Database Report
RST LLC

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Table of Contents

Users View

Ronnie Sharp Trucking, or RST, would like to modernize and make their workflow more efficient and easier on everyone involved. They would like a database to store information on many different aspects of the business and to be able to create invoices so they can save money and to cut out the long paper trail they used before.

They would need ways of storing each truck by vin number and the different customers or companies owned by said customers. It would also be beneficial to store each service done on said truck at a given date. It would also be beneficial to be able to store each employee and their work under the services on another table called serviceline. They would also need to be able to store parts used during each service to be able to look back at and order parts ahead next time the truck comes in on a table called serviceparts. It could also be useful to have a way to see the vendors for parts to have contact information more accessible, to have more accurate prices for parts, and to store what different vendors charge for parts.

They generally would use this database to be able to keep a record of each truck worked on, for whom they worked on it, as well as who worked on it. It could also aid in making operations more efficient because before everything was done by hand on paper then passed up the chain to the boss to then type up an invoice. The database would allow the boss to be able to directly monitor progress while at the same time being able to receive things quicker and inform the customers of prices more easily. It would also free up more time for the manager through not having as much of a paper trail going through him to the boss.

Database Definition Language (DDL)

Vendor(<u>vendnumb</u>, vendname, repname, vendemail, vendphone, vendaddr, vendcity, vendstate, vendzip)

Part(<u>partnumb</u>, partdesc, partbrand)

VendorPart(<u>vendnumb</u>, partnumb, vendpartcost)

       FK vendnumb ➜ Vendor

          partnumb ➜ Part

Customer(<u>custnumb</u>, custname, custphone, custemail, custaddr, custcity, custstate, custzip)

Company(<u>compnumb</u>, compname, compphone, compemail, custnumb)

       FK custnumb ➜ Customer

Truck(<u>truckvin</u>, truckyear, truckmake, truckmodel, trucklicence, truckunitnumb)

Employee(<u>empnumb</u>, empname, empphone, empemail)

ServiceOrder(<u>servordnumb</u>, truckvin, servstartdate, servmilage, custnumb, compnumb)

       FK truckvin ➜ Truck

          custnumb ➜ Customer

          compnumb ➜ Company

ServiceLine(<u>servlinenumb</u>, <u>servordnumb</u>, empnumb, servdesc, servtime)

       FK empnumb ➜ Employee

          servordnumb ➜ ServiceOrder

ServicePart(<u>servlinenumb</u>, <u>servordnumb</u>, <u>partnumb</u>, quantity)

       FK servlinenumb ➜ ServiceLine

          servordnumb ➜ ServiceLine

           partnumb ➜ Part

Data Dictionary

Table Name	Attribute Name	Description	Type	Format	Required	PK or FK	FK Reference Table
Vendor	vendnumb	Vendor Number	INT(12)	0-9999999	Y	PK	
	vendname	Vendor Name	VARCHAR(20)	Xxxxxxx	Y		
	repname	Vendor Rep Name	VARCHAR(20)	Xxxx Xxx			
	vendemail	Vendor Email	VARCHAR(20)	xxx@xxx.xxx	Y		
	vendphone	Vendor Phone #	CHAR(14)	999-999-9999			
	vendaddr	Vendor Address	VARCHAR(20)	0-999 Xxxx			
	vendcity	Vendor City	VARCHAR(20)	Xxxxx			
	vendstate	Vendor State	VARCHAR(20)	Xxxxx			
	vendzip	Vendor Zip	CHAR(5)	99999			

Table Name	Attribute Name	Description	Type	Format	Required	PK or FK	FK Reference Table
Part	partnumb	Part Number	VARCHAR(12)	X9X9X9	Y	PK	
	partdesc	Part Description	VARCHAR(30)	Xxxx xxxx	Y		
	partbrand	Part Brand	VARCHAR(15)	Xxxxxx			

Table Name	Attribute Name	Description	Type	Format	Required	PK or FK	FK Reference Table
VendorPart	vendnumb	Vendor Number	INT(12)	0-9999999	Y	PK & FK	Vendor
	partnumb	Part Number	VARCHAR(12)	X9X9X9	Y	PK & FK	Part
	vendpartcost	Vendor Part Cost	INT(8)	999999.99	Y		

