

CMPSC 421 - Net-centric Computing

Spring 2017

Date Assigned: 27 April 2017**Date Due:** 4 May 2017 (Thursday @ 11:59 p.m.)

Assignment Instructions: For this assignment you will modify the HTTP server that you implemented using Node.js for Assignment 4 so that it writes the form data to a MongoDB database instead of a text file. All other requirements are the same as they were for Assignment 4. Specific requirements reflecting the modification appear below. As before, you have the option of working on this assignment with a classmate.

"HTTP Server" Implementation Requirements:

- *Basic functionality.* Write an HTTP server that processes the POST (i.e., form) data sent to it via the "Rate My Page Form" provided by your instructor for this assignment. (**Important Note:** Do not change the form code!) Specifically, your server must:
 - Get the date and time for the incoming request
 - Get the POST (i.e., form) data for the incoming request
 - Represent the form data as a JSON object
 - **Write the JSON object to a "collection" (equivalent to a RDBMS "table") in a MongoDB database**
 - Retrieve the name-value pairs from the query string
 - Display the date and time the form is received in a Web page (see sample run)
 - Display the name of the completed form in the same Web page (see sample run)
 - Display the summary of user responses (i.e., form data) in the same Web page, appropriately labeled and nicely formatted (see sample run)
 - Thank the user for his or her response (see sample run)
- *Code and documentation.* You must use functions to carry out the above tasks. You must also use comments to document the purpose of each function. All JavaScript code can be placed in a single *.js file. **Important Note:** Please cite the sources of all code based on examples not provided by your instructor.

Please use good style when authoring your JavaScript code. Specifically: Comment, indent, and space your code to make it more readable.

Submission Instructions: Create a folder in which to place all the files for this assignment (XHTML/HTML, JavaScript, and image), compress it, and upload the compressed archive to Canvas by 11:59 p.m. on Thursday, 4 May 2017. The file extension of the compressed archive must be .zip, .7z, or .rar . If you work on this assignment with a classmate, include a comment in your code specifying both of your names, and upload one compressed archive for both of you. **Additional Requirements:** Provide screenshots of at least three Web pages displaying different data sets submitted via the "Rate My Page Form", accompanied by one or more screenshots of the [current] contents of the database collection written to the console. **Important Note:** Since I will not have access to your database, accurate screenshots are essential.

Please note that the following snapshots were taken using Google Chrome 57.0 and Windows 8.1.

Rate My Page Form for Data Set 1

Feedback Form

Please fill out this form to help me improve my Web page.

Name:

Comments:

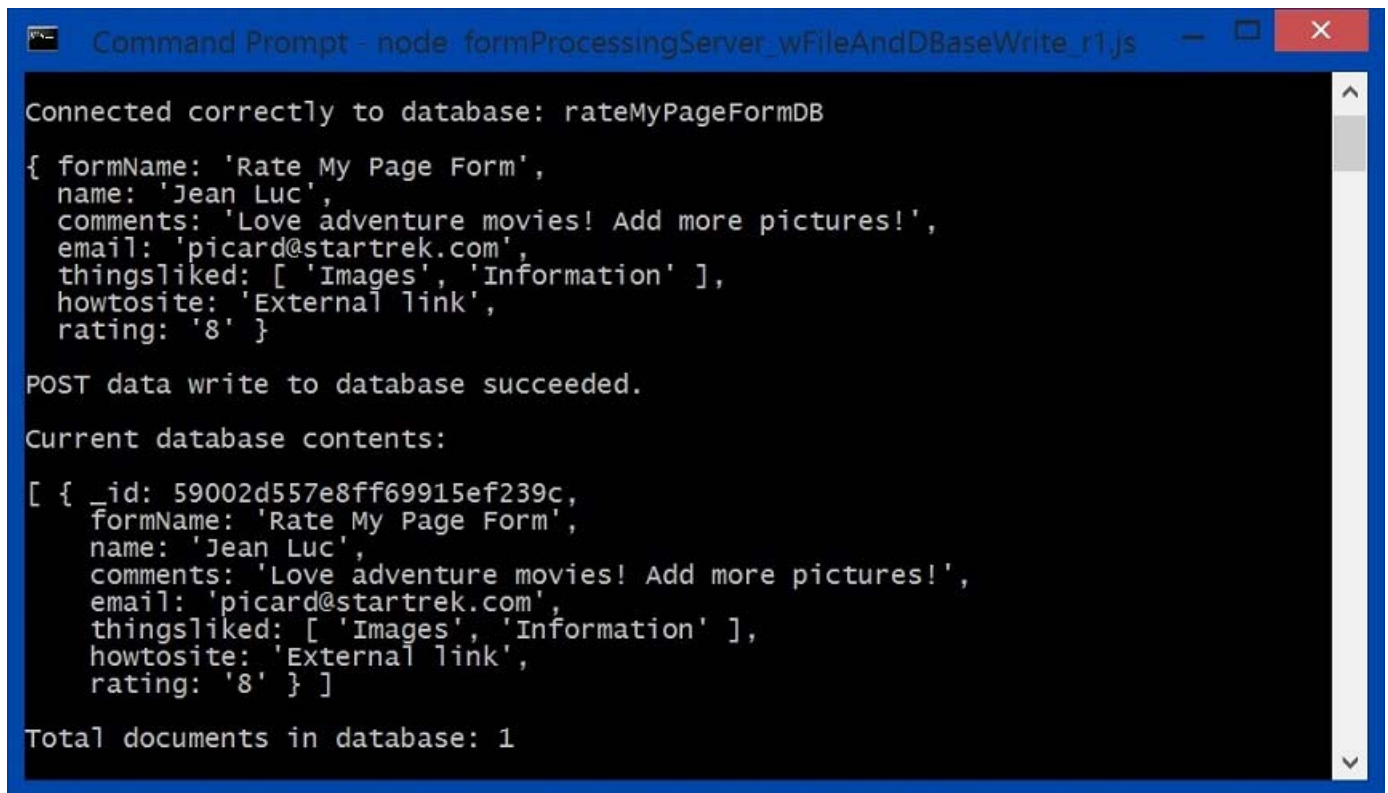
E-mail Address:

