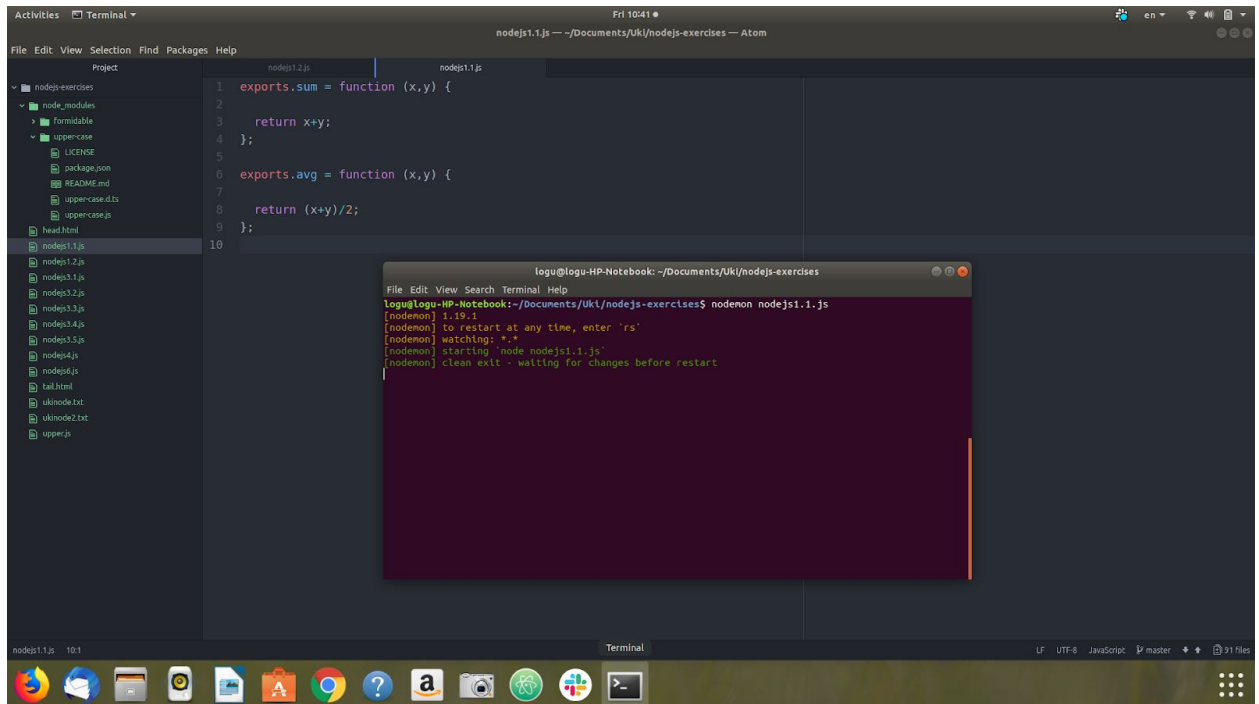


1. Create a custom module which returns the sum and average of any two numbers passed into it. Require the module and run the server by passing 123 and 321 so that the server prints out the sum and average.

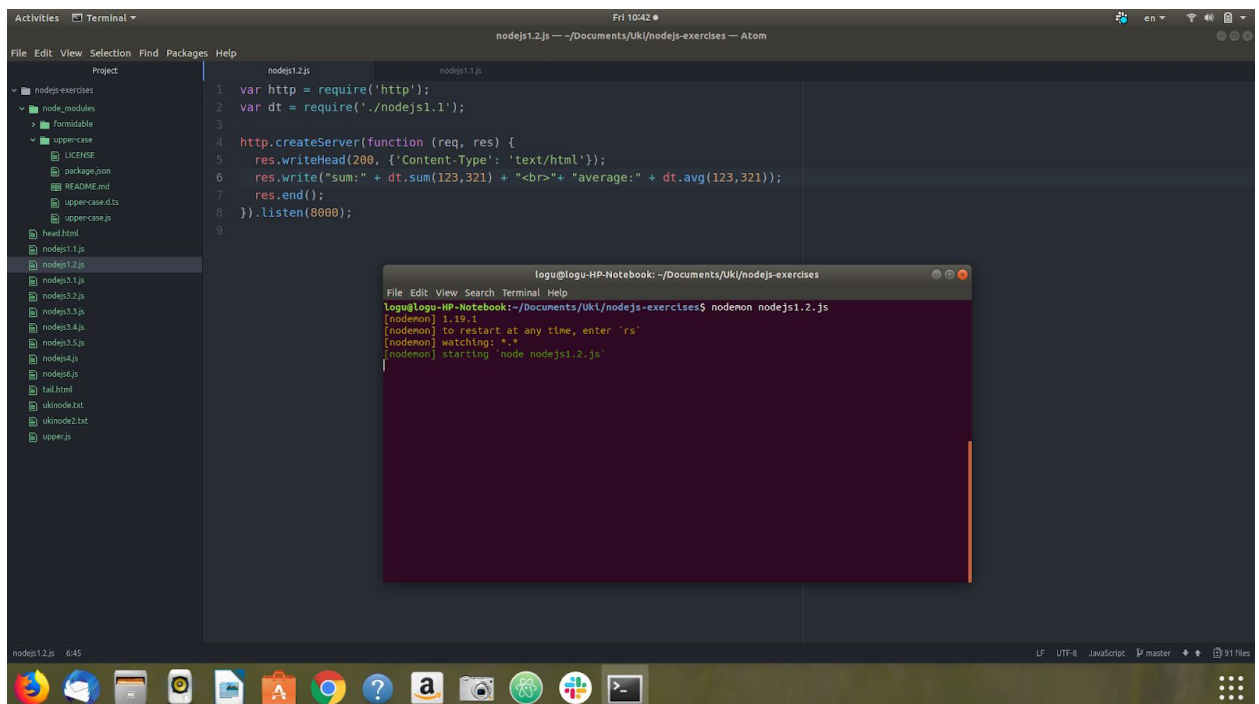


The screenshot shows the Atom editor interface with a project named 'nodejs-exercises'. The file explorer on the left shows a directory structure with 'node_modules', 'formidable', 'uppercase', and 'nodejs1.1.js'. The main editor window displays the code for 'nodejs1.1.js':

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

A terminal window is open in the foreground, showing the command 'nodemon nodejs1.1.js' being executed. The terminal output is:

```
logu@logu-HP-Notebook: ~/Documents/UK/nodejs-exercises
logu@logu-HP-Notebook:~/Documents/UK/nodejs-exercises$ nodemon nodejs1.1.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting 'node nodejs1.1.js'
[nodemon] clean exit - waiting for changes before restart
```



The screenshot shows the Atom editor interface with the same project. The file explorer on the left shows the directory structure. The main editor window displays the code for 'nodejs1.2.js':

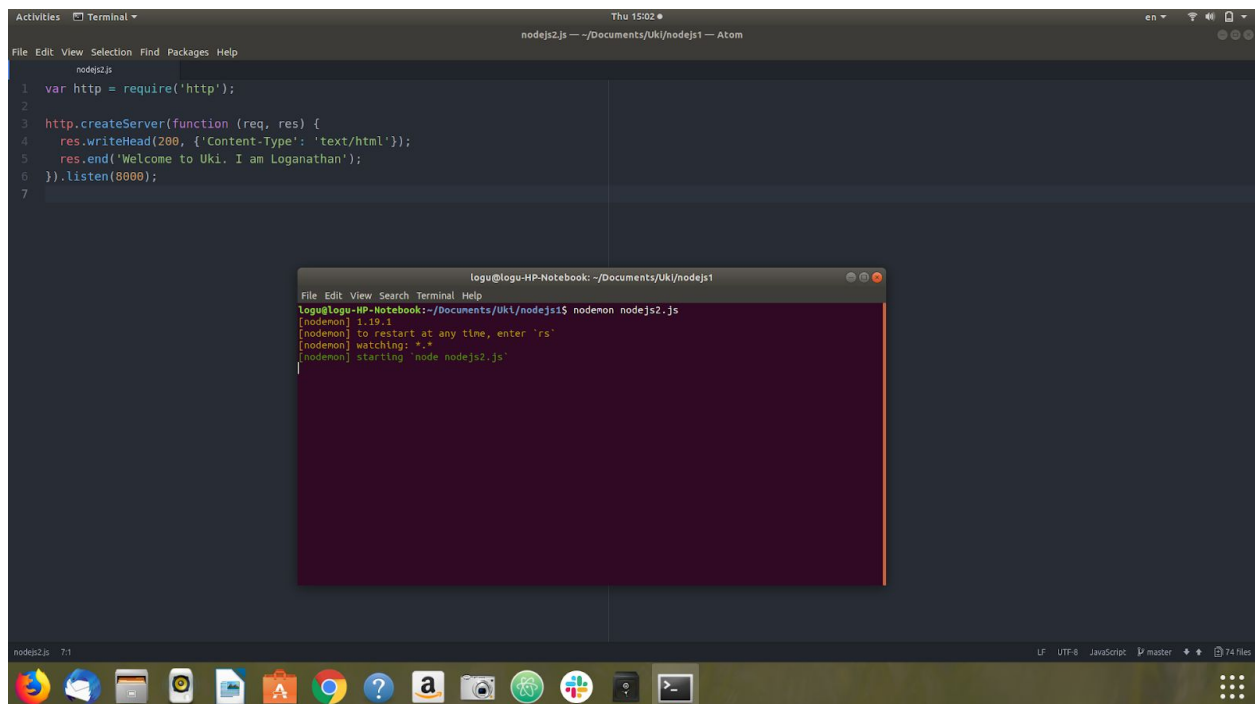
```
1 var http = require('http');
2 var dt = require('./nodejs1.1');
3
4 http.createServer(function (req, res) {
5   res.writeHead(200, {'Content-Type': 'text/html'});
6   res.write("sum: " + dt.sum(123,321) + "<br>" + "average: " + dt.avg(123,321));
7   res.end();
8 }).listen(8000);
9
```

