

CS615C[A] - Internet Solutions Engineering for Data Scientists

Assignment - 5

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Part 1: Installation and Testing

Install node and npm

```
rocky@MAC-2A6B58 ~ % node -v  
v20.18.1  
rocky@MAC-2A6B58 ~ % npm -v  
10.8.2
```

App.js

```
rocky@MAC-2A6B58 cs615_nodejs % node app.js  
Hello World!
```

Hello.js

```
rocky@MAC-2A6B58 cs615_nodejs % node hello.js  
Server running at http://127.0.0.1:8000/  
█
```

← → ↻ ⓘ 127.0.0.1:8000

Hello World

Part 2: JS / NodeJS basics

1_basic.js

```
rocky@MAC-2A6B58 CS615_NODEJS % node 1_basic.js
3 seconds have passed
```

```
JS 1_basic.js > ...
1   setTimeout(() => {
2     console.log('3 seconds have passed');
3   }, 3000);
4
```

```
rocky@MAC-2A6B58 CS615_NODEJS % node 1_basic.js
2 seconds have passed!
3 seconds have passed
4 seconds have passed!
6 seconds have passed!
```

```
JS 1_basic.js > ...
1   setTimeout(() => {
2     console.log('3 seconds have passed');
3   }, 3000);
4   var time = 0;
5   var timer = setInterval(() => {
6     time += 2;
7     console.log(time + ' seconds have passed!');
8     if (time > 5){
9       clearInterval(timer);
10    }
11  }, 2000);
12
```

```
rocky@MAC-2A6B58 CS615_NODEJS % node 1_basic.js
/Users/rocky/Documents/cs615_nodejs
/Users/rocky/Documents/cs615_nodejs/1_basic.js
2 seconds have passed!
3 seconds have passed
4 seconds have passed!
6 seconds have passed!
```

```
JS 1_basic.js > ...
1   setTimeout(() => {
2       console.log('3 seconds have passed');
3   }, 3000);
4   var time = 0;
5   var timer = setInterval(() => {
6       time += 2;
7       console.log(time + ' seconds have passed!');
8       if (time > 5){
9           clearInterval(timer);
10      }
11  }, 2000);
12  console.log(__dirname);
13  console.log(__filename);
14
```

2_functions.js

```
rocky@MAC-2A6B58 CS615_NODEJS % node 2_functions.js
Hi
Bye
Bye
```

s

JS 2_functions.js > ...

```
1 function sayHi(){
2     console.log('Hi');
3 }
4 sayHi();
5
6 var sayBye = function(){
7     console.log('Bye');
8 }
9 sayBye();
10
11 function callFunction(fun){
12     fun();
13 }
14 callFunction(sayBye);
15
```

3_math.js

```
rocky@MAC-2A6B58 CS615_NODEJS % node 3_math.js
rocky@MAC-2A6B58 CS615_NODEJS % node app.js
There are 3 elements in this array.
```

