

```
Command Prompt - mongo
C:\Users\Kirti>mongo
MongoDB shell version v5.0.1
connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("b3621c0c-1c45-4fcb-a222-2ce6332724e9") }
MongoDB server version: 5.0.1
=====
Warning: the "mongo" shell has been superseded by "mongosh",
which delivers improved usability and compatibility. The "mongo" shell has been deprecated and will be removed in
an upcoming release.
We recommend you begin using "mongosh".
For installation instructions, see
https://docs.mongodb.com/mongodb-shell/install/
=====
---
The server generated these startup warnings when booting:
---
2021-07-30T22:41:10.447+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
---
---
Enable MongoDB's free cloud-based monitoring service, which will then receive and display
metrics about your deployment (disk utilization, CPU, operation statistics, etc).

The monitoring data will be available on a MongoDB website with a unique URL accessible to you
and anyone you share the URL with. MongoDB may use this information to make product
improvements and to suggest MongoDB products and deployment options to you.

To enable free monitoring, run the following command: db.enableFreeMonitoring()
To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
---
> show dbs
admin                0.000GB
config               0.000GB
db_school            0.000GB
local                0.000GB
mongo_practice        0.000GB
population            0.002GB
> use population
switched to db population
> show collections
zipcodes
```

Atlanta Population

```
db.zipcodes.find({city:"ATLANTA", state:"GA"})
{"_id" : "30303", "city" : "ATLANTA", "loc" : [-84.388846, 33.752504], "pop" : 1845, "state" : "GA" }
{"_id" : "30305", "city" : "ATLANTA", "loc" : [-84.385145, 33.831963], "pop" : 19122, "state" : "GA" }
{"_id" : "30306", "city" : "ATLANTA", "loc" : [-84.351418, 33.786027], "pop" : 20081, "state" : "GA" }
{"_id" : "30307", "city" : "ATLANTA", "loc" : [-84.335957, 33.769138], "pop" : 16330, "state" : "GA" }
{"_id" : "30308", "city" : "ATLANTA", "loc" : [-84.375744, 33.771839], "pop" : 8549, "state" : "GA" }
{"_id" : "30309", "city" : "ATLANTA", "loc" : [-84.388338, 33.798407], "pop" : 14766, "state" : "GA" }
{"_id" : "30310", "city" : "ATLANTA", "loc" : [-84.423173, 33.727849], "pop" : 34017, "state" : "GA" }
{"_id" : "30311", "city" : "ATLANTA", "loc" : [-84.470219, 33.722957], "pop" : 34880, "state" : "GA" }
{"_id" : "30312", "city" : "ATLANTA", "loc" : [-84.378125, 33.746749], "pop" : 17683, "state" : "GA" }
{"_id" : "30313", "city" : "ATLANTA", "loc" : [-84.39352, 33.76825], "pop" : 8038, "state" : "GA" }
{"_id" : "30314", "city" : "ATLANTA", "loc" : [-84.425546, 33.756103], "pop" : 26649, "state" : "GA" }
{"_id" : "30315", "city" : "ATLANTA", "loc" : [-84.380771, 33.705062], "pop" : 41061, "state" : "GA" }
{"_id" : "30316", "city" : "ATLANTA", "loc" : [-84.333913, 33.721686], "pop" : 34668, "state" : "GA" }
{"_id" : "30317", "city" : "ATLANTA", "loc" : [-84.31685, 33.749788], "pop" : 16395, "state" : "GA" }
{"_id" : "30318", "city" : "ATLANTA", "loc" : [-84.445432, 33.786454], "pop" : 53894, "state" : "GA" }
{"_id" : "30319", "city" : "ATLANTA", "loc" : [-84.335091, 33.868728], "pop" : 32138, "state" : "GA" }
