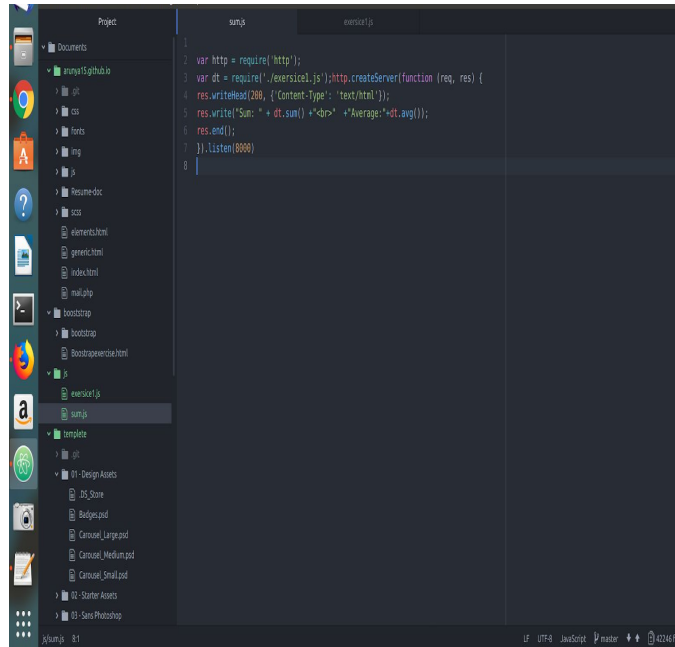


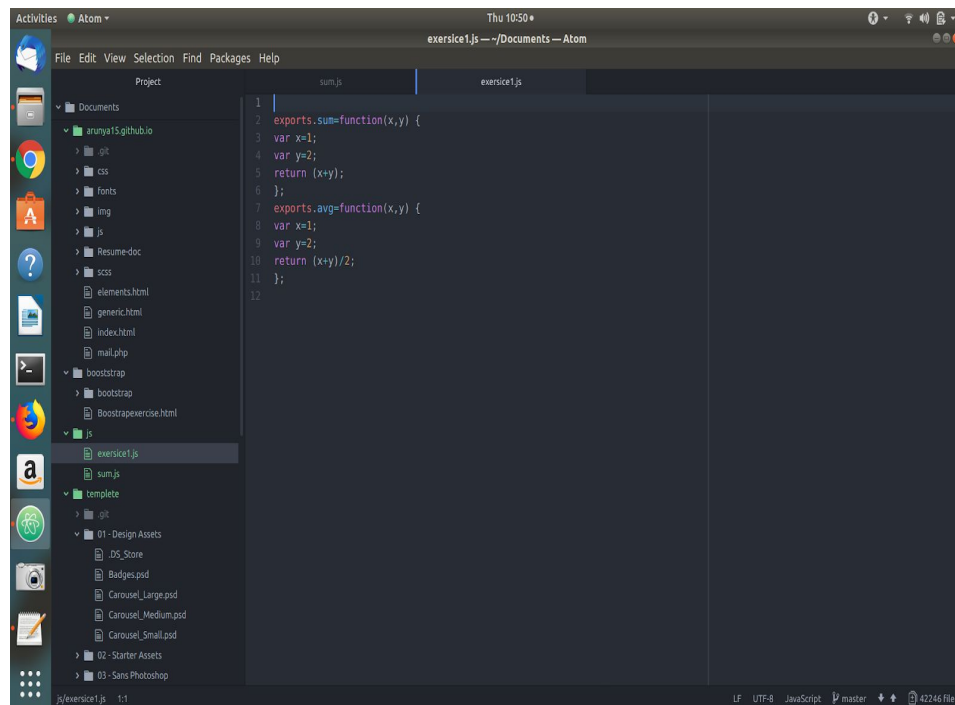
Node.js Exercise 1

1. Create a custom module which returns the sum and average of any two numbers passed into it. Require the module and run the server by passing 123 and 321 so that the server prints out the sum and average.



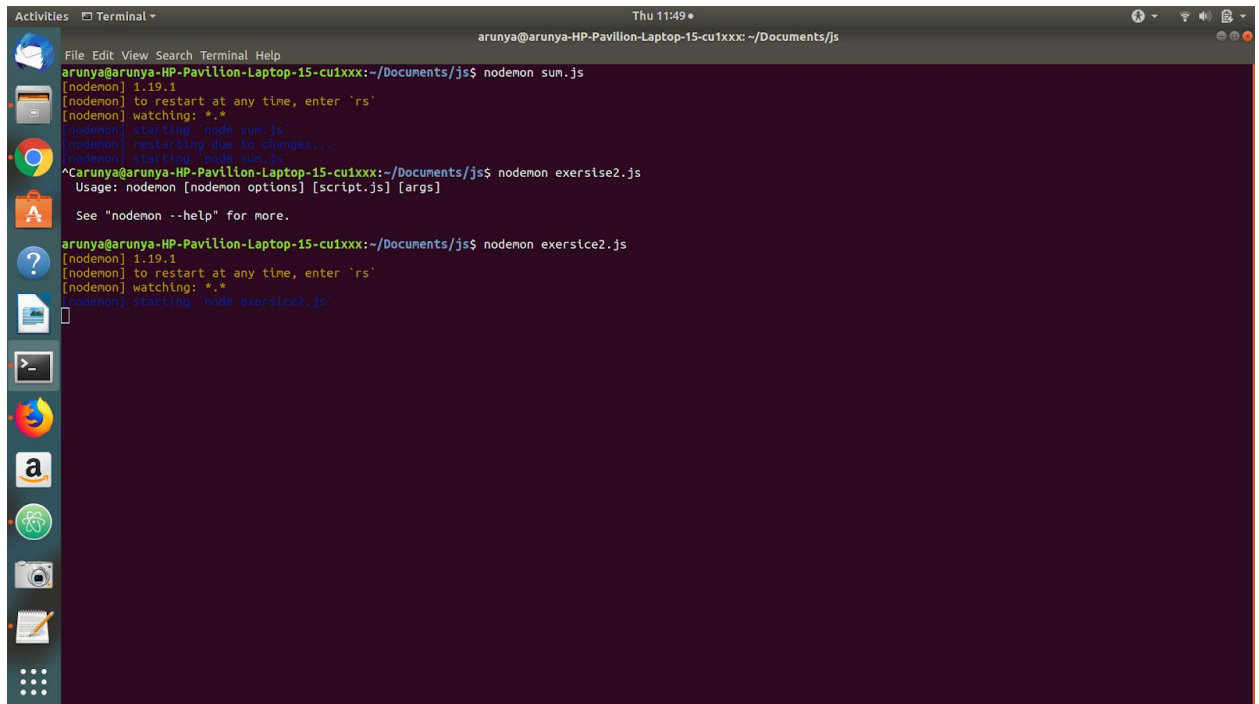
A screenshot of the Atom text editor. The left sidebar shows a file explorer with a project named 'arung15githubio'. The 'js' folder is expanded, showing 'exercise1.js' and 'sum.js'. The 'sum.js' file is selected and its content is displayed in the main editor area. The code in 'sum.js' is as follows:

```
1 var http = require('http');
2 var dt = require('./exercise1.js');http.createServer(function (req, res) {
3   res.writeHead(200, { 'Content-Type': 'text/html' });
4   res.write("Sum: " + dt.sum() + "<br>" + "Average:" + dt.avg());
5   res.end();
6   }).listen(8080)
7
```



A screenshot of the Atom text editor. The left sidebar shows the same file explorer as the previous image. The 'exercise1.js' file is selected and its content is displayed in the main editor area. The code in 'exercise1.js' is as follows:

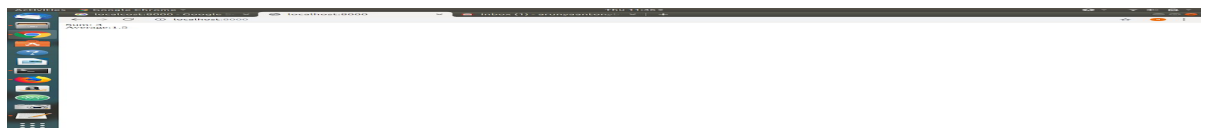
```
1 exports.sum=function(x,y) {
2   var x=1;
3   var y=2;
4   return (x+y);
5 };
6
7 exports.avg=function(x,y) {
8   var x=1;
9   var y=2;
10  return (x+y)/2;
11 };
12
```