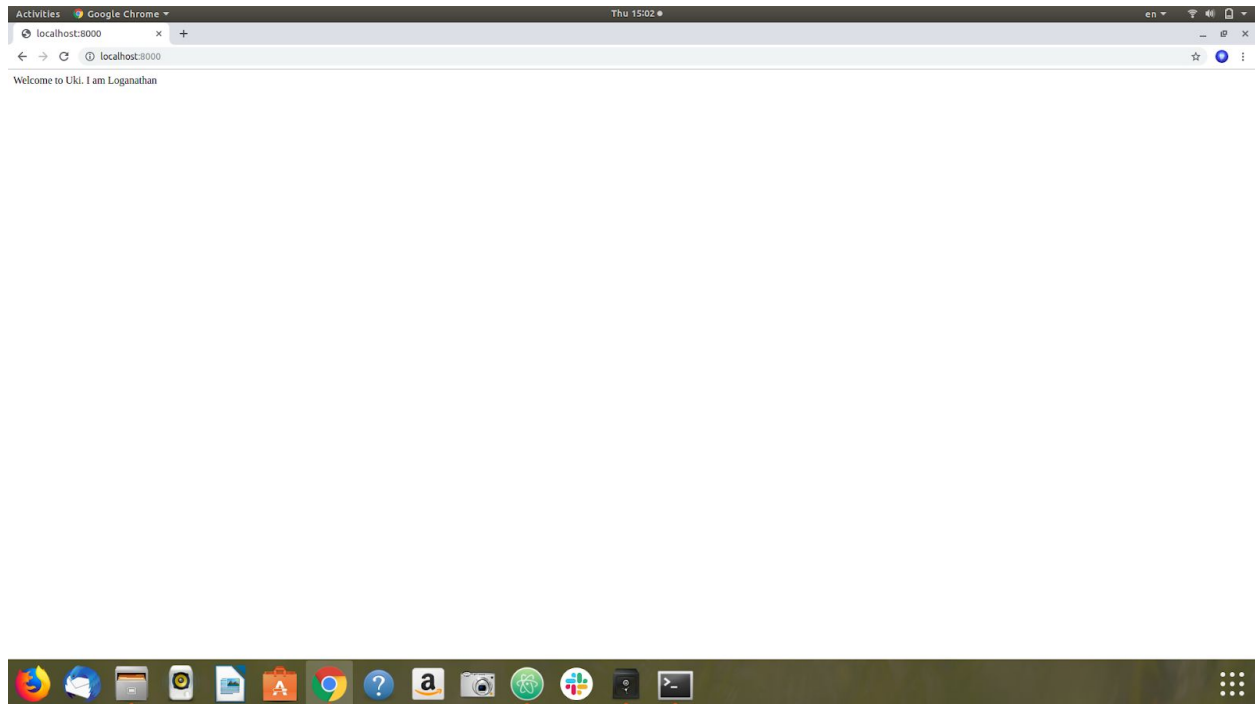
A terminal window is open in the foreground, showing the command 'nodemon nodejs1.2.js' being executed. The terminal output is:

```
logu@logu-HP-Notebook: ~/Documents/UK/nodejs-exercises
logu@logu-HP-Notebook:~/Documents/UK/nodejs-exercises$ nodemon nodejs1.2.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting 'node nodejs1.2.js'
```

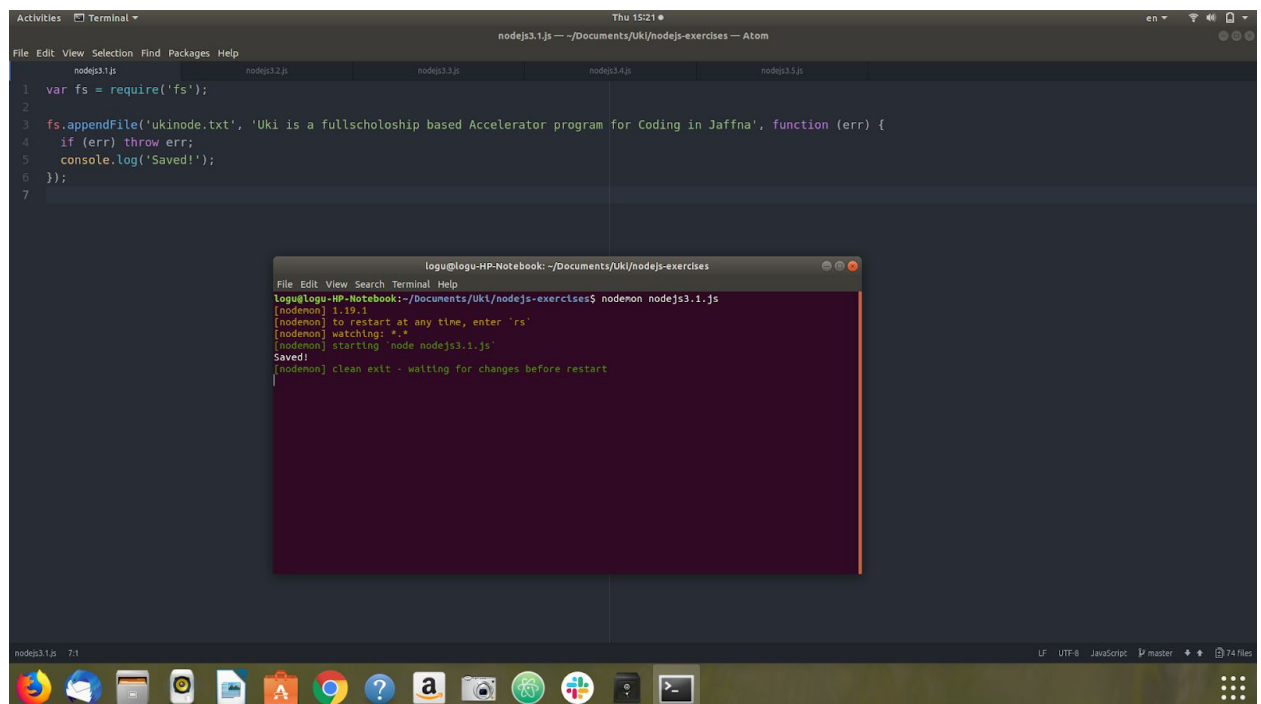


2. Create a simple http server and print “Welcome to Uki. I am **yourname**” when a request is sent to your server via the port 8000. (Note - Change different port numbers and check)

