Intro

This guide has been created in order to help future Delta V Innovation database teams understand the setup of the existing database and how to use the tools necessary to make changes to the database. The database is stored on AWS; however much of the work we did this semester was through Heidi SQL. It is a tool that allows for data to be easily inserted if the data is in csv or dbf format and also allows for querying of the database in order to check the contents. Information for how to use AWS and Heidi SQL is in detail below. Additional information can be found on either of the websites for this year's team and last year's team.

2018 Spring Semester Team

https://cs499s18p10.github.io/cs499s18p10/

2018 Fall Semester Team

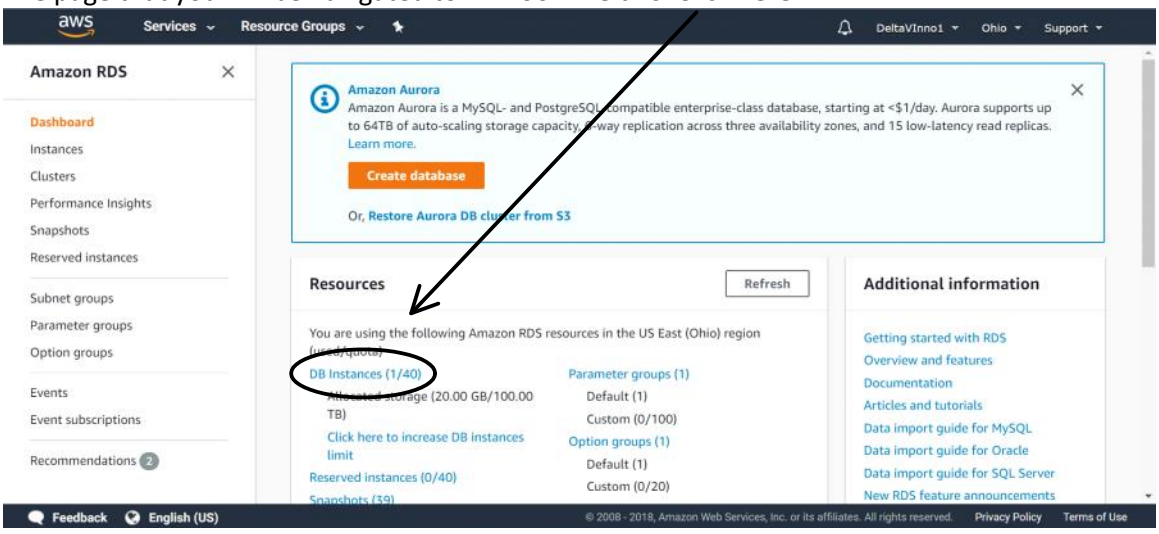
https://acri232.github.io/CS499Team5/

AWS Login and Info

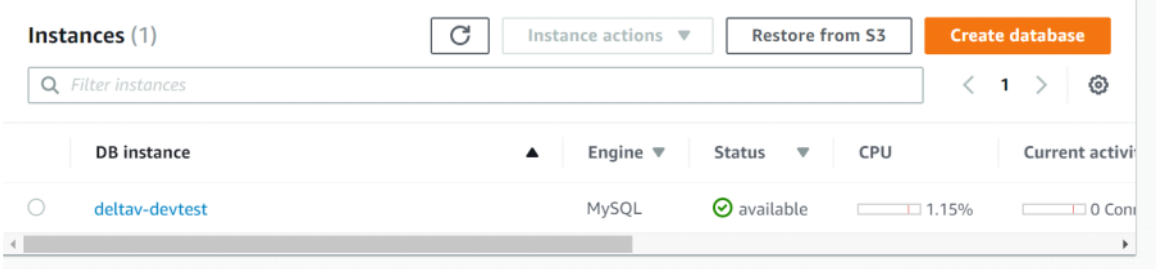
AWS is stands for Amazon Web Services and is where the Delta V database is stored. Using AWS is pretty straight forward; however login information must be known in order to access the database instance.