{"_id" : "30324", "city" : "ATLANTA", "loc" : [-84.354867, 33.820609], "pop" : 15044, "state" : "GA" }
{"_id" : "30326", "city" : "ATLANTA", "loc" : [-84.358232, 33.848168], "pop" : 125, "state" : "GA" }
{"_id" : "30327", "city" : "ATLANTA", "loc" : [-84.419966, 33.862723], "pop" : 18467, "state" : "GA" }
{"_id" : "30329", "city" : "ATLANTA", "loc" : [-84.321402, 33.823555], "pop" : 17013, "state" : "GA" }
```

```
Command Prompt - mongo
> db.zipcodes.aggregate([
... {$match: {city:"ATLANTA", state:"GA"}}
... ])
{"_id" : "30303", "city" : "ATLANTA", "loc" : [-84.388846, 33.752504], "pop" : 1845, "state" : "GA" }
{"_id" : "30305", "city" : "ATLANTA", "loc" : [-84.385145, 33.831963], "pop" : 19122, "state" : "GA" }
{"_id" : "30306", "city" : "ATLANTA", "loc" : [-84.351418, 33.786027], "pop" : 20081, "state" : "GA" }
{"_id" : "30307", "city" : "ATLANTA", "loc" : [-84.335957, 33.769138], "pop" : 16330, "state" : "GA" }
{"_id" : "30308", "city" : "ATLANTA", "loc" : [-84.375744, 33.771839], "pop" : 8549, "state" : "GA" }
{"_id" : "30309", "city" : "ATLANTA", "loc" : [-84.388338, 33.798407], "pop" : 14766, "state" : "GA" }
{"_id" : "30310", "city" : "ATLANTA", "loc" : [-84.423173, 33.727849], "pop" : 34017, "state" : "GA" }
{"_id" : "30311", "city" : "ATLANTA", "loc" : [-84.470219, 33.722957], "pop" : 34880, "state" : "GA" }
{"_id" : "30312", "city" : "ATLANTA", "loc" : [-84.378125, 33.746749], "pop" : 17683, "state" : "GA" }
{"_id" : "30313", "city" : "ATLANTA", "loc" : [-84.39352, 33.76825], "pop" : 8038, "state" : "GA" }
{"_id" : "30314", "city" : "ATLANTA", "loc" : [-84.425546, 33.756103], "pop" : 26649, "state" : "GA" }
{"_id" : "30315", "city" : "ATLANTA", "loc" : [-84.380771, 33.705062], "pop" : 41061, "state" : "GA" }
{"_id" : "30316", "city" : "ATLANTA", "loc" : [-84.333913, 33.721686], "pop" : 34668, "state" : "GA" }
{"_id" : "30317", "city" : "ATLANTA", "loc" : [-84.31685, 33.749788], "pop" : 16395, "state" : "GA" }
{"_id" : "30318", "city" : "ATLANTA", "loc" : [-84.445432, 33.786454], "pop" : 53894, "state" : "GA" }
{"_id" : "30319", "city" : "ATLANTA", "loc" : [-84.335091, 33.868728], "pop" : 32138, "state" : "GA" }
{"_id" : "30324", "city" : "ATLANTA", "loc" : [-84.354867, 33.820609], "pop" : 15044, "state" : "GA" }
{"_id" : "30326", "city" : "ATLANTA", "loc" : [-84.358232, 33.848168], "pop" : 125, "state" : "GA" }
{"_id" : "30327", "city" : "ATLANTA", "loc" : [-84.419966, 33.862723], "pop" : 18467, "state" : "GA" }
{"_id" : "30329", "city" : "ATLANTA", "loc" : [-84.321402, 33.823555], "pop" : 17013, "state" : "GA" }
Type "it" for more
> db.zipcodes.aggregate([ {$match: {city:"ATLANTA"}}, {$group: {_id: "$_id"}, {$count: "zipcodes"}} ])
{"zipcodes" : 41 }
> db.zipcodes.aggregate([
... {$match: {city:"ATLANTA"}},
... {$group: {_id: "$city", TotalPop: {$sum: "$pop"}}}
... ])
{"_id" : "ATLANTA", "TotalPop" : 630046 }
```

Populations By State

```
db.zipcodes.aggregate([{$group: {_id: "$state", TotalPop: {$sum: "$pop"}}} ] )
{ "_id": "IA", "TotalPop": 2776420 }
{ "_id": "VT", "TotalPop": 562758 }
{ "_id": "MD", "TotalPop": 4781379 }
{ "_id": "AL", "TotalPop": 4040587 }
{ "_id": "WI", "TotalPop": 4891769 }