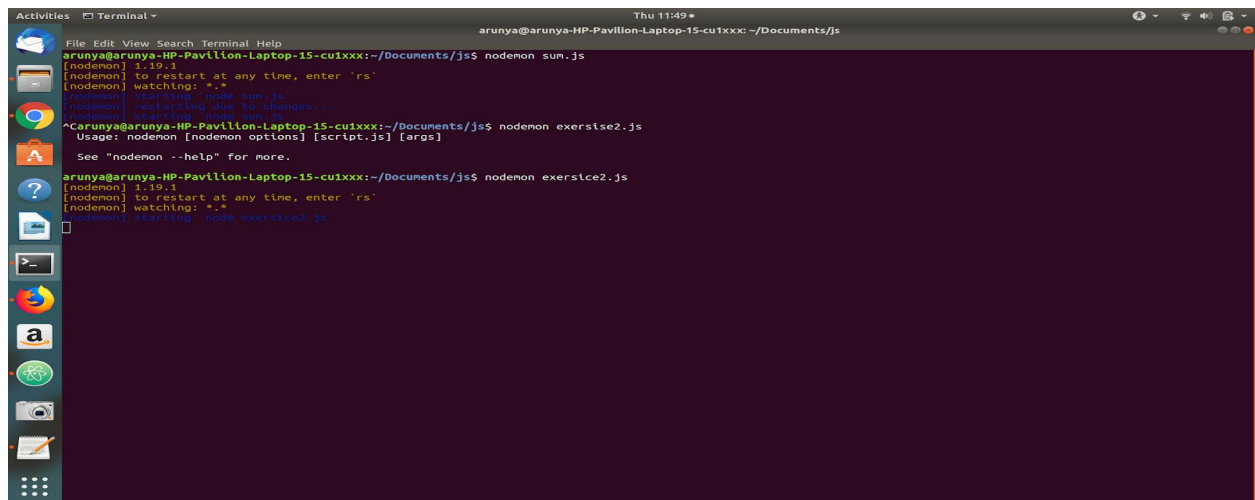
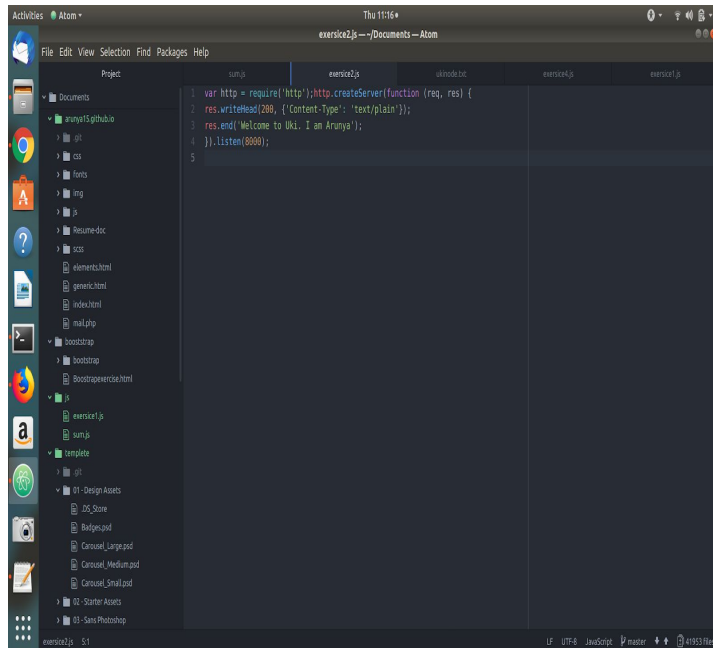
A terminal window on a Linux system. The title bar shows 'Thu 11:49' and the current directory is '~/Documents/js'. The user 'arunya' is logged in. The terminal shows the following commands and output:

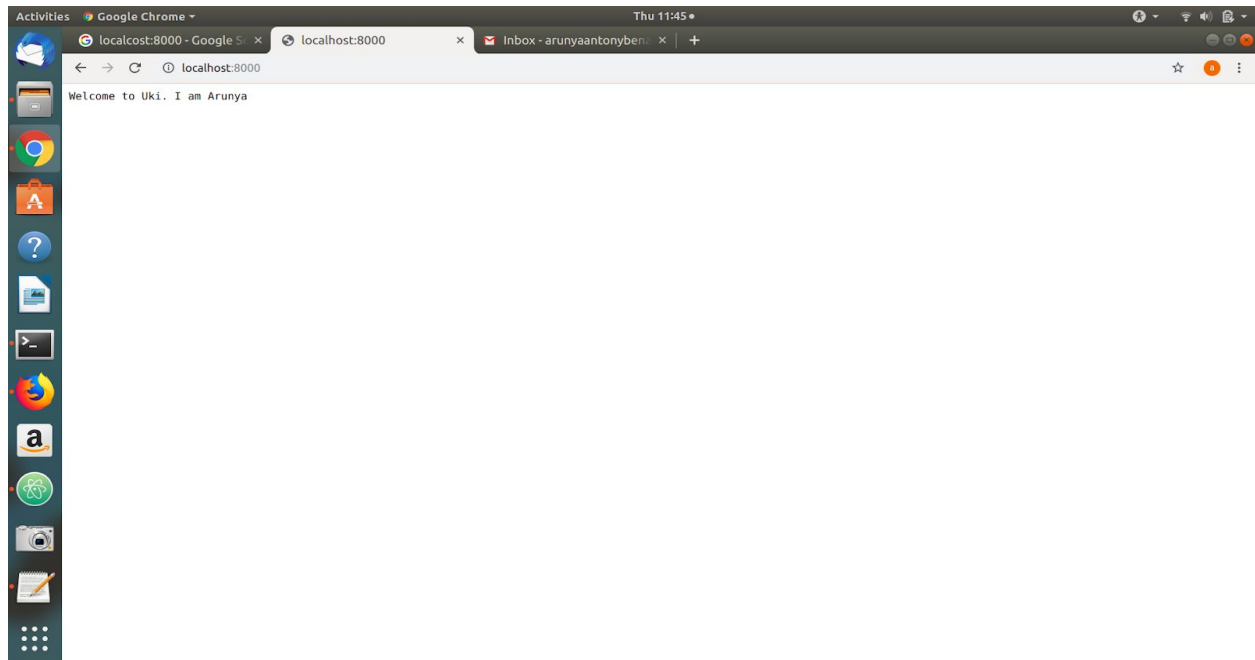
```
arunya@arunya-HP-Pavilion-Laptop-15-cu1xxx:~/Documents/js$ nodemon sun.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching: *.*
[nodemon] starting 'node sun.js'
[nodemon] restarting due to changes...
[nodemon] starting 'node sun.js'
^Carunya@arunya-HP-Pavilion-Laptop-15-cu1xxx:~/Documents/js$ nodemon exercise2.js
Usage: nodemon [nodemon options] [script.js] [args]
See "nodemon --help" for more.

arunya@arunya-HP-Pavilion-Laptop-15-cu1xxx:~/Documents/js$ nodemon exercise2.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching: *.*
[nodemon] starting 'node exercise2.js'
```

