Fleet Management PSQL Database Documentation

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Fleet Management PSQL Database Documentation

Contents

Database Set-Up Procedure

Download & Install POSTGRESQL

Download Postgres from *https://www.enterprisedb.com/downloads/postgres-postgresql-downloads*.

Follow Installation Instructions.

Note down the Super User Name & Password Set During Installation

Adding psql to PATH in Windows

Edit The system PATH To include C:\Program Files\PostgreSQL\12\bin

This will allow you to query psql in command prompt.

Database File Structure

The Database configuration files are split into the following files

>>database.BAT

>>dataBaseSetUp.sql

>>primaryTables.sql

>>auditHistoryTables.sql

>>lookUpCheckTables.sql

>>primaryTablesConstraints.sql

>>lookUpCheckTablesTriggerFunctions.sql

>>primaryTablesTriggerFunctions.sql

>>lookUpCheckTablesTriggers.sql

>>primaryTablesTriggers.sql

>>views.sql

Sample Data

Sample Data to populate all the tables in the data base.

>>sampleData.sql

>>vehicles.sql

>>drivers.sql

>>purchase_details.sql

>>maintenance.sql

>>petrol_cards.sql

>>damages.sql

>>vehicle_millage.sql

>>fines.sql

>>fuel_cost.sql

>>vehicle_location.sql

Setting Up the Data Base

Edit the dataBaseSetUp.sql file:

Change the first line to: \c {default database name} {super user name}

Change the role name and password on line 2 as desired

Change line 5 to: GRANT ALL PRIVILEGES ON DATABASE fleet_management TO {role name};

Change line 7 to: \c fleet_management {role name}

Open CMD and type: psql {default database name} {super user name}

Enter password for superuser

Type: \i 'C:/Users/Viveshan Govender/Desktop/Fleet Management/setUpDataBase.sql'

Enter password for role

The data base is now created

To enter the sample data:

While connected to the database type: \i 'C:/Users/Viveshan Govender/Desktop/Fleet Management/sampleData.sql'

All Tables

TABLE NAME
Vehicles
Drivers
Purchase_Details
Maintenance
Petrol_Cards
Damages
Vehicle_Millage
Fines
Fuel_Cost
Vehicle_Location
Vehicles_Audit_History
Drivers_Audit_History
Purchase_Details_Audit_History
Maintenance_Audit_History
Petrol_Cards_Audit_History
Damages_Audit_History
Vehicle_Millage_Audit_History
Fines_Audit_History
Fuel_Cost_Audit_History
Vehicle_Location_Audit_History
License_Category_chk
Vehicle_Type_chk

Entity Relation Diagrams
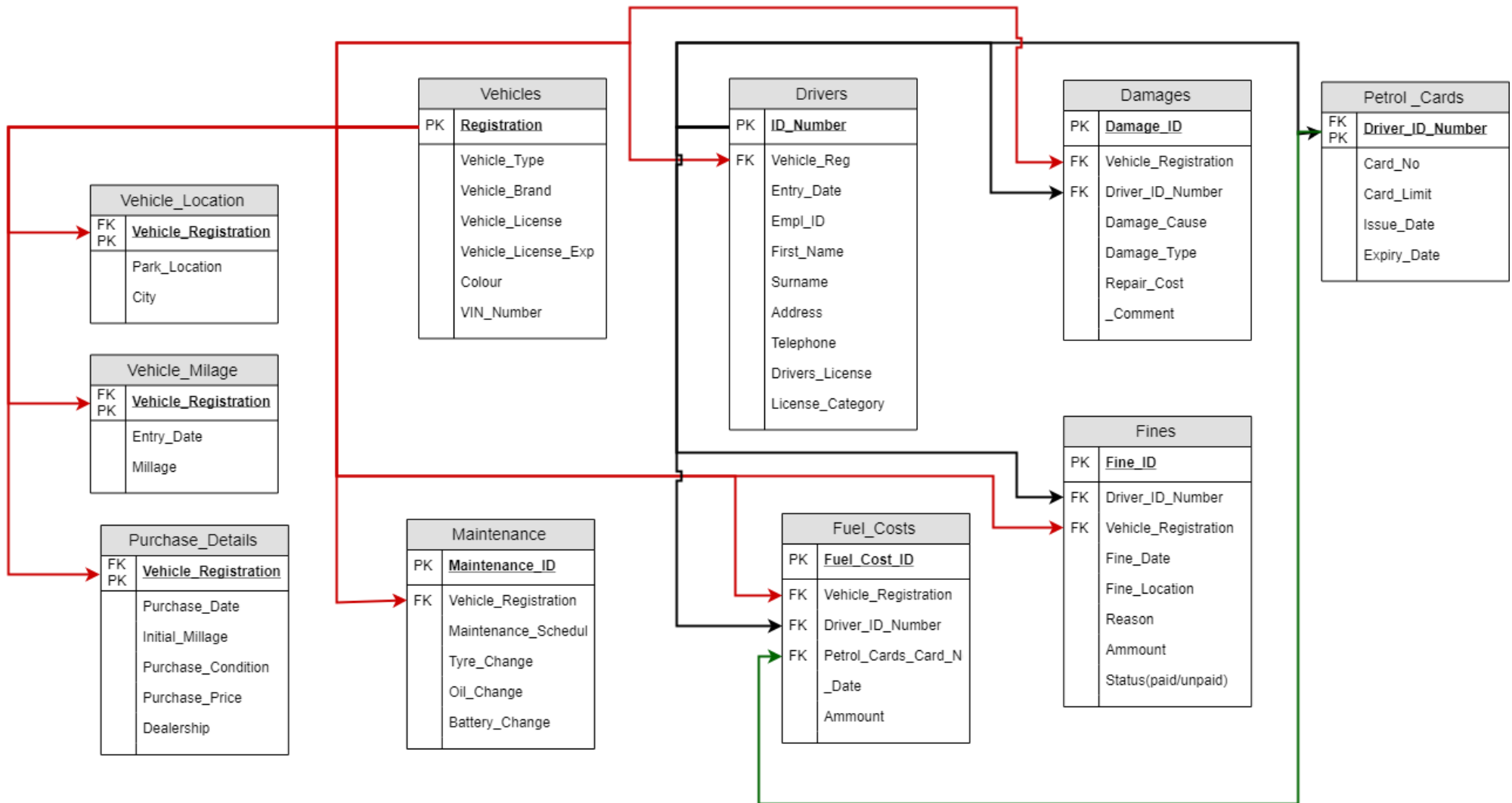
Fleet Management PSQL Database Documentation