{ "_id": "ND", "TotalPop": 638272 }
{ "_id": "IL", "TotalPop": 11427576 }
{ "_id": "CO", "TotalPop": 3293755 }
{ "_id": "TN", "TotalPop": 4876457 }
{ "_id": "WA", "TotalPop": 4866692 }
{ "_id": "AR", "TotalPop": 2350725 }
{ "_id": "DE", "TotalPop": 666168 }
{ "_id": "OH", "TotalPop": 10846517 }
{ "_id": "SC", "TotalPop": 3486703 }
{ "_id": "FL", "TotalPop": 12686644 }
{ "_id": "IN", "TotalPop": 5944136 }
{ "_id": "VA", "TotalPop": 6181479 }
{ "_id": "NV", "TotalPop": 4372982 }
{ "_id": "NH", "TotalPop": 1109252 }
{ "_id": "PA", "TotalPop": 11881643 }
Type "it" for more
```

```
Command Prompt - mongo
{ "_id": "PA", "TotalPop": 11881643 }
Type "it" for more
> db.zipcodes.aggregate([
... {$group: {_id: {state: "$state", pop: "$pop"}}},
... {$sort: {"_id.pop": -1}}
... ])
{ "_id": { "state": "IL", "pop": 112047 } }
{ "_id": { "state": "NV", "pop": 111396 } }
{ "_id": { "state": "NV", "pop": 106564 } }
{ "_id": { "state": "NV", "pop": 100027 } }
{ "_id": { "state": "CA", "pop": 99568 } }
{ "_id": { "state": "IL", "pop": 98612 } }
{ "_id": { "state": "CA", "pop": 96074 } }
{ "_id": { "state": "IL", "pop": 95971 } }
{ "_id": { "state": "IL", "pop": 94317 } }
{ "_id": { "state": "CA", "pop": 94180 } }
{ "_id": { "state": "IL", "pop": 92005 } }
{ "_id": { "state": "IL", "pop": 91814 } }
{ "_id": { "state": "IL", "pop": 89762 } }
{ "_id": { "state": "IL", "pop": 88377 } }
{ "_id": { "state": "NV", "pop": 88241 } }
{ "_id": { "state": "CA", "pop": 88114 } }
{ "_id": { "state": "NV", "pop": 87079 } }
{ "_id": { "state": "CA", "pop": 87026 } }
{ "_id": { "state": "NV", "pop": 85732 } }
{ "_id": { "state": "NV", "pop": 85710 } }
Type "it" for more
> db.zipcodes.aggregate([{$limit:3},{$group: {_id: {state: "$state", pop: "$pop"}}},{$sort: {"_id.pop": -1}} ] )
{ "_id": { "state": "MA", "pop": 36963 } }
{ "_id": { "state": "MA", "pop": 15338 } }
{ "_id": { "state": "MA", "pop": 4546 } }
```

Population By City

```
db.zipcodes.aggregate([{$group: {_id: "$city", CityPop: {$sum: "$pop"}}} ] )
{ "_id": "NEW HAVEN", "CityPop": 22222 }
{ "_id": "MIDDLE GRANVILLE", "CityPop": 249 }
{ "_id": "GOLTS", "CityPop": 533 }
{ "_id": "LUNA PIER", "CityPop": 1758 }
{ "_id": "CENTER HARBOR", "CityPop": 470 }
{ "_id": "BYRONVILLE", "CityPop": 1672 }
{ "_id": "ASHEVILLE", "CityPop": 97073 }
{ "_id": "TROPHY CLUB", "CityPop": 11484 }
{ "_id": "WYLLIESBURG", "CityPop": 845 }
{ "_id": "JACKSONVILLE N A", "CityPop": 2517 }
{ "_id": "MESQUITE", "CityPop": 107780 }
{ "_id": "LEAGUE CITY", "CityPop": 41580 }
{ "_id": "EKKOK", "CityPop": 77 }
{ "_id": "NEKOOSA", "CityPop": 7312 }
{ "_id": "VAIL", "CityPop": 15082 }
{ "_id": "VINELAND", "CityPop": 56319 }
{ "_id": "EWMAUS", "CityPop": 16284 }
{ "_id": "HARFA", "CityPop": 3155 }
{ "_id": "ESCONDIDO", "CityPop": 134000 }
{ "_id": "ANDOVER", "CityPop": 55722 }
```

```
Command Prompt - mongo
> db.zipcodes.aggregate([{$group: {_id: {$city: "$city", pop: "$pop"}}, {$sort: {"_id.pop": -1}} ])
{ "_id" : { "city" : "CHICAGO", "pop" : 112047 } }
{ "_id" : { "city" : "BROOKLYN", "pop" : 111396 } }
{ "_id" : { "city" : "NEW YORK", "pop" : 106564 } }
{ "_id" : { "city" : "NEW YORK", "pop" : 100027 } }
{ "_id" : { "city" : "BELL GARDENS", "pop" : 99568 } }