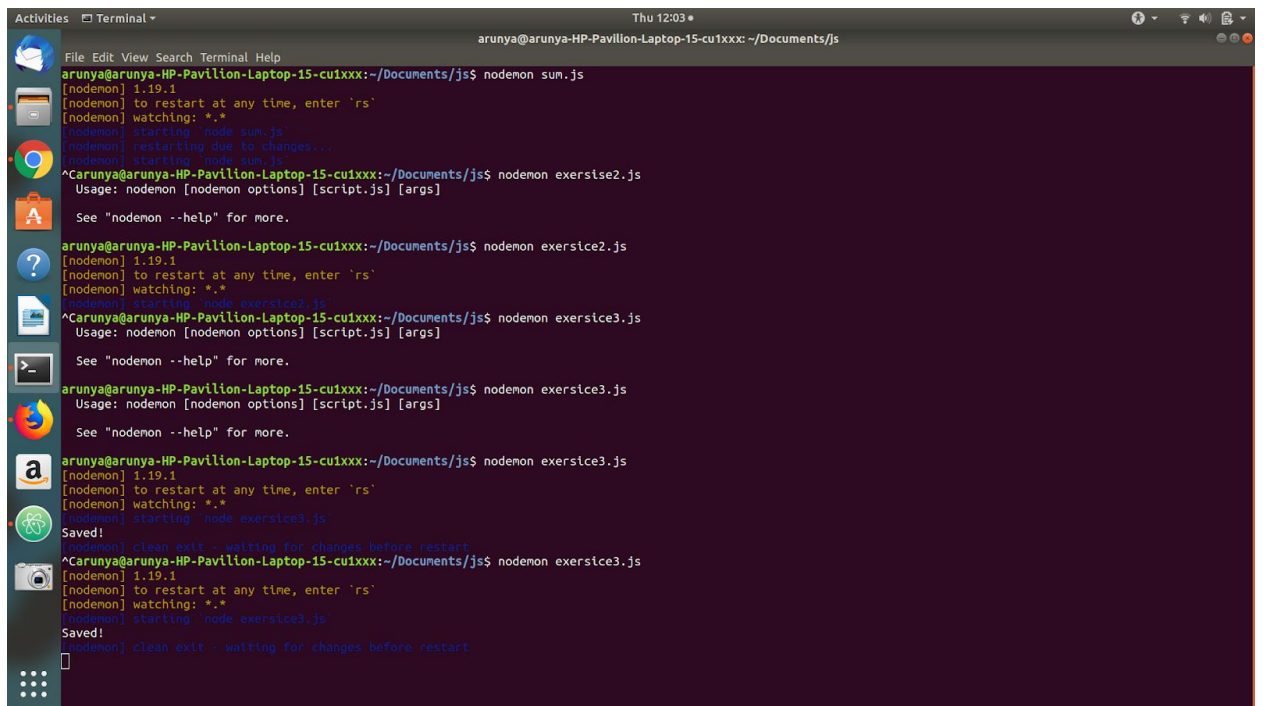
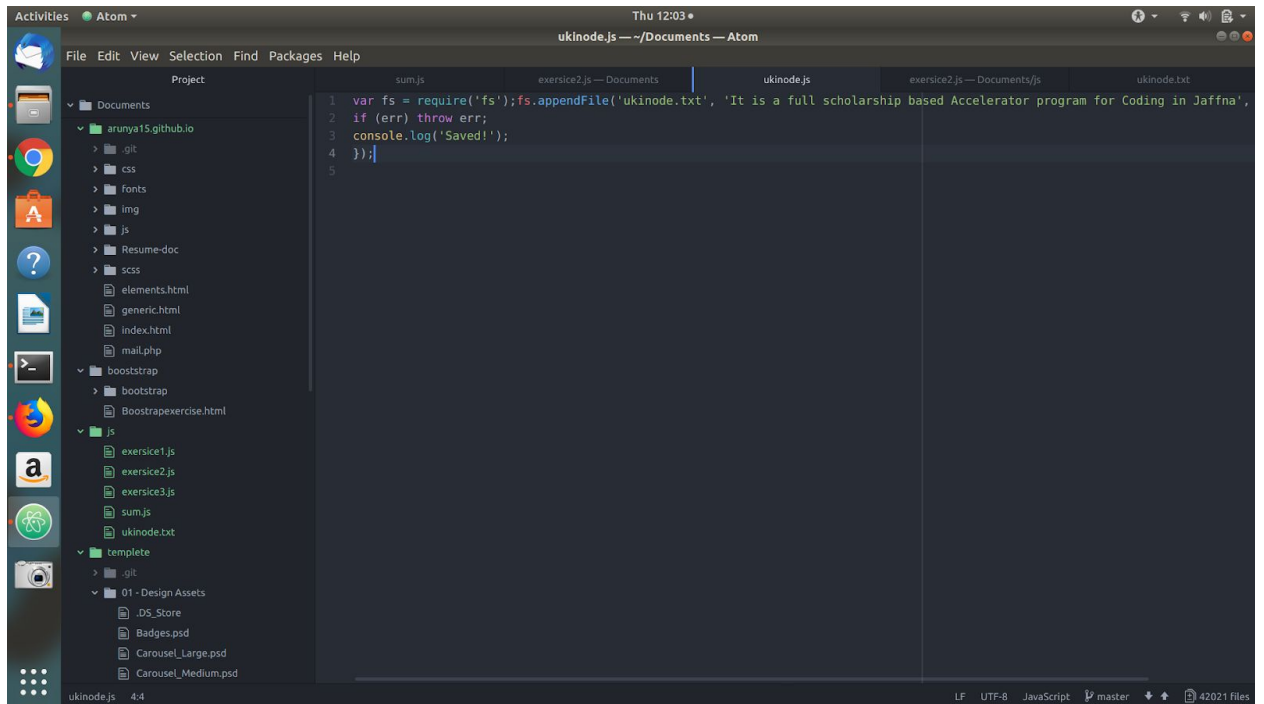


2. Create a simple http server and print “Welcome to Uki. I am **yourname**” when a request is sent to your server via the port 8000. (Note - Change different port numbers and check)