Table Name	Attribute Name	Description	Type	Format	Required	PK or FK	FK Reference Table
Customer	custnumb	Customer Number	INT(12)	0-99999999	Y	PK	
	custname	Customer Name	VARCHAR(20)	Xxxx Xxxx	Y		
	custphone	Customer Phone	CHAR(14)	999-999-9999			
	custemail	Customer Email	VARCHAR(20)	xxx@xxx.xxx	Y		
	custaddr	Customer Address	VARCHAR(20)	0-999 Xxxx			
	custcity	Customer City	VARCHAR(20)	Xxxxx			
	custstate	Customer State	VARCHAR(20)	Xxxxx			
	custzip	Customer Zip	CHAR(5)	99999			

Table Name	Attribute Name	Description	Type	Format	Required	PK or FK	FK Reference Table
Company	compnumb	Company Number	VARCHAR(5)	XX999	Y	PK	
	compname	Company Name	VARCHAR(20)	Xxxx Xxx	Y		
	compphone	Company Phone	CHAR(14)	999-999-9999			
	compemail	Company Email	VARCHAR(20)	xxx@xxx.xxx			
	custnumb	Customer Number	INT(12)	0-99999999	Y	FK	Customer

Table Name	Attribute Name	Description	Type	Format	Required	PK or FK	FK Reference Table
Truck	truckvin	Truck Vin #	VARCHAR(20)	XXXXXXX	Y	PK	
	truckyear	Truck Year	DATE	Yyyy			
	truckmake	Truck Make	VARCHAR(10)	Xxxxxx			
	truckmodel	Truck Model	VARCHAR(10)	Xxxxxx			
	trucklicence	Truck Licence #	VARCHAR(10)	XXXXX	Y		
	truckunitnumb	Truck Unit #	VARCHAR(5)	XXX	Y		

Table Name	Attribute Name	Description	Type	Format	Required	PK or FK	FK Reference Table
Employee	empnumb	Employee Number	INT(5)	0-99999	Y	PK	
	empname	Employee Name	VARCHAR(30)	Xxxx Xxxxx	Y		
	empphone	Employee Phone #	CHAR(14)	999-999-9999			
	empemail	Employee Email	VARCHAR(20)	xxx@xxx.xxx	Y		

Table Name	Attribute Name	Description	Type	Format	Required	PK or FK	FK Reference Table
ServiceOrder	servordnumb	Service Order Number	INT(5)	0-99999	Y	PK	
	truckvin	Truck Vin #	VARCHAR(20)	XXXXXXX	Y	FK	Truck
	servstartdate	Service Start Date	DATE	dd-mmm-yyyy	Y		
	servmilage	Service Milage	INT(8)	0-99999999			
	custnumb	Customer Number	INT(12)	0-99999999	Y	FK	Customer
	compnumb	Company Number	VARCHAR(5)	XX999	Y	FK	Company

Table Name	Attribute Name	Description	Type	Format	Required	PK or FK	FK Reference Table
ServiceLine	servlinenumb	Service Line Number	INT(5)	0-99999	Y	PK	
	servordnumb	Service Order Number	INT(5)	0-99999	Y	PK & FK	ServiceOrder
	empnumb	Employee Number	INT(5)	0-99999	Y	FK	Employee
	servdesc	Service Description	VARCHAR(20)	Xxxxx xxx	Y		
	servtime	Service Time	TIME	hh:mm	Y		

Table Name	Attribute Name	Description	Type	Format	Required	PK or FK	FK Reference Table
ServicePart	servlinenumb	Service Line Number	INT(5)	0-99999	Y	PK & FK	ServiceLine
	servordnumb	Service Order Number	INT(5)	0-99999	Y	PK & FK	ServiceLine
	partnumb	Part Number	VARCHAR(12)	X9X9X9	Y	PK & FK	Part
	quantity	Quantity of Part	INT(3)	999	Y		