Things you liked:
☐ Page design ☐ Links ☐ Ease of reading ☒ Images ☒ Information content

How did you get to my Web page?
☐ Search engine ☐ Link from Penn State Harrisburg Web site ☒ Link from external Web site ☐ Recommended by a friend ☐ Other

Rate my page:

Database Contents for Data Set 1

A screenshot of a Windows Command Prompt window. The title bar reads "Command Prompt - node formProcessingServer_wFileAndDBaseWrite_r1.js". The window has a black background with white text. The text shows a successful database connection, a JSON object representing form data, a successful POST write, the current database contents as a JSON array, and the total number of documents in the database.

```
Command Prompt - node formProcessingServer_wFileAndDBaseWrite_r1.js

Connected correctly to database: rateMyPageFormDB

{ formName: 'Rate My Page Form',
  name: 'Jean Luc',
  comments: 'Love adventure movies! Add more pictures!',
  email: 'picard@startrek.com',
  thingsliked: [ 'Images', 'Information' ],
  howtosite: 'External link',
  rating: '8' }

POST data write to database succeeded.

Current database contents:

[ { _id: 59002d557e8ff69915ef239c,
  formName: 'Rate My Page Form',
  name: 'Jean Luc',
  comments: 'Love adventure movies! Add more pictures!',
  email: 'picard@startrek.com',
  thingsliked: [ 'Images', 'Information' ],
  howtosite: 'External link',
  rating: '8' } ]

Total documents in database: 1
```

Database Contents for 3 Data Sets

```
Command Prompt - node formProcessingServer_wFileAndDBaseWrite_r1.js

{ formName: 'Rate My Page Form',
  name: 'The Doctor',
  comments: 'Love action movies, but some SyFy flicks would be nice ... Doctor W
ho, maybe?!',
  email: 'matts@bbc.com',
  thingsliked: [ 'Links', 'Images' ],
  howtosite: 'Other',
  rating: '10' }

POST data write to database succeeded.

Current database contents:

[ { _id: 59002d557e8ff69915ef239c,
  formName: 'Rate My Page Form',
  name: 'Jean Luc',
  comments: 'Love adventure movies! Add more pictures!',
  email: 'picard@startrek.com',
  thingsliked: [ 'Images', 'Information' ],
  howtosite: 'External link',
  rating: '8' },
  { _id: 590030d17e8ff69915ef239d,
  formName: 'Rate My Page Form',
  name: 'Lisa',
  comments: 'Showcase more Indiana Jones movies on your Web site.',
  email: 'lkm42@msn.com',
  thingsliked: 'Design',
  howtosite: 'Friend',
  rating: '10' },
  { _id: 5900323e7e8ff69915ef239e,
  formName: 'Rate My Page Form',
  name: 'The Doctor',
  comments: 'Love action movies, but some SyFy flicks would be nice ... Doctor
who, maybe?!',
  email: 'matts@bbc.com',
  thingsliked: [ 'Links', 'Images' ],
  howtosite: 'Other',
  rating: '10' } ]

Total documents in database: 3
```