Data Science Internship

Individual Weekly Task Documentation

Week #3

Jimalyn B. Del Rosario

Table Contents

I. My Summarized Daily Logs
II. Individual Hands-on Activity
III. Team Task Report

I. My Summarized Log

Encompasses five weekdays from Monday to Friday with 8-hours spent per day

DAY 10
Week 3
Monday
07/28/2025

[08:00 AM - 05:00 PM]

- Review the 5 week data science internship document to be familiar with the tasks.
- Re-worked my output for Individual Task Week 2 Data Analytics & AI Microservice with Flask to address previous bugs encountered.
- Tried resolving problems in the redis queue work
- Resolved problems in redis queue work
- Tried resolving problem in the metabase dashboard
- Resolved problem in metabase dashboard
- Successfully created responsive Metabase Dashboards:
  - Total Deliveries
  - Ave. Deliver Time, Ave. Distance KM, Ave. Fuel Used
  - Delivery by Location Chart
  - Top 5 Longest Route Chart
  - Fuel vs Distance; Fuel vs Time Charts
- Embedded dashboard in localhost:3000/predict Delivery Time Predictor Page

DAY 11
Week 3
Tuesday
07/29/2025

[08:00 AM - 05:00 PM]

- Created Individual Weekly Task Documentation file and documented the changes made on Individual Task Week 2 Data Analytics & AI Microservice with Flask
- Researched on how to implement the new Week 2: TEAM TASK - DRIVER PROFILE
- Started working on WEEK 2: TEAM TASK - DRIVER PROFILE
- Met with Data Team to discuss task assignments and status of individual tasks.
- Planned on the schedule for next meetings for collaborative tasks

DAY 13
Week 3
Wednesday
07/30/2025

[08:00 AM - 05:00 PM]

- Continued on WEEK 2: TEAM TASK - DRIVER PROFILE
- Built the architecture and set up connections
- Continued on Individual Weekly Task Documentation
- Met with Data Team to brief new members on the planned workflow and ask for updates on progress to their individual tasks
- Updated MyHours logs

DAY 14
Week 3
Thursday
07/31/2025

[08:00 AM - 05:00 PM]

- Created logs / document record of tasks accomplished in the previous days
- Debugged WEEK 2: TEAM TASK - DRIVER PROFILE and built the frontend display to show:
  - Drug test history (table or chart)
  - Violations and infractions (timeline)
  - Performance rating (average from feedback)
  - Uploaded credentials (valid/invalid count)
- Make documentations on WEEK 2: TEAM TASK - DRIVER PROFILE and add in the Individual Weekly Task Documentation file

DAY 15
Week 3
Friday
08/01/2025

[08:00 AM - 05:00 PM]

- Generated mock dataset for WEEK 2: TEAM TASK
- Successfully created Metabase Dashboards for WEEK 2: TEAM TASK - DRIVER PROFILE:
  - No of Drivers, Total Infractions, Total Violations
  - Line chart: Drug test result trends
  - Pie chart: Drug test result ratio
  - Table: Drivers with >3 violations
  - Bar: Credential validity rates
  - Line chart: Monthly infractions
  - Line chart: Monthly violations
- Continued working on the Individual Weekly Task Documentation Report

II. Individual Hands-on Activity

This includes the re-working of latter steps in the Individual Hands-on Activity last week.

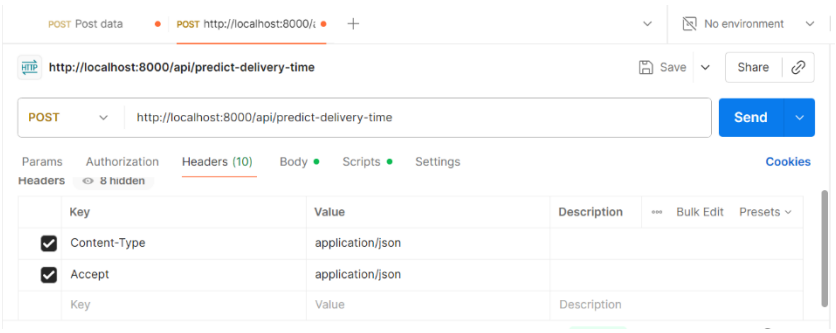
From last week, I encountered several issues in the integration of the entire system particularly in routing which affected the functionality of the app's essential features like Metabase dashboard etc.