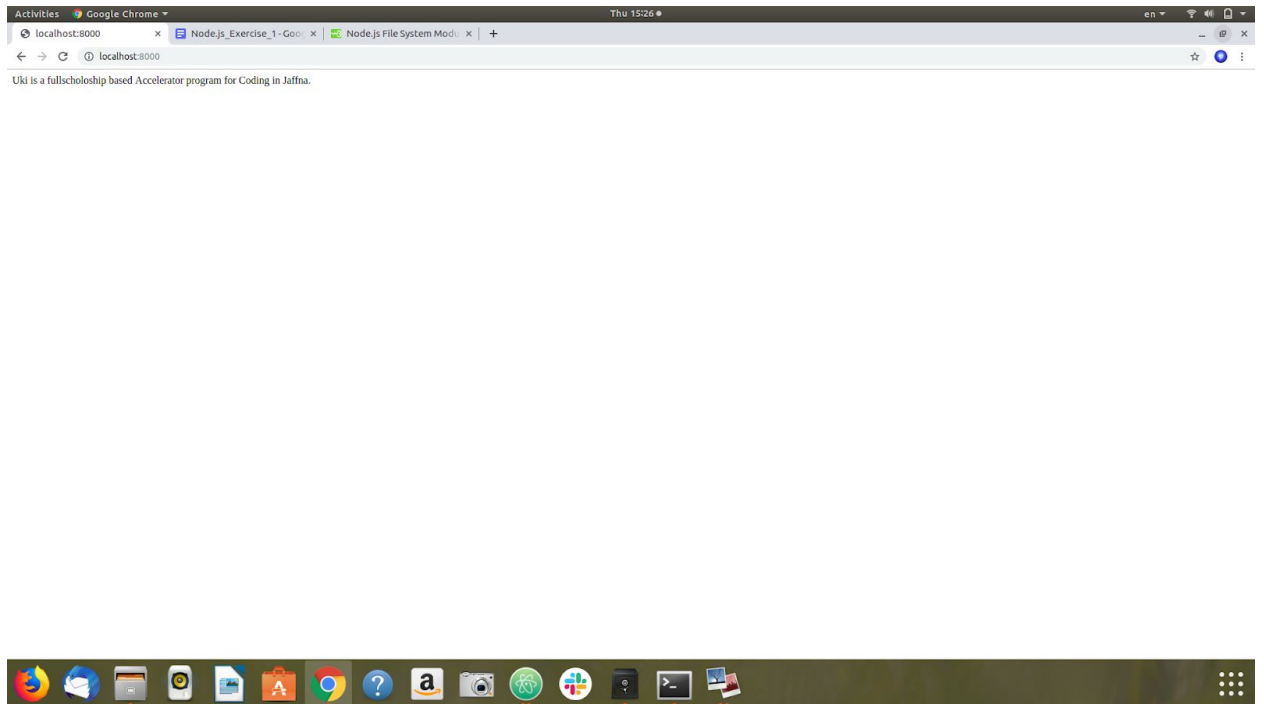




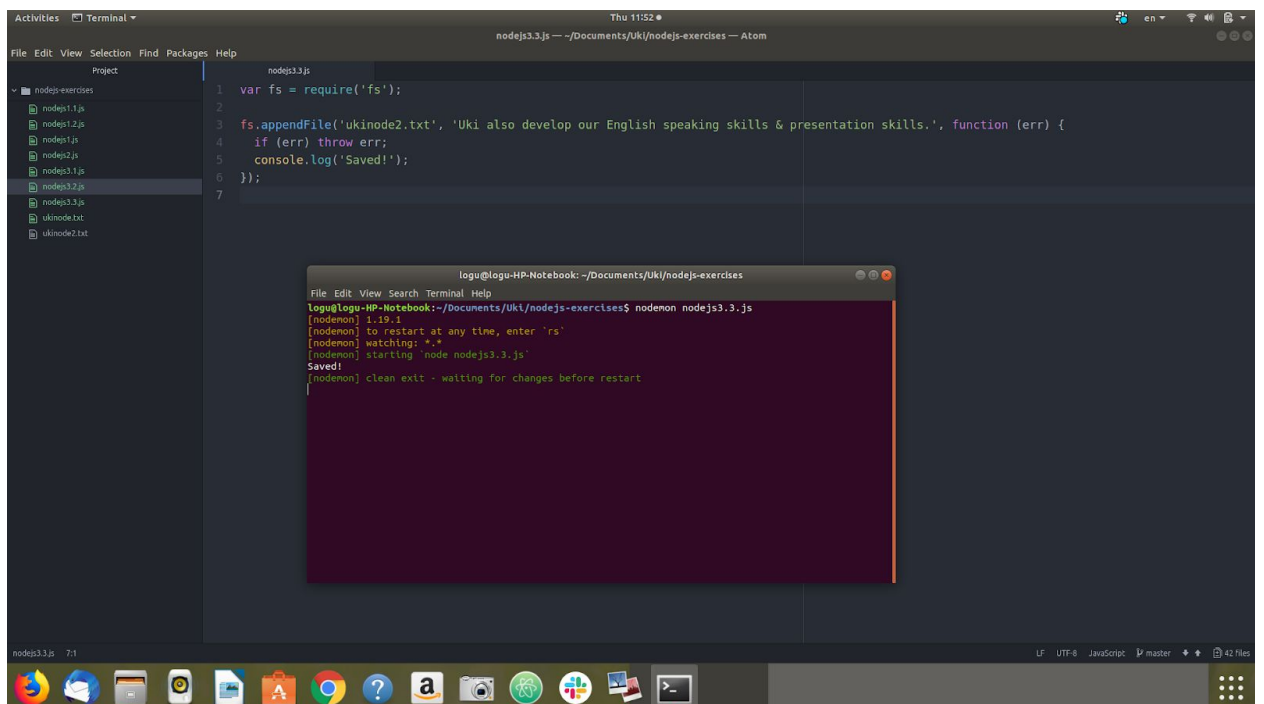
3. Using the file system module create a new file called ukinode.txt
 - 3.1 Write a paragraph about Uki into that file



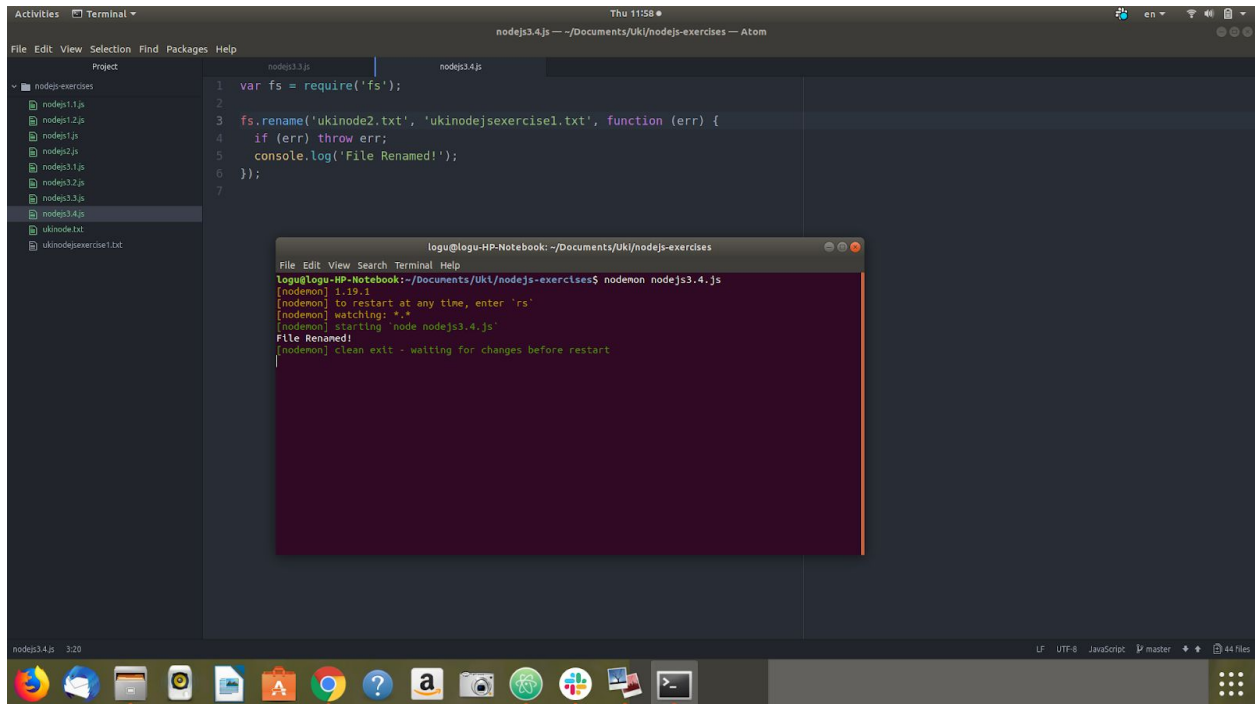
- 3.2 Serve that file to the client (Read File) over your server