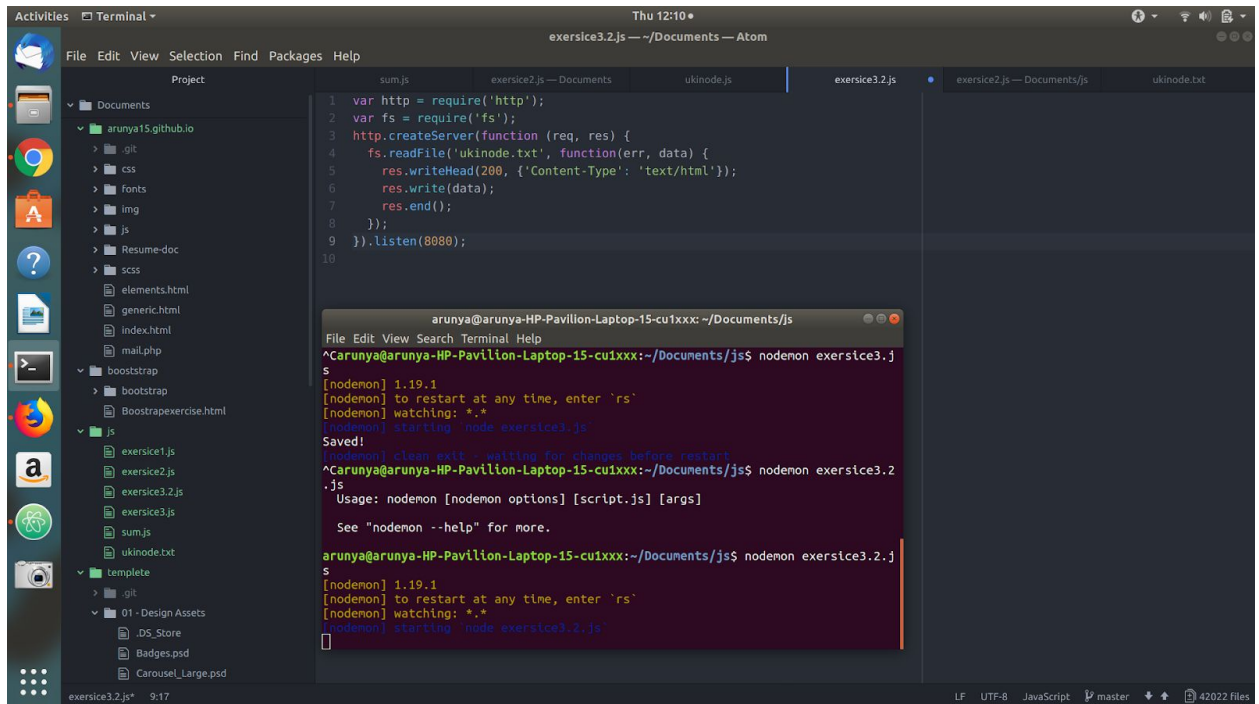




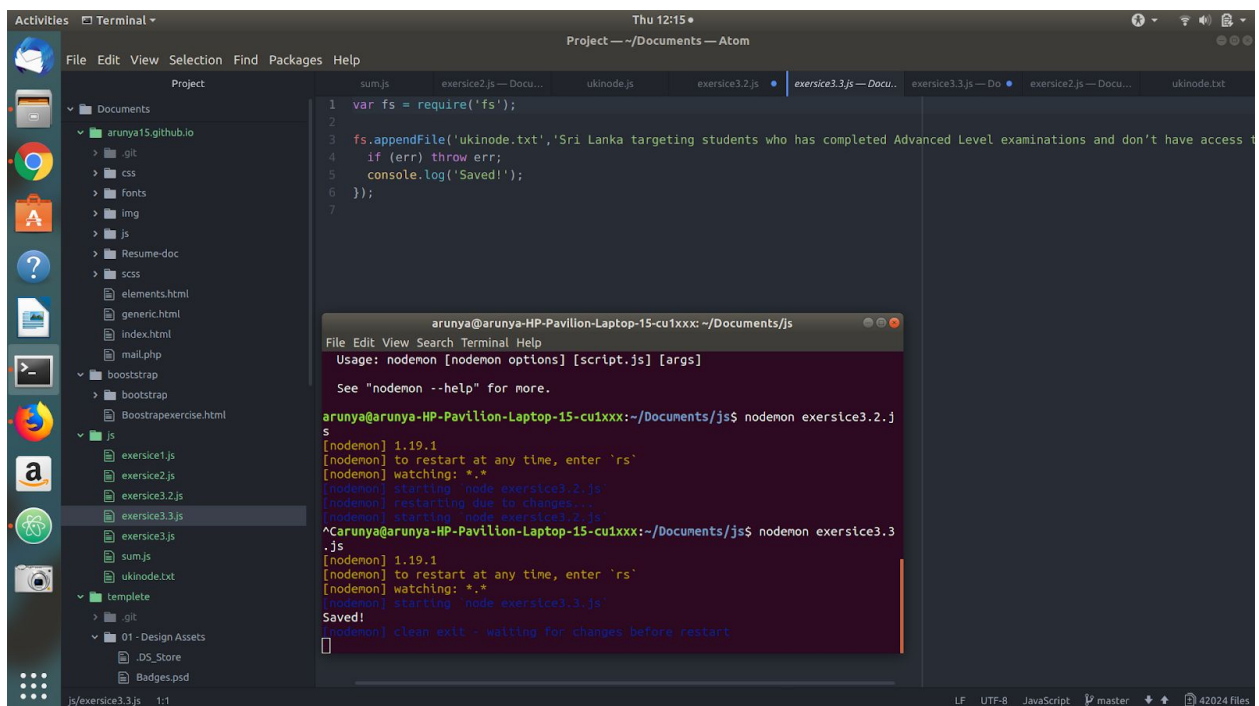
3. Using the file system module create a new file called ukinode.txt
 - 3.1 Write a paragraph about Uki into that file



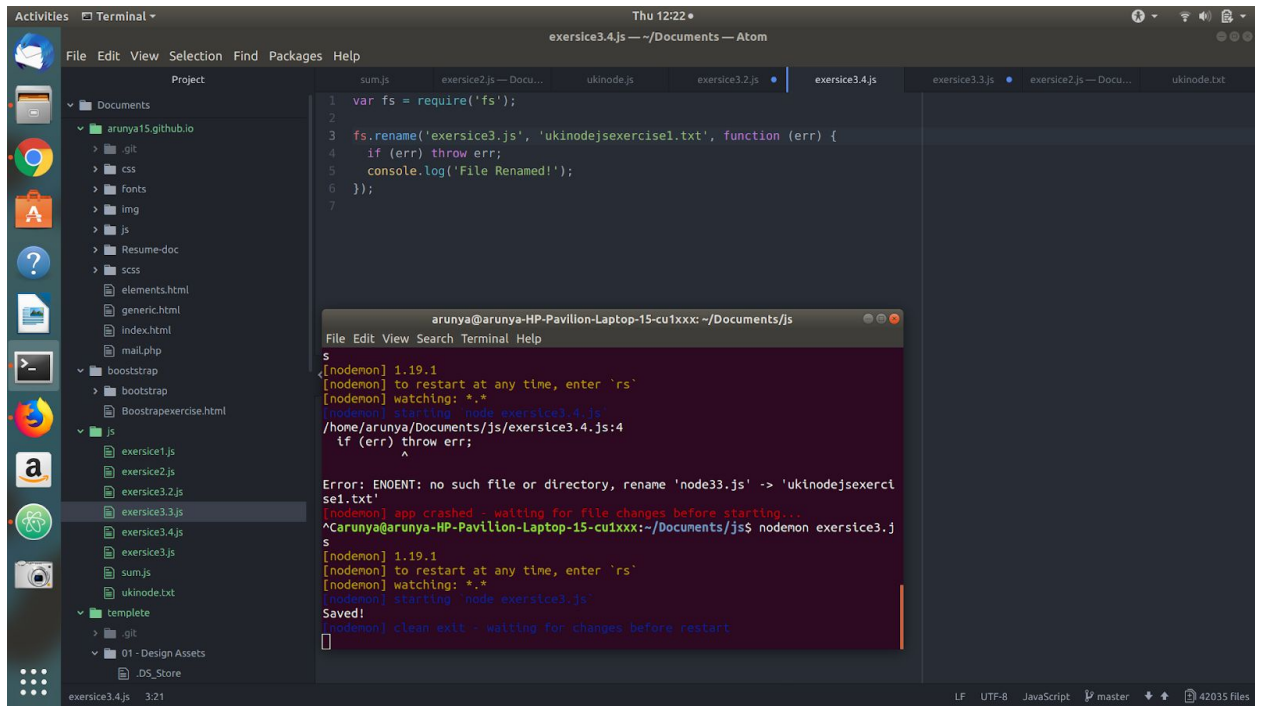
3.2 Serve that file to the client (Read File) over your server



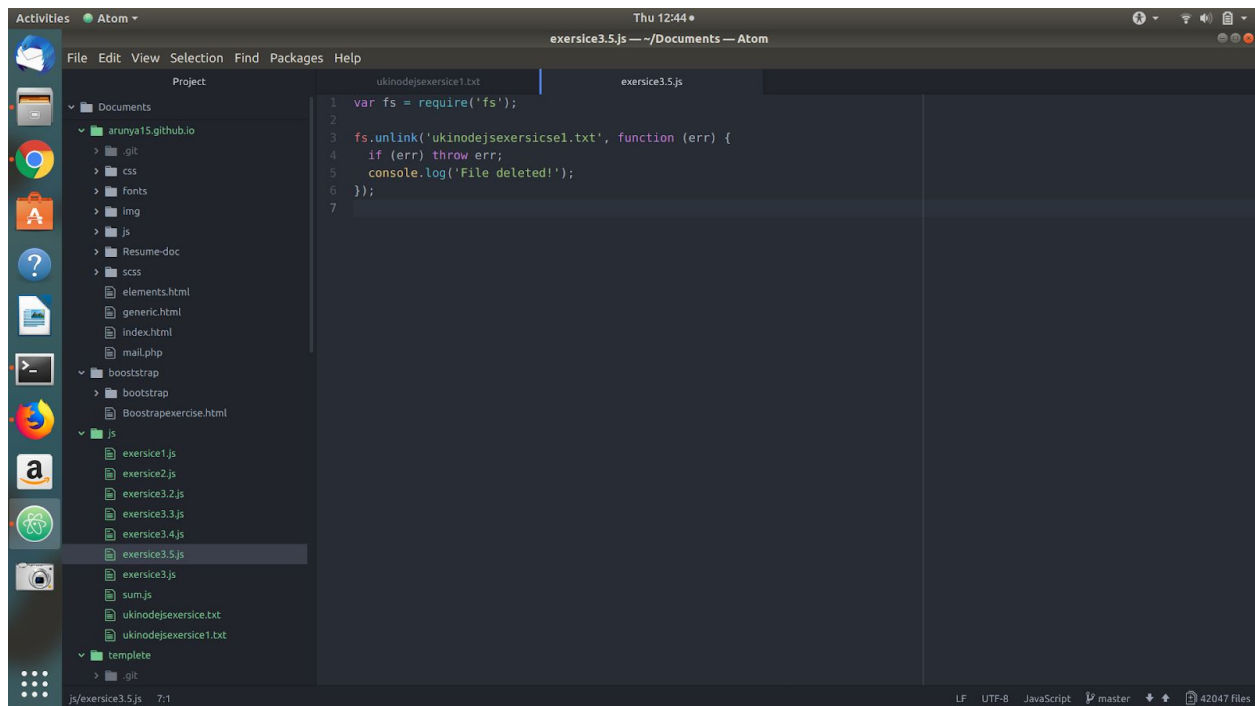
3.3 Append another paragraph about Uki and now serve the new file