Driver_Audit_History

ID_Number
Vehicle_Reg
Entry_Date
Empl_ID
First_Name
Surname
Address
Telephone
Drivers_License
License_Category
Edit_Timestamp
TAG

Vehicle_Audit_History

Driver_ID_Number
Vehicle_Type
Vehicle_Brand
Registration
Vehicle_License
Vehicle_License_Exp
Colour
VIN_Number
Edit_Timestamp
TAG

Purchase_Details_Audit_History

Vehicle_Registration
Purchase_Date
Initial_Millage
Purchase_Condition
Purchase_Price
Dealership
Edit_Timestamp
TAG

Maintenance_Audit_History

Maintenance_ID
Vehicle_Registration
Maintenance_Schedule
Tyre_Change
Oil_Change
Battery_Change
Edit_Timestamp
TAG

Petrol _Cards_Audit_History

Driver_ID_Number
Card_No
Card_Limit
Issue_Date
Expiry_Date
Edit_Timestamp
TAG

Damages_Audit_History

Damage_ID
Vehicle_Registration
Driver_ID_Number
Damage_Cause
Damage_Type
Repair_Cost
_Comment
Edit_Timestamp
TAG

PK	uniqueId
	row 1
	row 2
	row 3

Vehicle_Milage_Audit_History

Vehicle_Registration
Entry_Date
Millage
Edit_Timestamp
TAG

Fines_Audit_History

Fine_ID
Driver_ID_Number
Vehicle_Registration
Fine_Date
Fine_Location
Reason
Ammount
Status(paid/unpaid)
Edit_Timestamp
TAG

Fuel_Costs_Audit_History

Fuel_Cost_ID
Vehicle_Registration
Driver_ID_Number
Petrol_Cards_Card_No
_Date
Ammount
Edit_Timestamp
TAG

Vehicle_Location_History

Vehicle_Registration
TAG
Edit_Timestamp
Park_Location
City

Primary Tables Structure

Table: Vehicles

Columns

	NAME	N	U	DATA TYPE	DESCRIPTION/ATRIBUTES
	Vehicle_Type			VARCHAR(10)	Type of Vehicle ex. 'Car', Constraint added to check if type exists in check table
	Vehicle_Brand			VARCHAR(20)	Vehicle Brand ex. 'Toyota', Constraint added to check if brand is in check table
PK	Registration		U	VARCHAR(40)	Vehicle Number Plate
	Vehicle_License		U	VARCHAR(20)	Vehicle License Number
	Vehicle_License_Exp			DATE	Vehicle License Expiry
	Colour			VARCHAR(20)	Colour of Vehicle
	VIN_Number		U	VARCHAR(20)	Vehicle Identification Number