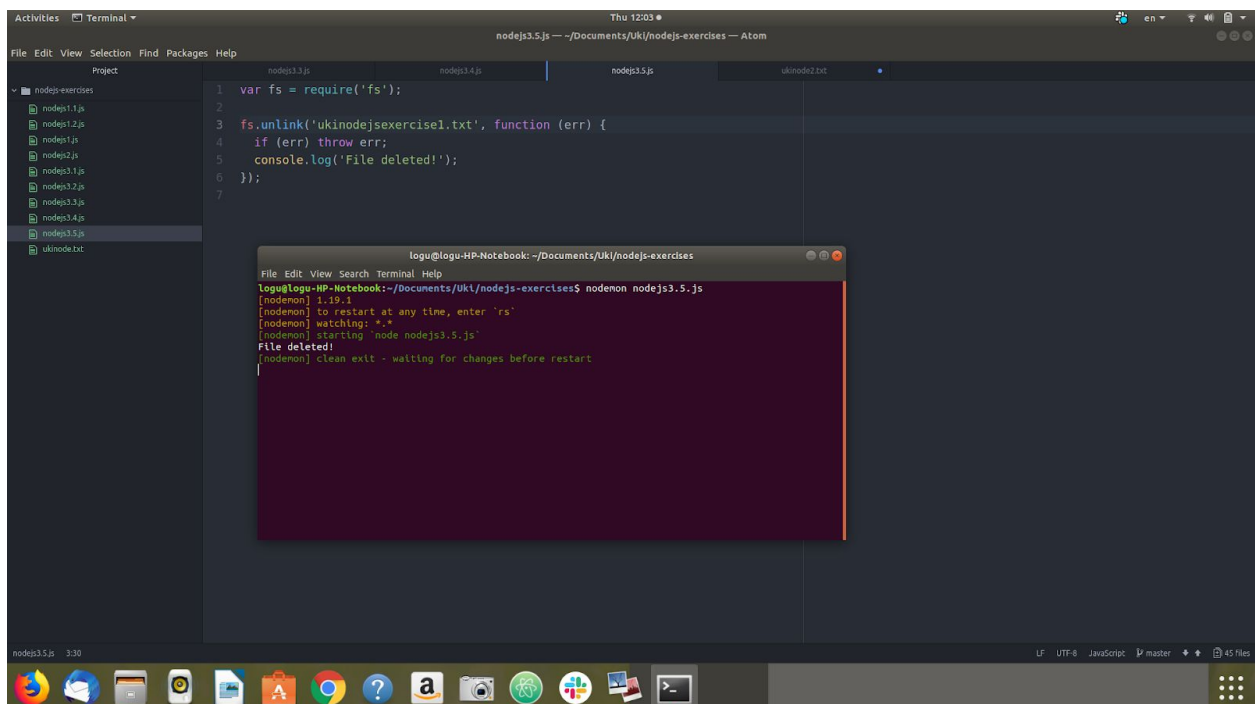
3.3 Append another paragraph about Uki and now serve the new file



3.4 Rename the file as ukinodejsexercise1.txt



3.5 Delete the file you created



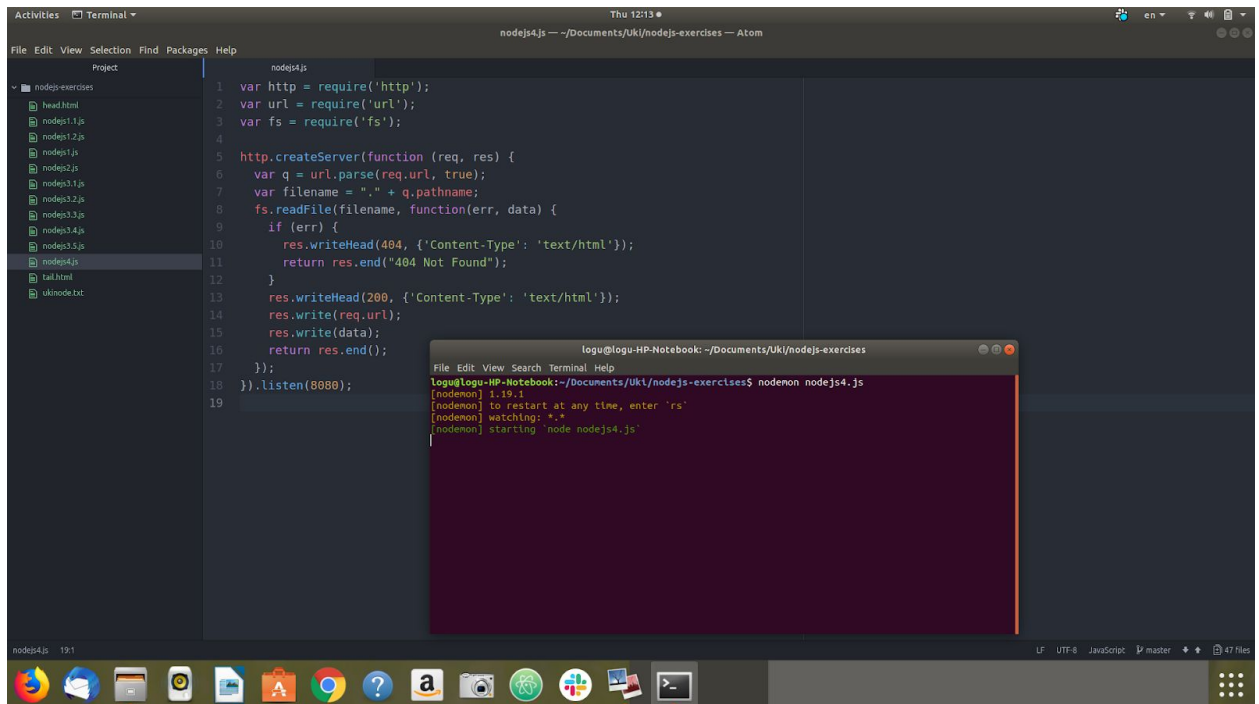
4. Create two html files called head.html which is a web page which says 'you have got head' and tail.html which is a web page which says 'you have got tail' and save them in the same

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



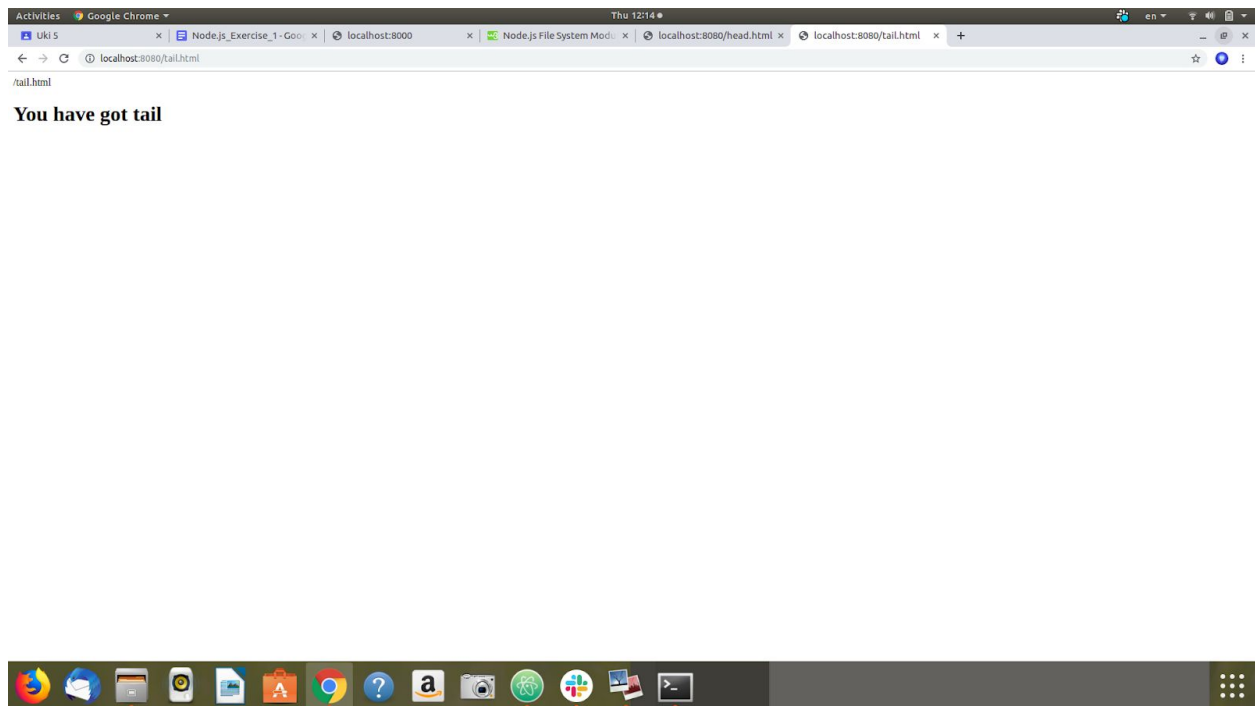
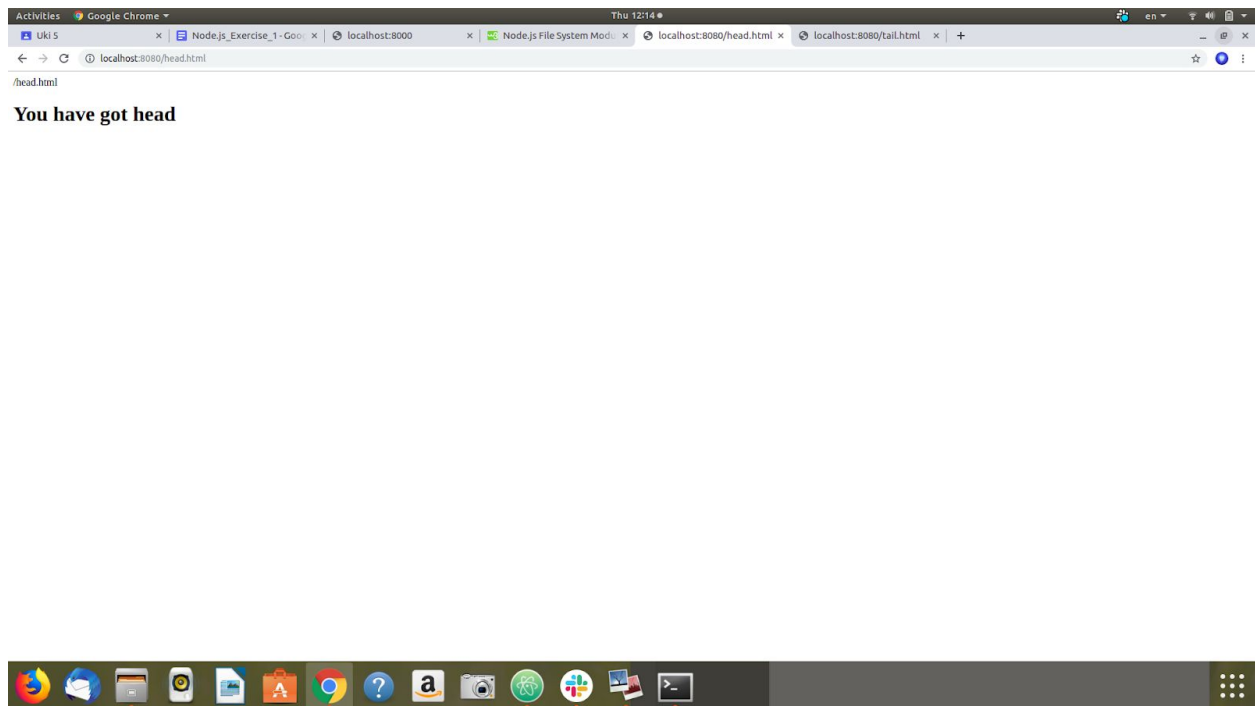
The screenshot shows a development environment with the Atom text editor and a terminal window. The Atom editor is open to a file named `nodejs4.js` in the `nodejs-exercises` project. The code in `nodejs4.js` is as follows:

```
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
```