3.4 Rename the file as ukinodejsexercise1.txt



3.5 Delete the file you created

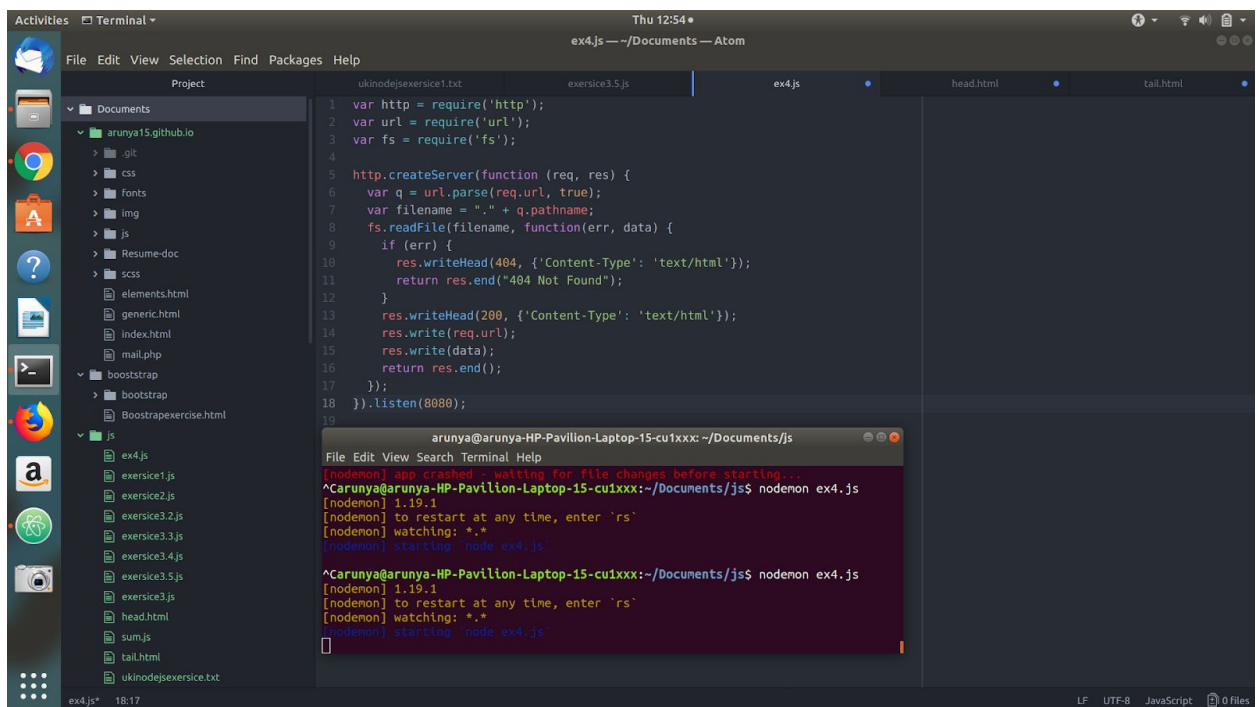


4. Create two html files called head.html which is a web page which says 'you have got head' and tail.html which is a web page which says 'you have got tail' and save them in the same folder as your node.js files. Create a Node.js file that opens the requested file and returns the content to the client. If anything goes wrong, throw a 404 error.

If you have followed the correct steps you should see two different results when opening these two addresses:

http://localhost:8080/head.html -> You have got head

http://localhost:8080/tail.html -> You have got tail



The screenshot shows a development environment with the Atom text editor and a terminal window. The Atom editor has a sidebar on the left showing a file tree with a project named 'arunya15.github.io'. The main editor area displays the code for 'ex4.js', which is a Node.js HTTP server. The code uses the 'http' and 'fs' modules to serve files from the current directory. It checks if the requested file exists; if not, it returns a 404 error. If the file exists, it reads the file and sends its content to the client. The terminal window shows the command 'nodemon ex4.js' being executed, and the output indicates that the server is running on port 8080 and watching for file changes.

```
1 var http = require('http');
2 var url = require('url');
3 var fs = require('fs');
4
5 http.createServer(function (req, res) {
6   var q = url.parse(req.url, true);
7   var filename = "." + q.pathname;
8   fs.readFile(filename, function(err, data) {
9     if (err) {
10      res.writeHead(404, {'Content-Type': 'text/html'});
11      return res.end("404 Not Found");
12    }
13    res.writeHead(200, {'Content-Type': 'text/html'});
14    res.write(req.url);
15    res.write(data);
16    return res.end();
17  });
18 }).listen(8080);
19
```

```
arunya@arunya-HP-Pavilion-Laptop-15-cu1xxx: ~/Documents/js
File Edit View Search Terminal Help
[nodemon] app crashed - waiting for file changes before starting...
^Carunya@arunya-HP-Pavilion-Laptop-15-cu1xxx:~/Documents/js$ nodemon ex4.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting `node ex4.js`

^Carunya@arunya-HP-Pavilion-Laptop-15-cu1xxx:~/Documents/js$ nodemon ex4.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting `node ex4.js`
```


Activities Atom Thu 12:54 head.html — ~/Documents — Atom

File Edit View Selection Find Packages Help

Project

- Documents
 - arunya15.github.io
 - .git
 - css
 - fonts
 - img
 - js
 - Resume-doc
 - scss
 - elements.html
 - generic.html
 - index.html
 - mail.php
 - bootstrap
 - bootstrap
 - Bootstrapexercise.html
 - js
 - ex4.js
 - exersice1.js
 - exersice2.js
 - exersice3.2.js
 - exersice3.3.js
 - exersice3.4.js
 - exersice3.5.js
 - exersice3.js
 - head.html
 - sum.js
 - tail.html
 - ukinodejsexersice.txt

head.html 6:8

```
1
2 <html>
3 <body>
4 <p> I have got the head </p>
5 </body>
6 </html>
7
```

LF UTF-8 HTML master 42081 Files

Activities Atom Thu 12:56 tail.html — ~/Documents — Atom

File Edit View Selection Find Packages Help

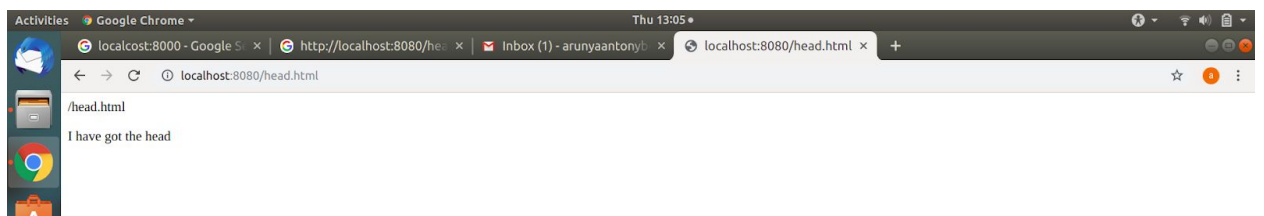
Project

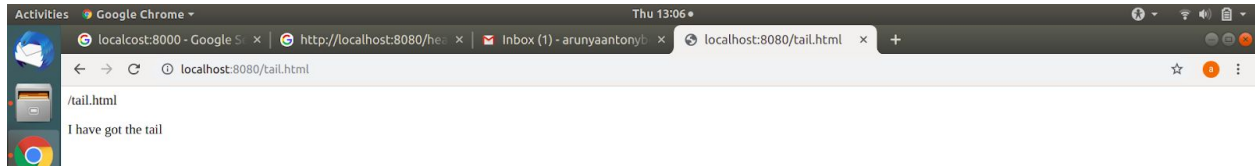
- Documents
 - arunya15.github.io
 - .git
 - css
 - fonts
 - img
 - js
 - Resume-doc
 - scss
 - elements.html
 - generic.html
 - index.html
 - mail.php
 - bootstrap
 - bootstrap
 - Bootstrapexercise.html
 - js
 - ex4.js
 - exersice1.js
 - exersice2.js
 - exersice3.2.js
 - exersice3.3.js
 - exersice3.4.js
 - exersice3.5.js
 - exersice3.js
 - head.html
 - sum.js
 - tail.html
 - ukinodejsexersice.txt