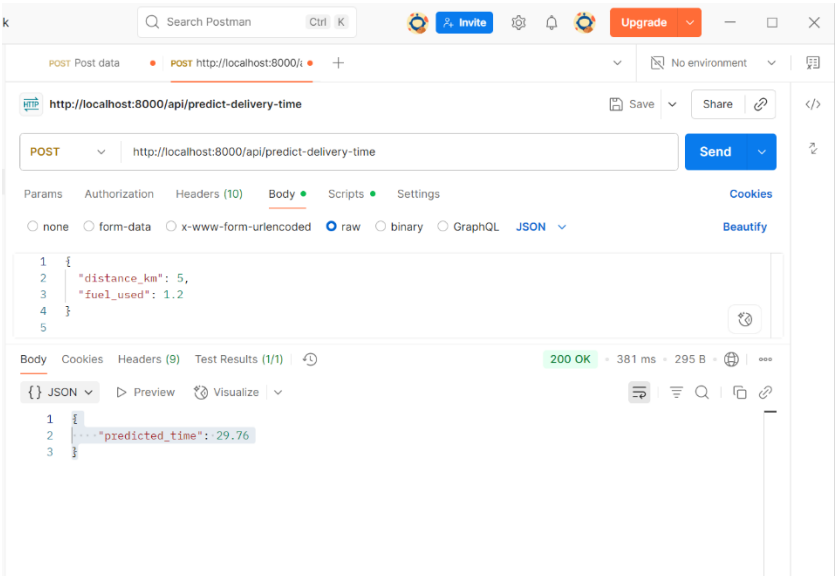
OBSERVATIONS and ERRORS ENCOUNTERED:
1. frontend would run on npm run dev but webpage shows error
2. laravel works on php artisan serve
3. flask would run on python app.py but webpage shows error
4. testing POST for localhost/predict works on POSTMAN
5. testing POST for localhost/predict-delivery does not work despite controllers, app.py, api routing are propoerly configured

After discussing with Data Science Team members, we learned that the issue was common problem among almost all of us. After researching, we were able to point out the cause of the problem and the solution.

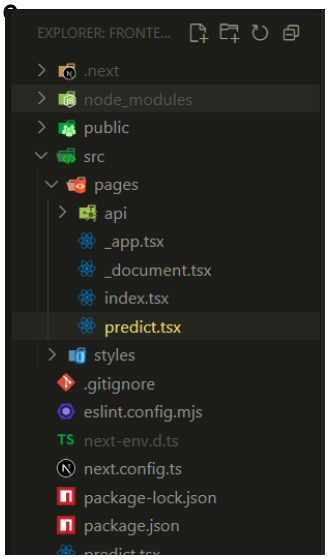
These steps are focused on re-downloading the version of Laravel that is compatible with the architecture, followed by the re-creation of dashboards.

CONTINUATION with debugging:
- New laravel version downloaded: composer create-project laravel/laravel:^10.0 backend
- Follow thru PART 2 again
- Test predict-delivery-time on Postman

