

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.

sum.js — ~/Desktop/nodejs — Atom

Project

- nodejs
 - screenshots
 - first_node.js
 - head.html
 - sum.js
 - tail.html
 - Ukinode2.txt

```
1 exports.sum = function (a,b) {  
2   return (a+b);  
3 };  
4  
5 exports.ave = function (a,b) {  
6   return ((a+b)/2);  
7 };  
8
```

sum.js 6:18

LF UTF-8 JavaScript 0 files

first_node.js — ~/Desktop/nodejs — Atom

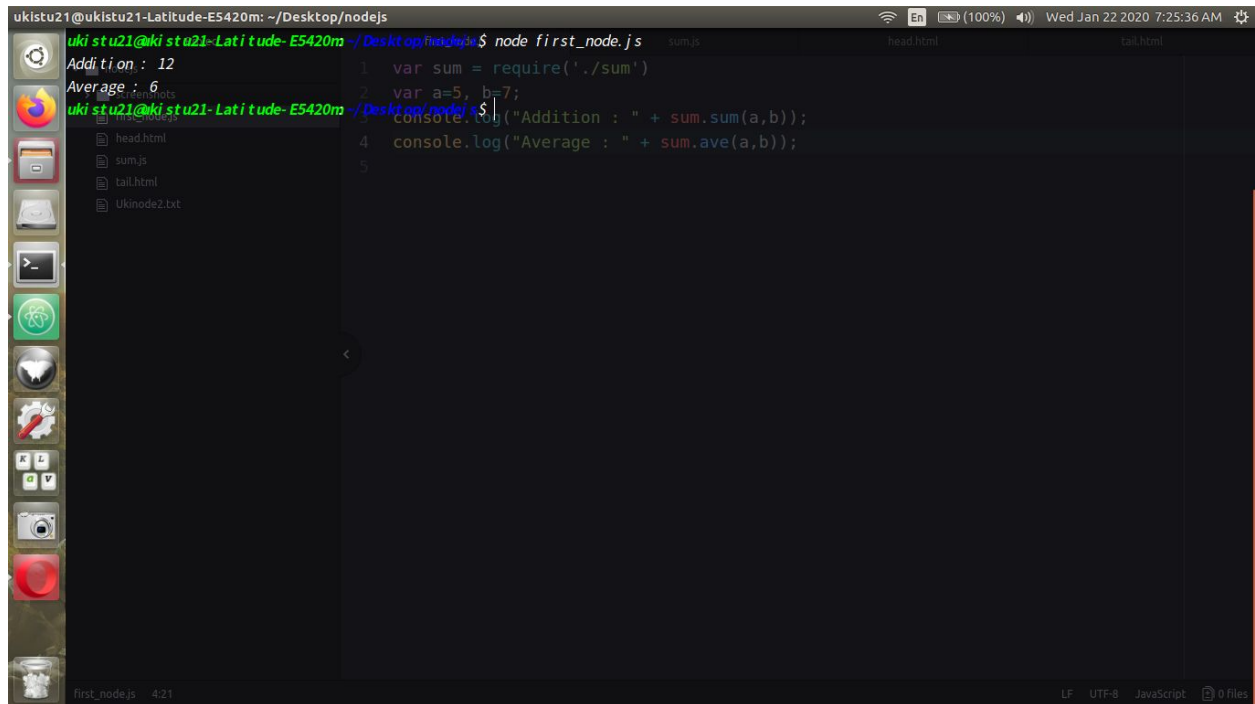
Project

- nodejs
 - screenshots
 - first_node.js
 - head.html
 - sum.js
 - tail.html
 - Ukinode2.txt

```
1 var sum = require('./sum')  
2 var a=5, b=7;  
3 console.log("Addition : " + sum.sum(a,b));  
4 console.log("Average : " + sum.ave(a,b));  
5
```