Login Procedure

1. Google aws or simply go to this site: https://aws.amazon.com/
2. Click on sign in in order to navigate to the sign in page
3. Use the following email and password to login
   Username:
   deltaVinnovationsinc@gmail.com
   Password:
   CS499UK!
4. Under "Database" select "RDS"
5. The page that you will be navigated to will look like this. Click here



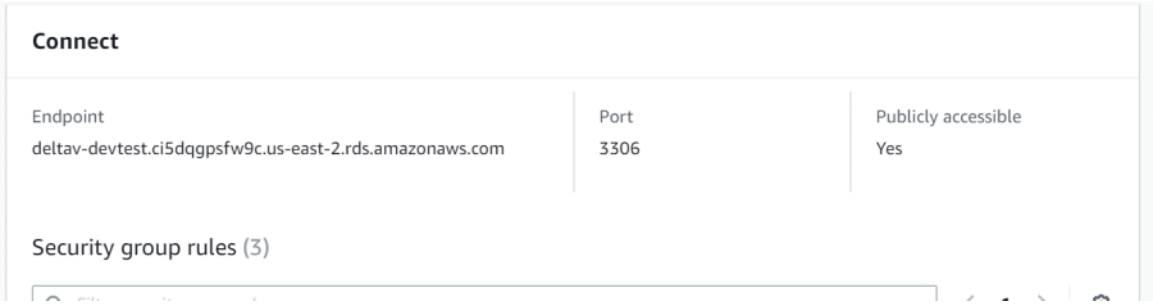
6. There will always only be one instance. At this point the screen you should be looking at will be



7. Next click on the DB instance "deltav-devtest" in order to see more information about it
8. All the statistics and AWS information needed can then be found.

AWS Notes

The information needed to login into Heidi SQL is found within the instance of the database on AWS under "Connect". A screenshot is provided below of the current connection information.



** It is very important to NOT create another instance of the database. This will cost money to the customer and therefore speak with Mike first if you think it's necessary to create another one. The data manipulation of the database will not be done using AWS, but instead using another tool such as Heidi SQL or mySQL workbench.

Heidi SQL Login and Info

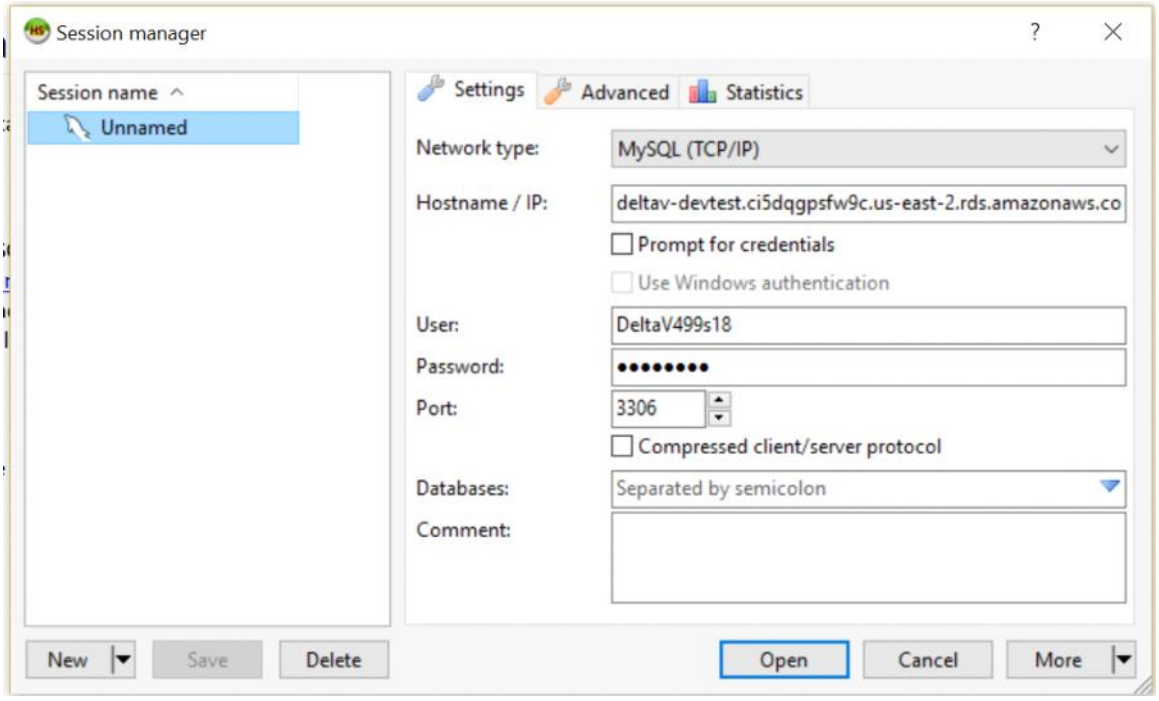
Heidi SQL is a tool used for database manipulation and is the main tool we used throughout the semester when inserting data.