Links To

	Table	Join	Title/Name/Description
	Drivers	Drivers.Vehicle_Registration=Vehicles.Registration	fk_vehicle_reg_drivers
	Purchase_Details	Purchase_Details.Vehicle_Registration=Vehicle.Registration	fk_vehicle_reg_purchaseDetails
	Maintenance	Maintenance.Vehicle_Registration=Vehicle.Registration	fk_vehicle_reg_maintenance
	Damages	Damages.Vehicle_Registration=Vehicle.Registration	fk_vehicle_reg_damages
	Vehicle_Millage	Vehicle_Millage.Vehicle_Registration=Vehicle.Registration	fk_vehicle_reg_vehicleMillage
	Fines	Fines.Vehicle_Registration=Vehicle.Registration	fk_vehicle_reg_fines
	Fuel_Cost	Fuel_Cost.Vehicle_Registration=Vehicle.Registration	fk_vehicle_reg_fuelCost
	Vehicle_Location	Vehicle_Location.Vehicle_Registration=Vehicle.Registration	fk_vehicle_reg_vehicleLocation

Links From

	Table	Join	Title/Name/Description
	License_Category_chk		
	Vehicle_Type_chk		

Unique Keys

	Column	Name/Description
PK	Registration	Table Primary Key

Triggers

	Name	When	Description
	Vehicle_Audit_INSERT	AFTER INSERT ON Vehicles	Populates the audit history table on insertion
	Vehicle_Audit_DELETE	BEFORE DELETE ON Vehicles	Populates the audit history table on deletion
	Vehicle_Audit_UPDATE	BEFORE UPDATE ON Vehicles	Populates the audit history table on update

Uses

Name
License_Category_chk
Vehicle_Type_chk

Used by

Name
Drivers
Purchase_Details
Maintenance
Damages
Vehicle_Millage
Fines
Fuel_Cost
Vehicle_Location

Table: Drivers

Columns

Drivers					
	NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
	Empl_ID		U	BIGSERIAL	Employee ID, Auto Incrimenting Integer
	First_Name			VARCHAR(25)	Driver First Name
	Surname			VARCHAR(25)	Driver Last Name
	Address			VARCHAR(100)	Driver Physical Address
	Telephone		U	CHAR(10)	Driver Phone Number fixed 10 digit, Regex constraint checks format as ~* '^[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]$'
PK	ID_Number		U	CHAR(13)	Driver ID Number fixed 13 digit, Regex constraint checks format as ~* '^[1-9]+[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]$'

	Drivers_License	U	CHAR(12)	Drivers License Number Fixed 12 digit, Regex constraint checks format as ~* '^[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]$'
	License_Issue		DATE	Drivers License Issue Date
	License_Exp		DATE	Drivers License Expiry Date
	License_Category		VARCHAR(10)	Drivers Licence Category, Constraint checks if category is correct
FK	Vehicle_Registration	U	VARCHAR(40)	Number Plate of vehicle issued to driver

Links To

	Table	Join	Title/Name/Description
	Petrol_Cards	Petrol_Cards.Driver_ID_Number=Drivers.ID_Number	fk_driver_ID_petrolCards
	Damages	Damages.Driver_ID_Number=Drivers.ID_Number	fk_driver_ID_damages
	Fines	Fines.Driver_ID_Number=Drivers.ID_Number	fk_driver_ID_fines
	Fuel_Cost	Fuel_Cost.Driver_ID_Number=Drivers.ID_Number	fk_driver_ID_fuelCost

Links From

	Table	Join	Title/Name/Description
	Vehicles	Drivers.Vehicle_Registration=Vehicles.Registration	fk_vehicle_reg_drivers

Unique Keys

	Column	Name/Description
PK	ID_Number	Table Primary Key
FK	Vehicle_Registration	Unique Foreign Key

Triggers

	Name	When	Description
	Driver_Audit_INSERT	AFTER INSERT ON Drivers	Populates the audit history table on insertion
	Driver_Audit_DELETE	BEFORE DELETE ON Drivers	Populates the audit history table on deletion
	Driver_Audit_UPDATE	BEFORE UPDATE ON Drivers	Populates the audit history table on update

Uses

Name
Vehicles

Used by

Name
Petrol_Cards
Damages
Fines
Fuel_Cost

Table: Purchase_Details

Columns

Purchase_Details					
	NAME	N	U	DATA TYPE	DESCRIPTION/ATRIBUTES
	Purchase_Date			DATE	Vehicle Purchase Date
FK *PK*	Vehicle_Registration			VARCHAR(40)	Vehicle Number Plate
	Initial_Millage			INT	Millage on purchase
	Purchase_Condition			VARCHAR(4)	Either 'NEW' or 'USED'
	Purchase_Price			INT	
	Dealership			VARCHAR(30)	Where Purchased from