first_node.js 4:21

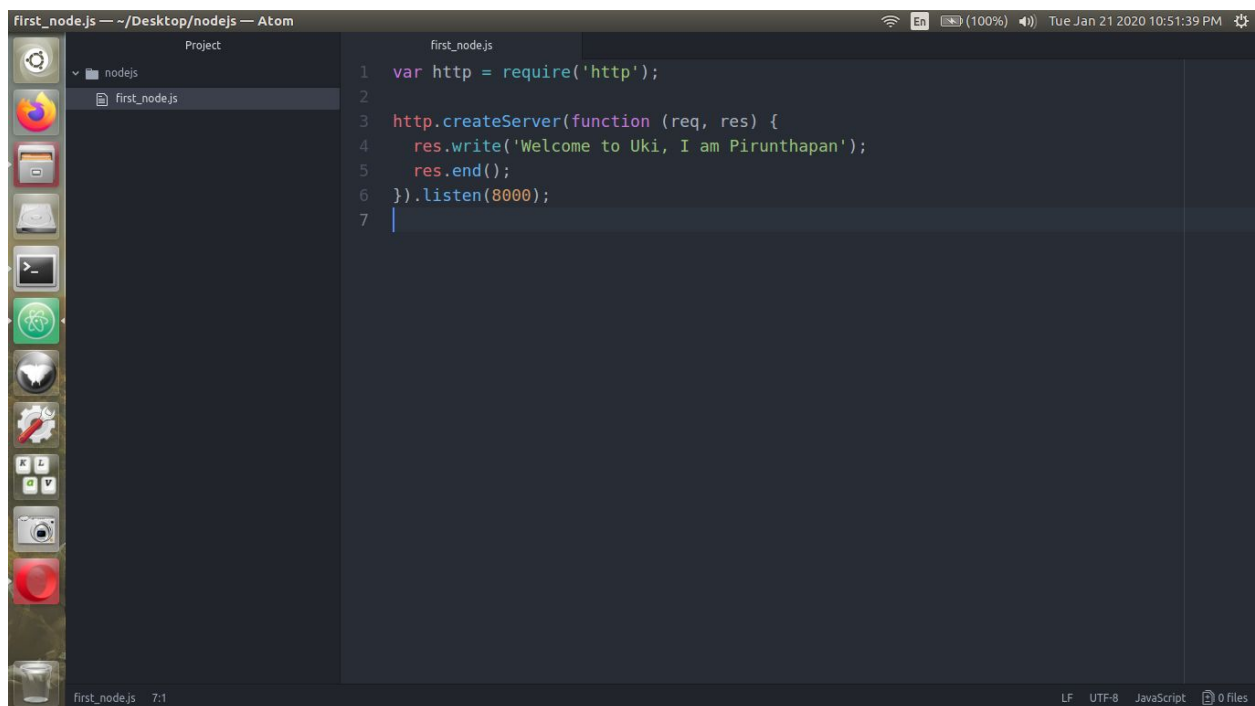
LF UTF-8 JavaScript 0 files



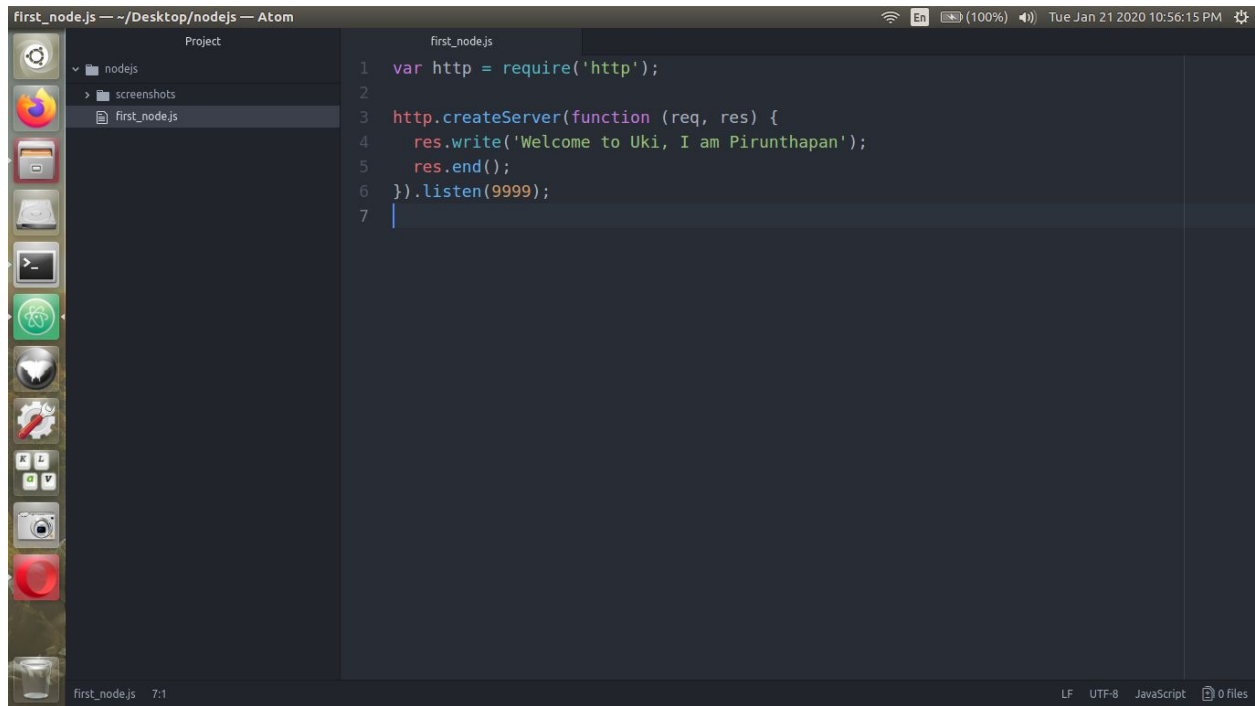
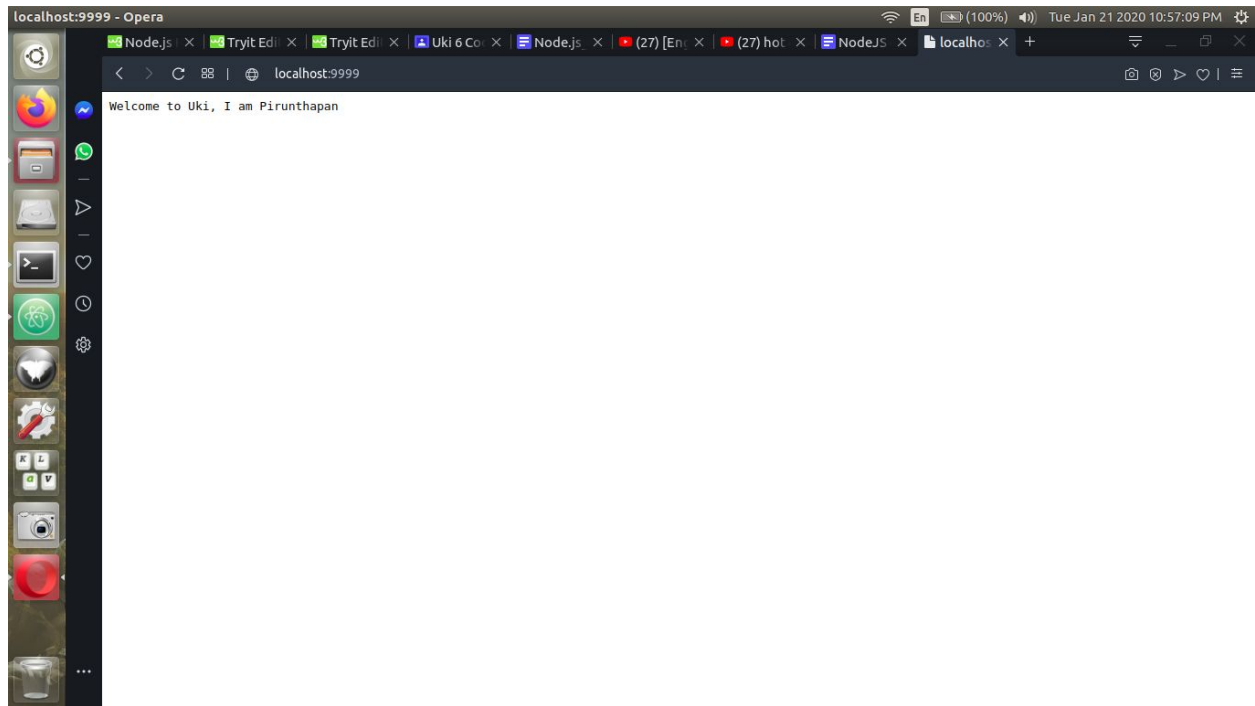
```
ukistu21@ukistu21-Latitude-E5420m: ~/Desktop/nodejs
ukistu21@ukistu21-Latitude-E5420m: ~/Desktop/nodejs$ node first_node.js
Addition : 12
Average : 6
ukistu21@ukistu21-Latitude-E5420m: ~/Desktop/nodejs$
```

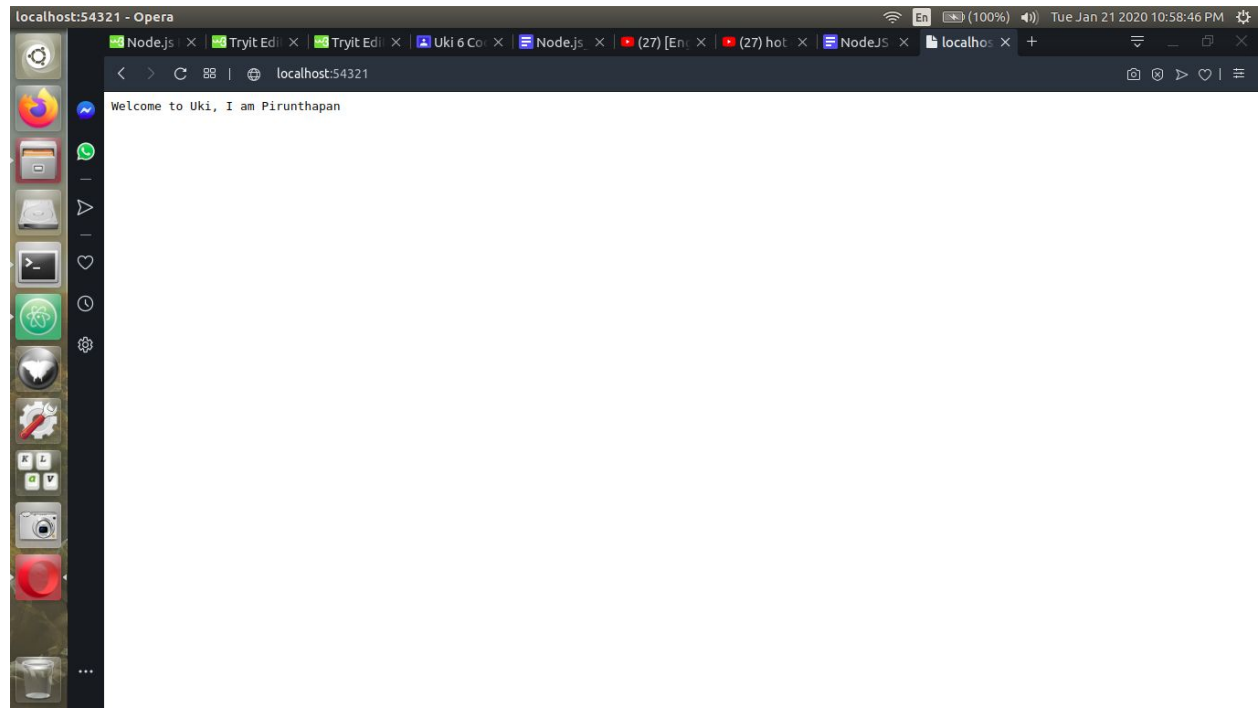
```
1 var sum = require('./sum')
2 var a=5, b=7;
3 console.log("Addition : " + sum.sum(a,b));
4 console.log("Average : " + sum.ave(a,b));
5
```

