Csci 4131

Express Sessions
Interacting with MySQL using Node.js/SQL

Lecture 22, November 19th

Fall 2018

Dr. Dan Challou

Logistics

- Homework 6 (Login, Sessions, Database (SQL/MSQL) is out, and is due:
Tuesday November 27th at 2pm

- **There will be class this Wednesday, Nov 21st**

- **But, my office hours this coming Wednesday, Nov 21, are cancelled and will be rescheduled as follows:**
  I will have an additional office hour next Monday Nov 26 –
  I will post to the time to the Moodle announcements and send email
  when I figure out what   time it will occur

- Regrades for Exam 1 have been completed. You can pick them up in my office at an office hour (or after class today).

Reading and Tutorials: Express, SQL, MySQL

- Express – framework for developing applications in Node.js
  - https://www.tutorialspoint.com/nodejs/nodejs_express_framework.htm
  - https://expressjs.com/
    - See the menu items – Getting Started, Guide, API Reference, Advanced Topics, Resources.
- SQL / MYSQL
  - Sebesta Chapter 13
  - https://www.w3schools.com/sql/
  - https://www.w3schools.com/sql/sql_ref_mysql.asp
  - https://www.w3schools.com/nodejs/nodejs_mysql.asp

- Older:
  - Node.js
    - https://www.w3schools.com/nodejs/default.asp
    - https://www.tutorialspoint.com/nodejs/
    - https://nodejs.org/en/docs/guides

  - AJAX
    - Sebesta – Chapter 10
    - https://www.w3schools.com/xml/ajax_intro.asp

Express and Node.js training videos also available on Lynda

- You can access Lynda via the following link:
   http://lynda.umn.edu

Use your x.500 id and password to sign in.

The following videos are most helpful:
- 1. Node.js Essential Training (6h 22m - Detailed Node.js video)
- 2. Building a Website with Node.js and Express.js (3h 16m - Focuses on Express.js and Node.js)
- 3. Learning Node.js (1h 57m)

Last Lecture

- SQL and Intro to Using MySQL here at the U

Questions?

Today

- Review SQL Exercises from Last class
- Express Sessions
- Interacting with a MySQL database using Node.js and SQL

Lectures follow my suggested HW 6 POA

✓ Translate old HW 5 to express version of HW5

✓ Understand SQL / MySQL; Understand how to connect, query, and use SQL / MySQL

➤ Understand Express Sessions, update old HW 5 to use them (can implement a login page with JSON)

➤ Understand how to interface Node.js / express with a MySQL Database

❖ Replace interface to JSON in HW 5 with interface to MySQL (Do SELECT and Insert Queries and use the results)

Today

- Exercise Review

- Express Sessions

- Node.js/SQL/MySQL

Review Exercises From Last Class

Titles table

isbn   String

title   String

editionNumber   String

copyright   Year of copyright -Integer

Review Exercise 1 From Last Class

- Write a SQL query that returns the information on Titles which are the third edition of a book.

Example: Author's Table (2)

authorID	firstName	lastName
1	Harvey	Deitel
2	Paul	Deitel
3	Tem	Nieto
4	Kate	Steinbuhler
5	Sean	Santry
6	Ted	Lin
7	Praveen	Sadhu
8	David	McPhie
9	Cheryl	Yaeger
10	Marina	Zlatkina
11	Ben	Wiedermann
12	Jonathan	Liperi

Exercise 2 (Do alone, turn in at end of class with name and x.500 id)

- Write a SQL query to find all the Authors whose last names start with Sa

Sessions: What are they?What is the point?

Place to store data that you want to access across different requests from a client

They allow applications to store state

Thus, they enable capabilities like logging into a website. (There are two states to a login capability – you are logged in, or you are not logged in (i.e., you are logged out)).

Have to require a module to use Sessions in Express (or build it from scratch in Node.js)

var session = require('express-session');

Example

- See file: index_full

Exercise – Do Alone, Write Your Name and x.500 very neatly and legibly, and Turn in

- **Write an Express route named: logout does the following:**
  - **Checks to see if a value in the session has been set and**
    - **If the value is not set, it prints the message:**
      "Session not started, can not logout" to the console
    - **Otherwise"**
      It destroys the session using the destroy() method
      It sends a response to the client with the message:
      "Session Complete"

Final Question

- How would you redirect to another route after destroying a session

Answer

- res.redirect(route);
- Eg. The welcome page (/) or login page

How do you interface Node.js with the database and use the results?

- Start by understanding the interfaces with the queries we gave you:

- create_accounts_table.js
- create_places_table.js
- insert_into_accounts_table.js

Example using Books table created and populated using SQL in file: products1.sql

See file: dbEx.js

Next Time

- Nodejs / SQL /MySQL wrap-up
- XML