Database Structure Diagram (DBSD)
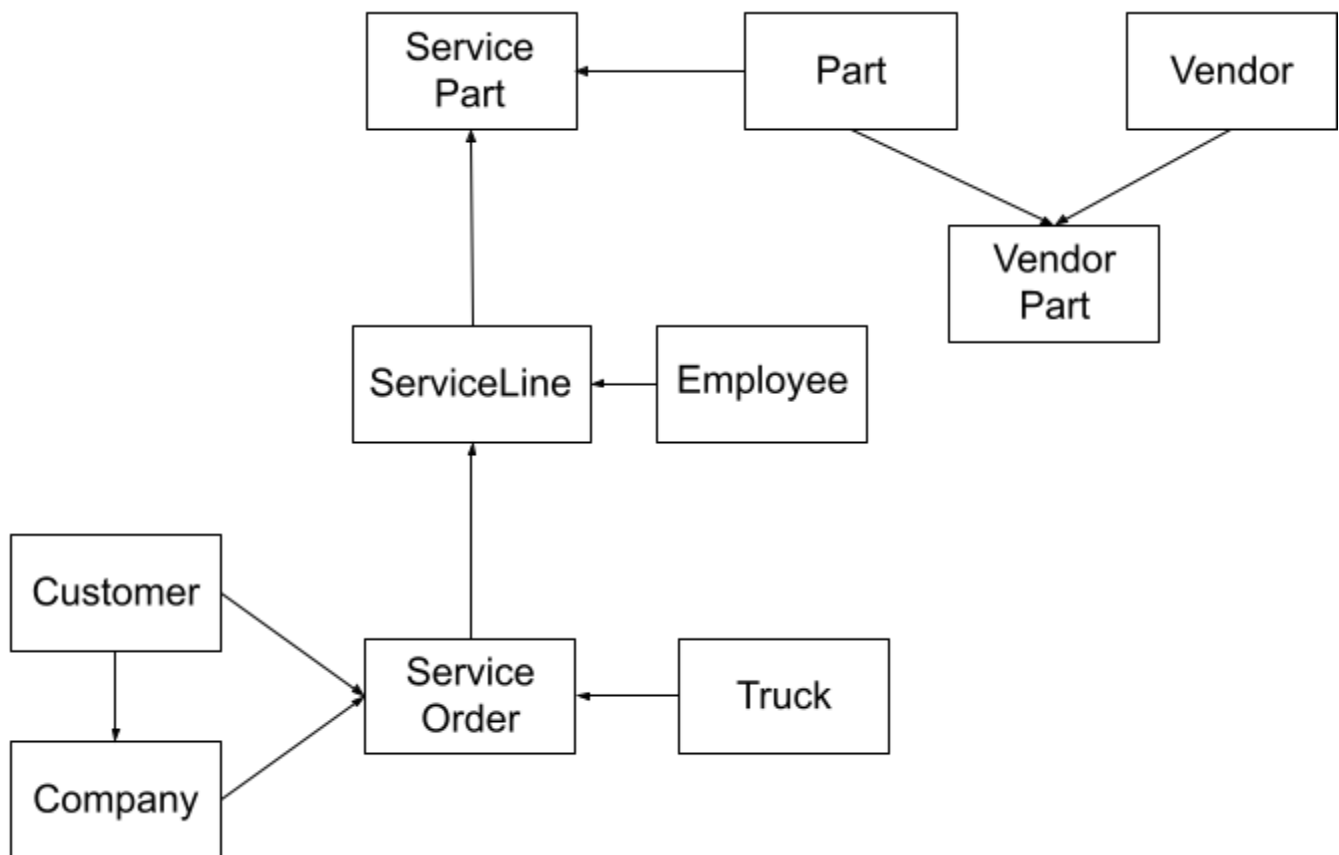