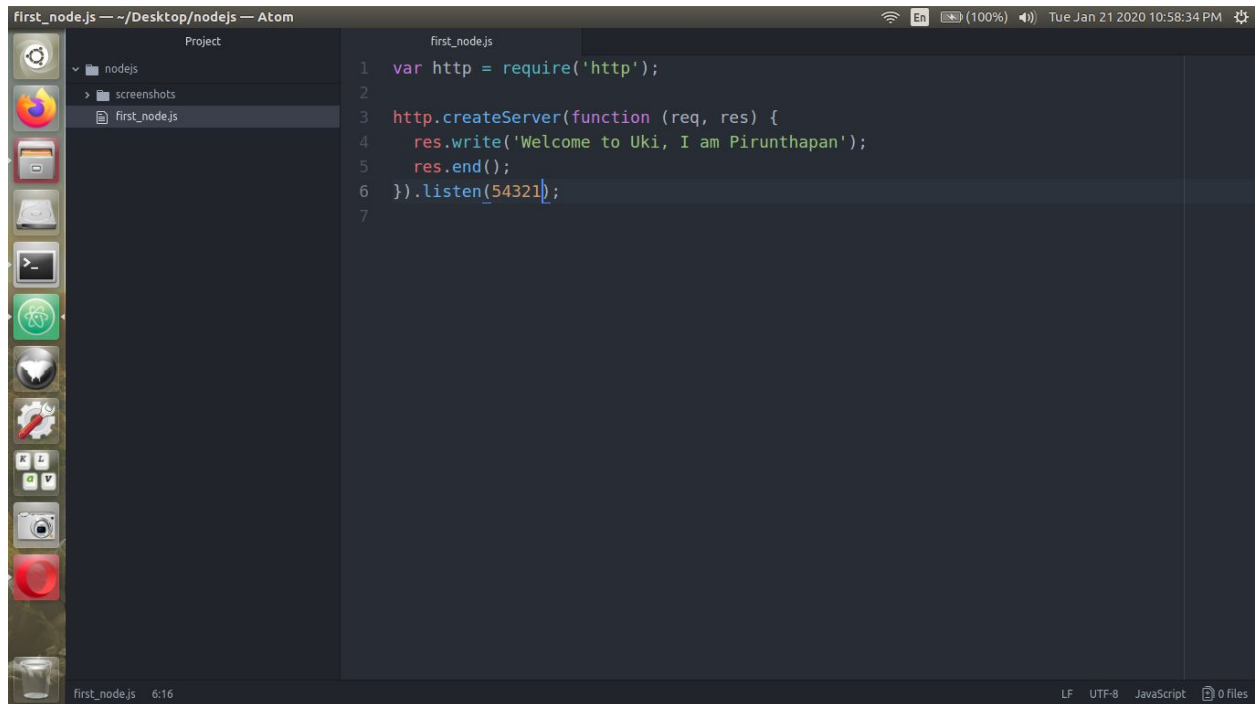
2. Create a simple http server and print “Welcome to Uki. I am **yourname**” when a request is sent to your server via the port 8000. (Note - Change different port numbers and check)



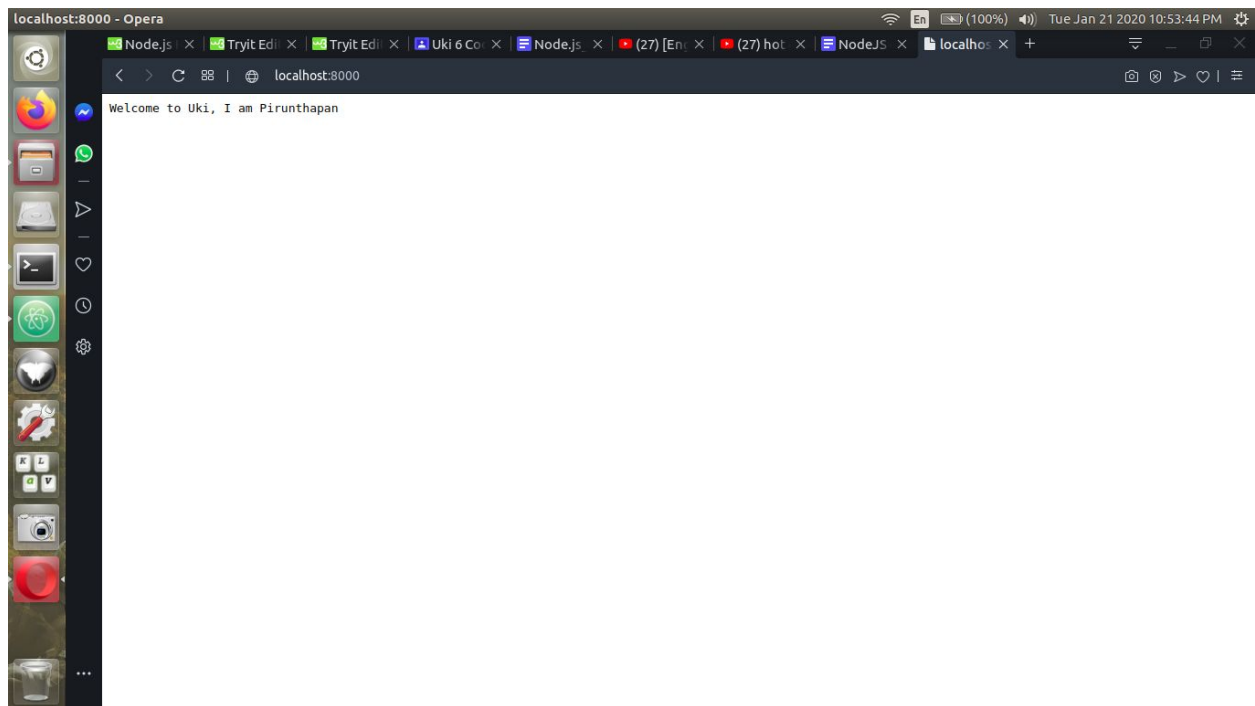
```
first_node.js — ~/Desktop/nodejs — Atom
Project
  nodejs
    first_node.js
first_node.js
1 var http = require('http');
2
3 http.createServer(function (req, res) {
4   res.write('Welcome to Uki, I am Pirunthapan');
5   res.end();
6 }).listen(8000);
7
```