Links To

	Table	Join	Title/Name/Description
-	-	-	-

Links From

	Table	Join	Title/Name/Description
	Vehicles	Purchase_Details. Vehicle_Registration=Drivers.ID_Number	fk_vehicle_reg_purchaseDetails

Unique Keys

	Column	Name/Description
FK *PK*	Vehicle_Registration	Table Primary Key, referenced Foreign Key

Triggers

	Name	When	Description
	Purchase_Detail_Audit_INSERT	AFTER INSERT ON Purchase_Details	Populates the audit history table on insertion
	Purchase_Detail_Audit_DELETE	BEFORE DELETE ON Purchase_Details	Populates the audit history table on deletion
	Purchase_Detail_Audit_UPDATE	BEFORE UPDATE ON Purchase_Details	Populates the audit history table on update

Uses

Name
Vehicles

Used by

Name
-

Table: Maintenance

Columns

Maintenance					
	NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
PK	Maintenance_ID		U	BIGSERIAL	Auto Incrementing INT
FK	Vehicle_Registration		U	VARCHAR(40)	Number Plate of Vehicle
	Maintenance_Schedule			VARCHAR(50)	
	Tyre_Change	N		VARCHAR(20)	
	Oil_Change	N		VARCHAR(20)	
	Battery_Change	N		VARCHAR(20)	

Links To

	Table	Join	Title/Name/Description
-	-	-	-

Links From

	Table	Join	Title/Name/Description
	Vehicles	Maintenance. Vehicle_Registration=Vehicles.Registration	fk_vehicle_reg_maintenance

Unique Keys

	Column	Name/Description
PK	Maintenance_ID	Table Primary Key
FK	Vehicle_Registration	Unique Foreign Key

Triggers

	Name	When	Description
	Maintenance_Audit_INSERT	AFTER INSERT ON Maintenance	Populates the audit history table on insertion
	Maintenance_Audit_DELETE	BEFORE DELETE ON Maintenance	Populates the audit history table on deletion

	Maintenance_Audit_UPDATE	BEFORE UPDATE ON Maintenance	Populates the audit history table on update

Uses

Name
Vehicles

Used by

Name
-

Table: Petrol_Cards

Columns

Petrol_Cards					
	NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
	Card_No		U	INT	Petrol Card Number, Regex Constraint
	Card_Limit			INT	Monthly Spend Limit, Constraint check positive number
FK *PK*	Driver_ID_Number		U	CHAR(13)	ID Number of Driver Card Issued to
	Issue_Date			DATE	Issue Date of Card
	Expiry_Date			DATE	Expiry Date of Card

Links To

	Table	Join	Title/Name/Description
	Fuel_Cost	Fuel_Cost. Petrol_Cards_Card_No=Petrol_Cards.Card_No	fk_card_no_petrol_cards

Links From

	Table	Join	Title/Name/Description
	Drivers	Petrol_Cards. Driver_ID_Number=Drivers.ID_Number	fk_driver_ID_petrolCards

Unique Keys

	Column	Name/Description
FK *PK*	Driver_ID_Number	Table Primary Key, referenced unique FK

Triggers

	Name	When	Description
	Petrol_Cards_Audit_INSERT	AFTER INSERT ON Petrol_Cards	Populates the audit history table on insertion
	Petrol_Cards_Audit_DELETE	BEFORE DELETE ON Petrol_Cards	Populates the audit history table on deletion
	Petrol_Cards_Audit_UPDATE	BEFORE UPDATE ON Petrol_Cards	Populates the audit history table on update

Uses

Name
Drivers

Used by

Name
Fuel_Cost

Table: Damages

Columns

Damages					
	NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
PK	Damage_ID		U	SERIAL	Auto Incrementing Integer
FK	Vehicle_Registration		U	VARCHAR(40)	Vehicle Number Plate
FK	Driver_ID_Number		U	CHAR(13)	Drivers ID Number
	Damage_Cause			VARCHAR(50)	Cause of Damage, Accepts 50 char string
	Damage_Type			VARCHAR(50)	Type of Damage, Accepts 50 char string
	Repair_Cost			INT	Cost of Repair, Constraint checks positive number
	_Comment	N		VARCHAR(70)	NULLABLE, additional info as up to 70 char string

Links To

	Table	Join	Title/Name/Description
-	-	-	-

Links From

	Table	Join	Title/Name/Description
	Vehicles	Damages.Vehicle_Registration=Vehicles.Registration	fk_vehicle_reg_damages
	Drivers	Damages.Driver_ID_Number=Drivers.ID_Number	fk_driver_ID_damages

