ASSIGNMENT 1

1 - Downloading MariaDB for Rocky Linux

I already had a Rocky Linux VM on my computer beforehand, with a host user and password and such. After checking for updates, all I had to do was download MariaDB onto my VM system -

```
[jopolka@localhost ~]$ sudo systemctl start mariadb
[sudo] password for jopolka:
[jopolka@localhost ~]$ sudo mysql_secure_installation
```

It started asking various preference-related questions, then exited the program. Then to open the program back up, all it took was the second to last line of code (sudo mysql -u root -p.

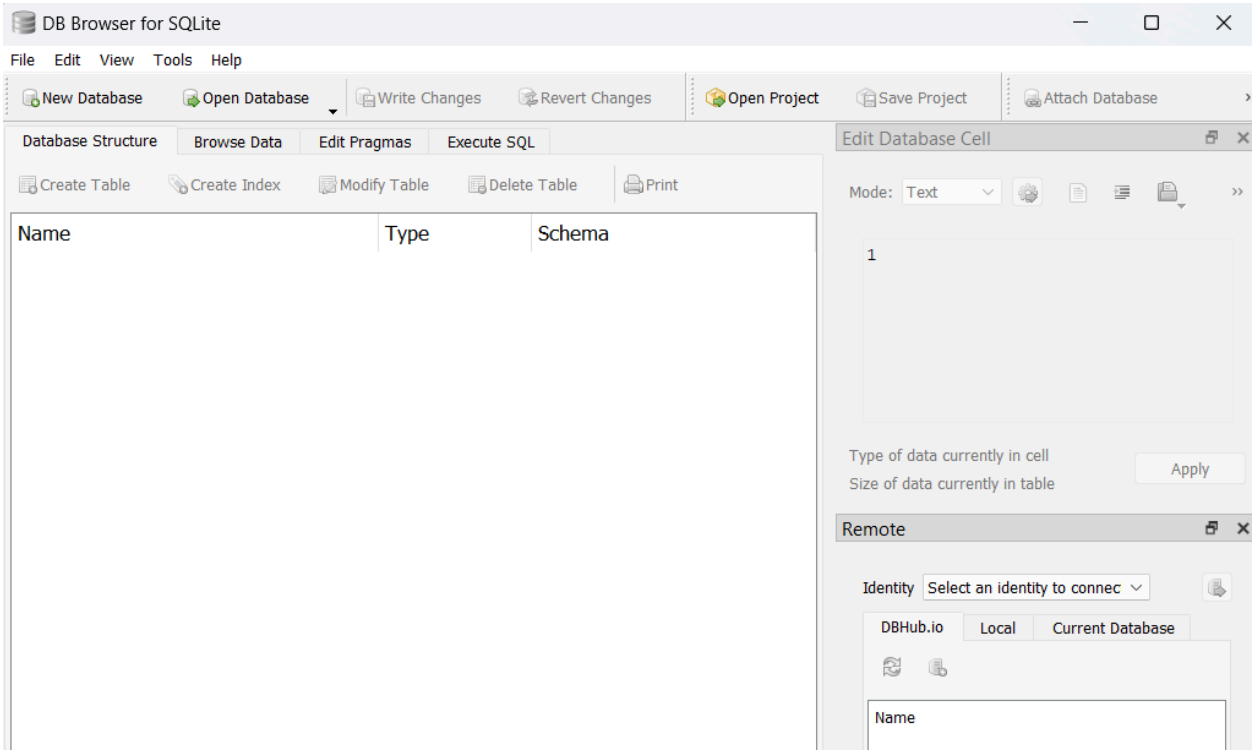
```
Remove anonymous users? [Y/n] Y
 ... Success!

Normally, root should only be allowed to connect from 'localhost'.  This
ensures that someone cannot guess at the root password from the network.

Disallow root login remotely? [Y/n] Y
 ... Success!

By default, MariaDB comes with a database named 'test' that anyone can
access.  This is also intended only for testing, and should be removed
before moving into a production environment.

Remove test database and access to it? [Y/n] Y
 - Dropping test database...
 ... Success!
 - Removing privileges on test database...
 ... Success!

Reloading the privilege tables will ensure that all changes made so far
will take effect immediately.

Reload privilege tables now? [Y/n] Y
 ... Success!

Cleaning up...

All done!  If you've completed all of the above steps, your MariaDB
installation should now be secure.

Thanks for using MariaDB!
[jopolka@localhost ~]$ sudo mysql -u root -p
[sudo] password for jopolka: _
```