tail.html 7:1

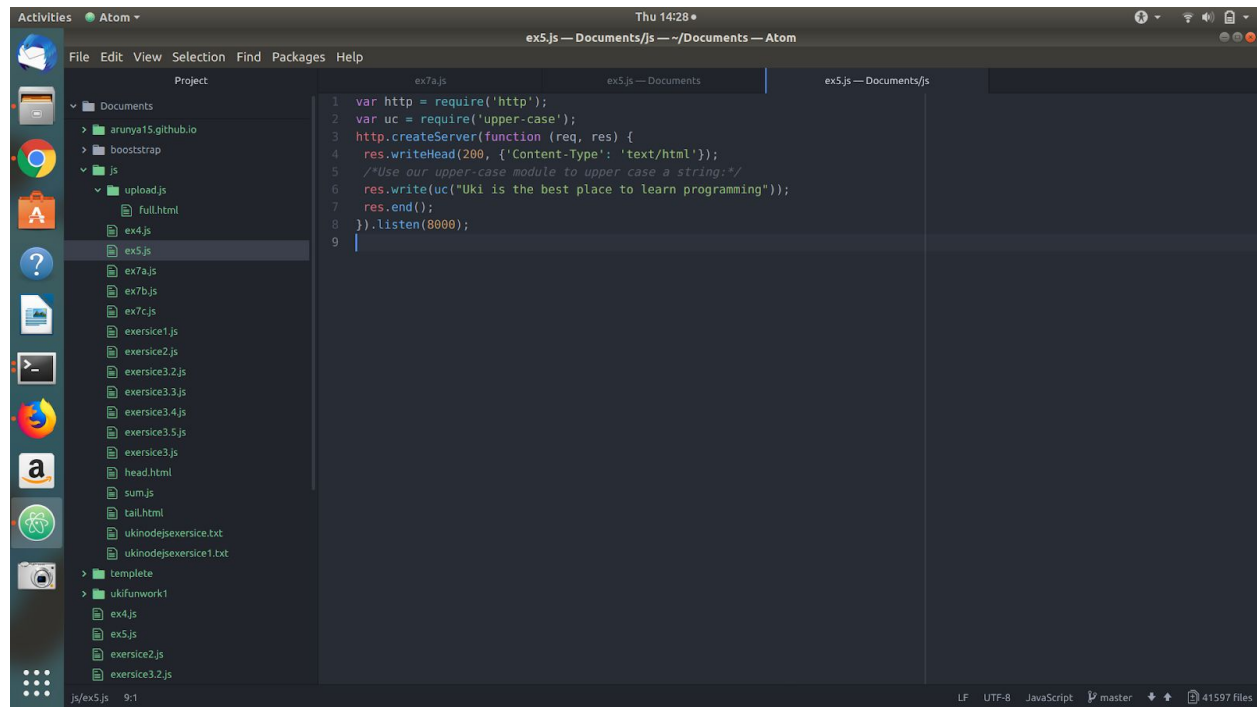
```
1
2 <html>
3 <body>
4 <p> I have got the tail </p>
5 </body>
6 </html>
7
```

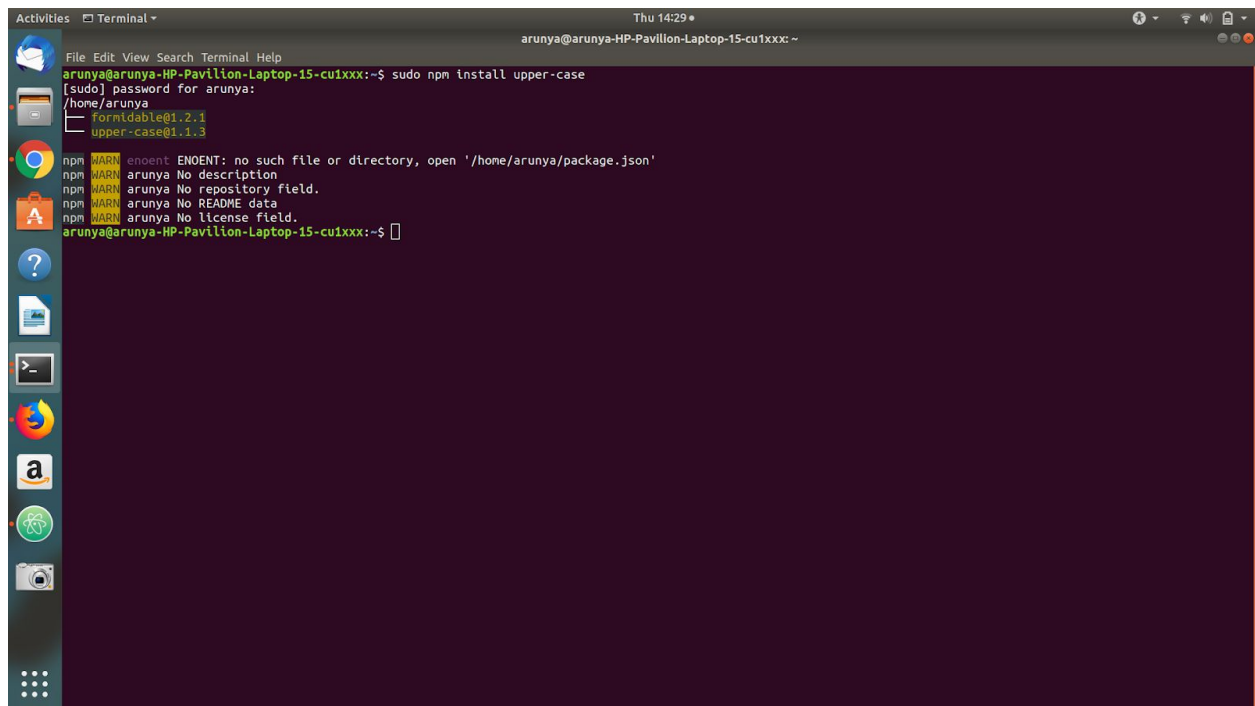
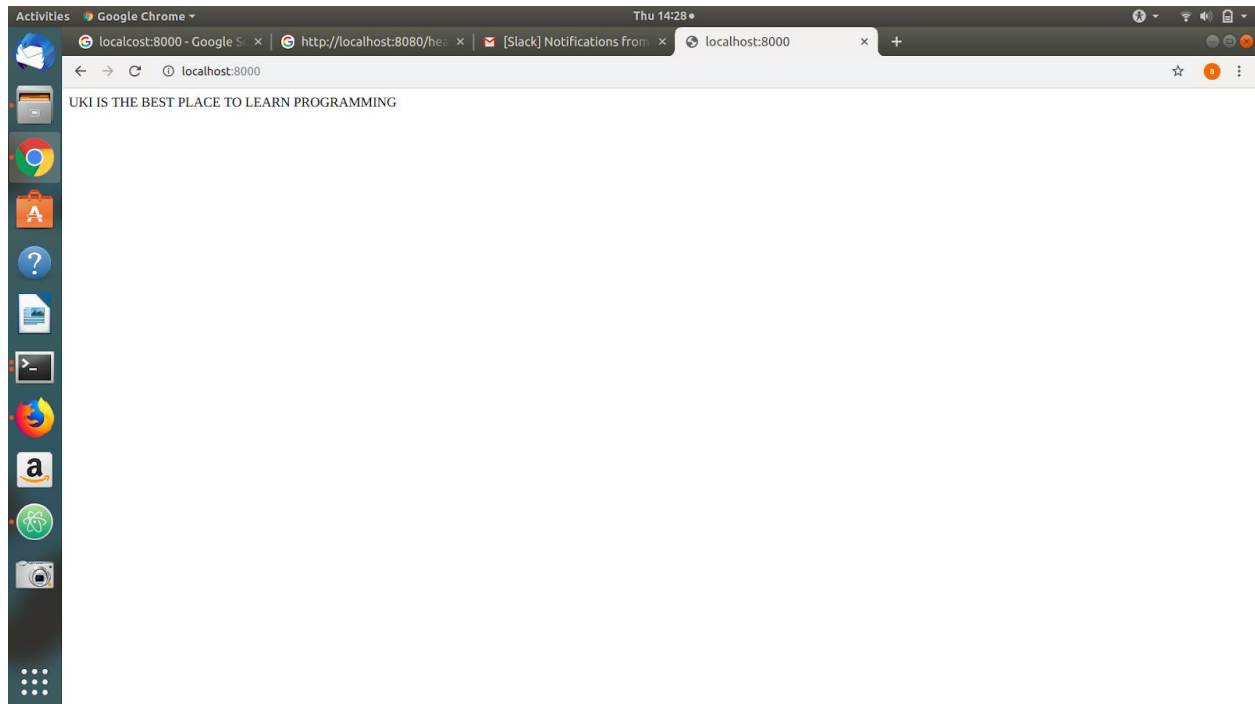
LF UTF-8 HTML master 42088 Files





5. Install the package “upper-case” using NPM and create a Node.js file that will convert the output "Uki is the best place to learn programming !" into upper-case letters.