Unique Keys

	Column	Name/Description
PK	Damage_ID	Table Primary Key Auto Gen
FK	Vehicle_Registration	Unique Foreign Key
FK	Driver_ID_Number	Unique Foreign Key

Triggers

	Name	When	Description
	Damages_Audit_INSERT	AFTER INSERT ON Damages	Populates the audit history table on insertion
	Damages_Audit_DELETE	BEFORE DELETE ON Damages	Populates the audit history table on deletion

	Damages_Audit_UPDATE	BEFORE UPDATE ON Damages	Populates the audit history table on update

Uses

Name
Vehicles
Drivers

Used by

Name
-

Table: Vehicle_Millage

Columns

Vehicle_Millage					
	NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
FK *PK*	Vehicle_Registration		U	VARCHAR(40)	Number Plate of Vehicle
	Entry_Date			DATE	Date of Entry
	Millage			INT	Millage of vehicle at entry date, constraint checks positive number

Links To

	Table	Join	Title/Name/Description
-	-	-	-

Links From

	Table	Join	Title/Name/Description
	Vehicles	Vehicle_Millage.Vehicle_Registration=Vehicles.Registration	fk_vehicle_reg_vehicleMillage

Unique Keys

	Column	Name/Description
FK *PK*	Vehicle_Registration	Table Primary key references Unique Foreign Key

Triggers

	Name	When	Description
	Vehicle_Millage_Audit_INSERT	AFTER INSERT ON Vehicle_Millage	Populates the audit history table on insertion

	Vehicle_Millage_Audit_DELETE	BEFORE DELETE ON Vehicle_Millage	Populates the audit history table on deletion
	Vehicle_Millage_Audit_UPDATE	BEFORE UPDATE ON Vehicle_Millage	Populates the audit history table on update

Uses

Name
Vehicles

Used by

Name
-

Table: Fines

Columns

Fines					
	NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
PK	Fine_ID		U	BIGSERIAL	
FK	Driver_ID_Number		U	CHAR(13)	
FK	Vehicle_Registration		U	VARCHAR(40)	
	Fine_Date			DATE	
	Fine_Location			VARCHAR(20)	
	Reason			VARCHAR(30)	
	Ammount			VARCHAR(10)	
	Status			VARCHAR(6)	'PAID' or 'UNPAID'

Links To

Table	Join	Title/Name/Description
-	-	-

Links From

	Table	Join	Title/Name/Description
	Vehicles	Fines.Vehicle_Registration=Vehicles.Registration	fk_vehicle_reg_fines
	Drivers	Fines.Driver_ID_Number=Drivers.ID_Number	fk_driver_ID_fines

Unique Keys

	Column	Name/Description
PK	Fine_ID	Table Primary Key
FK	Driver_ID_Number	Unique Foreign Key
FK	Vehicle_Registration	Unique Foreign Key

Triggers

	Name	When	Description
	Fines_Audit_INSERT	AFTER INSERT ON Fines	Populates the audit history table on insertion
	Fines_Audit_DELETE	BEFORE DELETE ON Fines	Populates the audit history table on deletion
	Fines_Audit_UPDATE	BEFORE UPDATE ON Fines	Populates the audit history table on update

Uses

Name
Vehicles
Drivers

Used by

Name
-

Table: Fuel_Cost

Columns

Fuel_Cost					
	NAME	N	U	DATA TYPE	DESCRIPTION/ATRIBUTES
PK	Fuel_Cost_ID		U	BIGSERIAL	
FK	Vehicle_Registration			VARCHAR(40)	
FK	Driver_ID_Number			CHAR(13)	
FK	Petrol_Cards_Card_No			INT	
	_Date			DATE	
	Ammount			INT	

Links To

	Table	Join	Title/Name/Description
	-	-	-

Links From

	Table	Join	Title/Name/Description
	Vehicles	Fuel_Cost.Vehicle_Registration=Vehicles.Registration	fk_vehicle_reg_fuelCost
	Drivers	Fuel_Cost.Driver_ID_Number=Drivers.ID_Number	fk_driver_ID_fuelCost
	Petrol_Cards	Fuel_Cost.Petrol_Cards_Card_No=Petrol_Cards.Card_No	fk_card_no_petrol_cards

Unique Keys

	Column	Name/Description
PK	Fuel_Cost_ID	Table Primary Key
FK	Vehicle_Registration	Unique Foreign Key
FK	Driver_ID_Number	Unique Foreign Key
FK	Petrol_Cards_Card_No	Unique Foreign Key

