COMP3900: Computer Science Project

System and Software for Smart Vehicle Parking Management Project Report

INSTALLATION MANUAL

Submitted by T16A-Cherry (AutoSpot) on 14 August 2025

Team Members:			
Name	zID	Email	Role
Jansen	z5373141	z5373141@ad.unsw.edu.au	Scrum Master, Frontend Development Team
Jianhui Li	z5397360	z5397360@ad.unsw.edu.au	Backend Development Team
Jonathan Lee	z5260139	z5260139@ad.unsw.edu.au	Database Development Team
Joycelin Natasha Jamin	z5423943	z5423943@ad.unsw.edu.au	Frontend Development Team
Lee Kai Li Kylie	z5443789	z5443789@ad.unsw.edu.au	Backend Development Team
Yuchao Wang	z5413536	z5413536@ad.unsw.edu.au	Product Owner, Database Development Team

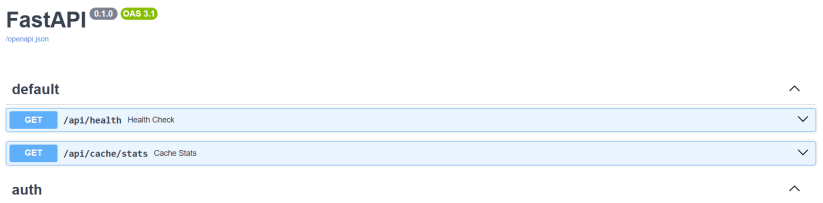
Installation Manual

1. **Running the Backend:**

Using Docker Compose

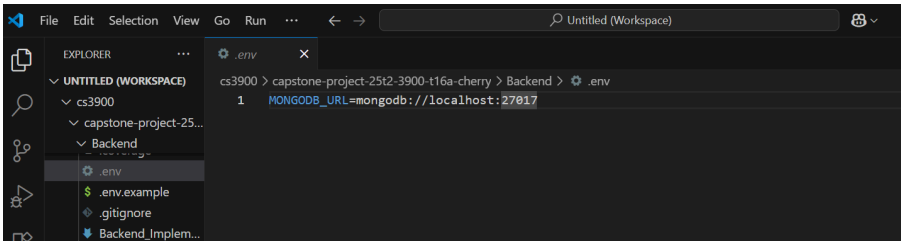
1. Install **Docker** and **Docker Compose**.
    a. Download from: https://docker.com/products/docker-desktop
2. From the backend project root, start all services (backend + MongoDB):
   docker-compose up --build
3. The backend will run at

- API base: http://localhost:8000
- API documentation: http://localhost:8000/docs



Running Locally with Python

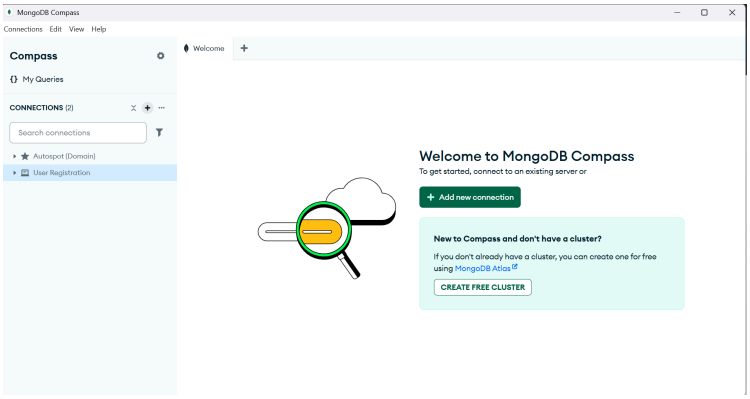
1. Install dependencies
   pip install -r requirements.txt
2. Create a ***.env*** file in the backend directory with the following content:
   MONGODB_URL=mongodb://localhost:27017

