



# **ECS 116**

# **Databases for Non-Majors**

Discussion 8  
(5/30/24) | Spring '24



# Today's Agenda

1. Quick Updates
2. Mongodb and pymongo
3. Using MongoDB to query the company data set
4. Look at aggregation, indexing, benchmarking and visualization

# Quick Updates



## Problem Set 4

- Due today
- Checkout problem set 4 in *Assignments*

## Problem Set 5

- Uploaded to files. *Files->PROBLEM-SET-5*

# Files



Today's Files:

1. Download the folder: *Files->Jupyter Notebooks->DISC\_8\_FILES*
2. We will be using the main notebook: *DISC-8-MAIN-v01.ipynb*

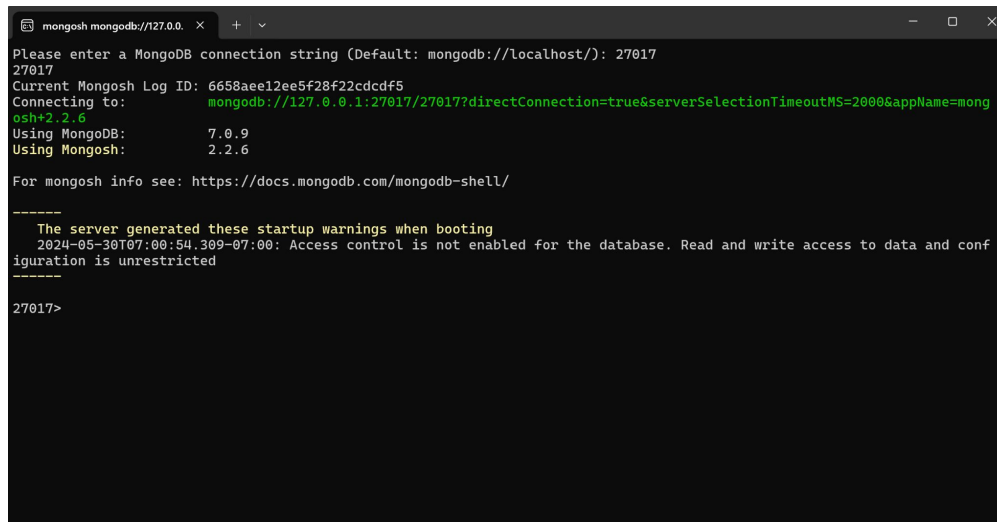
Tech Used:

1. Jupyter Notebook
2. Pymongo
3. MongoDB

# Installing MongoSH

## Installation

- Download MongoDB Shell package (depending on your machine)
- Go to the bin folder and start the application



```
mongosh mongodb://127.0.0.1:27017
Please enter a MongoDB connection string (Default: mongodb://localhost/): 27017
27017
Current Mongosh Log ID: 6658aee12ee5f28f22cdcdf5
Connecting to: mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.2.6
Using MongoDB: 7.0.9
Using Mongosh: 2.2.6

For mongosh info see: https://docs.mongodb.com/mongodb-shell/

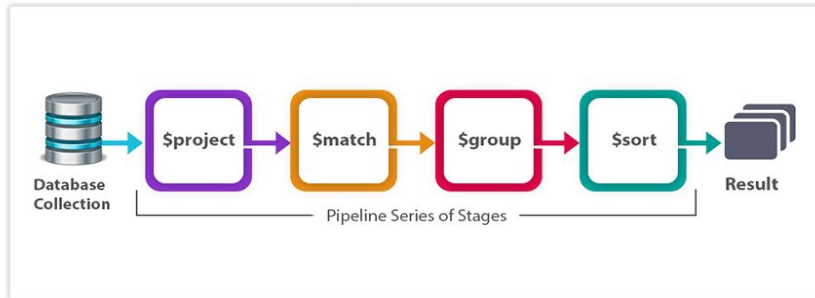
-----
The server generated these startup warnings when booting
2024-05-30T07:00:54.309-07:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
-----

27017>
```