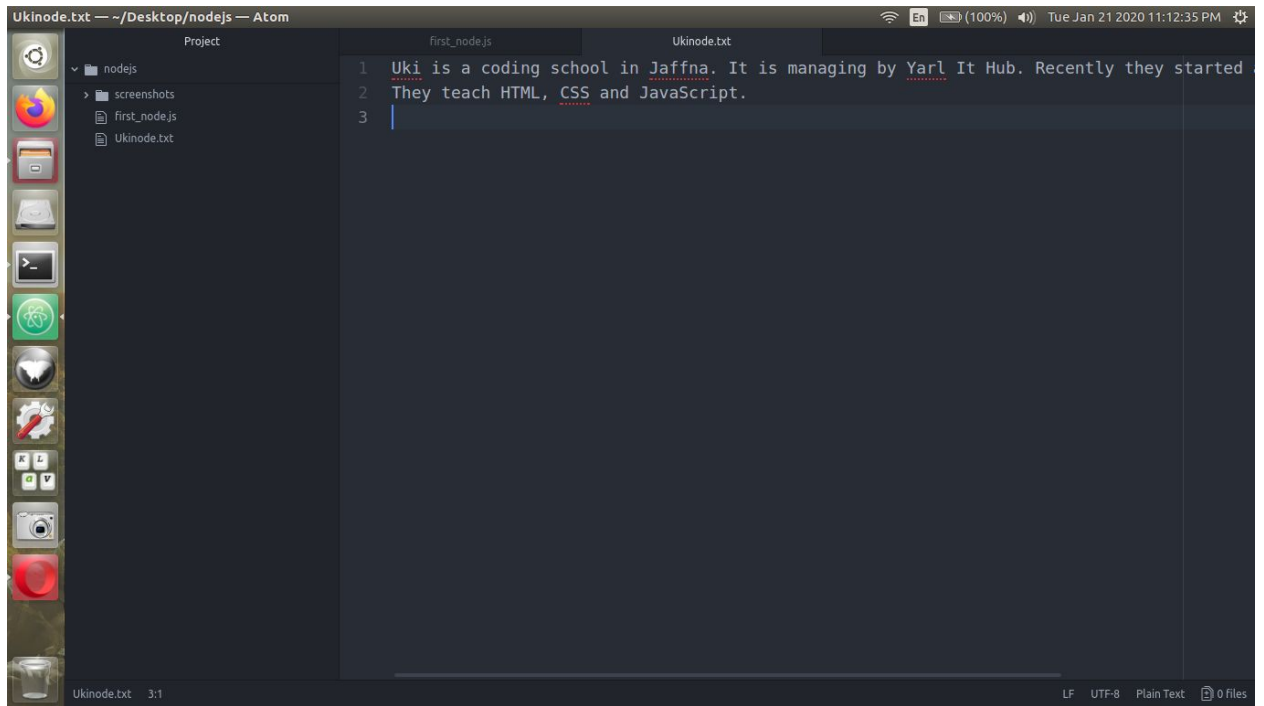




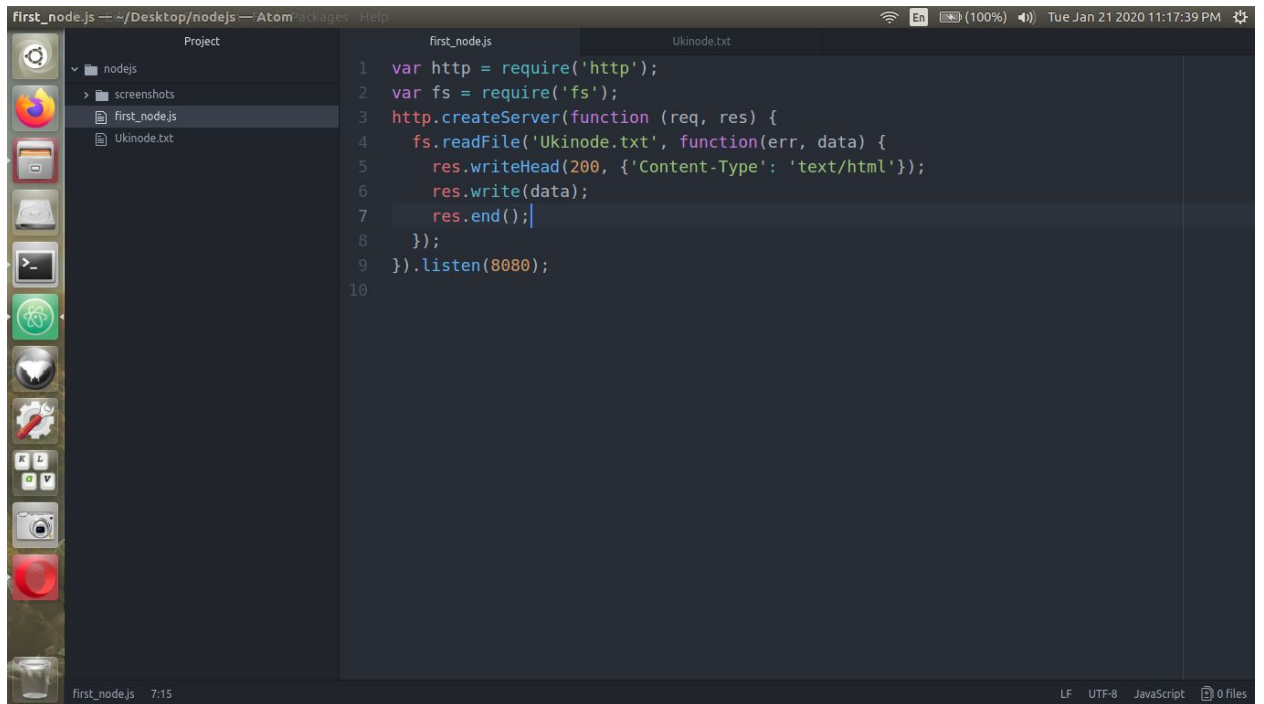
```
1 var http = require('http');
2
3 http.createServer(function (req, res) {
4   res.write('Welcome to Uki, I am Pirunthapan');
5   res.end();
6 }).listen(54321);
7
```