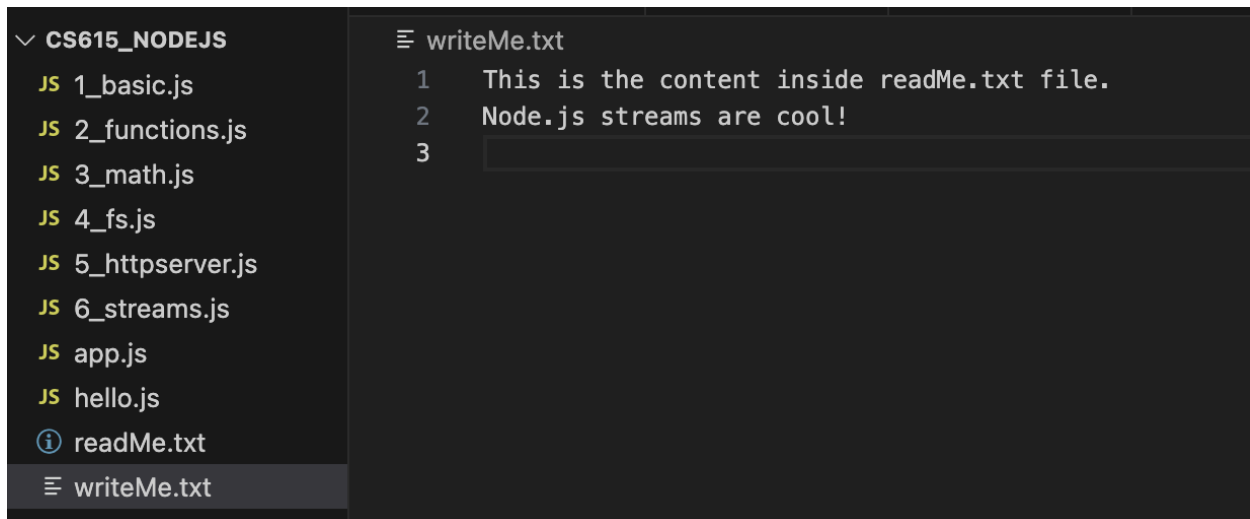
JS 3_math.js > ...

```
1 var counter = function(arr){
2     return 'There are ' + arr.length + ' elements in this array.';
3 };
4
5 module.exports = counter;
6
```

JS app.js > ...

```
💡 1 var counter = require('./3_math');
2 console.log(counter(['apple', 'pear', 'cherry']));
3
```

4_fs.js

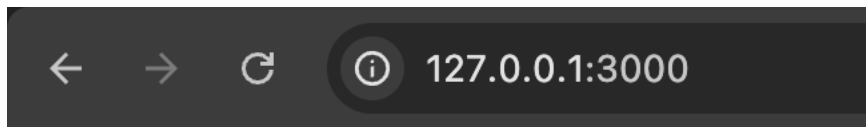


```
CS615_NODEJS
JS 1_basic.js
JS 2_functions.js
JS 3_math.js
JS 4_fs.js
JS 5_httpserver.js
JS 6_streams.js
JS app.js
JS hello.js
i readMe.txt
≡ writeMe.txt

≡ writeMe.txt
1 This is the content inside readMe.txt file.
2 Node.js streams are cool!
3
```

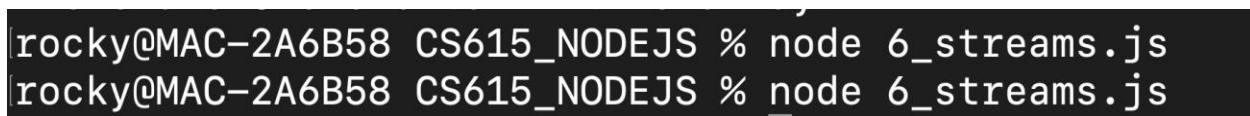
Part 3: Servers and Streams of Data

5_httpserver.js



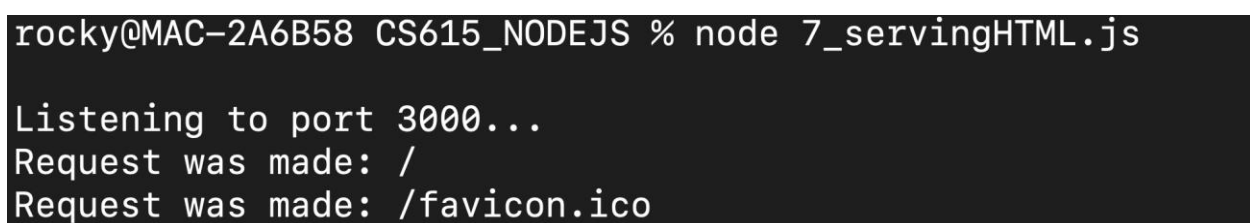
Hello students!