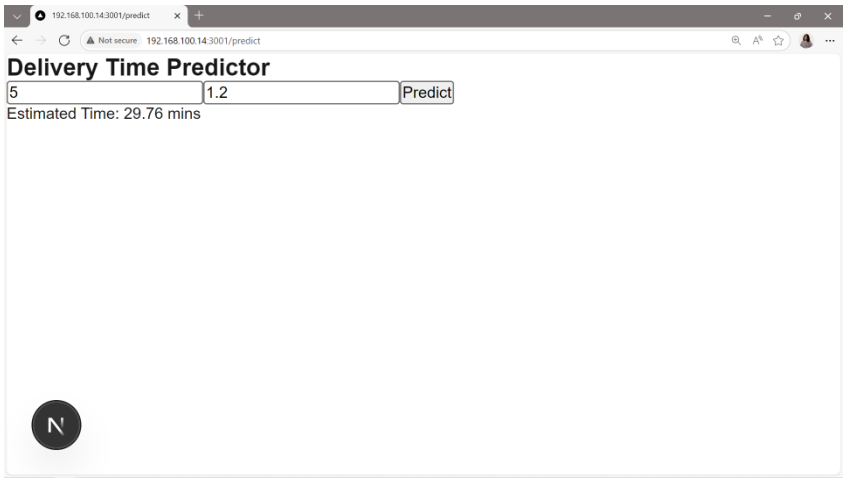




Make sure predict.tsx is in correct directory



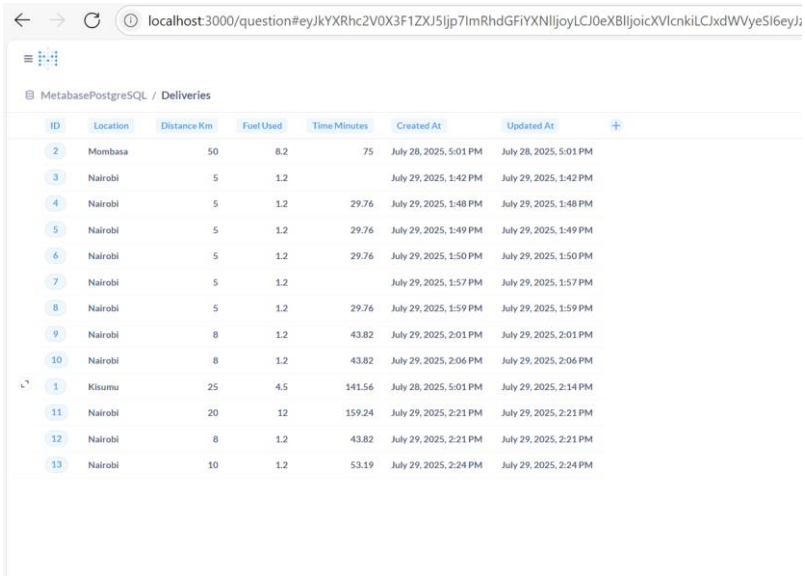
Changed config file of frontend to run on 3001 (since metabase is running on 3000 by default) and Test Connection