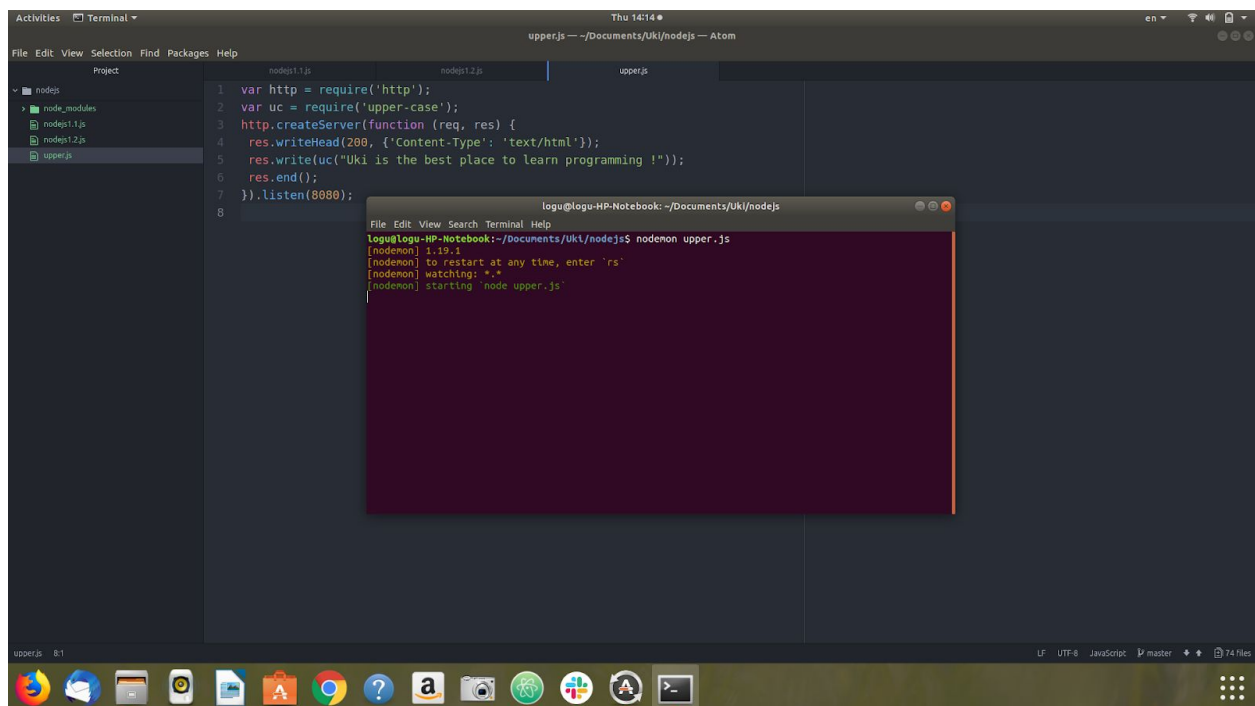
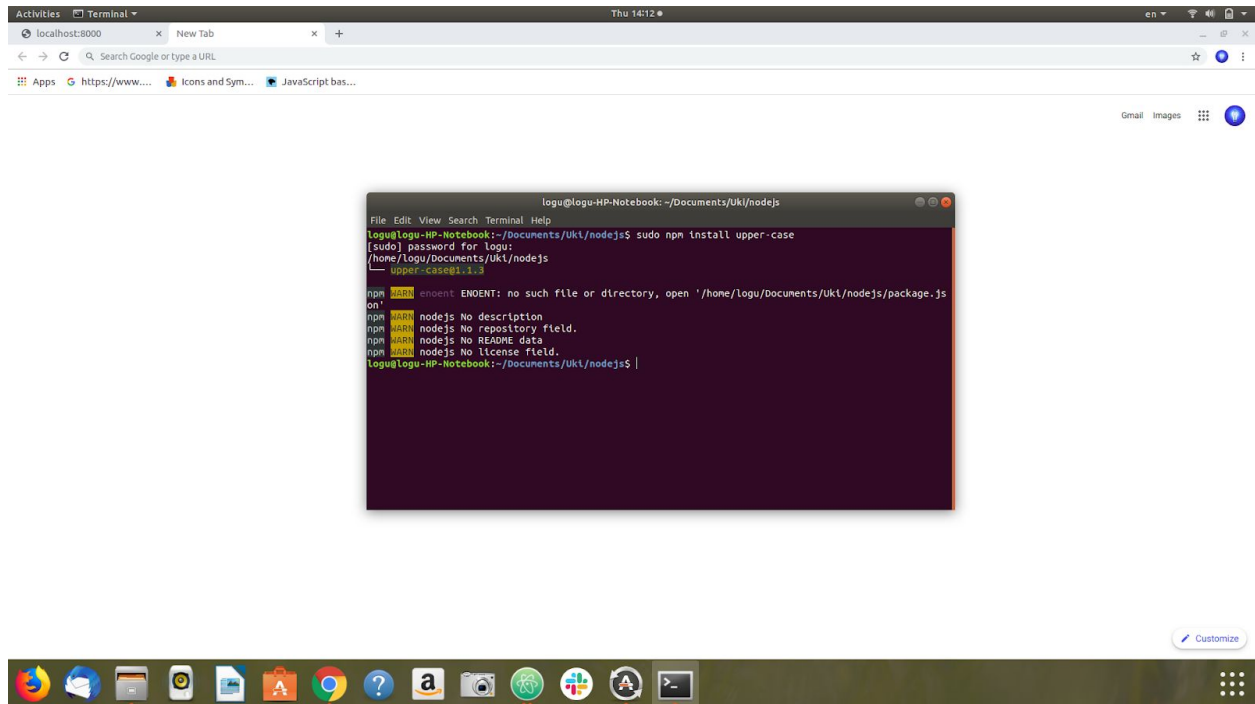
The terminal window, titled `logu@logu-HP-Notebook: ~/Documents/Uki/nodejs-exercises`, shows the command `node nodejs4.js` being executed. The output of the terminal is:

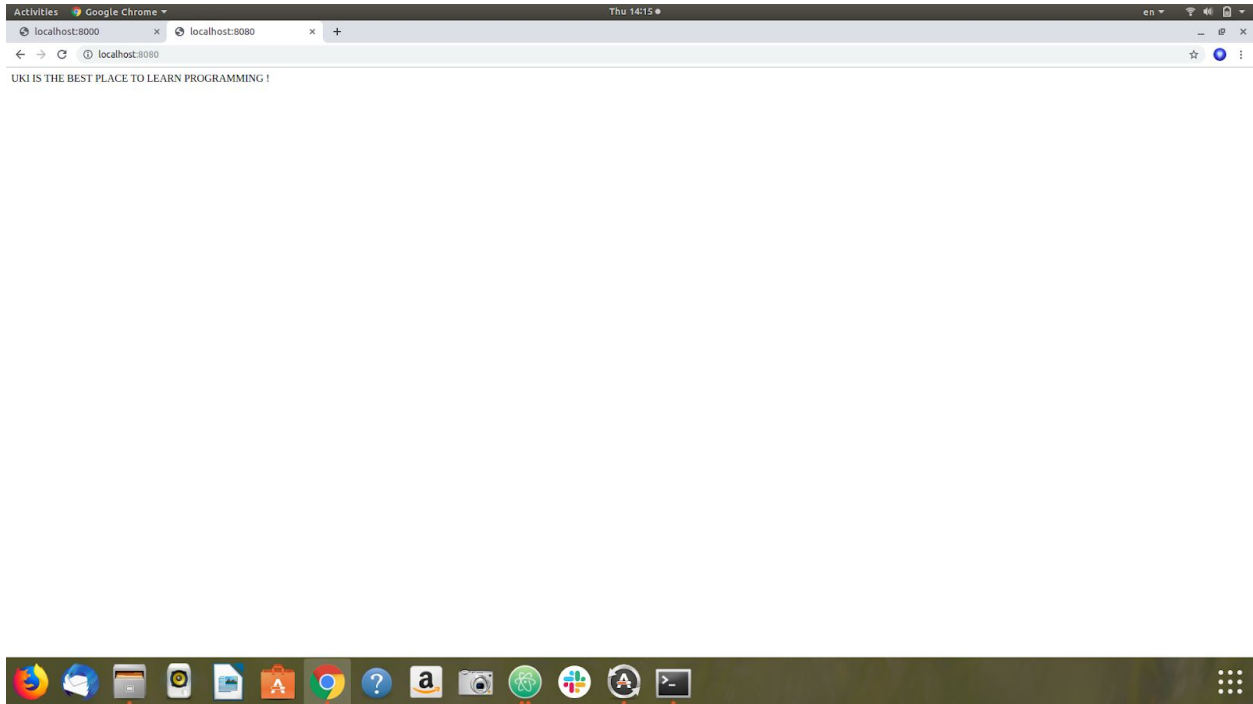
```
logu@logu-HP-Notebook:~/Documents/Uki/nodejs-exercises$ node nodejs4.js
[nodenon] 1.19.1
[nodenon] to restart at any time, enter 'rs'
[nodenon] watching: *.*
[nodenon] starting 'node nodejs4.js'
```

The bottom of the image shows the Ubuntu desktop environment with various application icons in the dock.

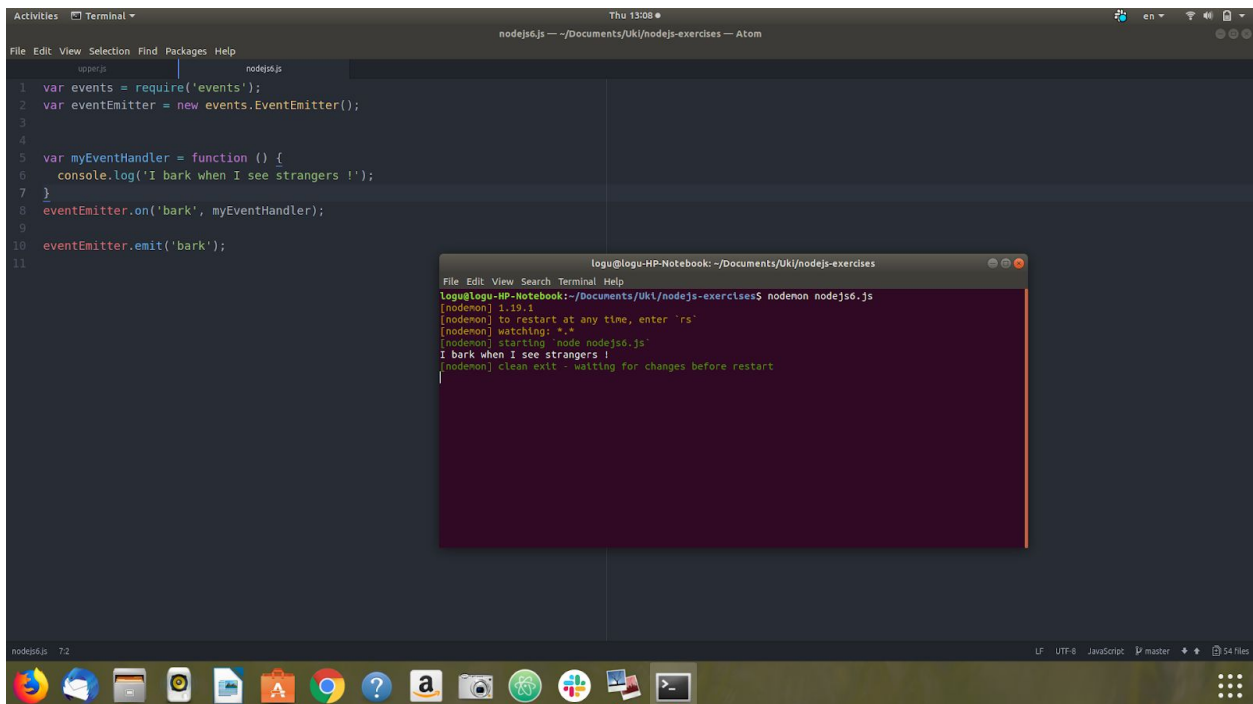


5. Install the package “upper-case” using NPM and create a Node.js file that will convert the output "Uki is the best place to learn programming !" into upper-case letters.

