

## Database 2

Midterm

Feb. 06, 2020

### Prerequisites:

- This activity assumes a prior knowledge of:
  - Command line usage
  - Basic Javascript
  - Basic Node.js and npm
  - Git and Github
  - PostgreSQL
  - Heroku (Database as a Service)

### Goals:

- This walkthrough will have three parts:
  - Setting up Github repository
  - Setting up remote PostgreSQL database using Heroku
  - Setting up a Node.js environment to integrate PostgreSQL remote database

### Part 1: Setting up **Github** repository

- Create new github repo “nodepg”
- Create README.md and use this as your documentation file where you can put your learnings and other important notes here.

Example:

```
## This is my activity in database 2 and the important codes/snippets are the following:
```js
console.log("asdfa")
```
```

## In case of error [Type of error], here are the steps that you need to consider:

1. Step 1
2. Step 2

### Part 2: Setting up remote PostgreSQL database using Heroku

- Login to your heroku and list down all your postgresQL database credentials  
Host: \*\*\*\*  
Database: \*\*\*  
User: \*\*\*\*  
Port: \*\*\*\*  
Password: \*\*\*
- Launch PGAdmin4 and create the following sample table and insert the given record  
CREATE TABLE books (  
ID SERIAL PRIMARY KEY,  
author VARCHAR(255) NOT NULL,  
title VARCHAR(255) NOT NULL );

```
INSERT INTO books (author, title) VALUES ('J.K. Rowling', 'Harry Potter');
```

- Create a .env file and write the following data:

```
DB_USER=api user
DB_PASSWORD=password
DB_HOST=localhost
DB_PORT=5432
DB_DATABASE=books_api
```

### Part 3: Setting up a Node.js environment to integrate PostgreSQL remote database

- Initialize the repo as npm environment using the command `npm init -y`
- Install the PostgreSQL dependencies `npm install --save pg`
- Create new file index.js

```
const { Pool } = require('pg')
•
•
const pool = new Pool({
•   user: `${process.env.DB_USER}`,
•   host: `${process.env.DB_HOST}`,
•   database: `${process.env.DB_DATABASE}`,
•   password: `${process.env.DB_PASSWORD}`,
•   port: `${process.env.DB_PORT}`,
•   ssl: true,
• })
•
•
pool.query('SELECT * FROM books', (error, results) => {
•   if (error) {
•       throw error
•   }
•   console.log(results.rows)
• })
•
•
```

- Execute the script `npm run test-nodepg`

Terminal Output:

```
[ { id: 1, author: 'J.K. Rowling', title: 'Harry Potter' } ]
```

### Challenge:

Consider our previous activity ([see link](#)). Solve the problems stated in the reference site and provide the required scripts.

1. `npm run lastname-prob1` :Get all pet\_name's that are owned by owners with the occupation of "Programmer"
2. `npm run lastname-prob2` :Get The Occupation, name, and class fields for all rows where the pet is a Bird.
3. `npm run lastname-prob3` :Get the all the rows where the owner is a female OR the class is a Reptile. ONLY when the pet has an owner
4. `npm run lastname-prob4` :Same as 3, but including pets that are Reptiles without homes.
5. `npm run lastname-prob5` :Get all rows where the owner is a male, even if he does not currently own a pet.
6. `npm run lastname-prob6` :Get all owners that do not own a pet
7. `npm run lastname-prob7` :Get all pets that do not have an owner