Downloading Heidi SQL

1. A quick google of Heidi SQL should bring you to their website: https://www.heidisql.com/
2. Navigate to the downloads tab
3. Use the installer to install Heidi SQL on to your machine

Login Procedure

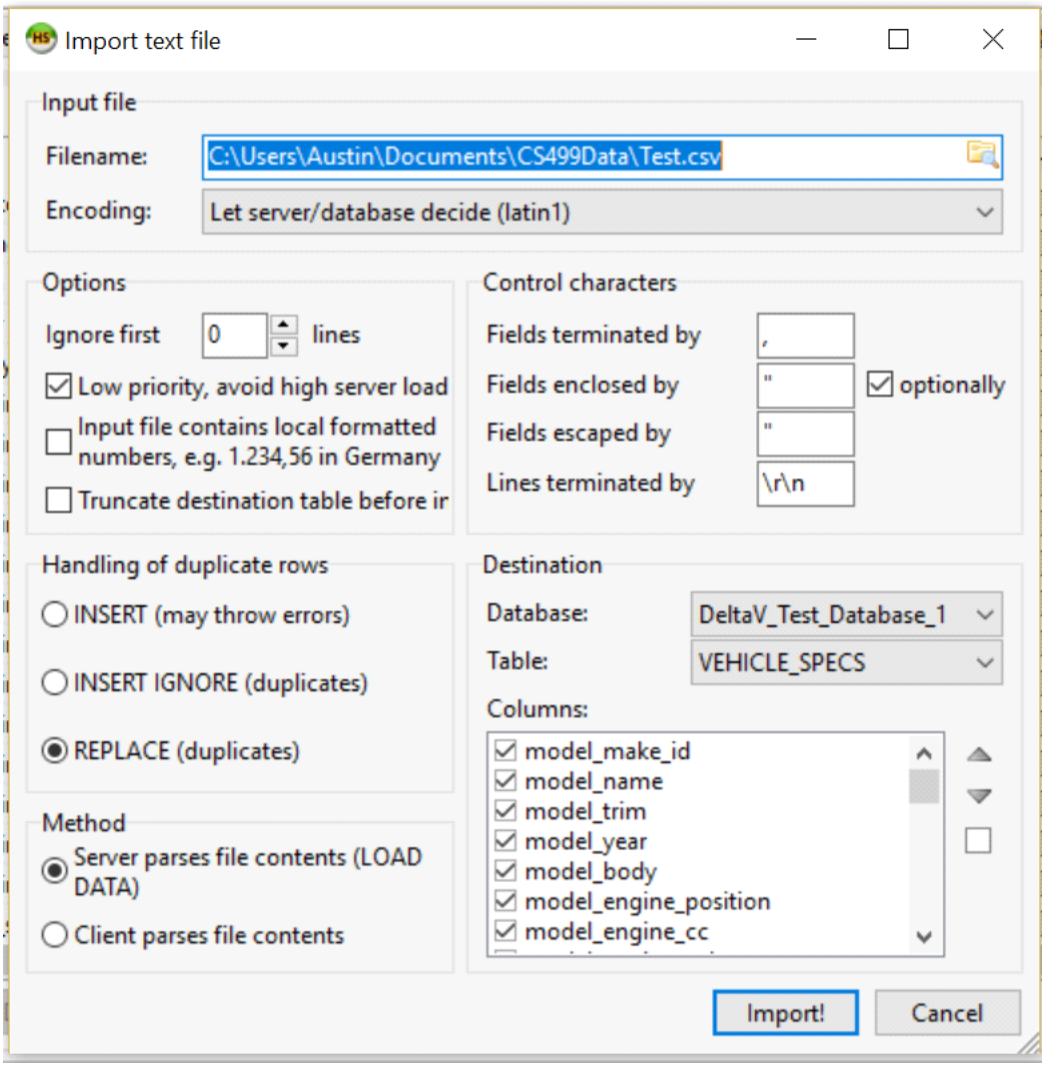
1. Run Heidi SQL
2. A login page like the one below will be opened