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

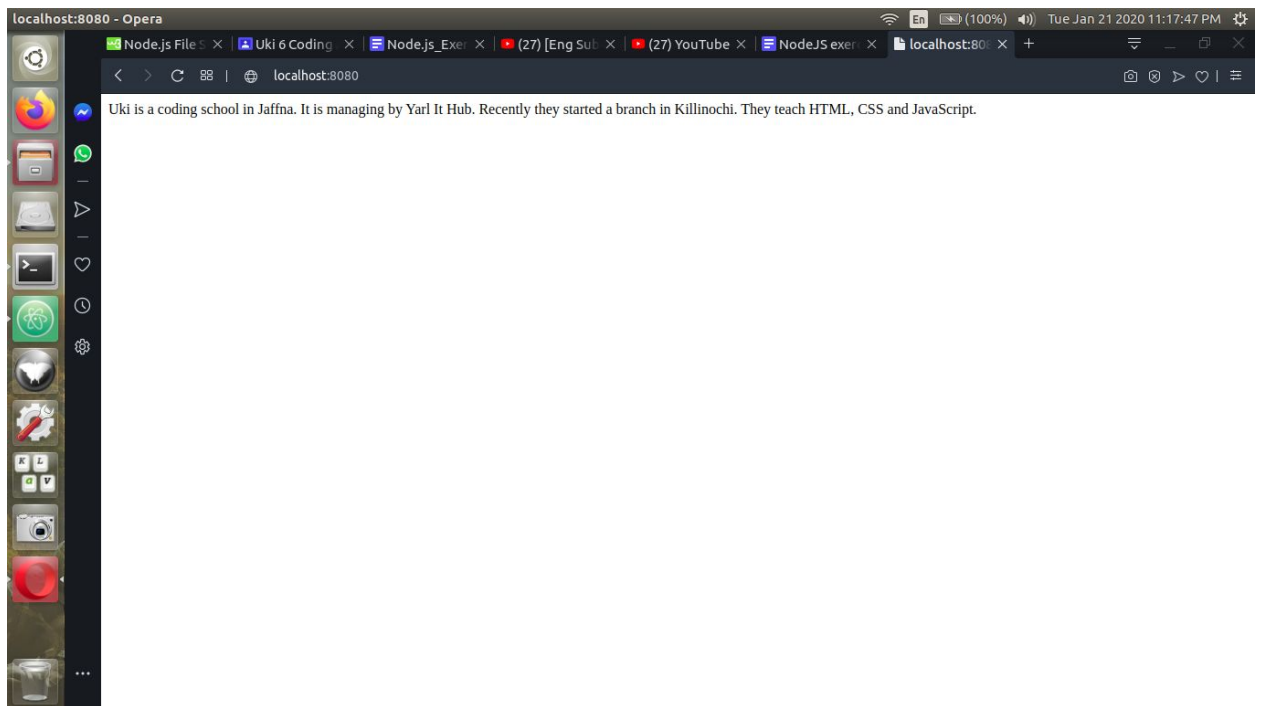


3.2 Serve that file to the client (Read File) over your server

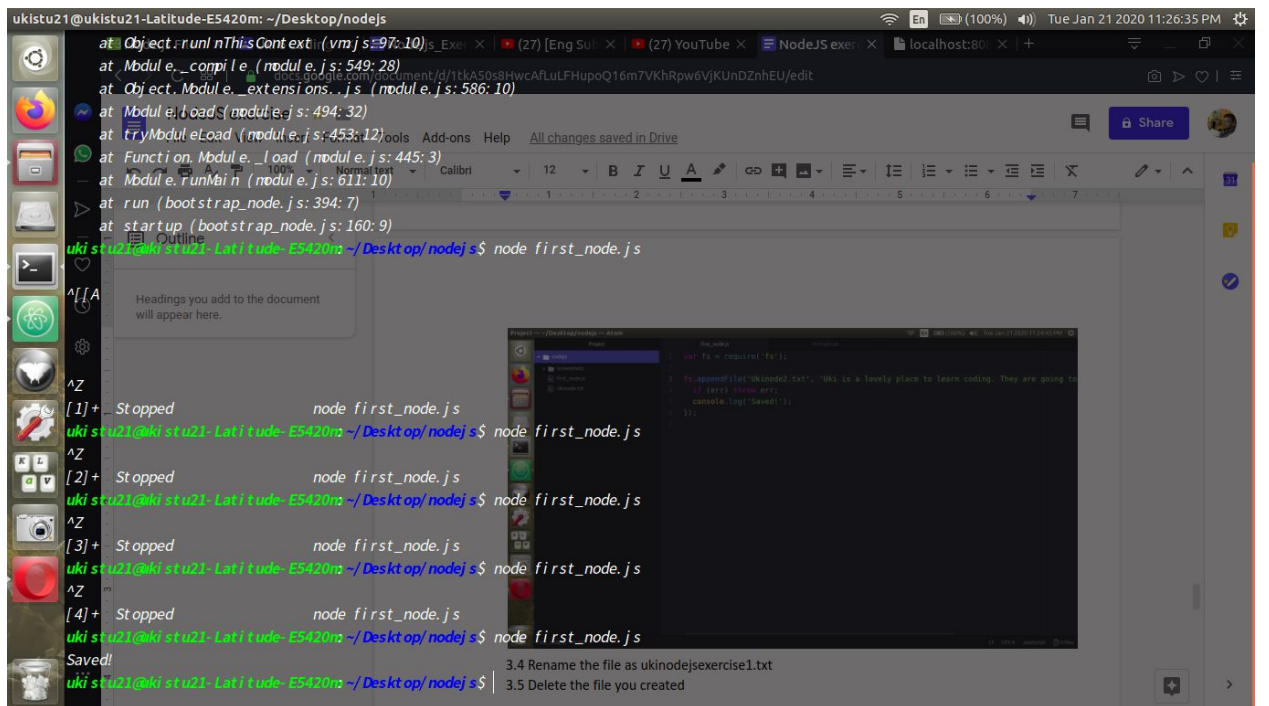
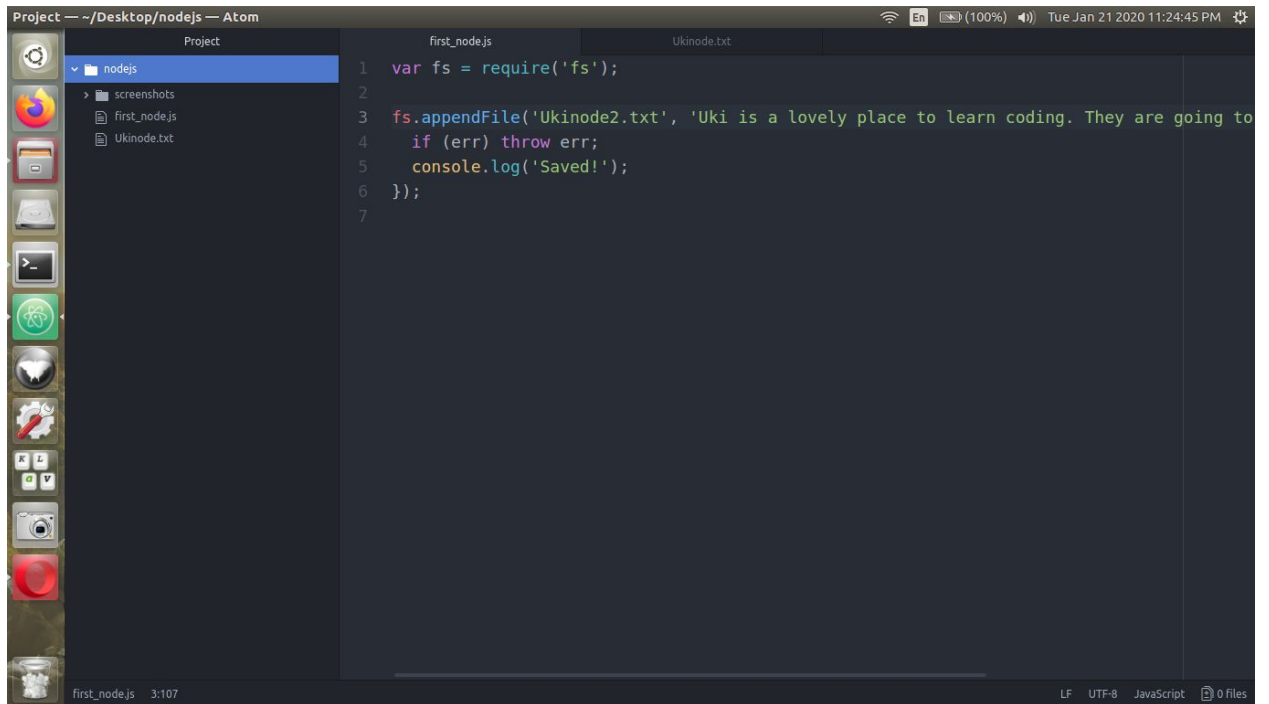


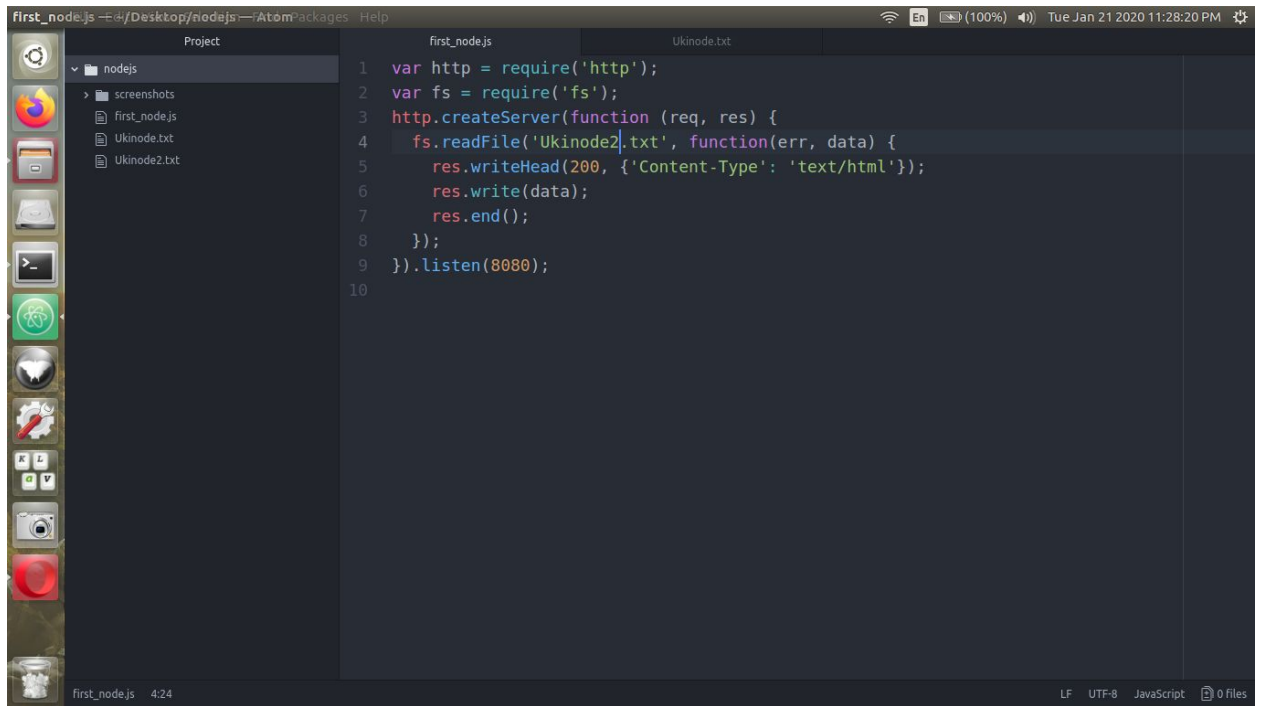
The screenshot shows the Atom code editor with a project named 'nodejs'. The file explorer on the left shows a folder 'screenshots' and two files: 'first_node.js' and 'Ukinode.txt'. The main editor area shows the content of 'first_node.js', which is a Node.js script that reads 'Ukinode.txt' and serves its content over HTTP on port 8080. The script is as follows:

```
1 var http = require('http');
2 var fs = require('fs');
3 http.createServer(function (req, res) {
4   fs.readFile('Ukinode.txt', function(err, data) {
5     res.writeHead(200, {'Content-Type': 'text/html'});
6     res.write(data);
7     res.end();
8   });
9 }).listen(8080);
10
```