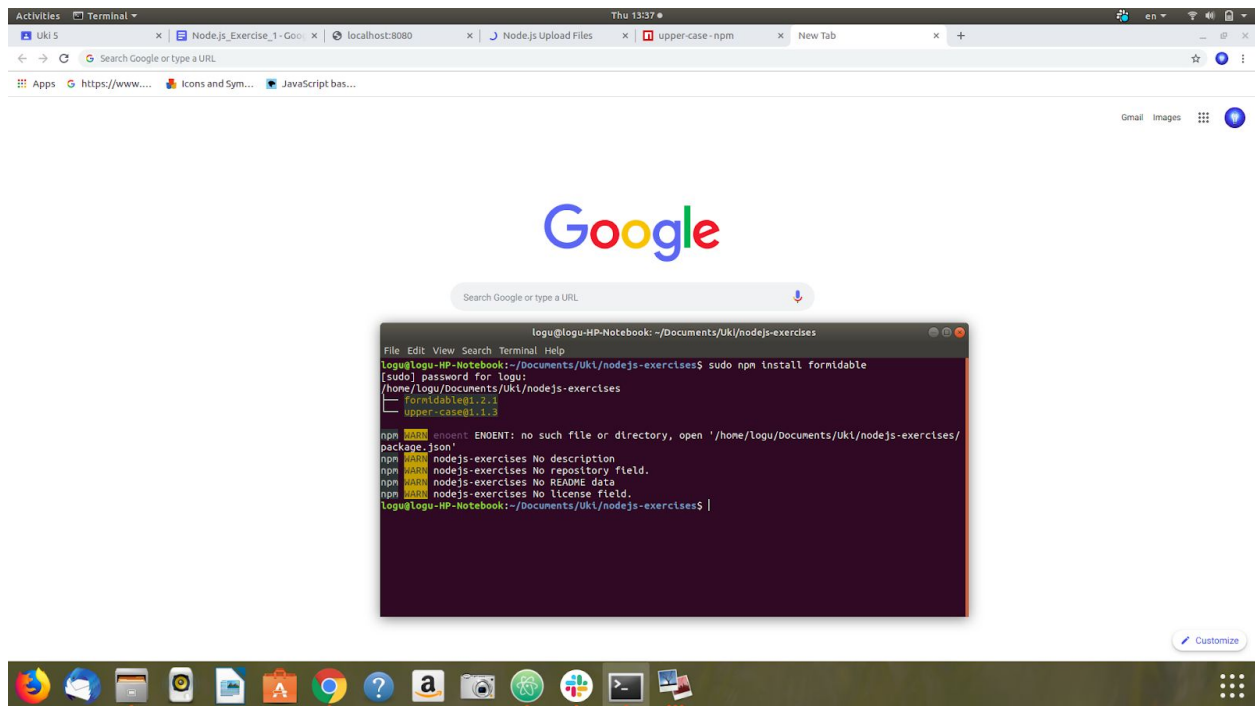




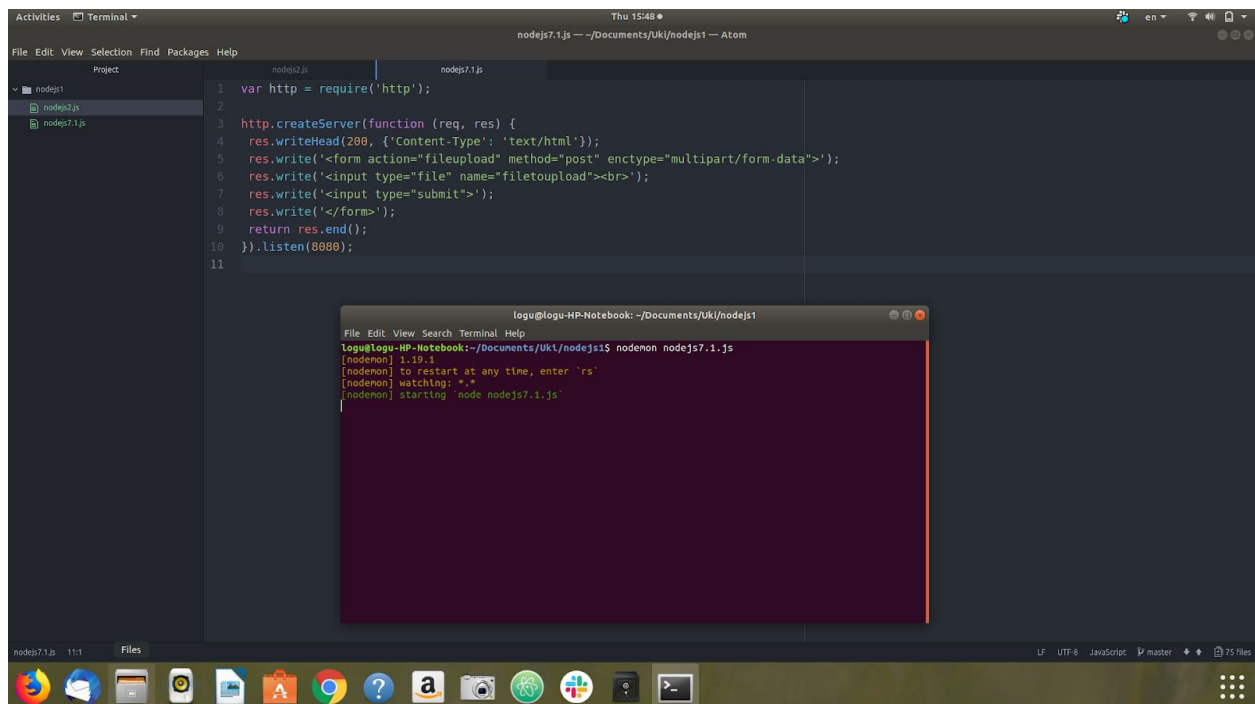
6. Create an event handler function that will say "I bark when I see strangers !" when a "bark" event is fired.

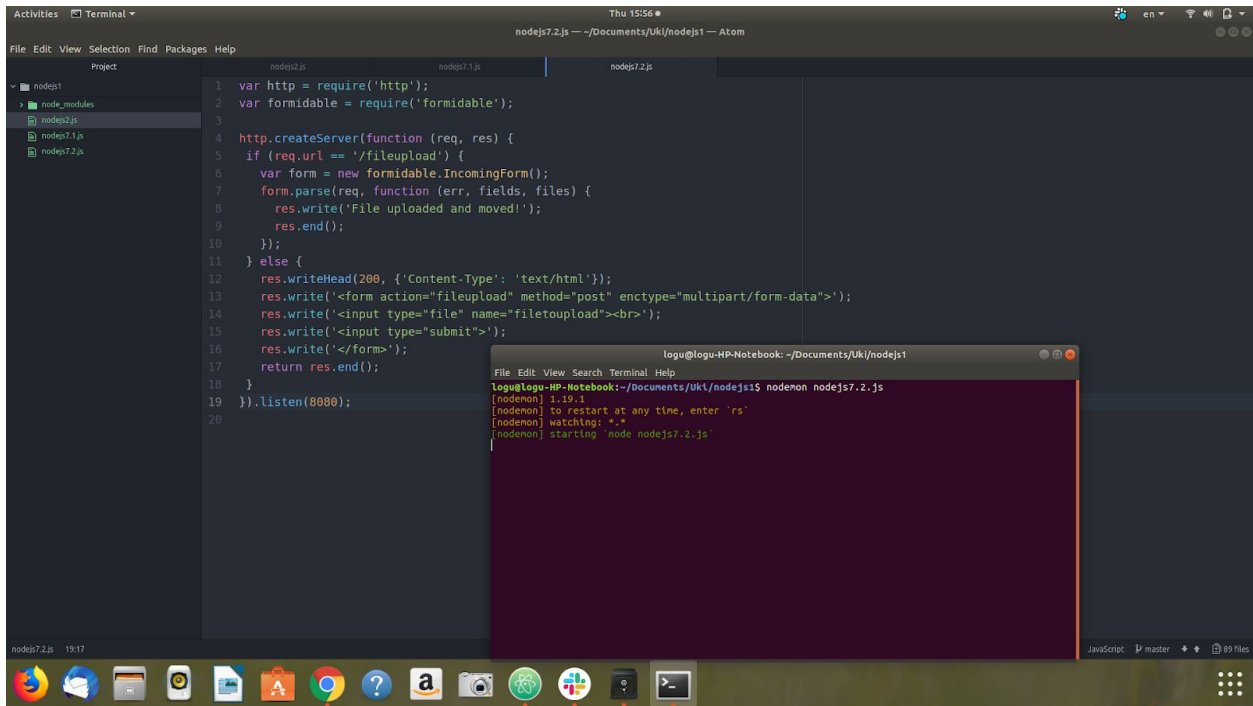


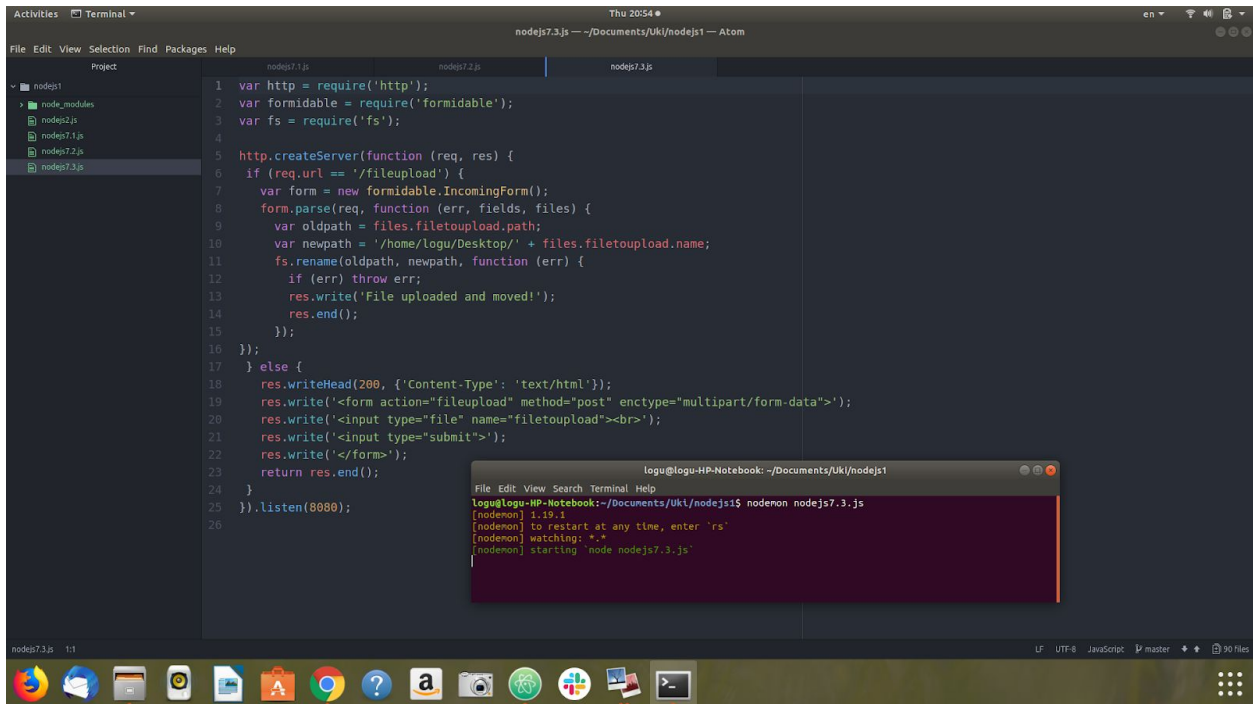
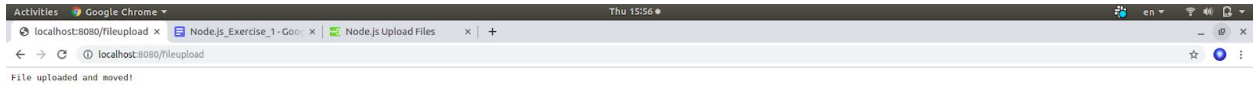
7. Install “formidable” module using npm and make a web page in Node.js that lets the user upload files to your computer.