3. The hostname and port information is found under "Connect" in the AWS database instance
4. The Username and Password are:
   Username:
   DeltaV499s18
   Password:
   CS499UK!
5. Hit "Open"

Data Insertion

1. In order to insert data first navigate to the table you want to insert into
2. Find "Tools" in the top navigation bar and select "Import CSV File…"
3. A popup like below will open



4. Enter in the filename
5. The fields should be terminated by commas since it is CSV
6. If there are blank lines in your file utilize the ignore first lines feature
7. In our experience it is easiest to insert data when all the columns are present in the CSV file
8. Hit "Import!"

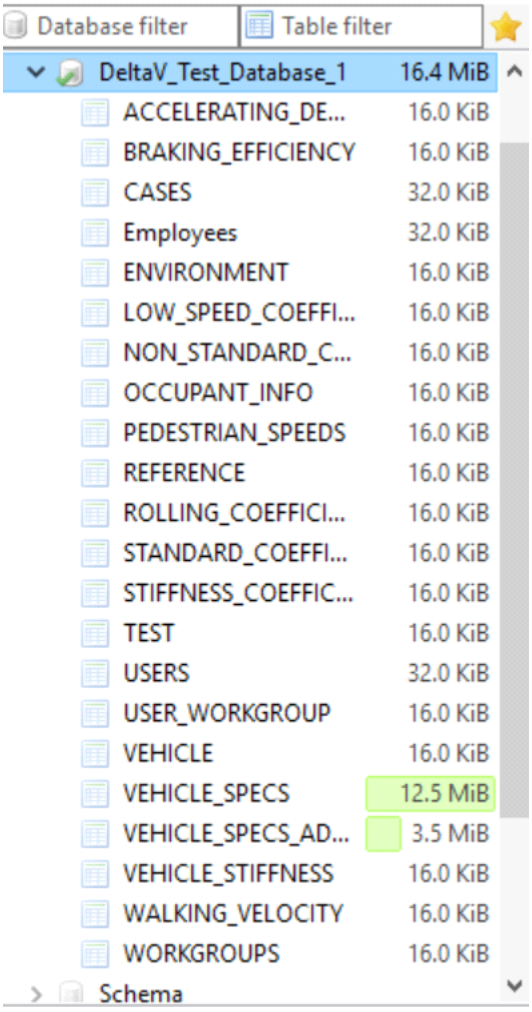
Heidi SQL Usage

If confused about how to use Heidi SQL to view the data in the database the refer to the next page.