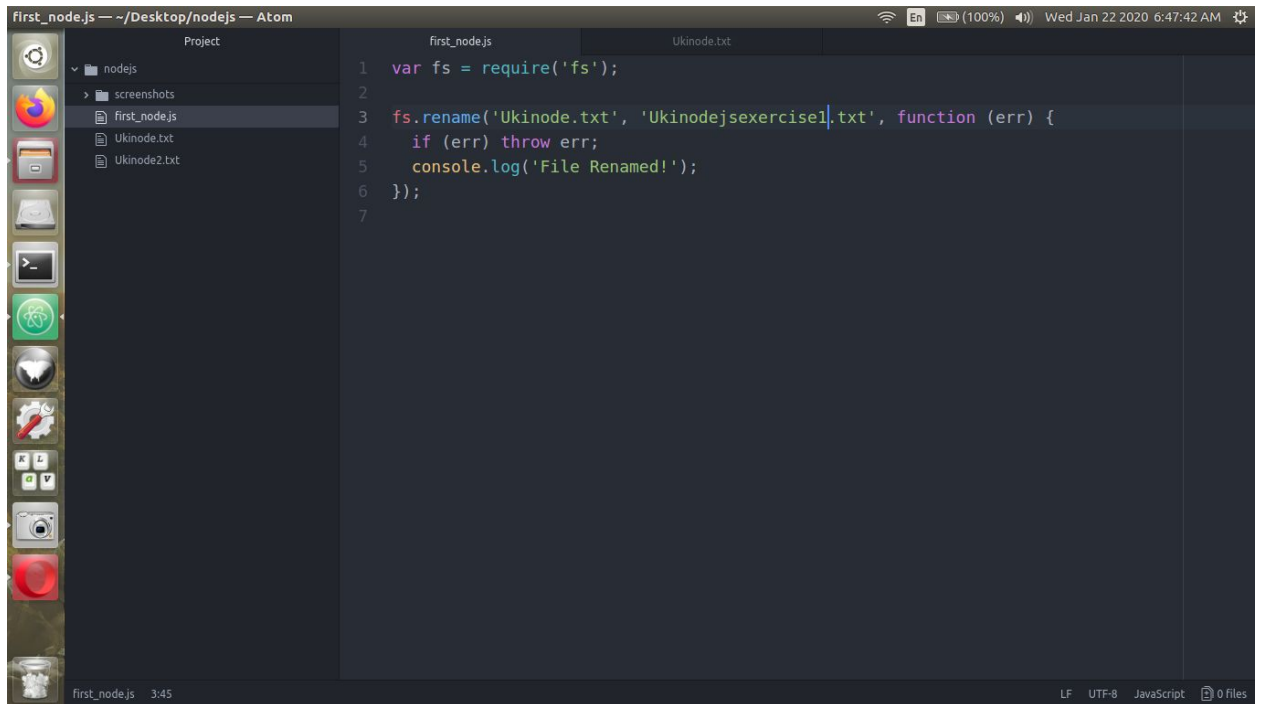
3.3 Append another paragraph about Uki and now serve the new file



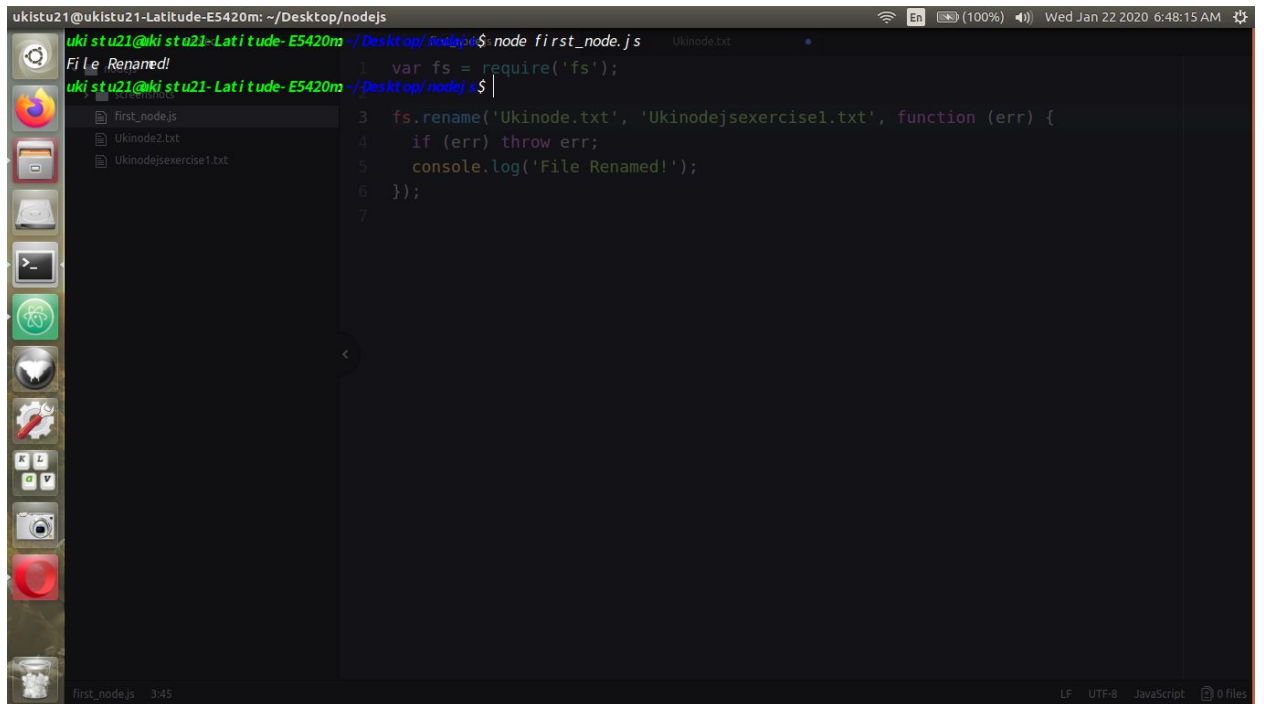


```
1 var http = require('http');
2 var fs = require('fs');
3 http.createServer(function (req, res) {
4   fs.readFile('Ukinode2.txt', function(err, data) {
5     res.writeHead(200, {'Content-Type': 'text/html'});
6     res.write(data);
7     res.end();
8   });
9 }).listen(8080);
10
```

3.4 Rename the file as ukinodejsexercise1.txt

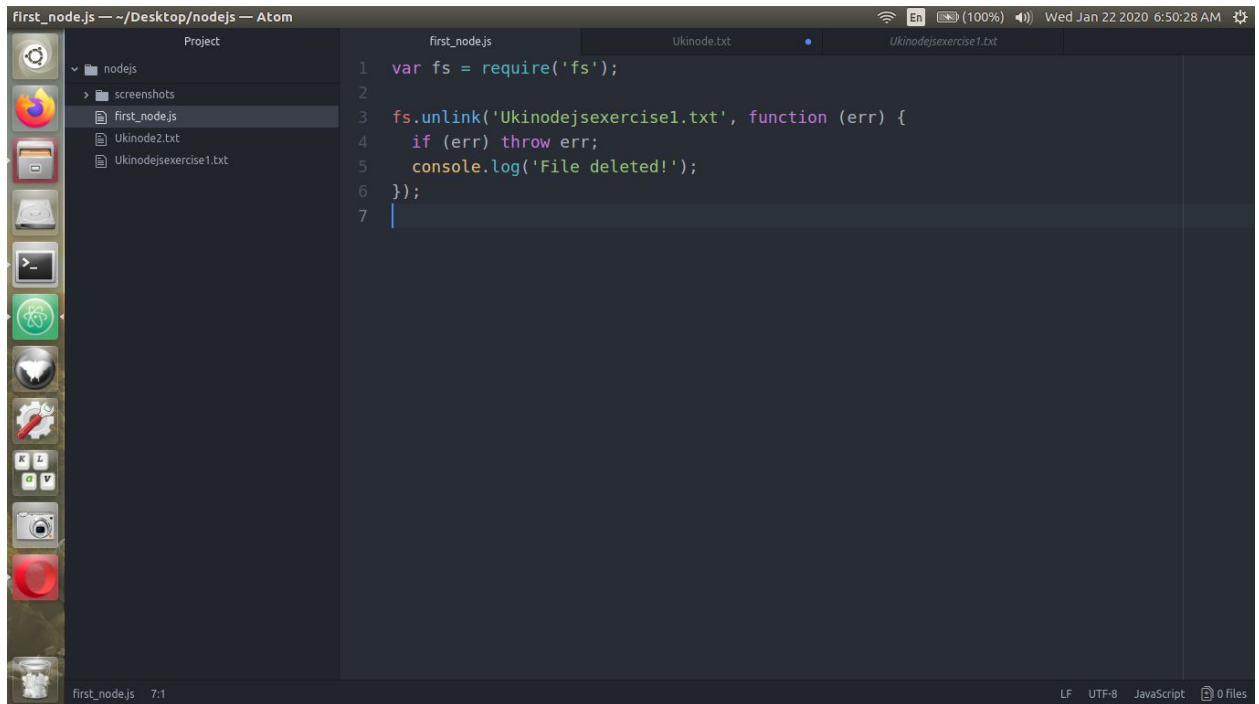


```
1 var fs = require('fs');
2
3 fs.rename('Ukinode.txt', 'Ukinodejsexercise1.txt', function (err) {
4   if (err) throw err;
5   console.log('File Renamed!');
6 });
7
```