Next I could create the database and a table within it with a handful of example elements, then exit the program.

```
Server version: 10.5.22-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> CREATE DATABASE w1_database;
Query OK, 1 row affected (0.000 sec)

MariaDB [(none)]> USE w1_database;
Database changed
MariaDB [w1_database]> CREATE TABLE w1_table (
    -> id INT PRIMARY KEY,
    -> birth_year INT(4) NOT NULL,
    -> age INT NOT NULL
    -> );
Query OK, 0 rows affected (0.029 sec)

MariaDB [w1_database]> EXIT;
Bye
[jopolka@localhost ~]$
```

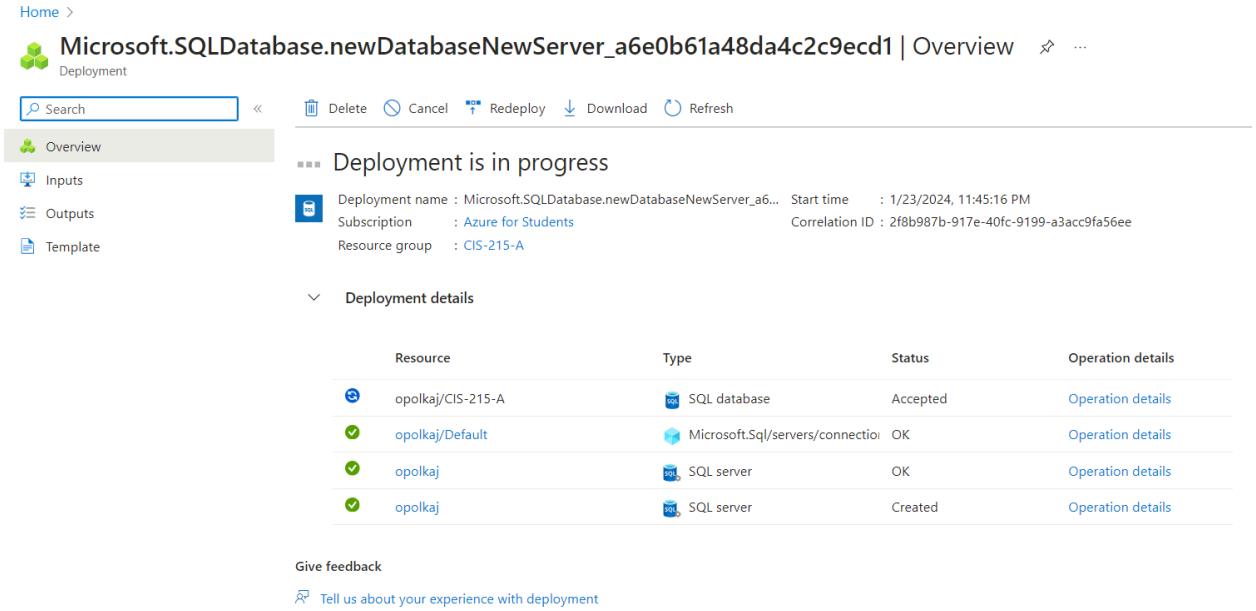
## 2 - Create a graphic editing environment (DB Browser)

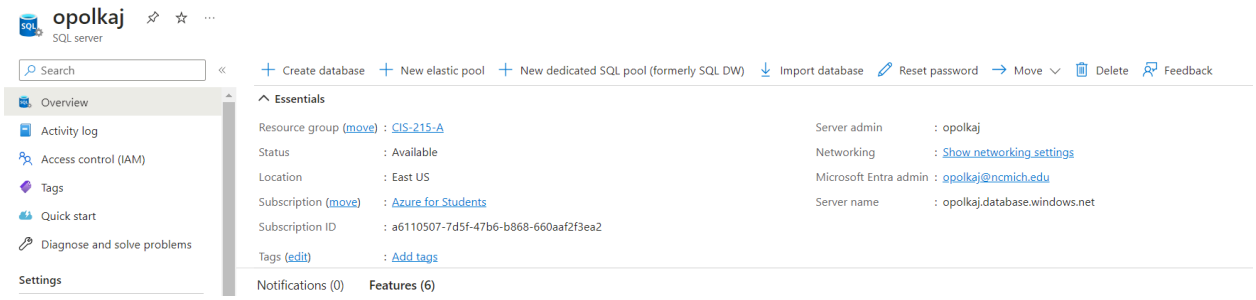
DB Browser had also already been downloaded onto my laptop prior