Triggers

Name	When	Description
Fuel_Cost_Audit_INSERT	AFTER INSERT ON Fuel_Cost	Populates the audit history table on insertion
Fuel_Cost_Audit_DELETE	BEFORE DELETE ON Fuel_Cost	Populates the audit history table on deletion
Fuel_Cost_Audit_UPDATE	BEFORE UPDATE ON Fuel_Cost	Populates the audit history table on update

Uses

Name
Vehicles
Drivers
Petrol_Cards

Used by

Name
-

Table: Vehicle_Location

Columns

Vehicle_Location					
	NAME	N	U	DATA TYPE	DESCRIPTION/ATRIBUTES
FK *PK*	Vehicle_Registration		U	VARCHAR(40)	
	Park_Location			VARCHAR(30)	
	City			VARCHAR(30)	

Links To

	Table	Join	Title/Name/Description
	-	-	-

Links From

	Table	Join	Title/Name/Description

	Vehicles	Vehicle_Location.Vehicle_Registration=Vehicles.Registration	fk_vehicle_reg_vehicleLocation

Unique Keys

	Column	Name/Description
FK *PK*	Vehicle_Registration	Table Primary Key References Unique Foreign Key

Triggers

	Name	When	Description
	Vehicle_Location_Audit_INSERT	AFTER INSERT ON Vehicle_Location	Populates the audit history table on insertion
	Vehicle_Location_Audit_DELETE	BEFORE DELETE ON Vehicle_Location	Populates the audit history table on deletion
	Vehicle_Location_Audit_UPDATE	BEFORE UPDATE ON Vehicle_Location	Populates the audit history table on update

Uses

Name
Vehicles

Used by

Name
-

Audit History Tables Structure

Table: Vehicles_Audit_History

Columns

Vehicles_Audit_History				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
USERNAME			VARCHAR(70)	Automatically Enters psql username who initiated the entry via CURRENT_USER
TAG			VARCHAR(6)	Tags column as 'INSERT','UPDATE' or 'DELETE'
Edit_Timestamp			DATE	Automatically enters timestamp of the entry via CURRENT_TIMESTAMP
Vehicle_Type			VARCHAR(10)	
Vehicle_Brand			VARCHAR(20)	
Registration			VARCHAR(40)	
Vehicle_License			VARCHAR(20)	
Vehicle_License_Exp			DATE	
Colour			VARCHAR(20)	
VIN_Number			VARCHAR(20)	

Links To

Table	Join	Title/Name/Description
-	-	-

Links From

Table	Join	Title/Name/Description
Vehicles	TRIGGER	

Unique Keys

Column	Name/Description

Triggers

Name	When	Description

Uses

Name

Used by

Name

Table: Drivers_Audit_History

Columns

Drivers_Audit_History				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
USERNAME			VARCHAR(70)	Automatically Enters psql username who initiated the entry via CURRENT_USER
TAG			VARCHAR(6)	Tags column as 'INSERT','UPDATE' or 'DELETE'
Edit_Timestamp			DATE	Automatically enters timestamp of the entry via CURRENT_TIMESTAMP
Empl_ID			BIGSERIAL	
First_Name			VARCHAR(25)	
Surname			VARCHAR(25)	
Address			VARCHAR(100)	
Telephone			CHAR(10)	
ID_Number			CHAR(13)	
Drivers_License			CHAR(12)	
License_Issue			DATE	
License_Exp			DATE	
License_Category			VARCHAR(10)	
Vehicle_Registration			VARCHAR(40)	

Links To

	Table	Join	Title/Name/Description
	-	-	-

Links From

	Table	Join	Title/Name/Description
	Drivers	TRIGGER	

Unique Keys

	Column	Name/Description

Triggers

	Name	When	Description

Uses

Name

Used by

Name

Table: Purchase_Details_Audit_History

Columns

Purchase_Details_Audit_History				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
USERNAME			VARCHAR(70)	Automatically Enters psql username who initiated the entry via CURRENT_USER
TAG			VARCHAR(6)	Tags column as 'INSERT','UPDATE' or 'DELETE'
Edit_Timestamp			DATE	Automatically enters timestamp of the entry via CURRENT_TIMESTAMP
Purchase_Date			DATE	
Vehicle_Registration			VARCHAR(40)	
Initial_Millage			INT	
Purchase_Condition			VARCHAR(4)	
Purchase_Price			INT	
Dealership			VARCHAR(30)	