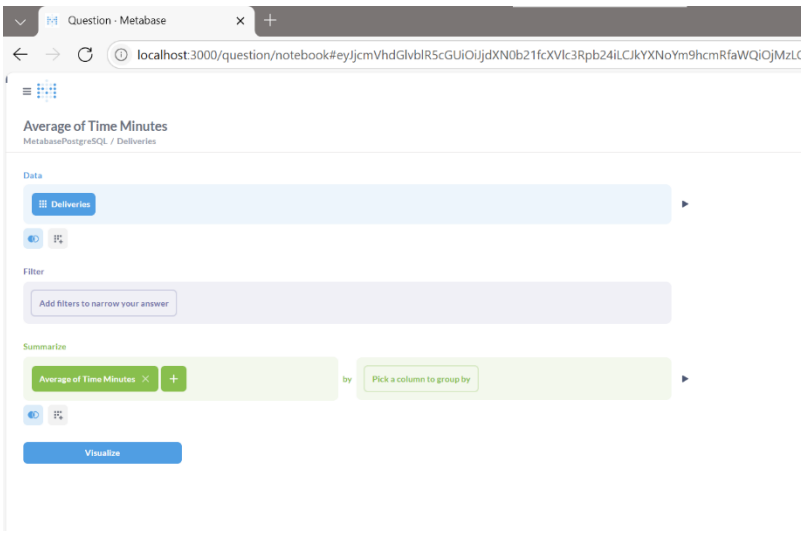


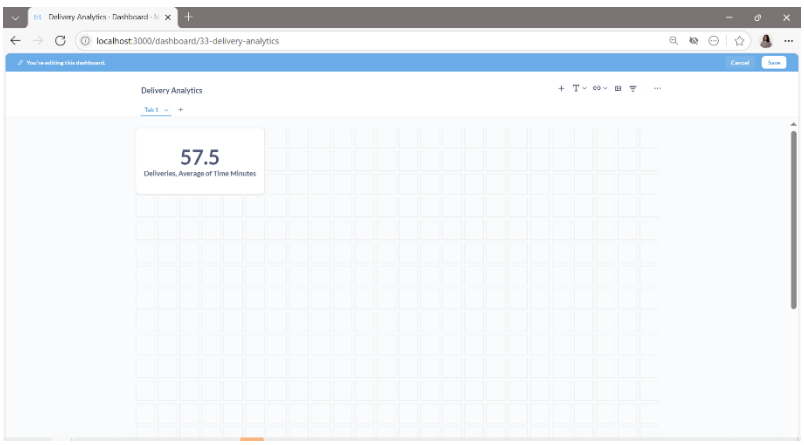
Create metabase dashboard - **no content yet**

1. go to Our Analytics
2. create new dashboard named Delivery Analytics

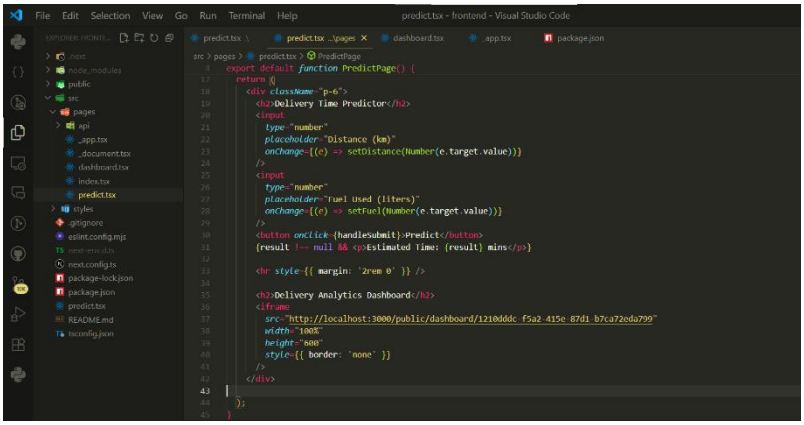
Manually create records thru postman and check logistics_db/metabase if records are reflected