6_streams.js



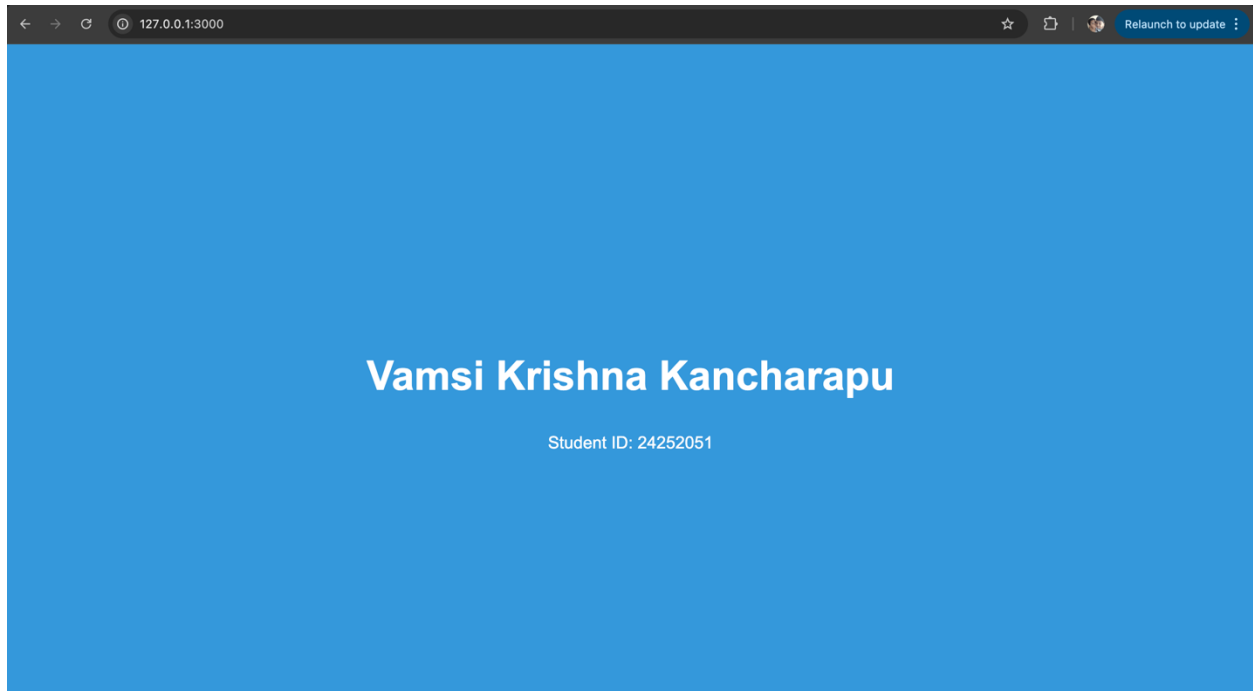
```
rocky@MAC-2A6B58 CS615_NODEJS % node 6_streams.js
rocky@MAC-2A6B58 CS615_NODEJS % node 6_streams.js
```

7_servingHTML.js

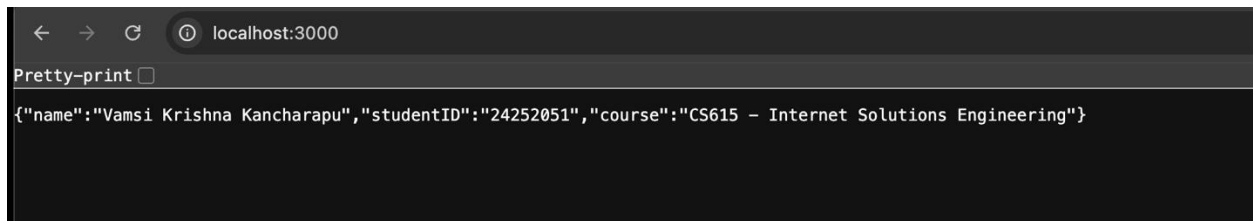


```
rocky@MAC-2A6B58 CS615_NODEJS % node 7_servingHTML.js

Listening to port 3000...
Request was made: /
Request was made: /favicon.ico
```



