





UNIVERSITI TEKNIKAL MALAYSIA MELAKA
FAKULTI TEKNOLOGI DAN KEJURUTERAAN ELEKTRONIK DAN KOMPUTER

BERR 2243
DATABASE & CLOUD SYSTEM

SEM 2 2024/2025

EXERCISE : WEEK 7

No	Name	Matrix No	Photo
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Submission Requirements

GitHub Repository: Code for JWT authentication, password hashing, and RBAC middleware.

githublink :

- <https://github.com/anishafifza/berr2243-25/tree/main/week%207>

Mongo Compass Aggregation Pipeline Design

\$match :

< > ENABLED + ADD STAGE >

STAGE INPUT
Sample of 10 documents

\$match

[Open docs ↗](#)

```

1 // *
2 //   query: The query in NQ1.
3 // */
4 {
5   status: "completed"
6 }
          
```

_id: ObjectId('68bc270691a68bd5afec0f92')
 userId: '680a2c7f93a6d3e5cafe3f91'
 pickup: "Nakhota Paradom"
 destination: "Utetn"
 driverId: "688e1b31b463f37c8c8dc5c"

_id: ObjectId('68420950603516183709ecc64')
 userId: ObjectId('68423850963516183768ccce61')
 driverId: ObjectId('6842059803516183760beceb3')
 origin: "Utetn"
 destination: "Melaka Sentral"
 status: "Completed"
 fare: 20.5
 distance: 10.0

_id: ObjectId('6842059903516183760becce5')
 userId: ObjectId('6842359963516183760becce61')
 driverId: ObjectId('684205903516183760ccce03')
 origin: "Mydin MITC"
 destination: "Aeon Ayer Keroh"
 status: "Completed"
 fare: 17.3
 distance: 10.2

_id: ObjectId('68420950603516183709ecc66')
 userId: ObjectId('68423850963516183768ccce62')
 driverId: ObjectId('6842059803516183760beceb3')
 origin: "Utetn"
 destination: "Taman Bukit Beruang"
 status: "Completed"
 fare: 18.75
 distance: 9.8

_id: ObjectId('68420ffcf7225d15ed5c1aa4')
 userId: ObjectId('68423f1f47125d15ed5c1aa1')

STAGE OUTPUT
Sample of 3 documents

_id: ObjectId('68421737cbcc9321e068808')
 userId: ObjectId('68421737cbcc9321e068005')
 driverId: ObjectId('684217373dec9321e060587')
 origin: "Utetn"
 destination: "Melaka Sentral"
 status: "Completed"
 fare: 20.5
 distance: 18.5

_id: ObjectId('68421737c9ec9321e069009')
 userId: ObjectId('68421737d0bec9321e06da9a5')
 driverId: ObjectId('684217373dec9321e060587')
 origin: "Mydin MITC"
 destination: "Aeon Ayer Keroh"
 status: "Completed"
 fare: 17.4
 distance: 18.2

_id: ObjectId('68421737cbcc9321e06880a')
 userId: ObjectId('68421737cbcc9321e068006')
 driverId: ObjectId('684217373dec9321e060587')
 origin: "Utetn"
 destination: "Taman Bukit Beruang"
 status: "Completed"
 fare: 18.75
 distance: 9.8

\$group :

< Stage 2: Sgroup >
ENABLED
+ ADD STAGE ▾

STAGE INPUT

Sample of 3 documents

OPTIONS ▾

Sgroup [Open docs](#)

```

1 • {
2   _id: "SuserId",
3   totalRides: { $sum: 1 },
4   totalFare: { $sum: "$fare" },
5   avgDistance: { $avg: "$distance" }
6 }
```

```

_id: ObjectId('68421737d3ec9c321e669508')
userId: ObjectId('68421737d3ec9c321e669505')
driverId: ObjectId('68421737d3ec9c321e669507')
origin: "Uluw"
destination: "Melaka Sentral"
status: "completed"
fare: 20.5
distance: 18.5
```

```

_id: ObjectId('68421737d3ec9c321e669509')
userId: ObjectId('68421737d3ec9c321e669505')
driverId: ObjectId('68421737d3ec9c321e669507')
origin: "Aydin Hill"
destination: "Jalan Ayer Keroh"
status: "completed"
fare: 17.3
distance: 10.2
```

```

_id: ObjectId('68421737d3ec9c321e66950a')
userId: ObjectId('68421737d3ec9c321e669506')
driverId: ObjectId('68421737d3ec9c321e669507')
origin: "Uluw"
destination: "Taman Bukit Beruang"
status: "completed"
fare: 16.75
distance: 9.8
```