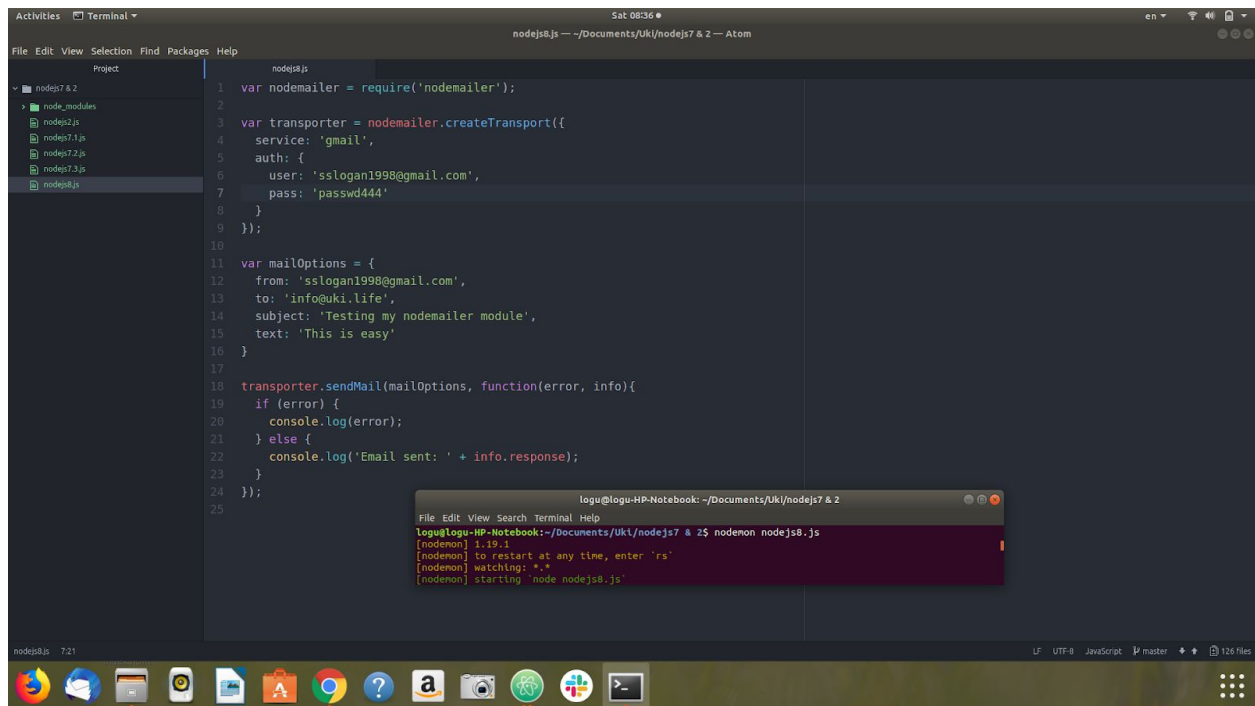
7.1 Save that uploaded file into your Documents directory.







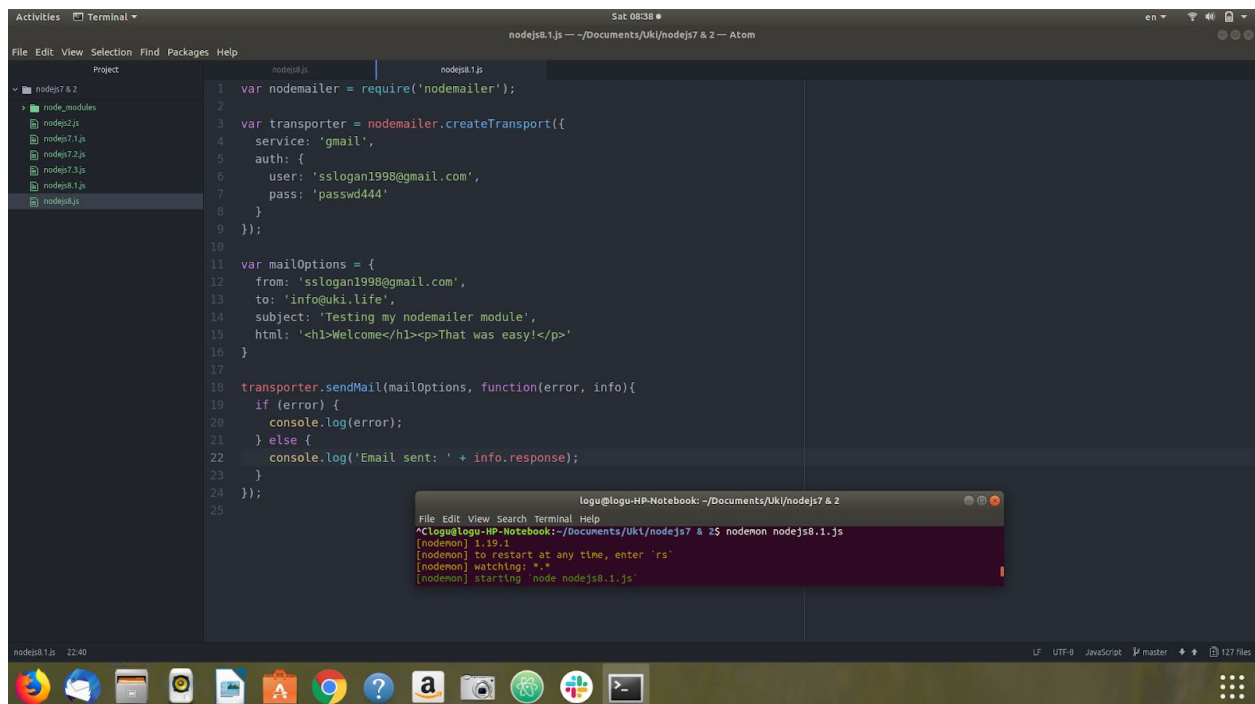
8. Using the Nodemailer module create a server and send a mail to info@uki.life with the subject : “Testing my nodemailer module” , text: “This is easy !”



```
1 var nodemailer = require('nodemailer');
2
3 var transporter = nodemailer.createTransport({
4   service: 'gmail',
5   auth: {
6     user: 'sslogan1998@gmail.com',
7     pass: 'passwd444'
8   }
9 });
10
11 var mailOptions = {
12   from: 'sslogan1998@gmail.com',
13   to: 'info@uki.life',
14   subject: 'Testing my nodemailer module',
15   text: 'This is easy'
16 }
17
18 transporter.sendMail(mailOptions, function(error, info){
19   if (error) {
20     console.log(error);
21   } else {
22     console.log('Email sent: ' + info.response);
23   }
24 });
25
```

```
logu@logu-HP-Notebook: ~/Documents/Ukl/nodejs7 & 25 nodemon nodejs8.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching: *.*
[nodemon] starting 'node nodejs8.js'
```

8.1 Now instead of text send a basic html formatted mail.



```
1 var nodemailer = require('nodemailer');
2
3 var transporter = nodemailer.createTransport({
4   service: 'gmail',
5   auth: {
6     user: 'sslogan1998@gmail.com',
7     pass: 'passwd444'
8   }
9 });
10
11 var mailOptions = {
12   from: 'sslogan1998@gmail.com',
13   to: 'info@uki.life',
14   subject: 'Testing my nodemailer module',
15   html: '<h1>Welcome</h1><p>That was easy!</p>'
16 }
17
18 transporter.sendMail(mailOptions, function(error, info){
19   if (error) {
20     console.log(error);
21   } else {
22     console.log('Email sent: ' + info.response);
23   }
24 });
25
```

```
logu@logu-HP-Notebook: ~/Documents/Ukl/nodejs7 & 25 nodemon nodejs8.1.js
^Clogu@logu-HP-Notebook:~/Documents/Ukl/nodejs7 & 25 nodemon nodejs8.1.js
[nodemon] 1.19.1
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching: *.*
[nodemon] starting 'node nodejs8.1.js'
```