Part 4: Json, routing, npm and express



```
JS 8_json.js > ...
1  const http = require('http');
2
3  const server = http.createServer(function(req, res) {
4      console.log('Request was made: ' + req.url);
5
6      res.writeHead(200, { 'Content-Type': 'application/json' });
7
8      const myObject = {
9          name: 'Vamsi Krishna Kancharapu',
10         studentID: '24252051',
11         course: 'CS615 - Internet Solutions Engineering'
12     };
13
14     res.end(JSON.stringify(myObject));
15 });
16
17 server.listen(3000, '127.0.0.1');
18 console.log('Listening to port 3000...');
19
```

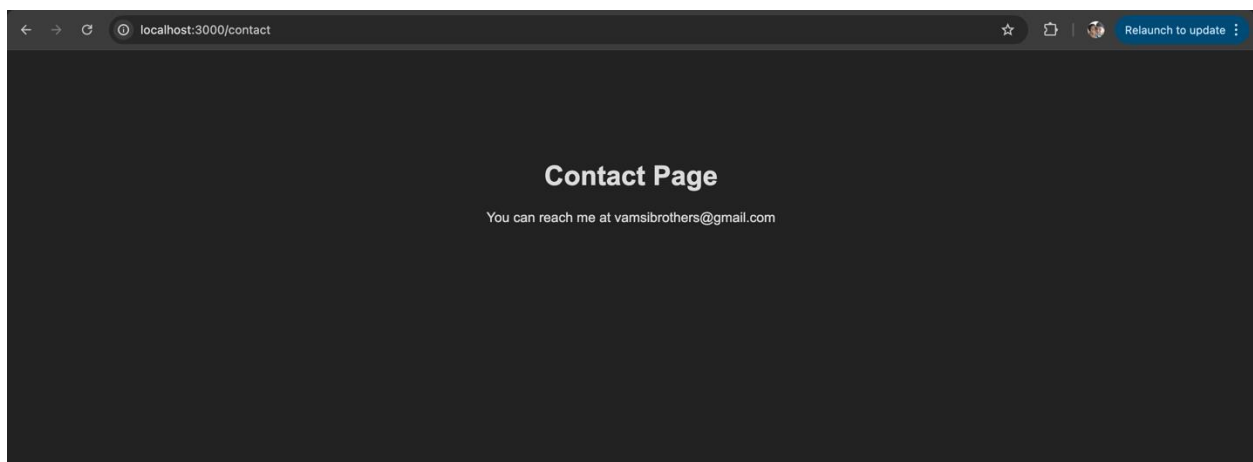
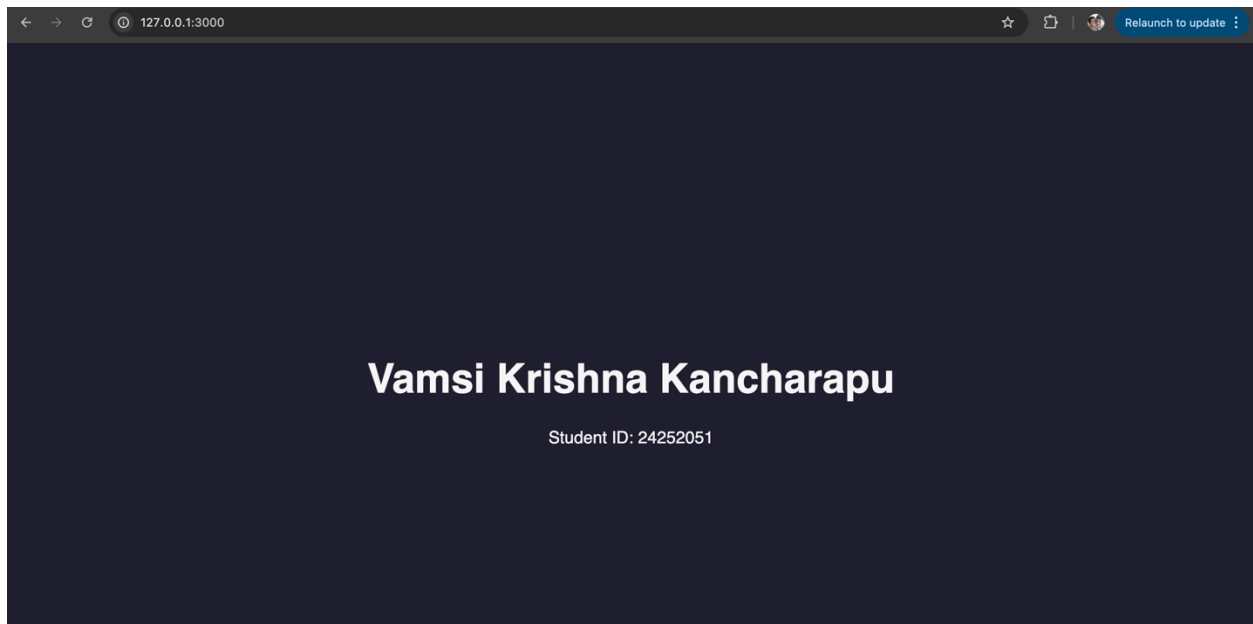
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

