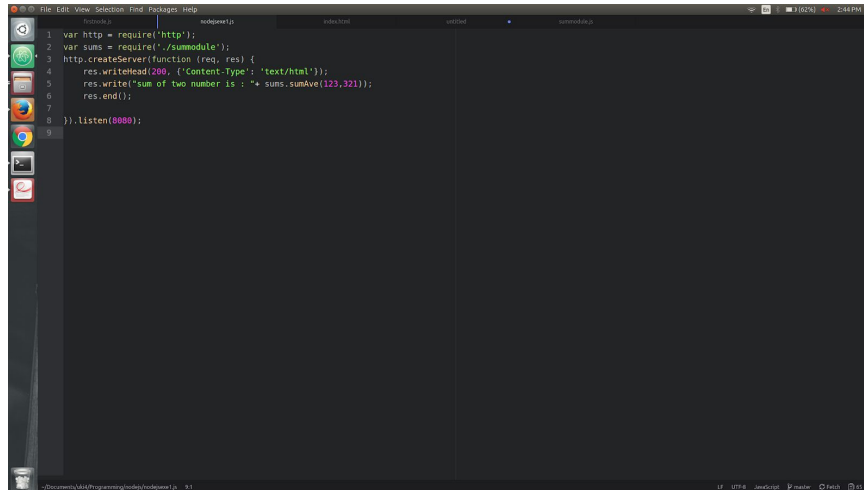
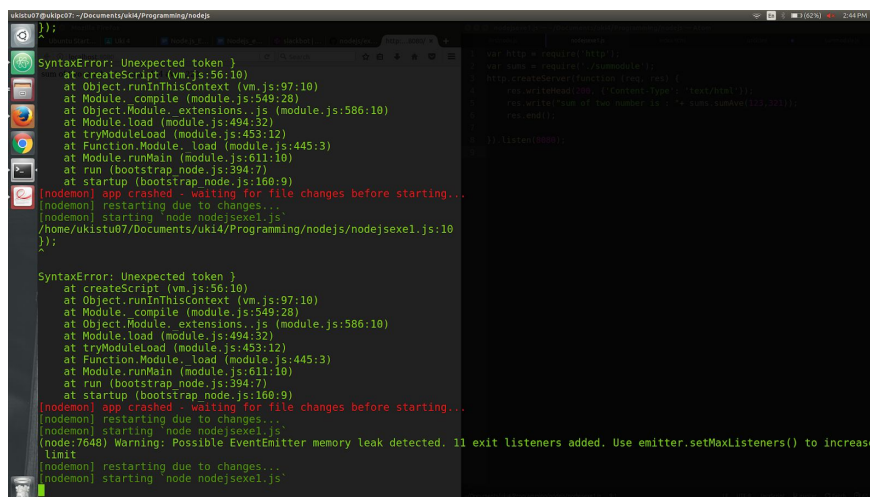


Node.js Exercise 1

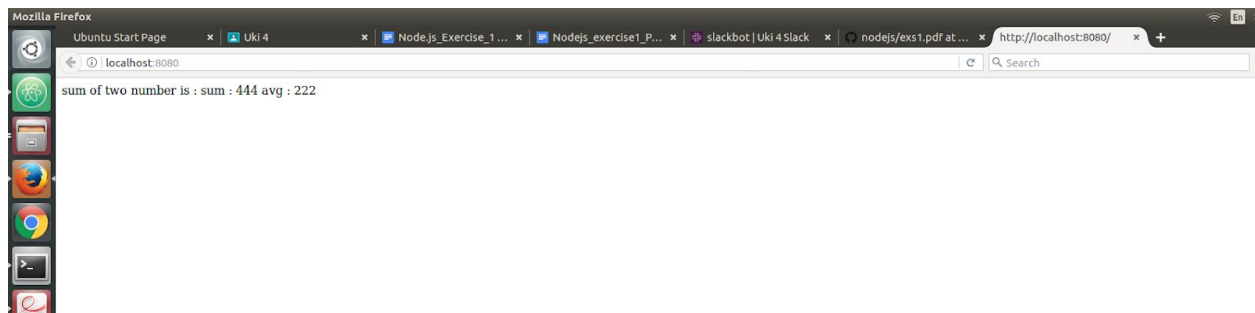
1. Create a custom module which returns the sum and average of any two numbers passed into it. Require the module and run the server by passing 123 and 321 so that the server prints out the sum and average.