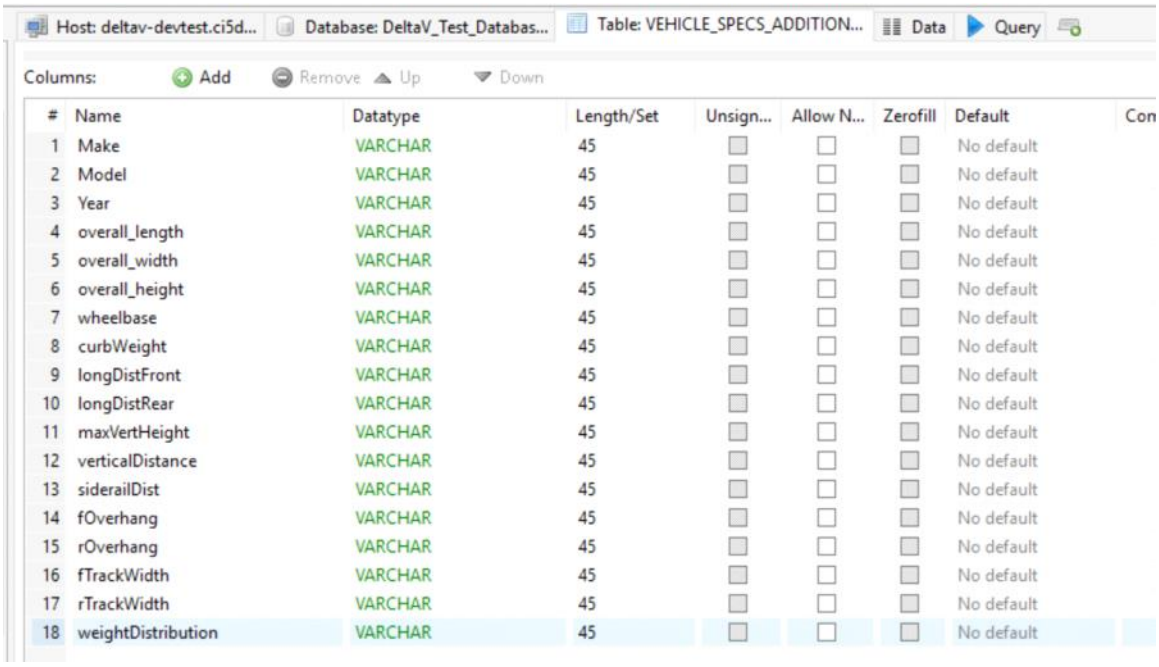
Database Setup

The database is build out for the most part with almost all the current data being stored in the VEHICLE_SPECS and VEHICLE_SPECS_ADDITIONAL tables. The best way to view the database tables and data inside of them is using Heidi SQL.

All of the tables will be show on the left side of the main page.

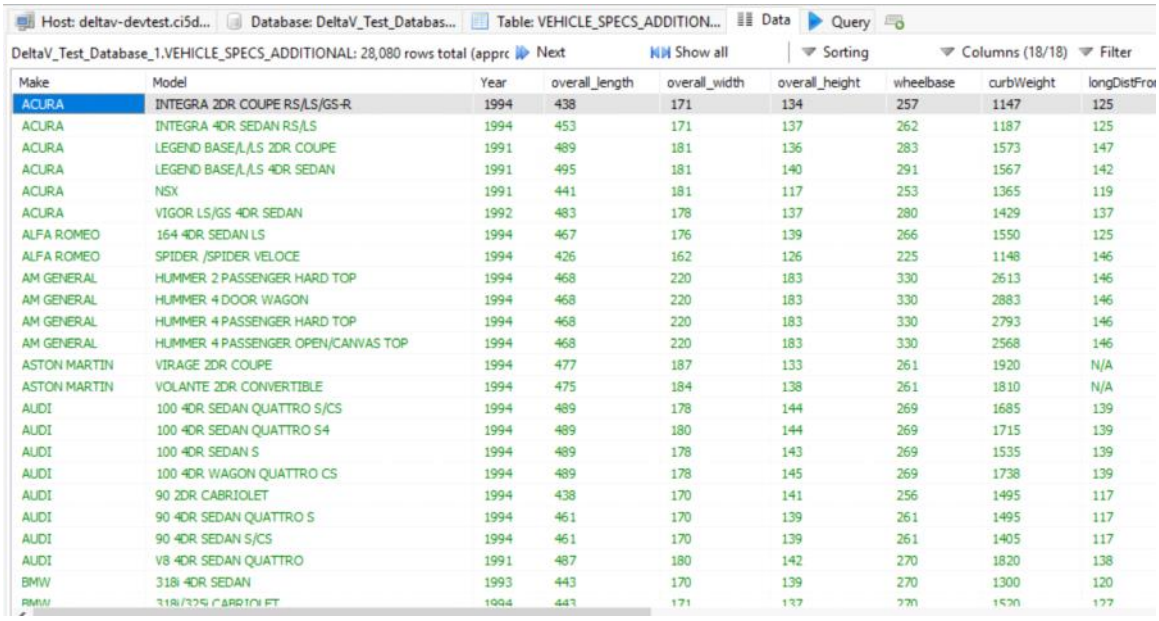


Once a table is clicked on then information about that table can be found. Navigate to the "Table: tablename" tab in order to see the attributes and variable types.