STAGE OUTPUT

Sample of 2 documents

OPTIONS ▾

```

_id: ObjectId('68421737d3ec9c321e669508')
totalRides: 1
totalFare: 18.75
avgDistance: 9.8
```

```

_id: ObjectId('68421737d3ec9c321e669509')
totalRides: 2
totalFare: 37.8
avgDistance: 10.35
```

\$lookup :

Stage 3: Lookup
ENABLED
ADD STAGE

STAGE INPUT

Sample of 2 documents

OPTIONS

lookup

Open docs

```

1 {
2   from: "users",
3   localFields: "_id",
4   foreignField: "_id",
5   as: "user"
6 }
7

```

STAGE OUTPUT

Sample of 2 documents

OPTIONS

```

_id: ObjectId('68421737c3ec9c321e060506')
totalRides: 1
totalFare: 18.75
avgDistance: 9.8

```

```

_id: ObjectId('68421737c3ec9c321e060505')
totalRides: 2
totalFare: 37.8
avgDistance: 18.35
user: Array (1)

```

```

_id: ObjectId('68421737c3ec9c321e060506')
totalRides: 1
totalFare: 18.75
avgDistance: 9.8
user: Array (2)

```

Sunwind :

Stage 4: Sunwind
ADD STAGE

STAGE INPUT

Sample of 2 documents

OPTIONS

Sunwind

Open docs

```

1  "user"
2

```

_id: ObjectId('68421737d3ec9c321e860905')
totalRides: 2
totalFare: 37.8
avgDistance: 10.35
user: Array (1)

_id: ObjectId('68421737d3ec9c321e860905')
totalRides: 1
totalFare: 38.75
avgDistance: 9.8
user: Array (1)

STAGE OUTPUT

Sample of 2 documents

OPTIONS

```

_id: ObjectId('68421737d3ec9c321e860905')
totalRides: 1
totalFare: 38.75
avgDistance: 9.8
user: Object

```

```

_id: ObjectId('68421737d3ec9c321e860905')
totalRides: 2
totalFare: 37.8
avgDistance: 10.35
user: Object

```

\$project :

<
Stage 6: \$project
>

ENABLED
ADD STAGE

STAGE INPUT

Sample of 2 documents

```

{
  "_id": "Object1d('68421737d3ec9c321e08890b')",
  "totalRides": 1,
  "totalFare": 10.75,
  "avgDistance": 9.8,
  "user": "Object"
}

```

OPTIONS

\$project

Open docs

```

1 {
2   _id: 0,
3   name: "user.name",
4   totalRides: 1,
5   totalFare: 1,
6   avgDistance: 1
7 }
8

```

STAGE OUTPUT

Sample of 2 documents

```

{
  "totalRides": 2,
  "totalFare": 37.8,
  "avgDistance": 10.35,
  "name": "Alice"
}

```

```

{
  "totalRides": 1,
  "totalFare": 10.75,
  "avgDistance": 9.8,
  "name": "Bob"
}

```

Postman Test Result :

WEEK 7 / http://localhost:3000/analytics/passengers

GET

http://localhost:3000/analytics/passengers

Params

Authorization

Headers (7)

Body

Scripts

Settings

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

JSON

1

Ctrl+Alt+P for Postbot

Body

Cookies

Headers (7)

Test Results

200 OK

78 ms

372 B

{}

JSON

Preview

Visualize

1

[

2

{

3

"totalRides": 2,

4

"totalFare": 37.8,

5

"avgDistance": 10.35,

6

"name": "Alice"

7

},

8

{

9

"totalRides": 1,

10

"totalFare": 18.75,

11

"avgDistance": 9.8,

12

"name": "Bob"

13

}

14

]

Find and replace

Console

Postbot

Runner

Start Proxy

Screenshots of the Dashboard :