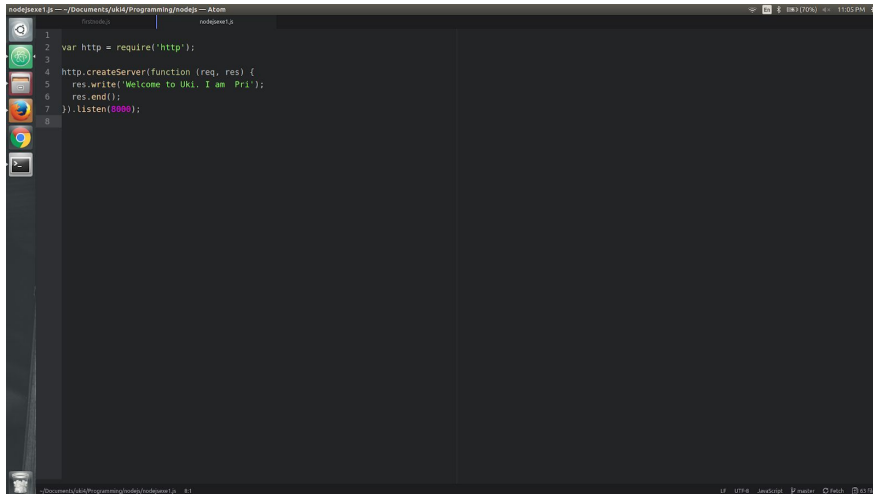
```
1 var http = require('http');
2 var sum = require('./summodule');
3 http.createServer(function (req, res) {
4   res.writeHead(200, {'Content-Type': 'text/html'});
5   res.write("sum of two number is : " + sum.sumAve(123,321));
6   res.end();
7 }
8 ).listen(8080);
9
```



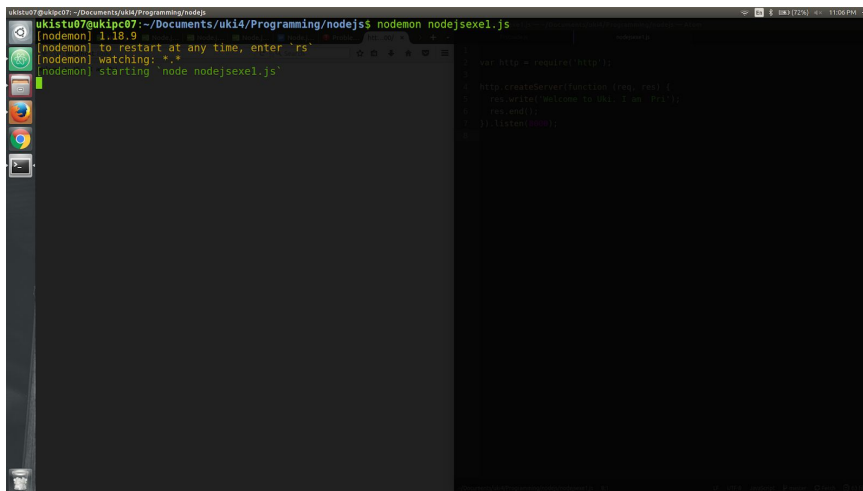
```
SyntaxError: Unexpected token }
    at createScript (vm.js:56:10)
    at Object.runInThisContext (vm.js:97:10)
    at Module.compile (module.js:549:28)
    at Object.Module._extensions..js (module.js:586:10)
    at Module.load (module.js:494:32)
    at tryModuleLoad (module.js:453:12)
    at Function.Module._load (module.js:445:3)
    at Module.runMain (module.js:611:10)
    at run (bootstrap node.js:394:7)
    at startup (bootstrap node.js:160:9)
[nodemon] app crashed - waiting for file changes before starting...
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejs.exe1.js'
/home/ukistu07/Documents/uk14/Programming/nodejs/nodejs.exe1.js:10
  };
  ^
SyntaxError: Unexpected token }
    at createScript (vm.js:56:10)
    at Object.runInThisContext (vm.js:97:10)
    at Module.compile (module.js:549:28)
    at Object.Module._extensions..js (module.js:586:10)
    at Module.load (module.js:494:32)
    at tryModuleLoad (module.js:453:12)
    at Function.Module._load (module.js:445:3)
    at Module.runMain (module.js:611:10)
    at run (bootstrap node.js:394:7)
    at startup (bootstrap node.js:160:9)
[nodemon] app crashed - waiting for file changes before starting...
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejs.exe1.js'
(node:7648) Warning: Possible EventEmitter memory leak detected. 11 exit listeners added. Use emitter.setMaxListeners() to increase limit
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejs.exe1.js'
```