#	Name	Datatype	Length/Set	Unsign...	Allow N...	Zerofill	Default	Con
1	Make	VARCHAR	45	☐	☐	☐	No default	
2	Model	VARCHAR	45	☐	☐	☐	No default	
3	Year	VARCHAR	45	☐	☐	☐	No default	
4	overall_length	VARCHAR	45	☐	☐	☐	No default	
5	overall_width	VARCHAR	45	☐	☐	☐	No default	
6	overall_height	VARCHAR	45	☐	☐	☐	No default	
7	wheelbase	VARCHAR	45	☐	☐	☐	No default	
8	curbWeight	VARCHAR	45	☐	☐	☐	No default	
9	longDistFront	VARCHAR	45	☐	☐	☐	No default	
10	longDistRear	VARCHAR	45	☐	☐	☐	No default	
11	maxVertHeight	VARCHAR	45	☐	☐	☐	No default	
12	verticalDistance	VARCHAR	45	☐	☐	☐	No default	
13	siderailDist	VARCHAR	45	☐	☐	☐	No default	
14	fOverhang	VARCHAR	45	☐	☐	☐	No default	
15	rOverhang	VARCHAR	45	☐	☐	☐	No default	
16	fTrackWidth	VARCHAR	45	☐	☐	☐	No default	
17	rTrackWidth	VARCHAR	45	☐	☐	☐	No default	
18	weightDistribution	VARCHAR	45	☐	☐	☐	No default	

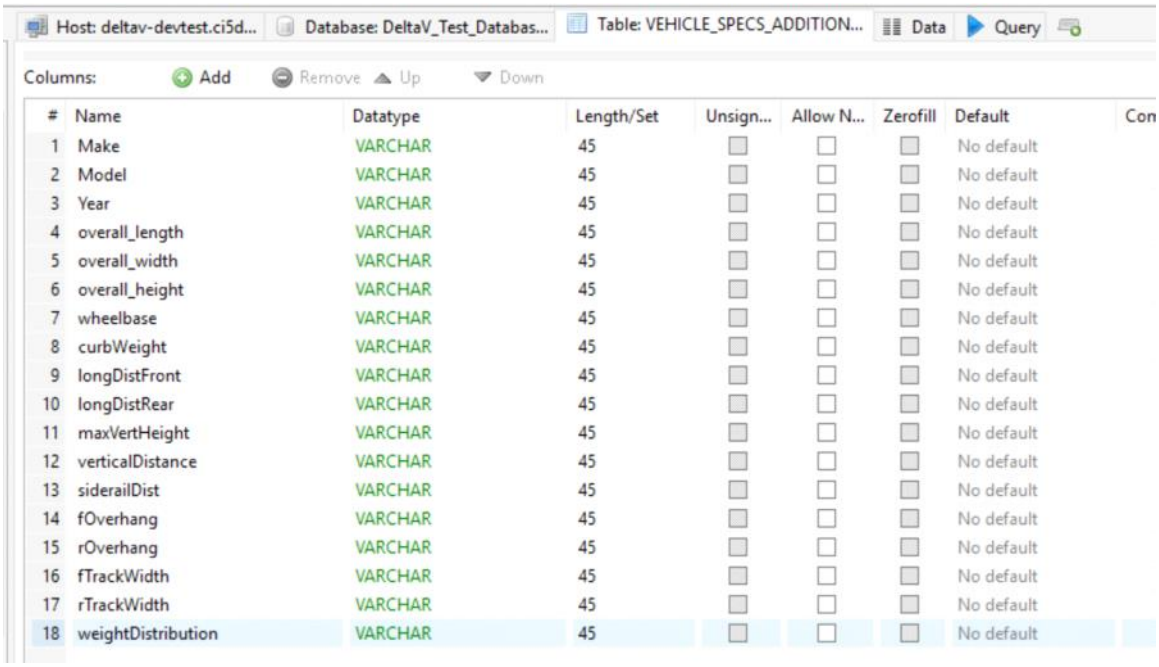
In order to see what data is actually contained in the table go to the "Data" tab.