6. Create an event handler function that will say "I bark when I see strangers !" when a "bark" event is fired.

```
Activities Terminal Thu 14:34*
arunya@arunya-HP-Pavillon-Laptop-15-cu1xxx: ~/Documents/js

File Edit View Search Terminal Help
at Object.Module._extensions..js (module.js:663:10)
at Module.load (module.js:565:32)
at tryModuleLoad (module.js:505:12)
at Function.Module._load (module.js:497:3)
[nodemon] app crashed - waiting for file changes before starting...
^Carunya@arunya-HP-Pavillon-Laptop-15-cu1xxx:~/Documents/js$ nodemon ex5.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching: *.*
[nodemon] starting 'node ex5.js'
module.js:549
  throw err;
  ^
Error: Cannot find module 'upper-case'
at Function.Module._resolveFilename (module.js:547:15)
at Function.Module._load (module.js:474:25)
at Module.require (module.js:596:17)
at require (internal/module.js:11:18)
at Object.<anonymous> (/home/arunya/Documents/js/ex5.js:2:10)
at Module._compile (module.js:652:30)
at Object.Module._extensions..js (module.js:663:10)
at Module.load (module.js:565:32)
at tryModuleLoad (module.js:505:12)
at Function.Module._load (module.js:497:3)
[nodemon] app crashed - waiting for file changes before starting...
^Carunya@arunya-HP-Pavillon-Laptop-15-cu1xxx:~/Documents/js$ nodemon ex5.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching: *.*
[nodemon] starting 'node ex5.js'
^Carunya@arunya-HP-Pavillon-Laptop-15-cu1xxx:~/Documents/js$ nodemon ex6.js
Usage: nodemon [nodemon options] [script.js] [args]

See "nodemon --help" for more.
arunya@arunya-HP-Pavillon-Laptop-15-cu1xxx:~/Documents/js$ nodemon ex6.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching: *.*
[nodemon] starting 'node ex6.js'
I bark when I see strangers !
[nodemon] Clean exit - waiting for changes before restart
```

```
Activities Atom Thu 14:35*
ex6.js — ~/Documents — Atom

File Edit View Selection Find Packages Help

Project ex7a.js ex5.js — Documents ex5.js — Documents/js ex6.js
Documents
├── arunya15.github.io
├── bootstrap
├── js
│   ├── upload.js
│   ├── full.html
│   ├── ex4.js
│   ├── ex5.js
│   ├── ex6.js
│   ├── ex7a.js
│   ├── ex7b.js
│   ├── ex7c.js
│   ├── exersice1.js
│   ├── exersice2.js
│   ├── exersice3.2.js
│   ├── exersice3.3.js
│   ├── exersice3.4.js
│   ├── exersice3.5.js
│   ├── exersice3.js
│   ├── head.html
│   ├── sum.js
│   ├── tail.html
│   ├── ukinodejsexersice.txt
│   └── ukinodejsexersice1.txt
├── template
├── ukiunwork1
│   ├── ex4.js
│   ├── ex5.js
│   └── exersice2.js
└── ex6.js* 6:45

1 var events = require('events');
2 var EventEmitter = new events.EventEmitter();
3
4 //Create an event handler:
5 var myEventHandler = function () {
6   console.log('I bark when I see strangers !');
7 }
8
9 //Assign the eventhandler to an event:
10 EventEmitter.on('bark', myEventHandler);
11
12 //Fire the 'scream' event:
13 EventEmitter.emit('bark');
14
```

7. Install “formidable” module using npm and make a web page in Node.js that lets the user upload files to your computer.

7.1 Save that uploaded file into your Documents directory.

Activities Atom Thu 14:12 ex7a.js — ~/Documents — Atom

File Edit View Selection Find Packages Help

Project

- Documents
 - arunys15.github.io
 - bootstrap
 - js
 - upload.js
 - full.html
 - ex4.js
 - ex7a.js
 - ex7b.js
 - ex7c.js
 - exersice1.js
 - exersice2.js
 - exersice3.2.js
 - exersice3.3.js
 - exersice3.4.js
 - exersice3.5.js
 - exersice3.js
 - head.html
 - sum.js
 - tail.html
 - ukinodjexersice.txt
 - ukinodjexersice1.txt
 - templete
 - ukifunwork1
 - ex4.js
 - exersice2.js
 - exersice3.2.js
 - exersice3.3.js
 - exersice3.4.js

js/ex7a.js 11:1

```
1 var http = require('http');
2
3 http.createServer(function (req, res) {
4   res.writeHead(200, {'Content-Type': 'text/html'});
5   res.write('<form action="fileupload" method="post" enctype="multipart/form-data">');
6   res.write('<input type="file" name="filetoupload"><br>');
7   res.write('<input type="submit">');
8   res.write('</form>');
9   return res.end();
10 }).listen(8000);
11
```

LF UTF-8 JavaScript master 42283 Files

Activities Atom Thu 14:13 ex7b.js — ~/Documents — Atom

File Edit View Selection Find Packages Help

Project

- Documents
 - arunys15.github.io
 - bootstrap
 - js
 - upload.js
 - full.html
 - ex4.js
 - ex7a.js
 - ex7b.js
 - ex7c.js
 - exersice1.js
 - exersice2.js
 - exersice3.2.js
 - exersice3.3.js
 - exersice3.4.js
 - exersice3.5.js
 - exersice3.js
 - head.html
 - sum.js
 - tail.html
 - ukinodjexersice.txt
 - ukinodjexersice1.txt
 - templete
 - ukifunwork1
 - ex4.js
 - exersice2.js
 - exersice3.2.js
 - exersice3.3.js
 - exersice3.4.js

js/ex7b.js 19:14

```
1 var http = require('http');
2 var formidable = require('formidable');
3
4 http.createServer(function (req, res) {
5   if (req.url == '/fileupload') {
6     var form = new formidable.IncomingForm();
7     form.parse(req, function (err, fields, files) {
8       res.write('File uploaded');
9       res.end();
10     });
11   } else {
12     res.writeHead(200, {'Content-Type': 'text/html'});
13     res.write('<form action="fileupload" method="post" enctype="multipart/form-data">');
14     res.write('<input type="file" name="filetoupload"><br>');
15     res.write('<input type="submit">');
16     res.write('</form>');
17     return res.end();
18   }
19 }).listen(8000);
20
```