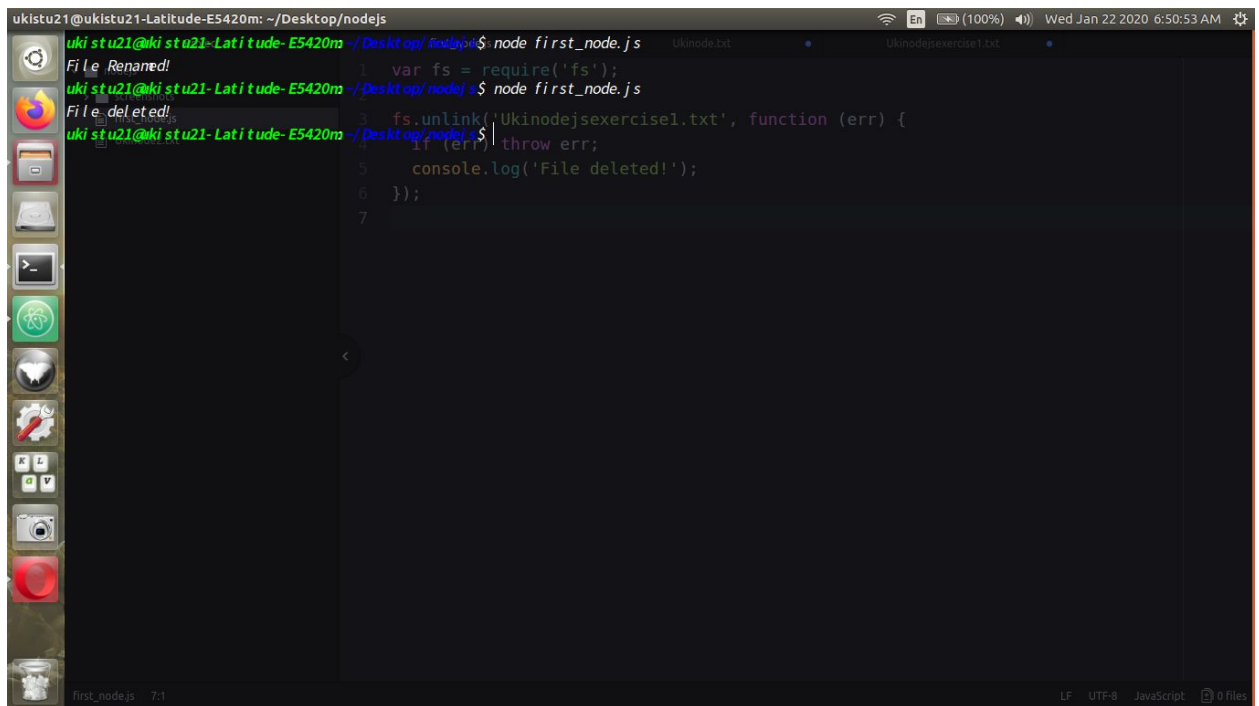


```
ukistu21@ukistu21-Latitude-E5420m: ~/Desktop/nodejs
ukistu21@ukistu21-Latitude-E5420m: ~/Desktop/nodejs$ node first_node.js
File Renamed!
ukistu21@ukistu21-Latitude-E5420m: ~/Desktop/nodejs$
```

3.5 Delete the file you created



```
1 var fs = require('fs');
2
3 fs.unlink('Ukinodejsexercise1.txt', function (err) {
4   if (err) throw err;
5   console.log('File deleted!');
6 });
7
```



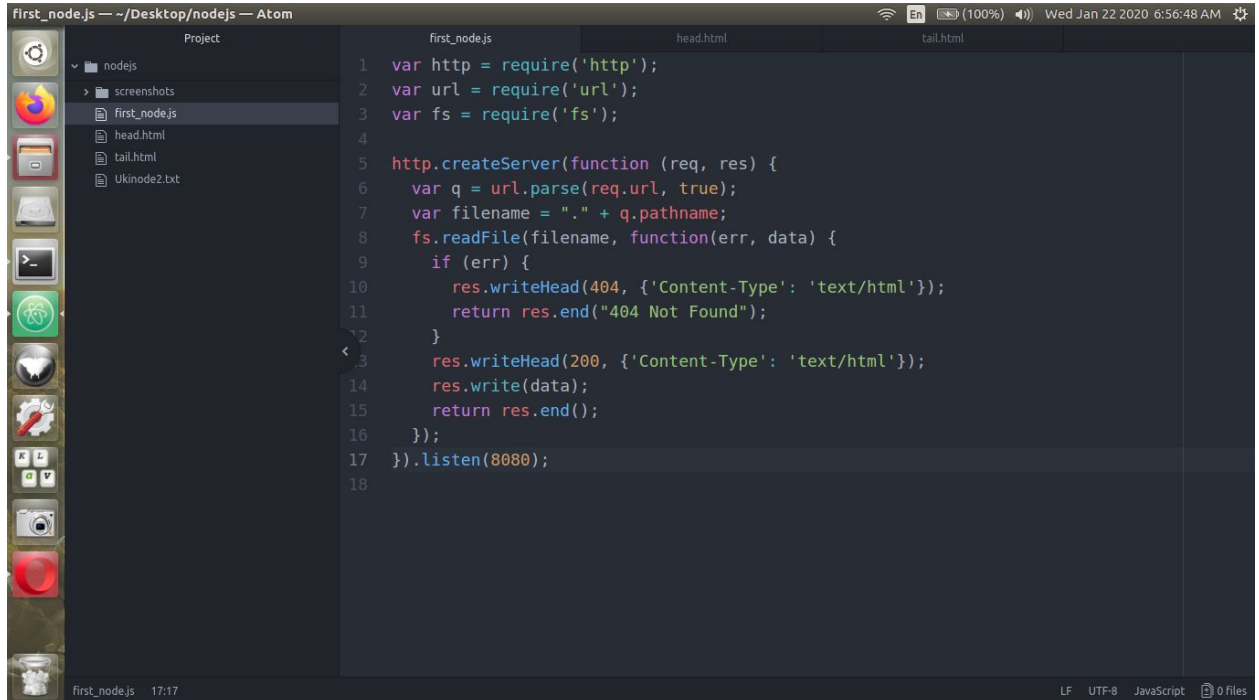
```
ukistu21@ukistu21-Latitude-E5420m: ~/Desktop/nodejs
ukistu21@ukistu21-Latitude-E5420m: ~/Desktop/nodejs$ node first_node.js
File Renamed!
ukistu21@ukistu21-Latitude-E5420m: ~/Desktop/nodejs$ node first_node.js
File deleted!
```