# Pipeline in MongoDB

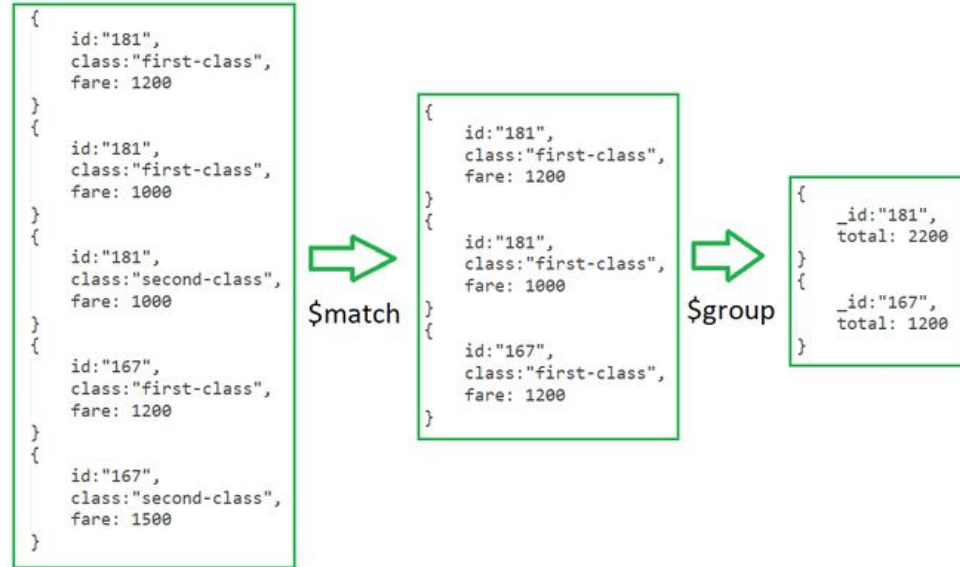


## What is the Aggregation Pipeline in MongoDB?



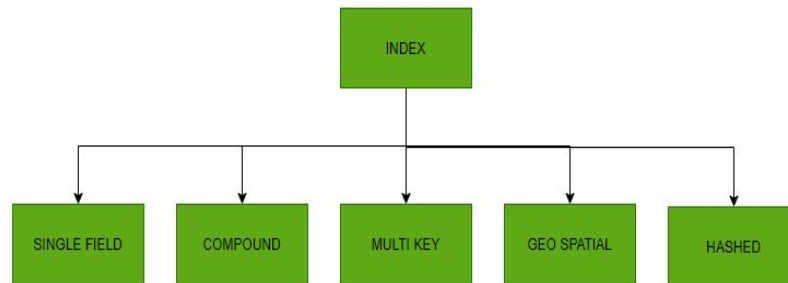
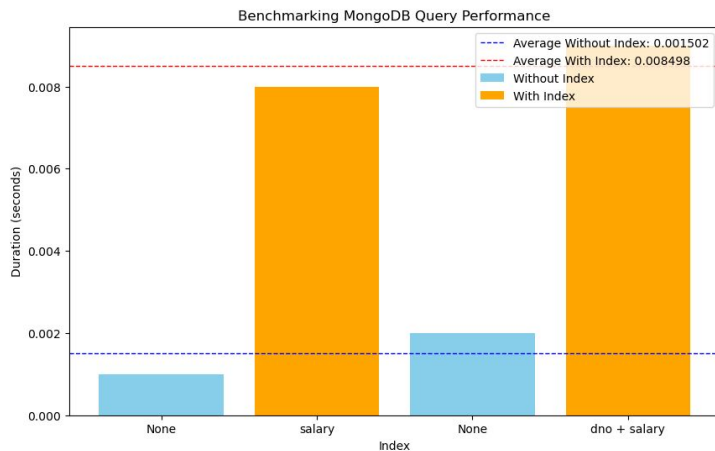
```
db.train.aggregate( [
  { $match: { class: "first-class" } },
  { $group: { _id: "id", total: { $sum: "$fare" } } }
] )
```

} pipeline stages



# Indexing and Benchmarking

- Create indexed on collections using `.create_index()`
- Drop and index using `.drop_index()`



- Use matplotlib to create visualizations

# What did we learn today?



1. Using pymongo to use mongodb
2. Aggregation, Indexing, Benchmarking and Visualization



# Thank You!



See you next Thursday!