LF UTF-8 JavaScript master 42282 Files

Activities Atom Thu 14:13 ex7c.js — ~/Documents — Atom

File Edit View Selection Find Packages Help

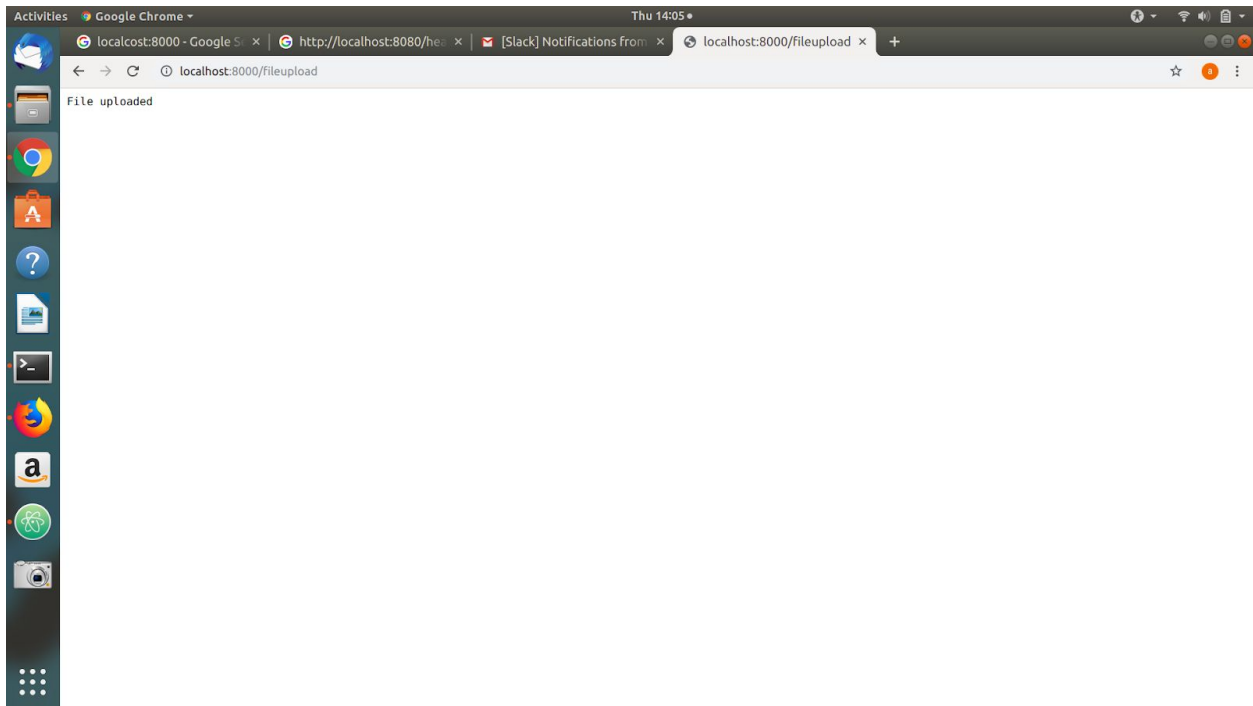
Project

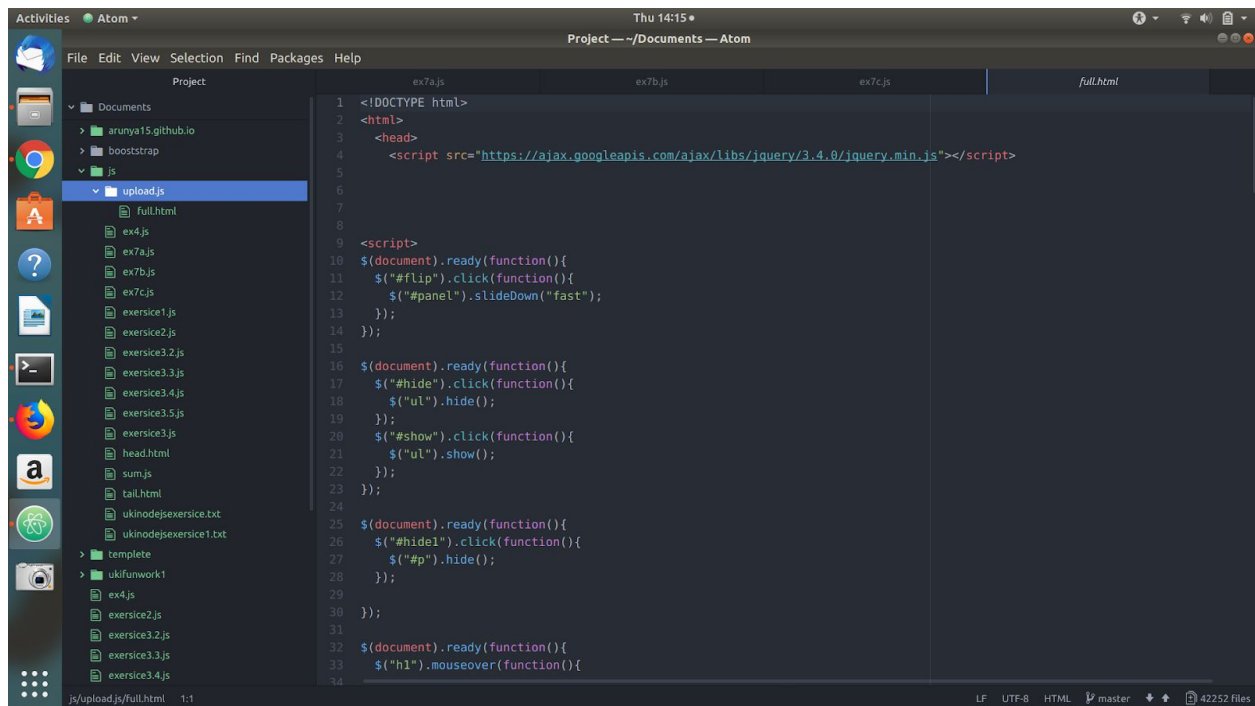
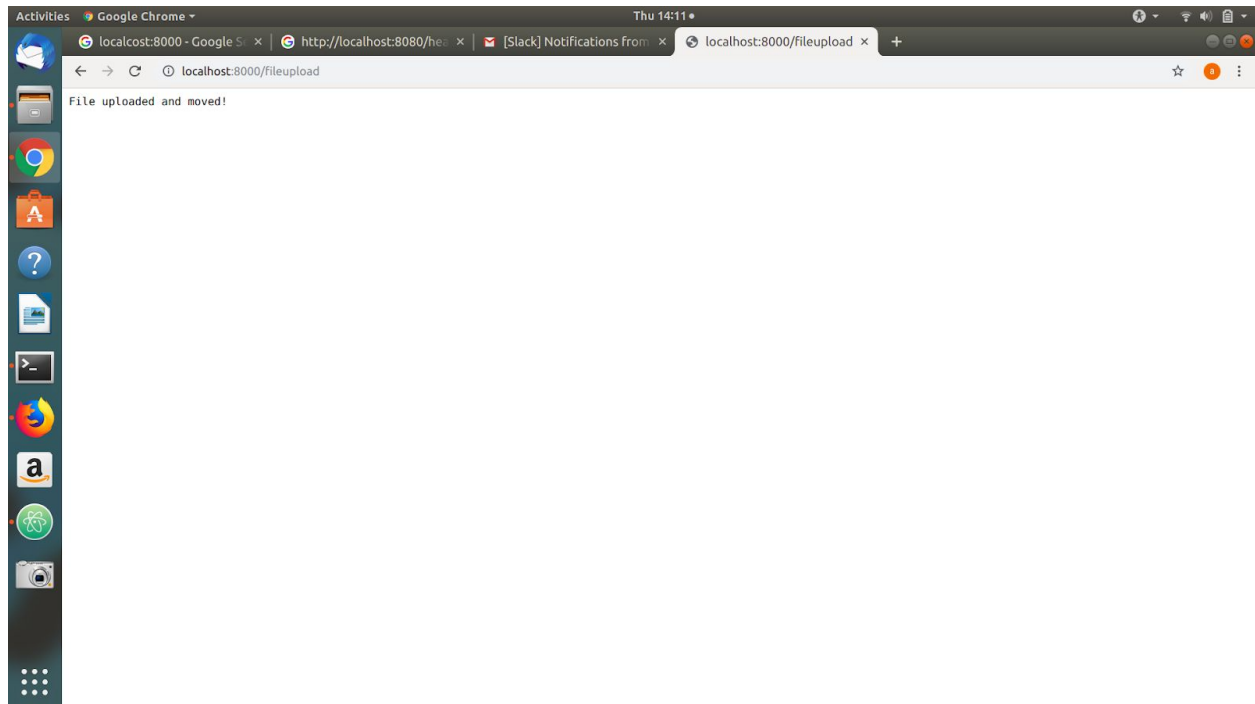
- Documents
 - arunya15.github.io
 - bootstrap
 - js
 - upload.js
 - full.html
 - ex4.js
 - ex7a.js
 - ex7b.js
 - ex7c.js
 - exersice1.js
 - exersice2.js
 - exersice3.2.js
 - exersice3.3.js
 - exersice3.4.js
 - exersice3.5.js
 - exersice3.js
 - head.html
 - sum.js
 - tail.html
 - ukinodejsexersice.txt
 - ukinodejsexersice1.txt
 - template
 - ukifunwork1
 - ex4.js
 - exersice2.js
 - exersice3.2.js
 - exersice3.3.js
 - exersice3.4.js

js/ex7c.js 10:57

```
1 var http = require('http');
2 var formidable = require('formidable');
3 var fs = require('fs');
4
5 http.createServer(function (req, res) {
6   if (req.url === '/fileupload') {
7     var form = new formidable.IncomingForm();
8     form.parse(req, function (err, fields, files) {
9       var oldpath = files.fileupload.path;
10      var newpath = '/home/arunya/Documents/js/upload.js/' + files.fileupload.name;
11      fs.rename(oldpath, newpath, function (err) {
12        if (err) throw err;
13        res.write('File uploaded and moved!');
14        res.end();
15      });
16    });
17  } else {
18    res.writeHead(200, {'Content-Type': 'text/html'});
19    res.write('<form action="fileupload" method="post" enctype="multipart/form-data">');
20    res.write('<input type="file" name="fileupload"><br>');
21    res.write('<input type="submit">');
22    res.write('</form>');
23    return res.end();
24  }
25 }).listen(8000);
26
```

LF UTF-8 JavaScript master 42283 Files





8. Using the Nodemailer module create a server and send a mail to info@uki.life with the subject : “Testing my nodemailer module” , text: “This is easy !”