Links To

	Table	Join	Title/Name/Description
	-	-	-

Links From

	Table	Join	Title/Name/Description
	Purchase_Details	TRIGGER	

Unique Keys

	Column	Name/Description

Triggers

	Name	When	Description

Uses

Name

Used by

Name

Table: Maintenance_Audit_History

Columns

Maintenance_Audit_History				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
USERNAME			VARCHAR(70)	Automatically Enters psql username who initiated the entry via CURRENT_USER
TAG			VARCHAR(6)	Tags column as 'INSERT','UPDATE' or 'DELETE'
Edit_Timestamp			DATE	Automatically enters timestamp of the entry via CURRENT_TIMESTAMP
Maintenance_ID			BIGSERIAL	
Vehicle_Registration			VARCHAR(40)	
Maintenance_Schedule			VARCHAR(50)	
Tyre_Change	N		VARCHAR(20)	
Oil_Change	N		VARCHAR(20)	
Battery_Change	N		VARCHAR(20)	

Links To

	Table	Join	Title/Name/Description
	-	-	-

Links From

	Table	Join	Title/Name/Description
	Maintenance	TRIGGER	

Unique Keys

	Column	Name/Description

Triggers

	Name	When	Description

Uses

Name

Used by

Name

Table: Petrol_Cards_Audit_History

Columns

Petrol_Cards_Audit_History				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
USERNAME			VARCHAR(70)	Automatically Enters psql username who initiated the entry via CURRENT_USER
TAG			VARCHAR(6)	Tags column as 'INSERT','UPDATE' or 'DELETE'
Edit_Timestamp			DATE	Automatically enters timestamp of the entry via CURRENT_TIMESTAMP
Card_No			INT	
Card_Limit			INT	
Driver_ID_Number			CHAR(13)	
Issue_Date			DATE	
Expiry_Date			DATE	

Links To

Table	Join	Title/Name/Description
-	-	-

Links From

Table	Join	Title/Name/Description
Petrol_Cards	TRIGGER	

Unique Keys

Column	Name/Description

Triggers

Name	When	Description

Uses

Name

Used by

Name

Table: Damages_Audit_History

Columns

Damages_Audit_History				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
USERNAME			VARCHAR(70)	Automatically Enters psql username who initiated the entry via CURRENT_USER
TAG			VARCHAR(6)	Tags column as 'INSERT','UPDATE' or 'DELETE'
Edit_Timestamp			DATE	Automatically enters timestamp of the entry via CURRENT_TIMESTAMP
Damage_ID			SERIAL	
Vehicle_Registration			VARCHAR(40)	
Driver_ID_Number			CHAR(13)	
Damage_Cause			VARCHAR(50)	
Damage_Type			VARCHAR(50)	
Repair_Cost			INT	
_Comment	N		VARCHAR(70)	

Links To

	Table	Join	Title/Name/Description
	-	-	-

Links From

	Table	Join	Title/Name/Description
	Damages	TRIGGER	

Unique Keys

	Column	Name/Description

Triggers

	Name	When	Description

Uses

Name

Used by

Name

Table: Vehicle_Millage_Audit_History

Columns

Vehicle_Millage_Audit_History				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
USERNAME			VARCHAR(70)	Automatically Enters psql username who initiated the entry via CURRENT_USER
TAG			VARCHAR(6)	Tags column as 'INSERT','UPDATE' or 'DELETE'
Edit_Timestamp			DATE	Automatically enters timestamp of the entry via CURRENT_TIMESTAMP
Vehicle_Registration			VARCHAR(40)	
Entry_Date			DATE	
Millage			INT	

Links To

	Table	Join	Title/Name/Description
	-	-	-

Links From

	Table	Join	Title/Name/Description
	Vehicle_Millage	TRIGGER	

Unique Keys

	Column	Name/Description

Triggers

	Name	When	Description

Uses

Name

Used by

Name

Table: Fines_Audit_History

Columns

Fines_Audit_History				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
USERNAME			VARCHAR(70)	Automatically Enters psql username who initiated the entry via CURRENT_USER
TAG			VARCHAR(6)	Tags column as 'INSERT','UPDATE' or 'DELETE'
Edit_Timestamp			DATE	Automatically enters timestamp of the entry via CURRENT_TIMESTAMP
Fine_ID		U	BIGSERIAL	
Driver_ID_Number			CHAR(13)	
Vehicle_Registration			VARCHAR(40)	
Fine_Date			DATE	
Fine_Location			VARCHAR(20)	
Reason			VARCHAR(30)	
Ammount			VARCHAR(10)	
Status			VARCHAR(6)	