{ "_id" : { "city" : "CHICAGO", "pop" : 98612 } }
{ "_id" : { "city" : "LOS ANGELES", "pop" : 96074 } }
{ "_id" : { "city" : "CHICAGO", "pop" : 95971 } }
{ "_id" : { "city" : "CHICAGO", "pop" : 94317 } }
{ "_id" : { "city" : "NORWALK", "pop" : 94188 } }
{ "_id" : { "city" : "CHICAGO", "pop" : 92005 } }
{ "_id" : { "city" : "CHICAGO", "pop" : 91814 } }
{ "_id" : { "city" : "CHICAGO", "pop" : 89762 } }
{ "_id" : { "city" : "CHICAGO", "pop" : 88377 } }
{ "_id" : { "city" : "JACKSON HEIGHTS", "pop" : 88241 } }
{ "_id" : { "city" : "ARLETA", "pop" : 88114 } }
{ "_id" : { "city" : "BROOKLYN", "pop" : 87079 } }
{ "_id" : { "city" : "SOUTH GATE", "pop" : 87026 } }
{ "_id" : { "city" : "RIDGEWOOD", "pop" : 85732 } }
{ "_id" : { "city" : "BRONX", "pop" : 85710 } }
Type "it" for more
> db.zipcodes.aggregate([{$limit:3},{$group: {_id: "$pop"}} ])
{ "_id" : 15338 }
{ "_id" : 36963 }
{ "_id" : 4546 }
```

```
Command Prompt - mongo
> db.zipcodes.aggregate([{$match: {state:"TX"}},{$limit: 3},{$group: {_id: {state: "$state",city: "city", pop: "$pop"}}, {$sort: {"_id.pop": -1}} ])
{ "_id" : { "state" : "TX", "city" : "city", "pop" : 54796 } }
{ "_id" : { "state" : "TX", "city" : "city", "pop" : 37699 } }
{ "_id" : { "state" : "TX", "city" : "city", "pop" : 24151 } }
>
```

Bonus

```
Command Prompt - mongo
> db.zipcodes.aggregate([{$group: {_id: {state: "$state", city: "$city"}, AvgPop: {$avg: "$pop"}}} ])
{ "_id" : { "state" : "TX", "city" : "city", "pop" : 24151 } }
{ "_id" : { "state" : "FL", "city" : "WIMAMUMA", "AvgPop" : 7538 } }
{ "_id" : { "state" : "IA", "city" : "AMES", "AvgPop" : 52105 } }
{ "_id" : { "state" : "NY", "city" : "RICHLAND", "AvgPop" : 1267 } }
{ "_id" : { "state" : "PA", "city" : "HUMMELSTOWN", "AvgPop" : 8178 } }
{ "_id" : { "state" : "GA", "city" : "PERKINS", "AvgPop" : 549 } }
{ "_id" : { "state" : "VA", "city" : "ELK CREEK", "AvgPop" : 1161 } }
{ "_id" : { "state" : "SC", "city" : "GREER", "AvgPop" : 21516.5 } }
{ "_id" : { "state" : "VT", "city" : "WASHGITH", "AvgPop" : 1022 } }
{ "_id" : { "state" : "IL", "city" : "MEDIA", "AvgPop" : 484 } }
{ "_id" : { "state" : "PA", "city" : "WARRIORS MARK", "AvgPop" : 2760 } }
{ "_id" : { "state" : "KY", "city" : "WILLISBURG", "AvgPop" : 2245 } }
{ "_id" : { "state" : "PA", "city" : "STAR JUNCTION", "AvgPop" : 2803 } }
{ "_id" : { "state" : "IL", "city" : "CLIFTON", "AvgPop" : 2033 } }
{ "_id" : { "state" : "KS", "city" : "MUSCOTAH", "AvgPop" : 631 } }
{ "_id" : { "state" : "AR", "city" : "HATFIELD", "AvgPop" : 1048 } }
{ "_id" : { "state" : "NY", "city" : "THOMSON", "AvgPop" : 6928 } }
{ "_id" : { "state" : "KS", "city" : "PRINCETON", "AvgPop" : 650 } }
{ "_id" : { "state" : "KS", "city" : "HUTCHINSON", "AvgPop" : 27037 } }
{ "_id" : { "state" : "OK", "city" : "GATE", "AvgPop" : 323 } }
{ "_id" : { "state" : "TX", "city" : "EL CAMPO", "AvgPop" : 15829 } }
Type "it" for more
> db.zipcodes.aggregate([{$group: {_id: {state: "$state", city: "$city"}, AvgPop: {$avg: "$pop"}}}, {$sort: {AvgPop: -1}}, {$limit: 3} ])
{ "_id" : { "state" : "CA", "city" : "BELL GARDENS", "AvgPop" : 99568 } }
{ "_id" : { "state" : "CA", "city" : "NORWALK", "AvgPop" : 94188 } }
{ "_id" : { "state" : "CA", "city" : "ARLETA", "AvgPop" : 88114 } }
```