Make	Model	Year	overall_length	overall_width	overall_height	wheelbase	curbWeight	longDistFro
ACURA	INTEGRA 2DR COUPE RS/LS/GS-R	1994	438	171	134	257	1147	125
ACURA	INTEGRA 4DR SEDAN RS/LS	1994	453	171	137	262	1187	125
ACURA	LEGEND BASE/L/LS 2DR COUPE	1991	489	181	136	283	1573	147
ACURA	LEGEND BASE/L/LS 4DR SEDAN	1991	495	181	140	291	1567	142
ACURA	NSX	1991	441	181	117	253	1365	119
ACURA	VIGOR LS/GS 4DR SEDAN	1992	483	178	137	280	1429	137
ALFA ROMEO	164 4DR SEDAN LS	1994	467	176	139	266	1550	125
ALFA ROMEO	SPIDER /SPIDER VELOCE	1994	426	162	126	225	1148	146
AM GENERAL	HUMMER 2 PASSENGER HARD TOP	1994	468	220	183	330	2613	146
AM GENERAL	HUMMER 4 DOOR WAGON	1994	468	220	183	330	2883	146
AM GENERAL	HUMMER 4 PASSENGER HARD TOP	1994	468	220	183	330	2793	146
AM GENERAL	HUMMER 4 PASSENGER OPEN/CANVAS TOP	1994	468	220	183	330	2568	146
ASTON MARTIN	VIRAGE 2DR COUPE	1994	477	187	133	261	1920	N/A
ASTON MARTIN	VOLANTE 2DR CONVERTIBLE	1994	475	184	138	261	1810	N/A
AUDI	100 4DR SEDAN QUATTRO S/CS	1994	489	178	144	269	1685	139
AUDI	100 4DR SEDAN QUATTRO S4	1994	489	180	144	269	1715	139
AUDI	100 4DR SEDAN S	1994	489	178	143	269	1535	139
AUDI	100 4DR WAGON QUATTRO CS	1994	489	178	145	269	1738	139
AUDI	90 2DR CABRIOLET	1994	438	170	141	256	1495	117
AUDI	90 4DR SEDAN QUATTRO S	1994	461	170	139	261	1495	117
AUDI	90 4DR SEDAN S/CS	1994	461	170	139	261	1405	117
AUDI	V8 4DR SEDAN QUATTRO	1991	487	180	142	270	1820	138
BMW	318i 4DR SEDAN	1993	443	170	139	270	1300	120
BMW	318i/325i CABRIOLET	1994	443	171	137	270	1520	127

VEHICLE_SPECS_ADDITIONAL

One of the main tables that we worked on throughout the semester was VEHICLE_SPECS_ADDITIONAL. It is comprised of data for the following columns



#	Name	Datatype	Length/Set	Unsign...	Allow N...	Zerofill	Default	Con
1	Make	VARCHAR	45	☐	☐	☐	No default	
2	Model	VARCHAR	45	☐	☐	☐	No default	
3	Year	VARCHAR	45	☐	☐	☐	No default	
4	overall_length	VARCHAR	45	☐	☐	☐	No default	
5	overall_width	VARCHAR	45	☐	☐	☐	No default	
6	overall_height	VARCHAR	45	☐	☐	☐	No default	
7	wheelbase	VARCHAR	45	☐	☐	☐	No default	
8	curbWeight	VARCHAR	45	☐	☐	☐	No default	
9	longDistFront	VARCHAR	45	☐	☐	☐	No default	
10	longDistRear	VARCHAR	45	☐	☐	☐	No default	
11	maxVertHeight	VARCHAR	45	☐	☐	☐	No default	
12	verticalDistance	VARCHAR	45	☐	☐	☐	No default	
13	siderailDist	VARCHAR	45	☐	☐	☐	No default	
14	fOverhang	VARCHAR	45	☐	☐	☐	No default	
15	rOverhang	VARCHAR	45	☐	☐	☐	No default	
16	fTrackWidth	VARCHAR	45	☐	☐	☐	No default	
17	rTrackWidth	VARCHAR	45	☐	☐	☐	No default	
18	weightDistribution	VARCHAR	45	☐	☐	☐	No default	

This vehicle information was generated using Canadian Vehicle Specifications which can be found here.

http://www.carsp.ca/research/resources/safety-sources/canadian-vehicle-specifications/

Below is a legend for the data inserted into the database.