Links To

Table	Join	Title/Name/Description
-	-	-

Links From

Table	Join	Title/Name/Description
Fines	TRIGGER	

Unique Keys

Column	Name/Description

Triggers

Name	When	Description

Uses

Name

Used by

Name

Table: Fuel_Cost_Audit_History

Columns

Fuel_Cost_Audit_History				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
USERNAME			VARCHAR(70)	Automatically Enters psql username who initiated the entry via CURRENT_USER
TAG			VARCHAR(6)	Tags column as 'INSERT','UPDATE' or 'DELETE'
Edit_Timestamp			DATE	Automatically enters timestamp of the entry via CURRENT_TIMESTAMP
Fuel_Cost_ID		U	BIGSERIAL	
Vehicle_Registration			VARCHAR(40)	
Driver_ID_Number			CHAR(13)	
Petrol_Cards_Card_No			INT	
_Date			DATE	
Ammount			INT	

Links To

Table	Join	Title/Name/Description
-	-	-

Links From

Table	Join	Title/Name/Description
Fuel_Cost	TRIGGER	

Unique Keys

Column	Name/Description

Triggers

Name	When	Description

Uses

Name

Used by

Name

Table: Vehicle_Location

Columns

Vehicle_Location				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
USERNAME			VARCHAR(70)	Automatically Enters psql username who initiated the entry via CURRENT_USER
TAG			VARCHAR(6)	Tags column as 'INSERT','UPDATE' or 'DELETE'
Edit_Timestamp			DATE	Automatically enters timestamp of the entry via CURRENT_TIMESTAMP
Vehicle_Registration		U	VARCHAR(40)	
Park_Location			VARCHAR(30)	
City			VARCHAR(30)	

Links To

Table	Join	Title/Name/Description
-	-	-

Links From

Table	Join	Title/Name/Description
Vehicle_Location	TRIGGER	

Unique Keys

Column	Name/Description

Triggers

Name	When	Description

Uses

Name

Used by

Name

Look-Up / Check Tables Structure

Table: License_Category_chk

Table: Vehicle_Type_chk

Views

Views are stored queries of tables in the database, the view 'tables' do not exist in the database but serve to make querying easier.

A view can be called just like any other query, for ex. >>SELECT * FROM fines_by_driver_name;

All Views In Current Schema

View Name
fines_by_driver_name
net_fines_by_driver_name
vehicles_order_by_license_exp
vehicle_allocation
petrol_card_allocation
all_fuel_costs
net_fuel_costs

View: fines_by_driver_name

Columns

fines_by_driver_name				
NAME	N	U	DATA TYPE	DESCRIPTION/ATRIBUTES
Driver First Name				
Driver Surname				
Fine Date				
Status				
Ammount				

View: net_fines_by_driver_name

Columns

net_fines_by_driver_name				
NAME	N	U	DATA TYPE	DESCRIPTION/ATRIBUTES
Driver First Name				
Driver Surname				
Sum of Fines				
Number of Fines				
Ammount				

View: vehicles_order_by_license_exp

Columns

vehicles_order_by_license_exp				
NAME	N	U	DATA TYPE	DESCRIPTION/ATRIBUTES
vehicle_license_exp				
vehicle_brand				
registration				
vehicle_license				

View: vehicle_allocation

Columns

vehicle_allocation				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
registration				
vehicle_brand				
vehicle_type				
colour				
first_name				
surname				

View: petrol_card_allocation

Columns

petrol_card_allocation				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
first_name				
surname				
card_no				
card_limit				
expiry_date				

View: all_fuel_costs

Columns

all_fuel_costs				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
first_name				
surname				
ammount				
card_no				

View: net_fuel_costs

Columns

all_fuel_costs				
NAME	**N**	**U**	**DATA TYPE**	**DESCRIPTION/ATRIBUTES**
first_name				
surname				
Sum				
Count				
Card_no				

Installing The Database

In the databaseSetUp.sql file:
Change the first line to \c {default database name} {superusername}
Change the file paths preceding /Fleet Management/…… to the path where this folder is located

In the sampleData.sql file:
Change the file paths preceding /Fleet Management/sampleData…… to the path where this folder is located

In the databaseSetUp.BAT file:
Change the -U superusername and -d defaultDataBaseNAme to the new names

RUN THE databaseSetUp.BAT file and enter the password for superuser and role user as requested to create the database and insert sample data

Using The Database

To Connect to the database run the connecFleet_managent.BAT file or open cmd and type the following: psql fleet_management Viveshan

To run any of the View queries, open the query folder, and run the BAT file for the query. The files starting with CSV_ will return a csv file of the query with the name of the query and date and time

To use the excel validator open the dataValdationExcel Folder and open the macro Enabled workbook fleetManagement. Once the data has been entered in the table press the save for validation button, this will save an xlsx file with the table name in the cwd. Drag and drop this file on the validate.BAT file in the same folder to validate the file.