

- Exact commands to run/stop:

The command to run is: `docker compose up --build`.

The command to stop is: `docker compose down -v`

- Example output (copy/paste):

```
app-1 | === Summary ===
app-1 | {
app-1 |   "total_trips": 6,
app-1 |   "avg_fare_by_city": [
app-1 |     {
app-1 |       "city": "Charlotte",
app-1 |       "avg_fare": 16.25
app-1 |     },
app-1 |     {
app-1 |       "city": "New York",
app-1 |       "avg_fare": 19.0
app-1 |     },
app-1 |     {
app-1 |       "city": "San Francisco",
app-1 |       "avg_fare": 20.25
app-1 |     }
app-1 |   ],
app-1 |   "top_by_minutes": [
app-1 |     {
app-1 |       "city": "San Francisco",
app-1 |       "minutes": 28,
app-1 |       "fare": 29.3
app-1 |     },
app-1 |     {
app-1 |       "city": "New York",
app-1 |       "minutes": 26,
app-1 |       "fare": 27.1
```

```
app-1 | },
app-1 | {
app-1 |   "city": "Charlotte",
app-1 |   "minutes": 21,
app-1 |   "fare": 20.0
app-1 | },
app-1 | {
app-1 |   "city": "Charlotte",
app-1 |   "minutes": 12,
app-1 |   "fare": 12.5
app-1 | },
app-1 | },
app-1 | {
app-1 |   "city": "Charlotte",
app-1 |   "minutes": 21,
app-1 |   "fare": 20.0
app-1 | },
app-1 | {
app-1 |   "city": "Charlotte",
app-1 |   "minutes": 12,
app-1 |   "fare": 12.5
app-1 | },
app-1 | {
app-1 |   "city": "San Francisco",
app-1 |   "minutes": 11,
app-1 |   "fare": 11.2
app-1 | },
app-1 | {
app-1 |   "city": "New York",
app-1 |   "minutes": 9,
app-1 |   "fare": 10.9
app-1 | }
```

```
app-1 | ]  
app-1 |}  
app-1 exited with code 0
```

- The contents of out/summary.json.

```
{  
  "total_trips": 6,  
  "avg_fare_by_city": [  
    {  
      "city": "Charlotte",  
      "avg_fare": 16.25  
    },  
    {  
      "city": "New York",  
      "avg_fare": 19.0  
    },  
    {  
      "city": "San Francisco",  
      "avg_fare": 20.25  
    }  
  ],  
  "top_by_minutes": [  
    {  
      "city": "San Francisco",  
      "minutes": 28,  
      "fare": 29.3  
    },  
    {  
      "city": "New York",  
      "minutes": 26,  
      "fare": 27.1  
    }  
  ]  
}
```

```
    },  
    {  
      "city": "Charlotte",  
      "minutes": 21,  
      "fare": 20.0  
    },  
    {  
      "city": "Charlotte",  
      "minutes": 12,  
      "fare": 12.5  
    },  
    {  
      "city": "San Francisco",  
      "minutes": 11,  
      "fare": 11.2  
    },  
    {  
      "city": "New York",  
      "minutes": 9,  
      "fare": 10.9  
    }  
  ]  
}
```

- A short reflection (3–5 sentences) describing what you learned and what you would improve.

While working on this assignment, I learned more about how to configure multi-container applications using Docker compose. I also learned about environment variables and service names and how they help containers communicate with each other. I think an interesting improvement would be

to allow input validation to make sure that the DB_port is a number and APP_TOP_N is a positive integer to help avoid crashes if someone enters an invalid input.