Entity Relationship Diagram
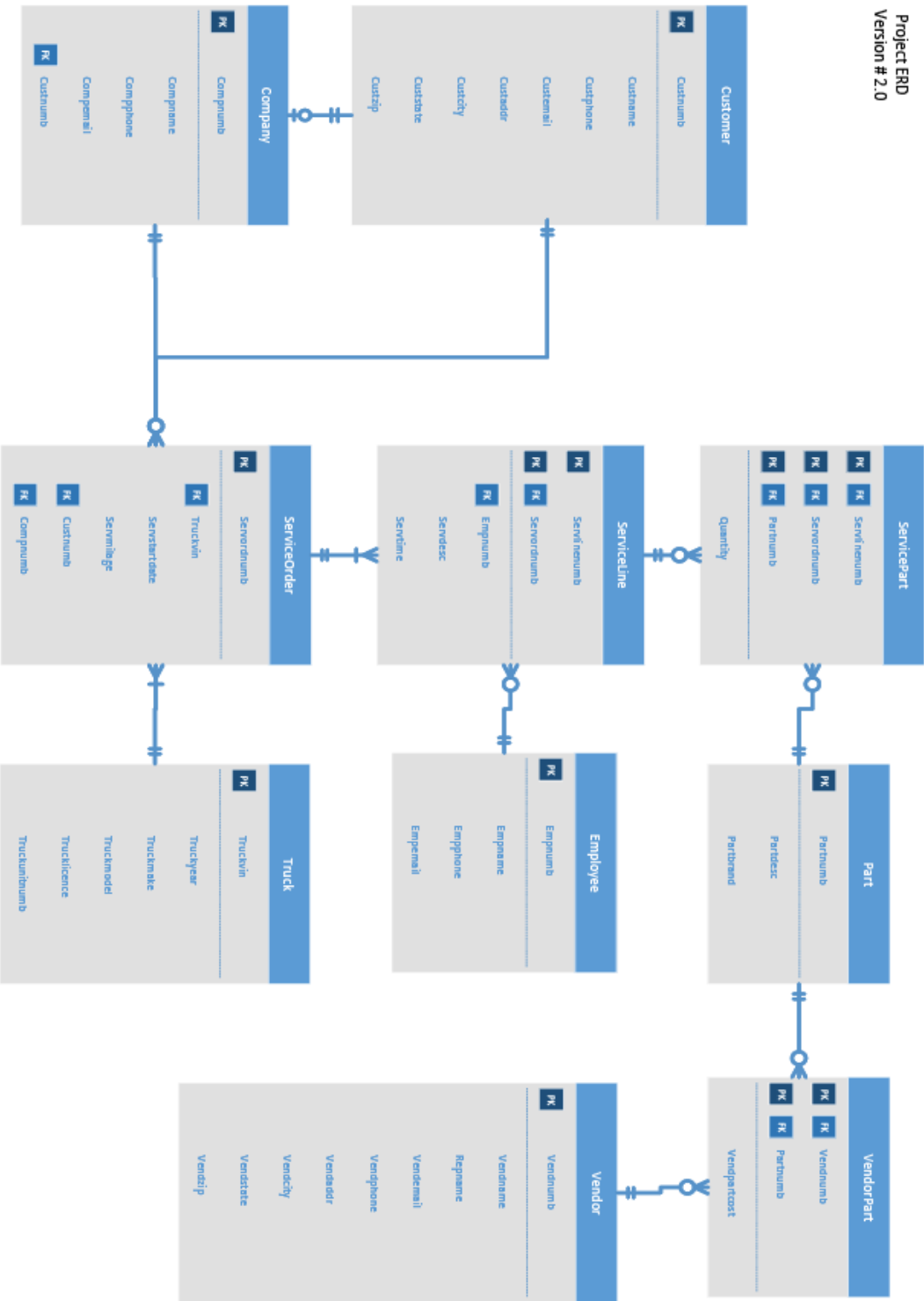
Script

