Technical Analysis

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| Ticket | #48 |
| Description | Technical Analysis: Introduce Assembly Plant information to the vehicle |

Scope of the Analysis

The scope of this analysis was to analyse the possibility of including the Assembly Plant information to a vehicle.

Change Description

## Initial Analysis

Following the logic that 1 car is produced by 1 plant, with all cars having the plant information where they were produced (NON-NULL) and the fact that a Location can represent either a compound, plant or other types of locations it is important to make the distinction between location types. The locations table already has a field for this (loc\_type), which specifies if the location is a plant or a compound.

## Database Changes

Although there are several strategies to implement this, the easiest one may be to create a field Assembled\_Plant of type INT in the Vehicles table, which references the location id within the vehicles table.

Below is what the change would look like:

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| Assembled\_Plant | INT | FK : Locations.ID | Foreign Key to Locations Table |

The vehicle would then include the location ID, which could be looked at in the “Locations” table for further information on the assembly plant, if necessary.

## Code Changes

Alongside changes to the database, we need to update our code to allow for this new information to be accessed.

On an initial stage, a simple addition of an Integer, to represent the foreign key, to the Location, LocationTable and LocationResponse classes. This will allow us to process and send the assembly plant, upon an HTTP Request, and also consult the full location information via an HTTPRequest to the Locations endpoint, if this information is necessary.

On a later stage, if the business desires, a Plant class with detailed information on a plant response would be useful to obtain the information about the plants. It would also be useful to be able to filter the plant locations from all the locations table as this would allow suppliers and external users of the API the availability of a full detailed list of every plant in the system.

Through the INT field added, the plants list could be manipulated as necessary to reflect all the information required on the specific plant location.