3 - Create Azure account / Database

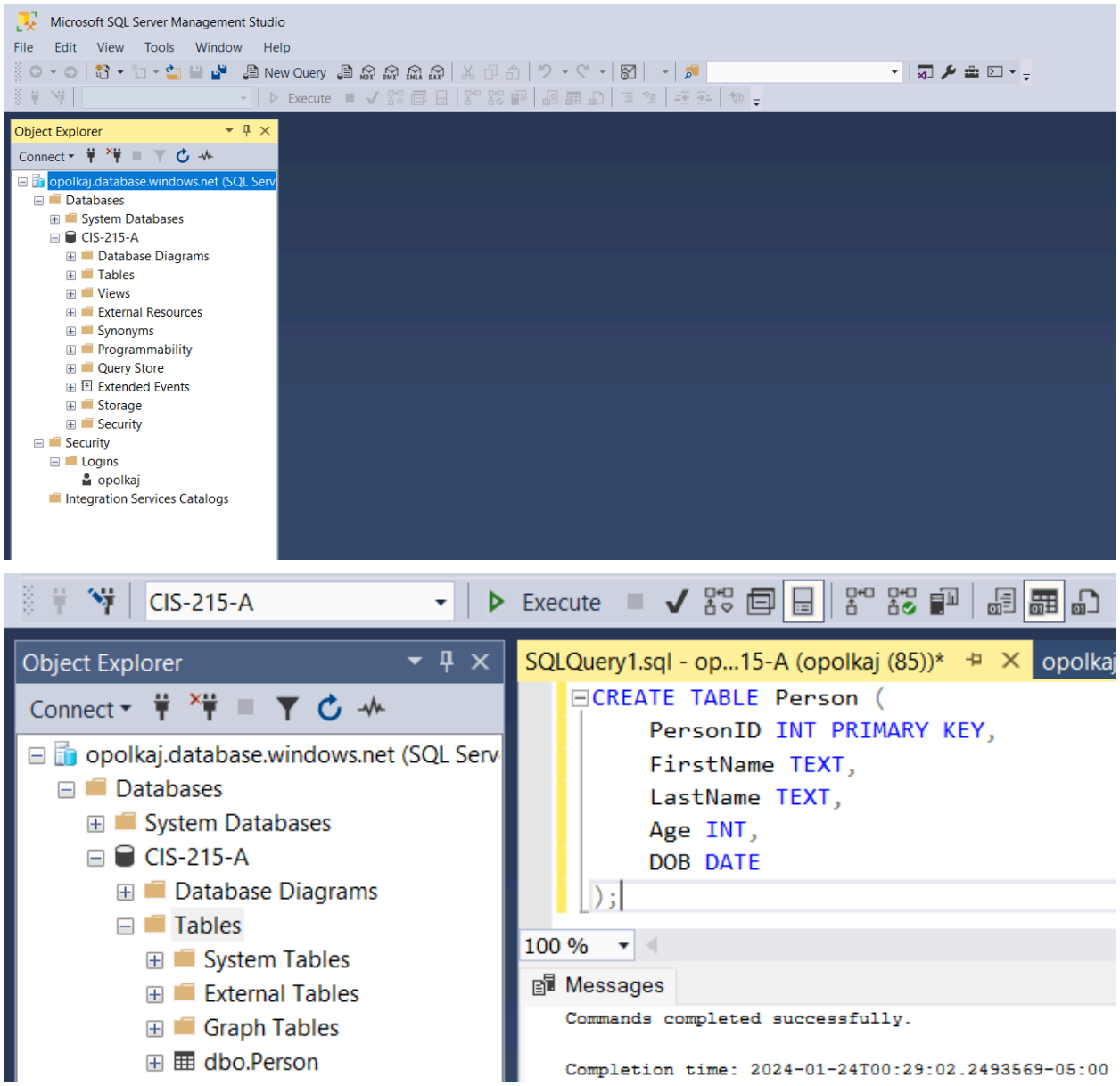
At first Azure was a tad bit tricky to figure out, but after some research online, I started figuring it out.




After creating the account, database, and looking around for where to create a table, it turns out in order to do so, alternate programs were needed in order to add tables and other elements to Azure databases. Programs like Microsoft's SQL Server Management Studio.