-- Drop tables before to make sure no errors

```sql
DROP TABLE ServicePart;
DROP TABLE ServiceLine;
DROP TABLE ServiceOrder;
DROP TABLE VendorPart;
DROP TABLE Vendor;
DROP TABLE Part;
DROP TABLE Employee;
DROP TABLE Company;
DROP TABLE Customer;
DROP TABLE Truck;
```

-- Create new tables

```sql
CREATE TABLE Vendor
(vendnumb INT(12) PRIMARY KEY,
vendname VARCHAR(25) NOT NULL,
repname VARCHAR(20),
vendemail VARCHAR(20),
vendphone CHAR(14),
vendaddr VARCHAR(20),
vendcity VARCHAR(20),
vendstate VARCHAR(20),
vendzip CHAR(5));

CREATE TABLE Part
(partnumb VARCHAR(12) PRIMARY KEY,
partdesc VARCHAR(30) NOT NULL,
partbrand VARCHAR(15));

CREATE TABLE VendorPart
(vendnumb INT(12),
partnumb VARCHAR(12),
vendpartcost DECIMAL(8) NOT NULL,
PRIMARY KEY (vendnumb, partnumb),
FOREIGN KEY (vendnumb) REFERENCES Vendor(vendnumb),
```

```
FOREIGN KEY (partnumb) REFERENCES Part(partnumb));

CREATE TABLE Employee
(empnumb INT(5) PRIMARY KEY,
empname VARCHAR(30) NOT NULL,
empphone CHAR(14),
empemail VARCHAR(20) NOT NULL);

CREATE  TABLE Customer
(custnumb INT(12) PRIMARY KEY,
custname VARCHAR(20) NOT NULL,
custphone CHAR(14),
custemail VARCHAR(20),
custaddr VARCHAR(20),
custcity VARCHAR(20),
custstate VARCHAR(20),
custzip CHAR(5));

CREATE  TABLE Company
(compnumb VARCHAR(5) PRIMARY KEY,
compname VARCHAR(20) NOT NULL,
compphone CHAR(14),
compemail VARCHAR(20),
custnumb INT(12),
FOREIGN KEY (custnumb) REFERENCES Customer(custnumb));

CREATE  TABLE Truck
(truckvin VARCHAR(20) PRIMARY KEY,
truckyear INT(4),
truckmake VARCHAR(10),
truckmodel VARCHAR(10),
trucklicence VARCHAR(10),
truckunitnumb VARCHAR(5));

CREATE  TABLE ServiceOrder
(servordnumb INT(5) PRIMARY KEY,
truckvin VARCHAR(20) NOT NULL,
servstartdate DATE NOT NULL,
servmilage INT(8),
custnumb INT (12),
```

```sql
compnumb VARCHAR(5) NULL,
FOREIGN KEY (truckvin) REFERENCES Truck(truckvin),
FOREIGN KEY (custnumb) REFERENCES Customer(custnumb),
FOREIGN KEY (compnumb) REFERENCES Company(compnumb));

CREATE TABLE ServiceLine
(servlinenumb INT(5),
servordnumb INT(5),
empnumb INT(5) NOT NULL,
servdesc VARCHAR(20) NOT NULL,
servtime TIME NOT NULL,
FOREIGN KEY (empnumb) REFERENCES Employee(empnumb),
FOREIGN KEY (servordnumb) REFERENCES ServiceOrder(servordnumb),
PRIMARY KEY (servlinenumb, servordnumb));

CREATE TABLE ServicePart
(servlinenumb INT(5),
servordnumb INT(5),
partnumb VARCHAR(12),
quantity INT(3) NOT NULL,
PRIMARY KEY (servlinenumb, servordnumb, partnumb),
FOREIGN KEY (servlinenumb) REFERENCES ServiceLine(servlinenumb),
FOREIGN KEY (servordnumb) REFERENCES ServiceLine(servordnumb),
FOREIGN KEY (partnumb) REFERENCES Part(partnumb));

-- Insert data into tables

INSERT INTO Vendor VALUES
('1566', 'TruckPro', 'Greg Barrett', NULL, '706-483-9875',
 NULL, 'Chattanooga', 'TN', '37421');
INSERT INTO Vendor VALUES
('8891', 'FleetPride', 'Steve', NULL, '706-463-2166',
 '3600 S Dixie Rd', 'Dalton', 'Ga', '30720');
INSERT INTO Vendor VALUES
('2256', 'O''Reilly', 'Larry', NULL, '706-291-2675',
 '3235 Martha Berry HWY NW', 'Rome', 'GA', '30165');
INSERT INTO Vendor VALUES
('2118', 'MHC', 'Roger Medley', NULL, '423-364-1371',
 '7831 Lee HWY', 'Chattanooga', 'TN', '37421');
INSERT INTO Vendor VALUES
```

('1775', 'Nextran Truck Center', NULL, NULL, '404-577-5230',
 '1414 Shiloh Road', 'Kennesaw', 'GA', '30144');