○ rocky@MAC-2A6B58 cs615_nodejs % node 8_json.js

```
Listening to port 3000...
Request was made: /
Request was made: /favicon.ico
█
```

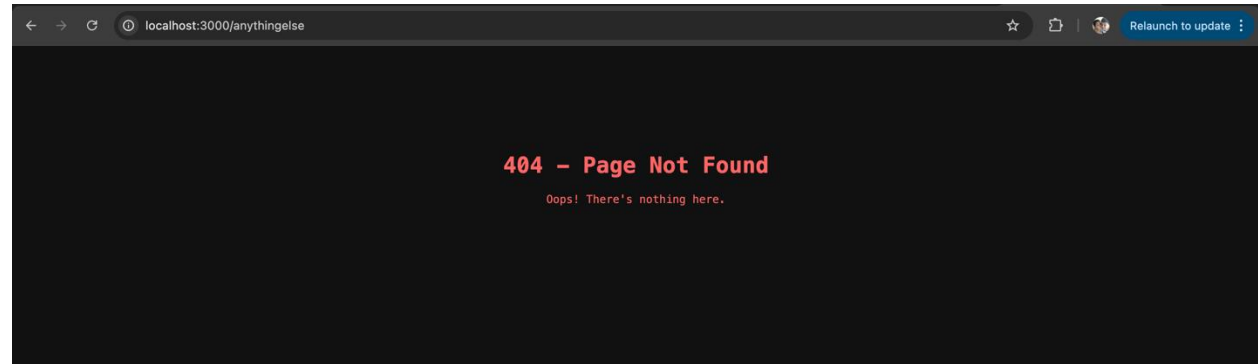
9_routing.js

```
rocky@MAC-2A6B58 routing % node 9_routing.js  
Server running at http://localhost:3000
```



Pretty-print ☐

```
{"name":"Vamsi Krishna Kancharapu","studentID":"24252051","course":"CS615 - Internet Solutions Engineering"}
```



Express: App.js

```
expressApp > JS app.js > ...
1  const express = require('express');
2  const app = express();
3
4  app.get('/', (req, res) => res.send('Homepage'));
5  app.get('/contact', (req, res) => res.send('Contact Page'));
6  app.get('/profile/:id', (req, res) => {
7    res.send('Profile ID: ' + req.params.id);
8  });
9
10 app.listen(3000);
11
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
● rocky@MAC-2A6B58 cs615_nodejs % cd expressApp
○ rocky@MAC-2A6B58 expressApp % node app.js
```



Homepage



Contact Page