After specifying the database and adding credentials, I can add tables to my pre existing database

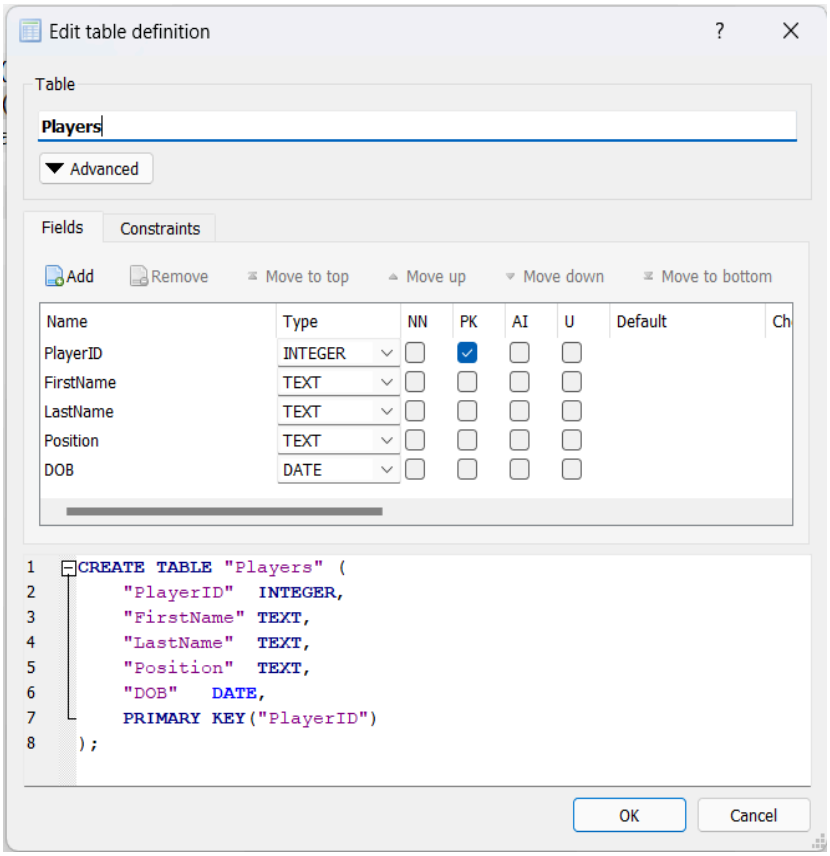




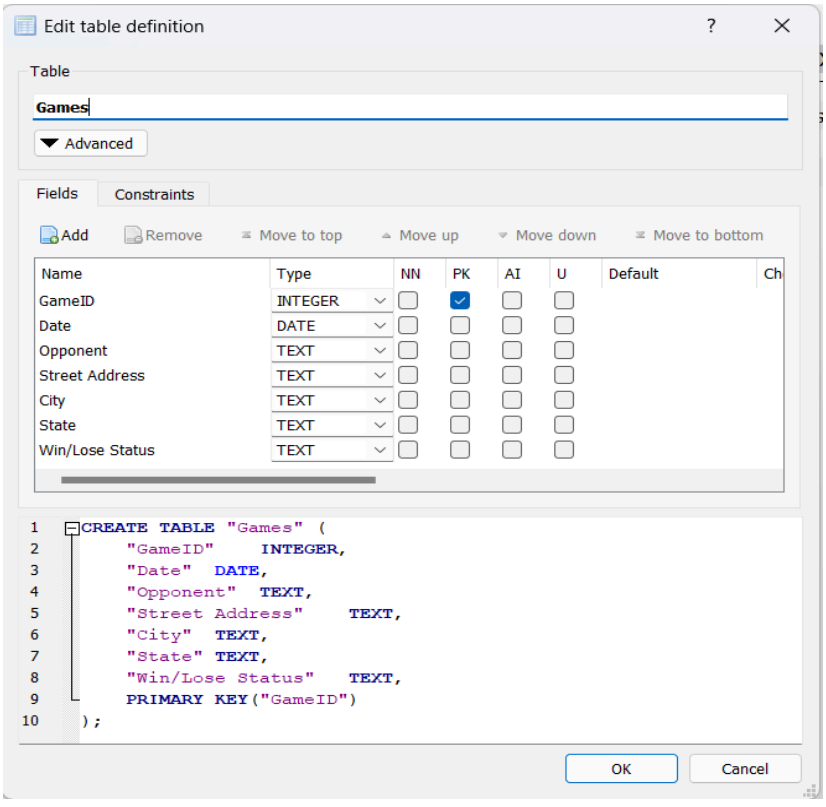


4 - Create a Database with DB Browser (3 tables, relations, normalization, data types)