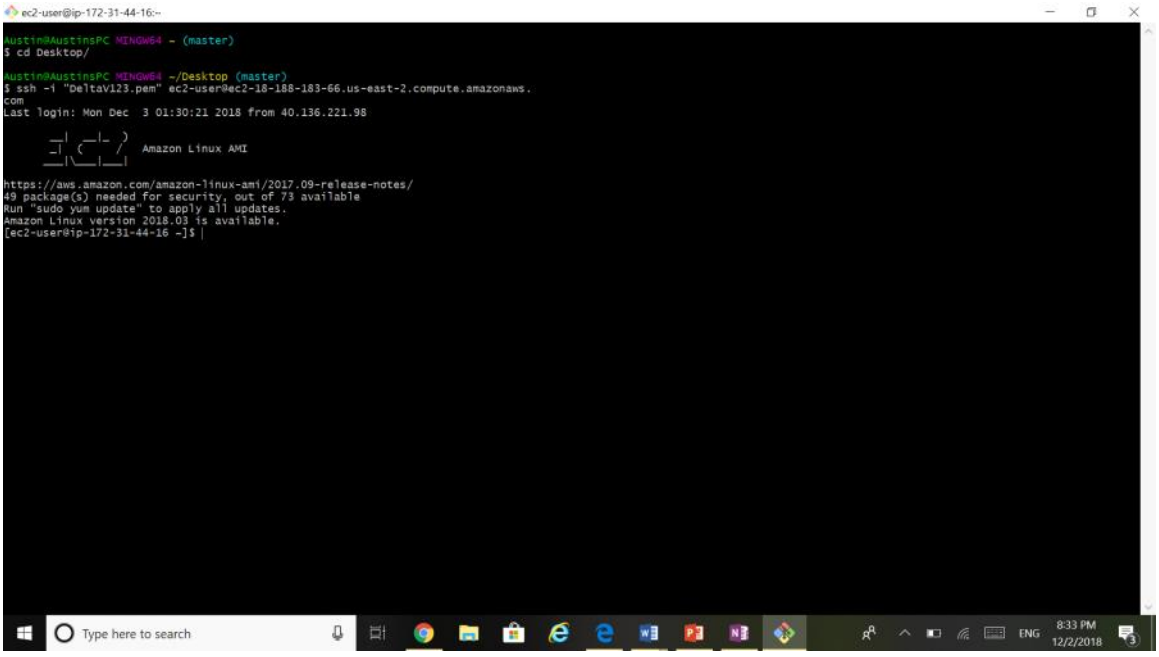
A	Longitudinal distance between the center of the front bumper and the center of the base of the windshield
B	Passenger Car Longitudinal distance between the center of the rear bumper and the center of the base of the backlight Station Wagon and Vans Longitudinal distance between the backlight top moulding and the front door latch pillar Pick-ups Longitudinal distance between the rearmost projection and the front door latch pillar
C	The maximum vertical height of the side glass
D	Vertical distance between the base of the side glass and the lower edge of the rocker panel
E	Distance between side rails or maximum width of top
F	Front overhang
G	Rear overhang
OL	Overall length
OW	Overall width
OH	Overall height
WB	Wheelbase
TWF	Front track width
TWR	Rear track width
CW	Curb weight
WD	Weight distribution (Front/Rear)

**The original plan for the semester was to merge this data into the VEHICLE_SPECS table. However, the model names for the US Vehicle Specs and Canadian Vehicle Specs did not line up at all. Therefore, the new table was created.

AWS PHP File Access

The PHP files with the SQL queries between the app and database are stored on an AWS server instance. In order to access the files one must SSH into the instance. This can only be done by providing the .pem file which is found on the project github. The process for accessing the PHP file is detailed below.

1. Copy and paste the .pem file to a text editor (notpad or notepad++) and save with the name DeltaV123.pem. This can be saved as a .txt file locally.
2. Download the latest version of git bash or some other software that will be able to ssh into an instance.
3. Type in the following command:
    a. ssh -i "DeltaV123.pem" ec2-user@ec2-18-188-183-66.us-east-2.compute.amazonaws.com
    b. NOTE: "DeltaV123.pem" should include the path to the .pem file.
4. Once logged onto the server, you should see a screen similar to the one below.



5. Enter the command 'cd /var/www/html'
6. From here you can view and alter php scripts