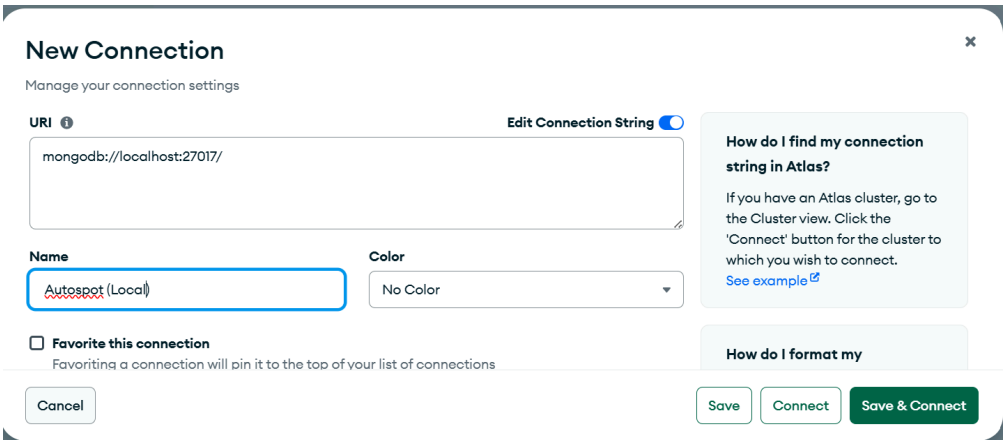


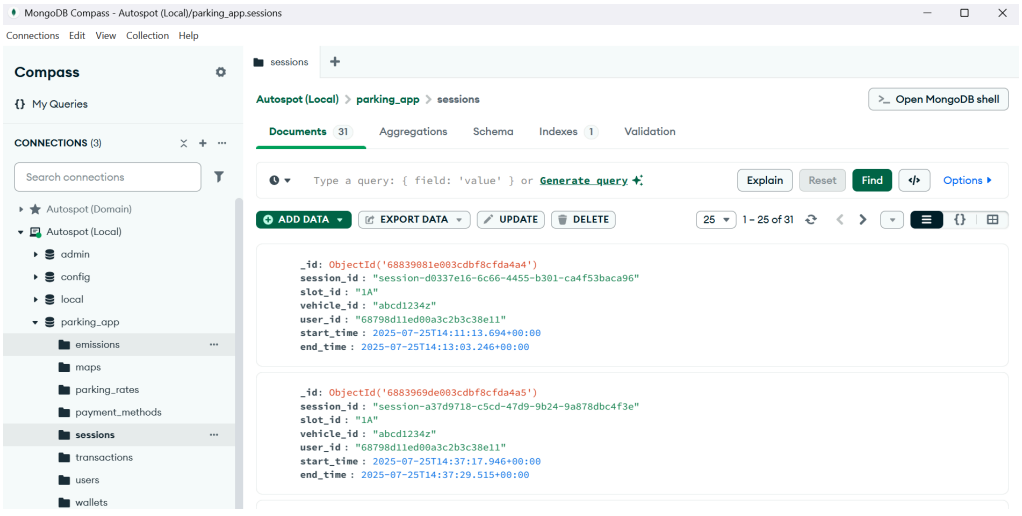
3. Start the server using the following command in terminal:
   uvicorn app.main:app --reload --port 8000
4. Access the API documentation at http://localhost:8000/docs
5. Load Sample Data (if needed):
   python app/examples/local_mongodb_storage.py

Downloading MongDB Compass:

- (for better visualisation of how data is stored)

- Download MongoDB Compass here: https://www.mongodb.com/products/tools/compass
- Add a new connection
- 

- Fill in the following for the local database and then click ‘Save & Connect’
- 

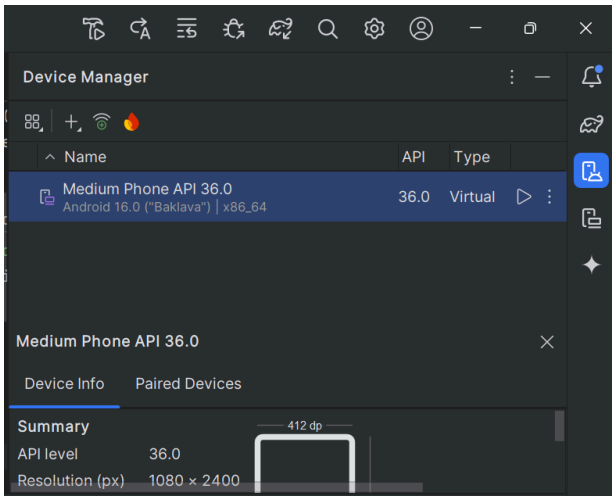
- Data can be viewed through Autospot (Local) -> parking_app
- 

- Press ‘Find’ or the refresh button to get the latest updates saved to the database.

2. **Running the Frontend:**

Setting up the Emulator (Android Studio):

1. Install Android Studio https://developer.android.com/studio
2. Open Android Studio -> Tools -> SDK Manager:
   - Install the latest Android SDK
   - Install Android SDK Build-Tools and Android Emulator
3. Go to Device Manager -> Add a new device -> Create Virtual Device
   - Select 'Medium Phone' (Medium Phone API 36.0)



Installing Flutter:

1. Download Flutter from https://docs.flutter.dev/get-started/install and add it to your system PATH
2. Verify the installation by running:
   flutter doctor
3. In Android Studio -> File -> Settings -> Plugins:
   - Install Flutter and Dart plugins
   - Restart Android Studio
4. Open a terminal and navigate to:
   cd Frontend/autospot
5. Install dependencies and run the app:
   flutter pub get
   flutter run

3. **Accessing the Domain sites:**

A. FastAPI documentation
   - https://api.autospot.it.com/docs

B. Frontend interface
   - https://autospot.it.com/