents that **share** the same group by key. Order of the elements in the output array is **unspecified**.

✧ `db[:zip].find.aggregate([
 {:$group=>{:_id=>0,
 :zip=>{ :$push=>"$state" }}}]).first`

✧ `db[:zip].find.aggregate([
 {:$group=>{:_id=>0,
 :zip=>{ :$addToSet=>"$state" }}}]).first`



Summary

- ✧ Groups documents by some specified expression and outputs to the next stage a document for each distinct grouping.

What's Next?

- ✧ \$match