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

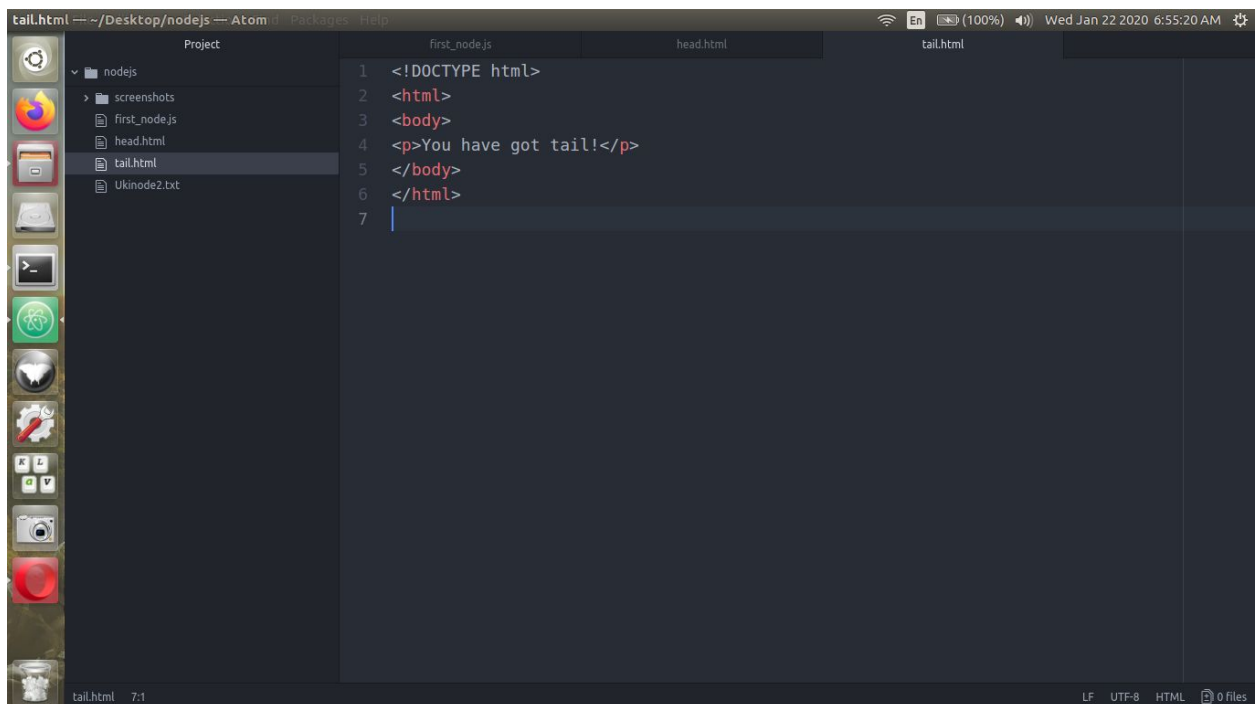
<http://localhost:8080/tail.html> -> You have got tail



The screenshot shows the Atom editor interface with the file 'first_node.js' open. The left sidebar shows a project structure with 'nodejs' containing 'screenshots', 'first_node.js', 'head.html', 'tail.html', and 'Ukinode2.txt'. The main editor area displays the following JavaScript code:

```
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(data);
15     return res.end();
16   });
17 }).listen(8080);
18
```

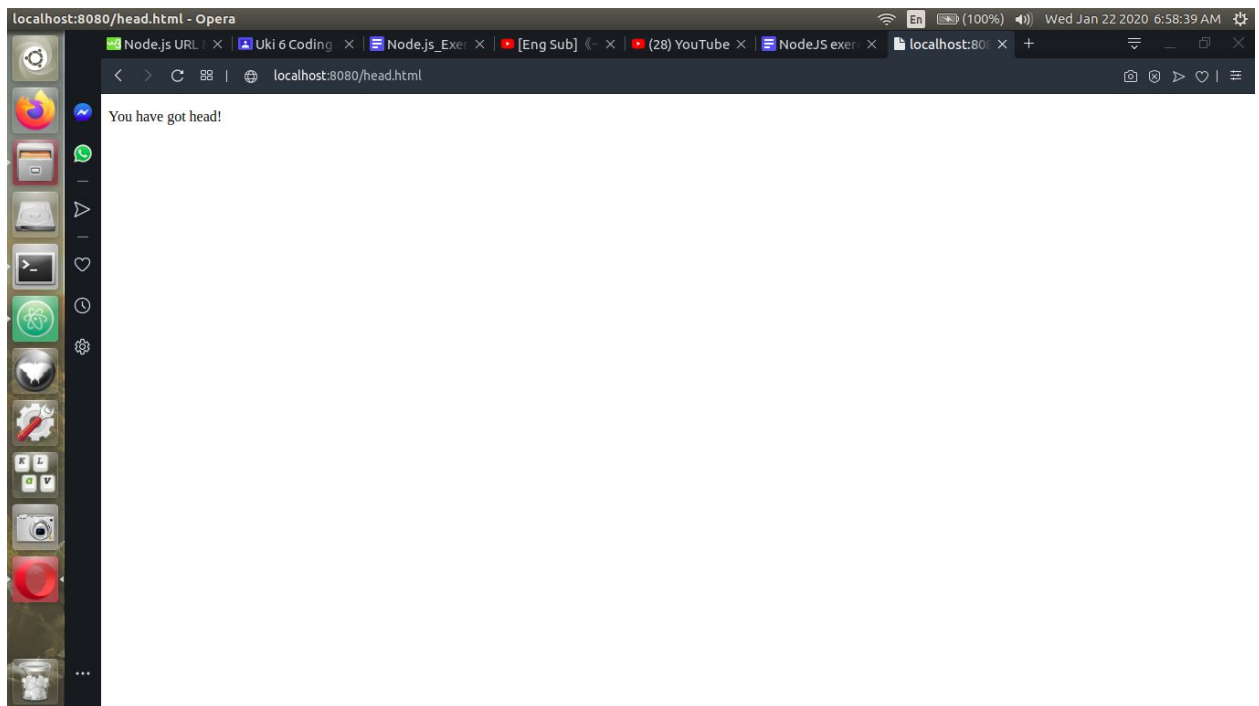
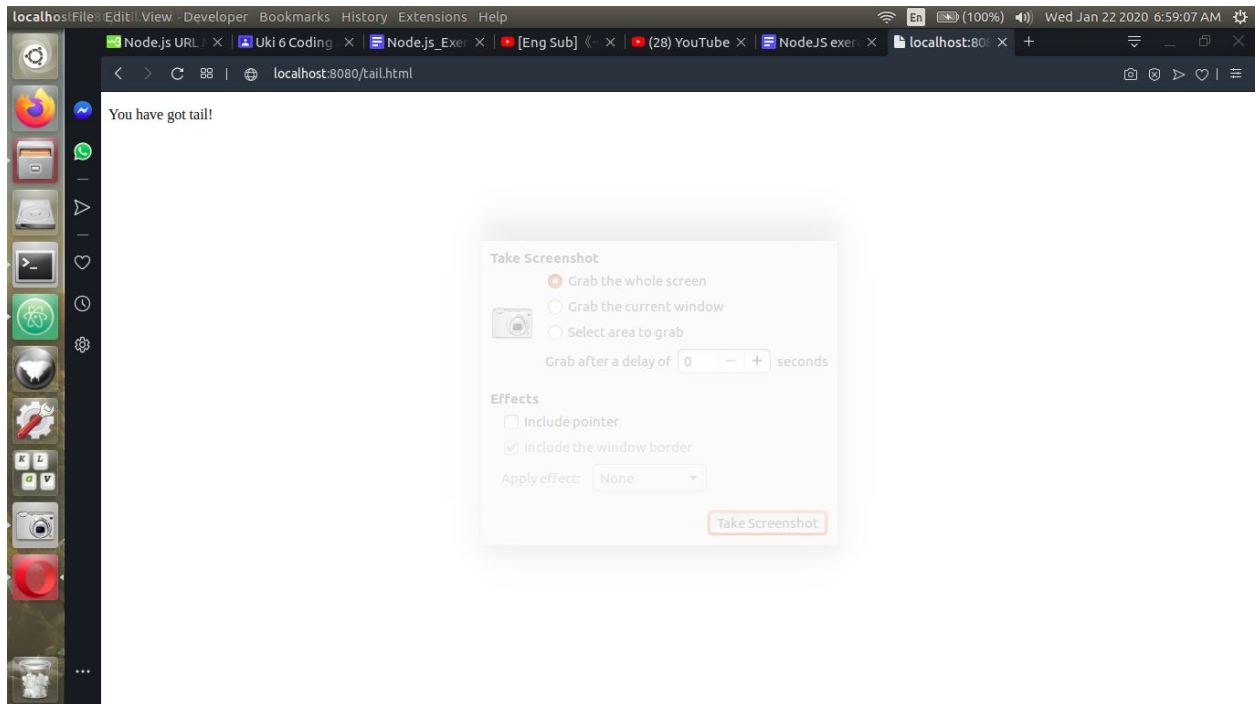
The status bar at the bottom indicates 'first_node.js 17:17' and 'LF UTF-8 JavaScript 0 files'.



The screenshot shows the Atom editor interface with the file 'tail.html' open. The left sidebar shows the same project structure. The main editor area displays the following HTML code:

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4 <p>You have got tail!</p>
5 </body>
6 </html>
7
```

The status bar at the bottom indicates 'tail.html 7:1' and 'LF UTF-8 HTML 0 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.

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.