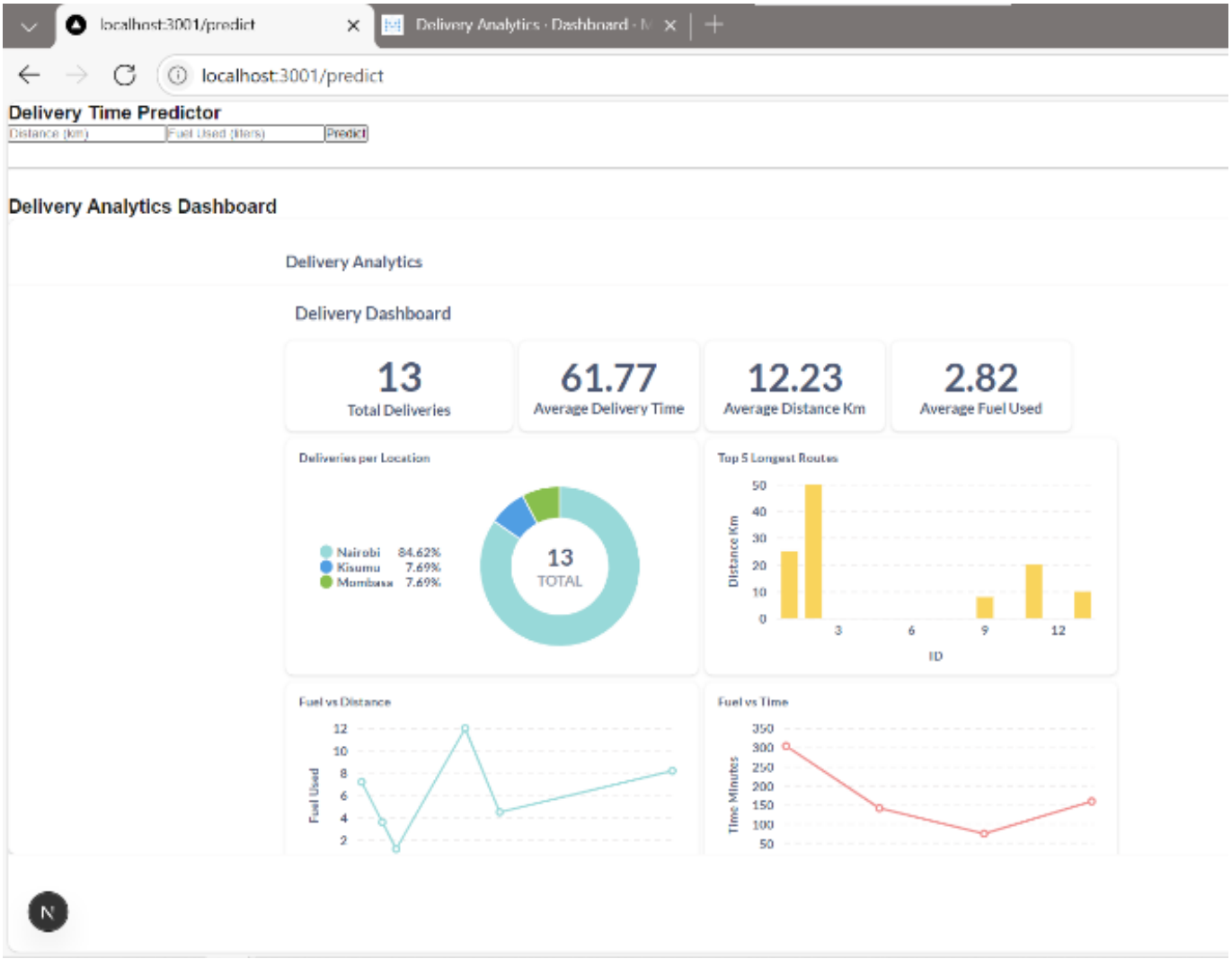

localhost:3000/question#eyJkYXRhc2V0X3F1ZXJ5Ijp7ImRhdGFiYXNlIjoyLCJ0eXBlIjoicXVlcnkiLCJxdWVyeSI6eyJ
MetabasePostgreSQL / Deliveries
ID Location Distance Km Fuel Used Time Minutes Created At Updated At
2 Mombasa 50 8.2 75 July 28, 2025, 5:01 PM July 28, 2025, 5:01 PM
3 Nairobi 5 1.2 July 29, 2025, 1:42 PM July 29, 2025, 1:42 PM
4 Nairobi 5 1.2 29.76 July 29, 2025, 1:48 PM July 29, 2025, 1:48 PM
5 Nairobi 5 1.2 29.76 July 29, 2025, 1:49 PM July 29, 2025, 1:49 PM
6 Nairobi 5 1.2 29.76 July 29, 2025, 1:50 PM July 29, 2025, 1:50 PM
7 Nairobi 5 1.2 July 29, 2025, 1:57 PM July 29, 2025, 1:57 PM
8 Nairobi 5 1.2 29.76 July 29, 2025, 1:59 PM July 29, 2025, 1:59 PM
9 Nairobi 8 1.2 43.82 July 29, 2025, 2:01 PM July 29, 2025, 2:01 PM
10 Nairobi 8 1.2 43.82 July 29, 2025, 2:06 PM July 29, 2025, 2:06 PM
1 Kisumu 25 4.5 141.56 July 28, 2025, 5:01 PM July 29, 2025, 2:14 PM
11 Nairobi 20 12 159.24 July 29, 2025, 2:21 PM July 29, 2025, 2:21 PM
12 Nairobi 8 1.2 43.82 July 29, 2025, 2:21 PM July 29, 2025, 2:21 PM
13 Nairobi 10 1.2 53.19 July 29, 2025, 2:24 PM July 29, 2025, 2:24 PM


