

Aggregation Framework

How does it work?



The Aggregation Pipeline!

From MQL To The Aggregation Pipeline

Before we jump into the pipeline, let's first recap MQL a little bit.

What is MQL good at?

- Basic CRUD operation.
- Mostly used for filtering and updating records.

Example of an MQL query:

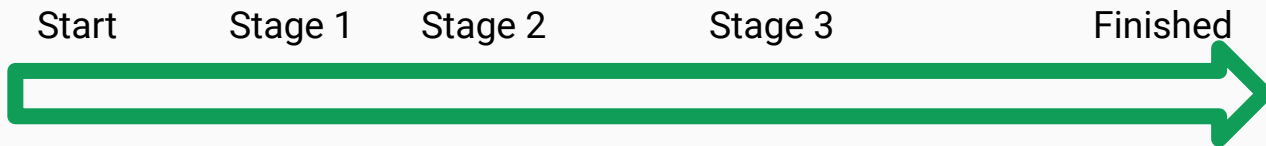
```
db.listingsAndReviews.find({ "bed_type": "Real Bed" },)
```

What is the Aggregation Framework?

The aggregation framework allows us to process and mold data together by feeding our data into a pipeline of different stages.

Each **stage** in the pipeline will filter or modify the data.

Stages build off of one another so order matters!



How do I implement the aggregation framework?

It's simple! We use `.aggregate()` when querying a database.

1. We match every price less than 30 which has a Gym and private room.
2. We just want the price and address fields.
3. Group each record by its country and return the sum of each country.

```
# Start the pipeline
db.listingsAndReviews.aggregate([
  {
    # Stage 1
    '$match': {
      'price': {
        '$lt': 30
      },
      'amenities': 'Gym',
      'room_type': 'Private room'
    }
  },
  {
    # Stage 2
    '$project': {
      'price': 1,
      'address': 1,
      '_id': 1
    }
  },
  {
    # Stage 3
    '$group': {
      '_id': '$address.country',
      'count': {
        '$sum': 1
      }
    }
  }
]).pretty()
```

```
{ "_id" : "Spain", "count" : 1 }  
{ "_id" : "Portugal", "count" : 3 }  
{ "_id" : "Canada", "count" : 1 }
```

The final result of our pipeline!

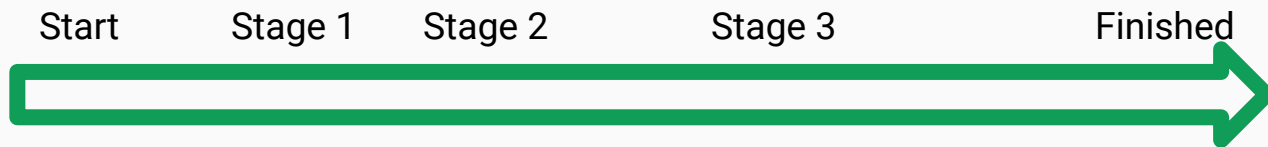
Recap

MQL:

- Basic CRUD
- Can only filter and update data

Aggregation:

- Processing and molding data
- Complex queries
- Modify data



Thanks!

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