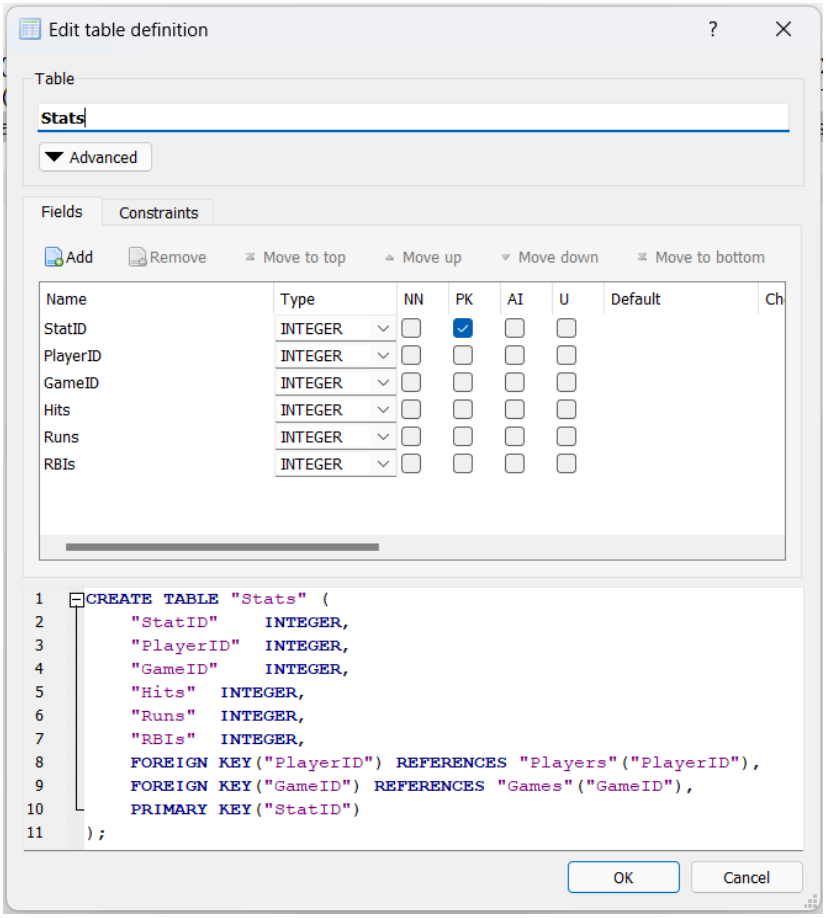
Three tables decided on were tables for the players, their games, and each players stats per game -




Including the PlayerID, First and last name, and DOB, as well as their position on the team



Each game including its unique ID, as well as the date and location of the event, and the opponent. It also stores wether the team won or lost against the opponent




The stats table is set up so that any players stats from any game they played can be stored. For this reason, the ID of both the Players and Games table are needed as foreign keys. After that, the amount of hits, runs and RBIs can be stored as well.

Table: Stats

Filter in any column

| | StatID | PlayerID | GameID | Hits | Runs | RBIs |
|---|---|---|---|---|---|---|
| | Filter | Filter | Filter | Filter | Filter | Filter |
| 1 | 1 | 1 | 2 | 3 | 5 | 4 |
| 2 | 2 | 6 | 1 | 4 | 6893 | 1 |
| 3 | 3 | 6 | 3 | 0 | 13 | 23 |

Table: Games

Filter in any column

| | GameID | Date | Opponent | Street Address | City | State | Win/Lose Status |
|---|---|---|---|---|---|---|---|
| | Filter | Filter | Filter | Filter | Filter | Filter | Filter |
| 1 | 1 | 01-08-2003 | Detroit Lions | 123 Sesame Street | New York City | New York | Lost |
| 2 | 2 | 12-12-2012 | Pickford Panthers | 125 Howard Street | Petoskey | Michigan | Won |
| 3 | 3 | 10-31-1998 | Transylvania State | 666 StayInYour Lane | Durant | Oklahoma | Lost |

Table: Players

Filter in any column

| | PlayerID | FirstName | LastName | Position | DOB |
|---|---|---|---|---|---|
| | Filter | Filter | Filter | Filter | Filter |
| 1 | 1 | Tom | Brady | Pitcher | 08-03-1977 |
| 2 | 2 | Ernest | Hemmingway | Defense | 07-21-1899 |
| 3 | 3 | Frank | Sinatra | First Base | 12-12-1915 |
| 4 | 4 | Milton | Brady | Defense | 11-08-1836 |
| 5 | 5 | Tom | Hanks | Quarterback | 07-09-1956 |
| 6 | 6 | Chef | Boyardee | Water Boy | 10-22-1897 |

Now we can test our database with queries -

SQL 1

```
1  SELECT Runs FROM Stats
2  WHERE PlayerID = 6 AND GameID = 1;
```

| | Runs |
|---|---|
| 1 | 6893 |

SQL 1

```
1  SELECT FirstName, LastName FROM Players
2  WHERE FirstName = 'Tom';
```

| | FirstName | LastName |
|---|---|---|
| 1 | Tom | Brady |
| 2 | Tom | Hanks |