INSERT INTO Part VALUES
('46782', 'Air Filter', 'Wix');
INSERT INTO Part VALUES
('B99', 'Oil Filter', 'Baldwin');
INSERT INTO Part VALUES
('PF46235', 'Fuel Filter', 'Baldwin');
INSERT INTO Part VALUES
('LFF8020', 'Fuel Filter', 'Luber Finer');
INSERT INTO Part VALUES
('P555616', 'Oil Filter', 'Donaldson');
INSERT INTO Part VALUES
('ST393-0173', 'Wheel Seal', NULL);
INSERT INTO Part VALUES
('BK1443ESMA312', 'Brake Shoes', 'Eaton');
INSERT INTO Part VALUES
('10088', 'Hub Oil', 'Lucas');
INSERT INTO Part VALUES
('K100670', 'Belt', 'Gates');
INSERT INTO Part VALUES
('PTL4024R', '4 inch LED Tail Light 3 Prong', NULL);
INSERT INTO Part VALUES
('PT4000G', '4 inch Grommet for tail lights', NULL);
INSERT INTO Part VALUES
('T-205', 'Oil Pan Drain Valve', NULL);

INSERT INTO VendorPart VALUES
('8891', '46782', '100.00');
INSERT INTO VendorPart VALUES
('8891', 'B99', '125.11');
INSERT INTO VendorPart VALUES
('2118', 'PF46235', '60.51');
INSERT INTO VendorPart VALUES
('8891', 'LFF8020', '61.20');
INSERT INTO VendorPart VALUES
('1775', 'P555616', '92.12');
INSERT INTO VendorPart VALUES
('8891', 'P555616', '105.52');

```
INSERT INTO VendorPart VALUES
('2118', 'ST393-0173', '50.11');
INSERT INTO VendorPart VALUES
('2256', 'BK1443ESMA312', '209.99');
INSERT INTO VendorPart VALUES
('1566', '10088', '25.00');
INSERT INTO VendorPart VALUES
('1566', 'K100670', '20.50');
INSERT INTO VendorPart VALUES
('1775', 'PTL4024R', '16.22');
INSERT INTO VendorPart VALUES
('1775', 'PT4000G', '12.21');
INSERT INTO VendorPart VALUES
('8891', 'T-205', '31.99');

INSERT INTO Employee VALUES
('111', 'Micheal Breeden', '706-446-5912', 'mbreeden@yahoo.com');
INSERT INTO Employee VALUES
('125', 'Aiden Rich', '706-558-2379', 'aidenrich@gmail.com');
INSERT INTO Employee VALUES
('151', 'Lee Smith', '706-851-5567', 'lsmith052@gmail.com');
INSERT INTO Employee VALUES
('189', 'Kody Manikus', '706-467-1834', 'kodym@gmail.com');
INSERT INTO Employee VALUES
('119', 'Bronson Smith', '706-895-1359', 'BS76@gmail.com');

INSERT INTO Customer VALUES
('13156', 'Wayne Colburn', '706-238-1214', 'tara@wctimber.com',
 '1380 E. Cherokee Dr', 'Ballground', 'GA', '30107');
INSERT INTO Customer VALUES
('22045', 'Leann Sanford', '706-266-7075', 'spt3517@gmail.com',
 '150 Dixie Dr',  'Woodstock', 'GA', '30188');
INSERT INTO Customer VALUES
('98101','Danny Mulkey', '706-506-2020','Mulkeyinc@gmail.com',
 '35 Johnson Ferry',  'Marietta', 'GA', '30068');
INSERT INTO Customer VALUES
('30267','Jonathan Kilgo', '770-900-0006','waste@gmail.com',
 '3459 Acworth Due West',  'Acworth', 'GA', '30101');
INSERT INTO Customer VALUES
('19351','Bobby Bradfeild', '706-676-7855','st32687@towbook.net',
```

```
'292 Hiawasse Dr',  'Marietta', 'GA', '30068');
INSERT INTO Customer VALUES
('29301','David Wheelers', '706-678-0955', NULL,
 '6166 Highway 92',  'Salt Lake City', 'UT', '84130');

INSERT INTO Company VALUES
('WT22','WC Timber', '706-238-1214',
 'tara@wctimber.com', '13156');
INSERT INTO Company VALUES