Question - Metabase
localhost:3000/question/notebook#eyIjcmVhdGlvblR5cGUiOiJdXN0b21fcXVlc3Rpb24iLCJkYXNoYm9hcmRfaWQiOjMzL
Average of Time Minutes
MetabasePostgreSQL / Deliveries
Data
Deliveries
Filter
Add filters to narrow your answer
Summarize
Average of Time Minutes
by
Pick a column to group by
Visualize


Delivery Analytics - Dashboard
localhost:3000/dashboard/33-delivery-analytics
You're editing this dashboard.
Cancel
Save
Delivery Analytics
Tab 1
57.5
Deliveries, Average of Time Minutes

Create all charts then embed





The final system is now working and runs through the following:

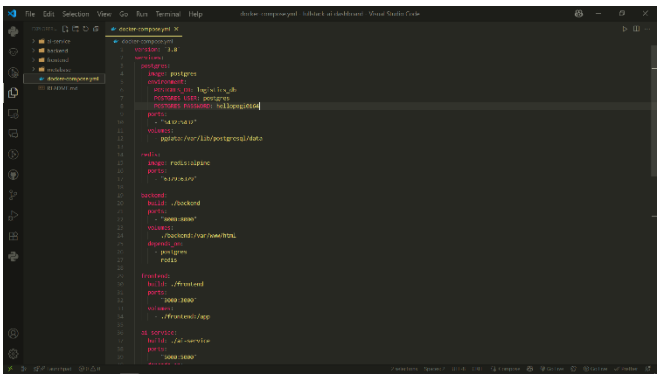
- **backend:**
  - php artisan serve should be running on 8000
  - php artisan queue:work
- **frontend:** npm run dev should be running on 3001
- **ml-services:** conda activate myenv then python app.py should be running on 5000
- **postgresql:** make sure database PostgreSQL 17 is running on 5432
- **metabase:** open docker and make sure metabase container is running on 3000

III. Team Taks Report

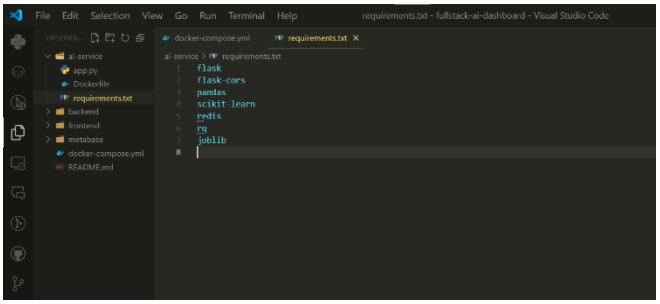
This task is Week 2: Fullstack AI-Driven Delivery Dashboard with Profiling & Analytics

Step 1: Laravel Models & Migrations

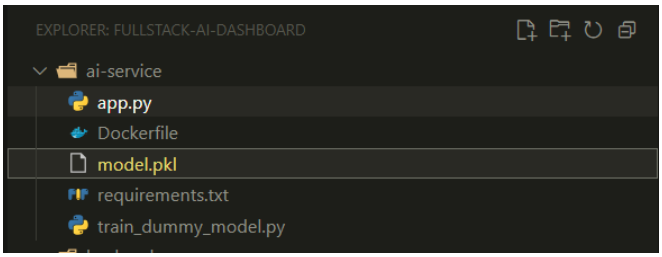
- docker-compose.yml. make sure all directory have Dockerfile



