# Documentation - Solita Dev Academy Assessment

## **Data Import**

- 1 Prerequisites: Python3, MYSQL
  - Copy trip details CSV files into solita-assignment/solita-assignment-backend/data folder.
  - Copy stations detail CSV files into solita-assignment/solita-assignment-backend/station\_data folder.

Data import comes under 2 major steps.

- 1. Importing trip details CSV files. For this, find the load\_data.py file inside solita-assignment/solita-assignment-backend and execute the python file.
- python3 load\_data.py
- 2. Importing station details CSV file. For this, find the load\_station\_data.py file inside solita-assignment/solita-assignment/backend and execute the python file.
- 1 python3 load\_station\_data.py
- A Risks

If the system python buffer length and packet size is not enough it will throw following error. This is due to reading very large CSV files.

- mysql.connector.errors.OperationalError: 1153 (08S01): Got a packet bigger than 'max\_allowed\_packet' bytes
- Solution:

Increase the buffer size and packet size below with following commands in the terminal.

- 1. mysql -u root -p
- 2. set global net\_buffer\_length=1000000;
- 3. set global max\_allowed\_packet=1000000000;

The above commands will increase both the buffer size and allowed packet size. Then re-try running 2 python files.

## Back End

1 Prerequisites: Node installation (Preferred version: v18.16.1), npm instllation (Preferred version: 9.5.1)

Navigate to solita-assignment/solita-assignment-backend and open up a terminal.

run npm install

The above command will install all the node dependancies required to run the project.

Then execute the following command in the terminal

1 node index.js

This will start up the node express server in localhost under port 4000.

## Front End

1 Prerequisites: Node installation (Preferred version: v18.16.1), npm instllation (Preferred version: 9.5.1)

Navigate to solita-assignment/solita-assignment-frontend and open up a terminal.

run npm install

The above command will install all the node dependancies required to run the project.

Then execute the following command in the terminal

1 npm start

This will startup the React server in localhost under port 3000.

Visit http://localhost:3000 to view the web application.

# Product Review and Functional requirements

## **Data Import**



- Python3 was used for the data imports to support high volume of data with efficient transmission speeds.
  - pandas library was used to read csv files.
  - mysql connector was used to connect to mysql database.

Requirement	Implementation	Status
Import data from the CSV files to a database or in-memory storage	The data is imported to helsinki_city_bike_db	Done
	trips table - Data relevant to trips are imported to trips table.	
	stations table - Data relevant to stations are imported to stations table.	
Validate data before importing	If the fields are empty, they are replaced with default values (distance and duration with 0).	Done
Don't import journeys that lasted for less than ten seconds	The trips which lasted lower than 10s are neglected when inserting records to the database.	Done
Don't import journeys that covered distances shorter than 10 meters	The trips which covered distance lower than 10m are neglected when inserting records to the database.	Done

#### **Front End**

#### Journey list view

- Journey list page was implemented with a table which includes pagination and allows the user to select number of records which the table display at a time.
- The table shows departure station, return station, distance (in Kms) and duration (in minutes).
- The pagination will allow the users to navigate through the records from page to page depend on the record count user selected to view at a time (25: default, 50, 100).

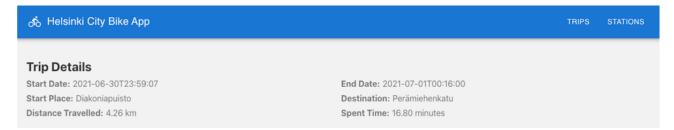
# **Trips**

ID	Departure Station	Return Station	Distance (km)	Duration (min)
1	Tenholantie	Esterinportti	1.85	6.78
2	Erottajan aukio	Hakaniemi (M)	1.60	6.75
3	Pasilan asema	Tenholantie	2.28	8.37
4	Ympyrätalo	Unioninkatu	4.01	22.77
5	Petter Wetterin tie	Gunillantie	3.56	14.62
6	Tollinpolku	Kauppakeskus Kaari	4.34	25.43
7	Diakoniapuisto	Perämiehenkatu	4.26	16.80
8	Puotilan ostoskeskus	Puotilantie	0.86	5.03
9	Eteläinen Hesperiankatu	Vilhonvuorenkatu	4.63	23.08
10	Tollinpolku	Tollinpolku	1.64	12.37
11	Cygnaeuksenkatu	Leppäsuonaukio	0.72	2.92
12	Mankkaanaukio	Tontunmäentie	3.18	15.15
13	Malminkartanon asema	Tollinpolku	0.35	1.50
14	Heikkilānaukio	Itälahdenkatu	0.47	3.92
15	Westendinasema	Koivusaari (M)	2.97	12.67
16	Agronominkatu	Agronominkatu	8.47	48.53
17	Agronominkatu	Agronominkatu	8.77	48.85
			Rows per page: 25 ♥	1–25 of 3126466 〈 <b>&gt;</b>

List Trips View

# Single Journey view

Clicking on one of the above records will take you to the single journey view. This shows details of a single trip.

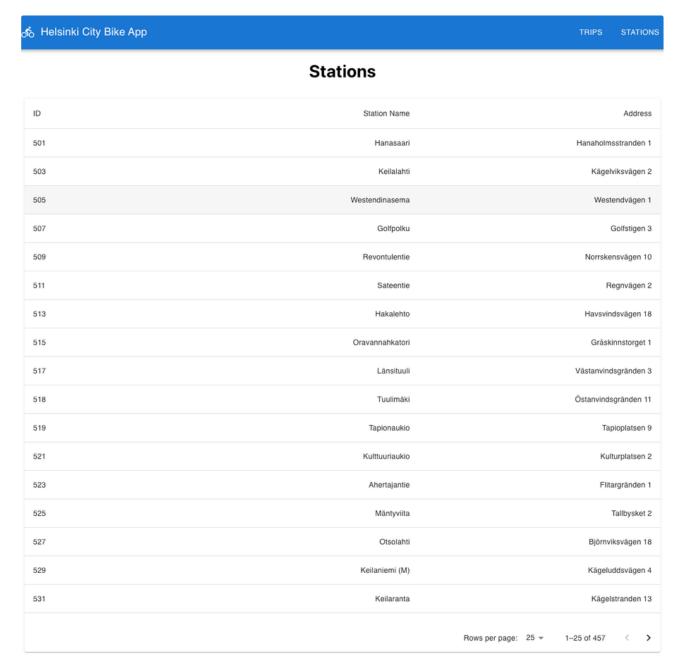


Single Trip View

#### **Station list**

This screen uses the same re-usable table component. This allows users to see the list of stations.

The same pagination is available here with the ability to choose number of records visible at a time.



Stations List View

## **Single Station View**

Once the user click on one of the above records, the user is navigated into Station Single View. This view consists of details of a single station including Station name, address, ID, Number of departures, Number of Returns for the station.



TRIPS

STATIONS

## **Station Details**

Station ID: 513 Station Address: Havsvindsvägen 18

Number of Returns: 4648

**Station Name:** Hakalehto **Number of Departures:** 4716