('SP13','SPT', '706-266-7075',
 'spt3517@gmail.com', '22045');
INSERT INTO Company VALUES
('MI91','Mulkey Inc', '706-506-2020',
 'Mulkeyinc@gmail.com', '98101');
INSERT INTO Company VALUES
('RW37','Rhino Waste', '770-900-0006',
 'waste@gmail.com', '30267');
INSERT INTO Company VALUES
('SR11','Sunrise', '706-676-7855',
 'st32687@towbook.net', '19351');

INSERT INTO Truck VALUES
('3FRNF65A17V514551', '2007', 'FORD',
 'F-650', '2774879', '307007');
INSERT INTO Truck VALUES
('2NKMHD7X03M392455', '2003', 'KENWORTH',
 'T300', 'EPD077', '01');
INSERT INTO Truck VALUES
('1FBWF7DE7HDB07523', '2017', 'FORD',
 'F750 Super Duty', '13X3056A', '17');
INSERT INTO Truck VALUES
('3ALACXDT2GDHT5807', '2016', 'FREIGHTLINER',
 'M2', 'DKZ687', 'BUCKET');
INSERT INTO Truck VALUES
('3HTGSSNT8FN718812', '2015', 'INTERNATIONAL',
 'SF667', 'E55871', '3');
INSERT INTO Truck VALUES
('1GBM7C1C05F5187741', '2005', 'CHEVROLET',
 'C7', 'EBU653', '108');
```

```
INSERT INTO ServiceOrder VALUES
('33818', '3FRNF65A17V514551', '2020-04-12',
 '107,350', '13156', 'WT22');
INSERT INTO ServiceOrder VALUES
('01364', '1GBM7C1C05F5187741', '2021-08-08',
 '113,547', '19351', 'SR11');
INSERT INTO ServiceOrder VALUES
('83751', '2NKMHD7X03M392455', '2019-08-11',
 '37,590', '22045', 'SP13');
INSERT INTO ServiceOrder VALUES
('26731', '3HTGSSNT8FN718812', '2018-09-23',
 '193,787', '30267', 'RW37');
INSERT INTO ServiceOrder VALUES
('15647', '1FBWF7DE7HDB07523', '2020-09-23',
 '37,590', '98101', 'MI91');
INSERT INTO ServiceOrder VALUES
('7642', '3ALACXDT2GDHT5807', '2020-05-04',
 '500,891', '29301', NULL);

INSERT INTO ServiceLine VALUES
('1', '33818', '111', 'Broken Tail Light', '000:34:00');
INSERT INTO ServiceLine VALUES
('1', '01364', '119', 'Oil and Filter Change', '001:01:00');
INSERT INTO ServiceLine VALUES
('2', '01364', '189', 'Oil Drain Valve Replaced', '000:23:00');
INSERT INTO ServiceLine VALUES
('1', '83751', '151', 'Oil and Filter Change', '000:58:00');
INSERT INTO ServiceLine VALUES
('1', '26731', '125', 'Broken Belt Replaced', '000:46:00');
INSERT INTO ServiceLine VALUES
('1', '15647', '111', 'Busted Wheel Seal', '002:26:00');
INSERT INTO ServiceLine VALUES
('1', '7642', '125', 'Break Change', '001:02:00');

INSERT INTO ServicePart VALUES
('1', '83751', '46782', '1');
INSERT INTO ServicePart VALUES
('1', '83751', 'B99', '2');
INSERT INTO ServicePart VALUES
('1', '83751', 'PF46235', '1');
```

```sql
INSERT INTO ServicePart VALUES
('1', '01364', 'LFF8020', '1');
INSERT INTO ServicePart VALUES
('1', '01364', 'P555616', '1');
INSERT INTO ServicePart VALUES
('1', '15647', 'ST393-0173', '1');
INSERT INTO ServicePart VALUES
('1', '15647', '10088', '6');
INSERT INTO ServicePart VALUES
('1', '7642', 'BK1443ESMA312', '4');
INSERT INTO ServicePart VALUES
('1', '26731', 'K100670', '1');
INSERT INTO ServicePart VALUES
('1', '33818', 'PTL4024R', '1');
INSERT INTO ServicePart VALUES
('1', '33818', 'PT4000G', '1');
INSERT INTO ServicePart VALUES
('2', '01364', 'T-205', '1');
```