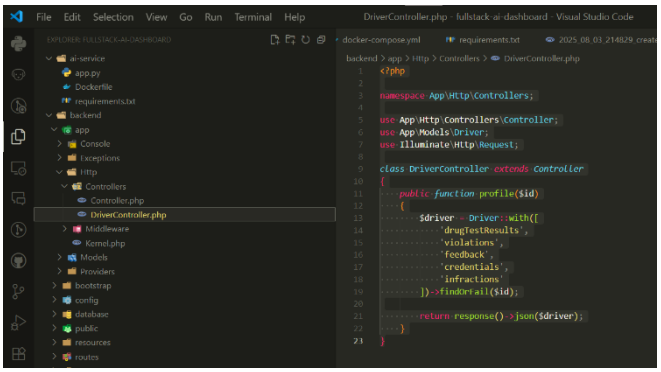
- ai-services/requirements.txt



- make sure model.pkl exists thru dummy model training

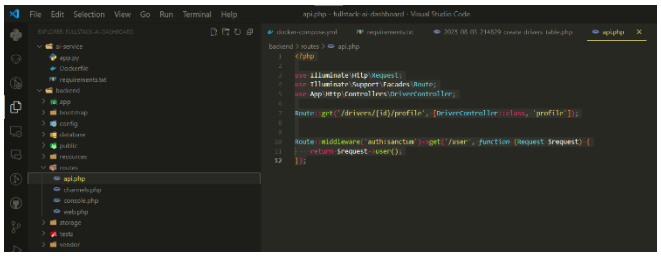


- laravel models & migrations

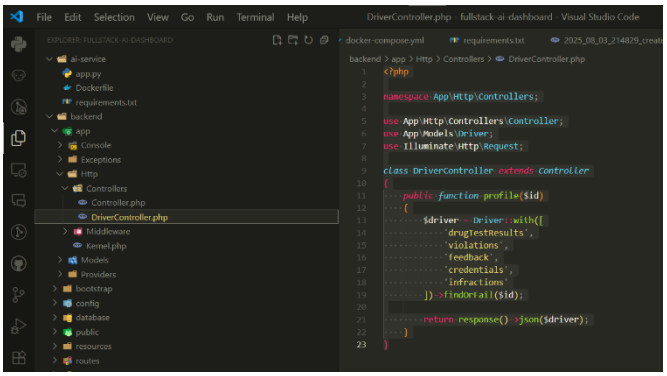


Step 2: API Endpoints

- routes/api.php

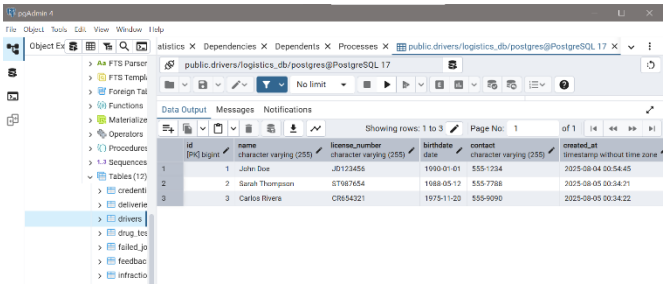


- DriverController.php

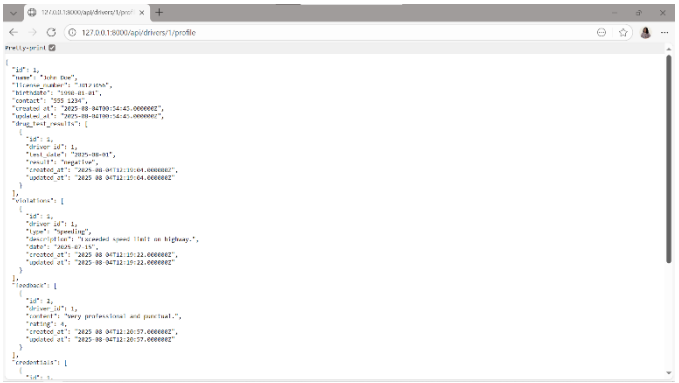


Step 3: Next.js + Radix UI

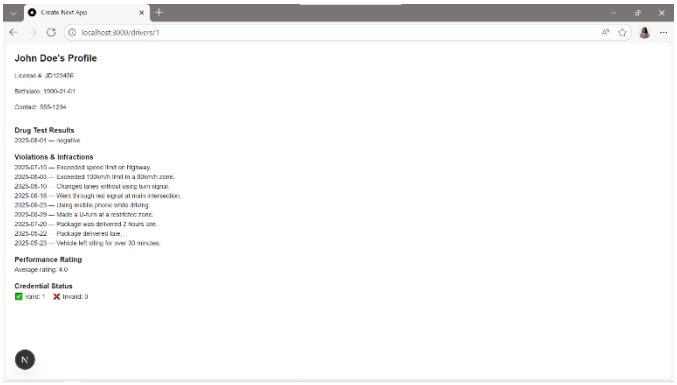
- Populate tables with mock data



- Create a dashboard at `pages/drivers/[id].tsx`

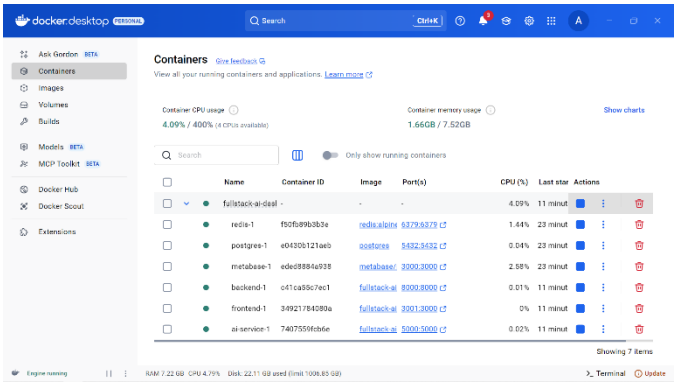


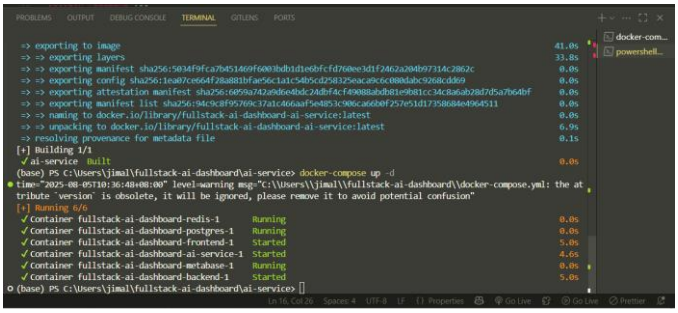
- Display:
  - Drug test history (table or chart)
  - Violations and infractions (timeline)
  - Performance rating (average from feedback)
  - Uploaded credentials (valid/invalid count)

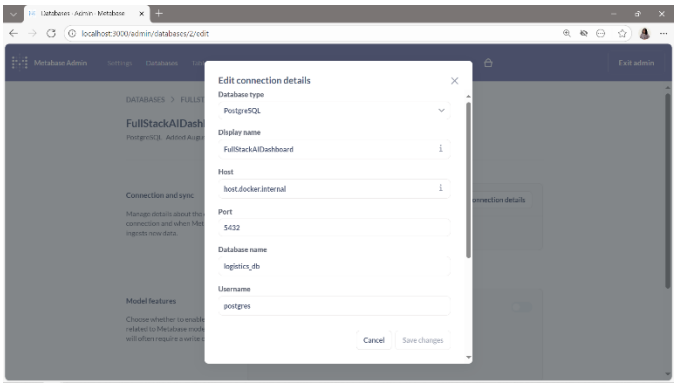


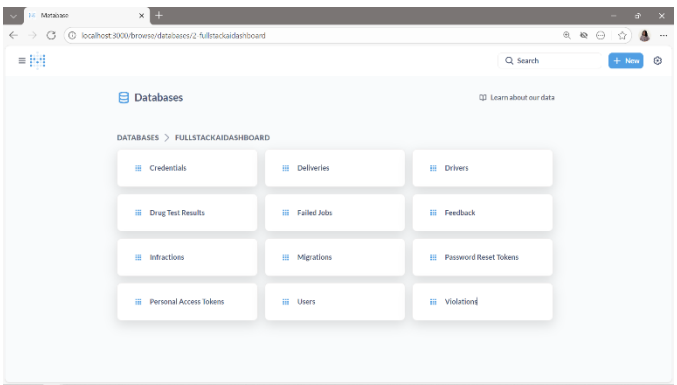
Step 4: Metabase Dashboards

- Connect Metabase to `logistics_db'









- Create dashboard
  - No of Drivers, Total Infractions, Total Violations
  - Line chart: Drug test result trends
  - Pie chart: Drug test result ratio
  - Table: Drivers with >3 violations
  - Bar: Credential validity rates
  - Line chart: Monthly infractions
  - Line chart: Monthly violations