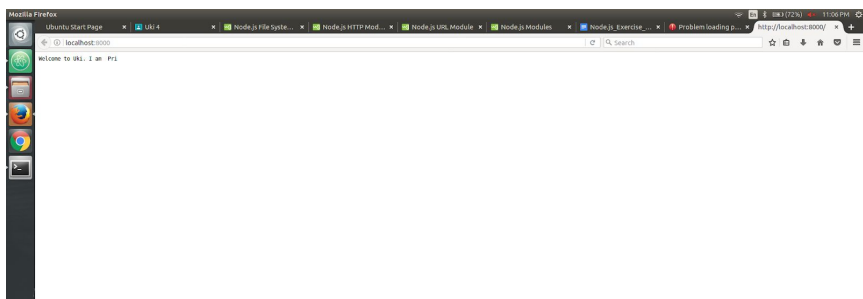
2. Create a simple http server and print “Welcome to Uki. I am **yourname**” when a request is sent to your server via the port 8000. (Note - Change different port numbers and check)



```
1 var http = require('http');
2
3
4 http.createServer(function (req, res) {
5   res.write('Welcome to Uki. I am Pri');
6   res.end();
7 }).listen(8000);
8
```

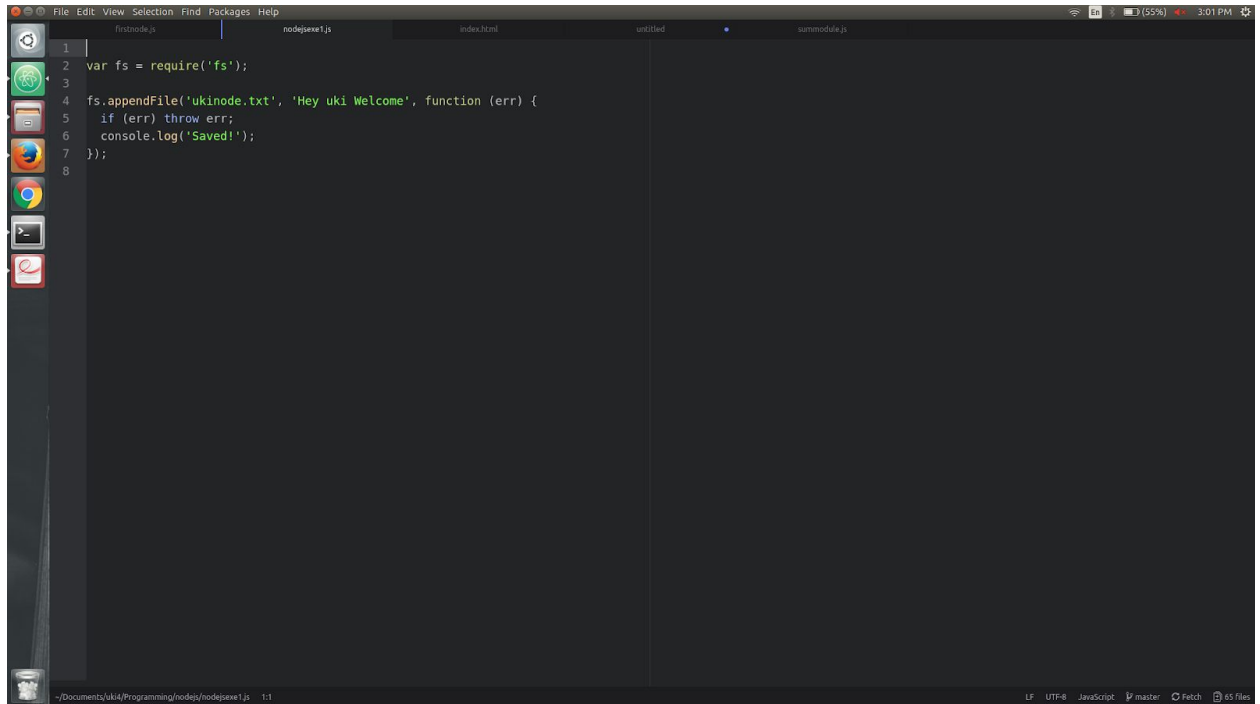


```
ukistu07@ukip07:~/Documents/uki4/Programming/nodejs$ nodemon nodejsexel.js
(nodemon) 1.18.9
(nodemon) to restart at any time, enter 'rs'
(nodemon) watching: *.*
(nodemon) starting 'node nodejsexel.js'
```



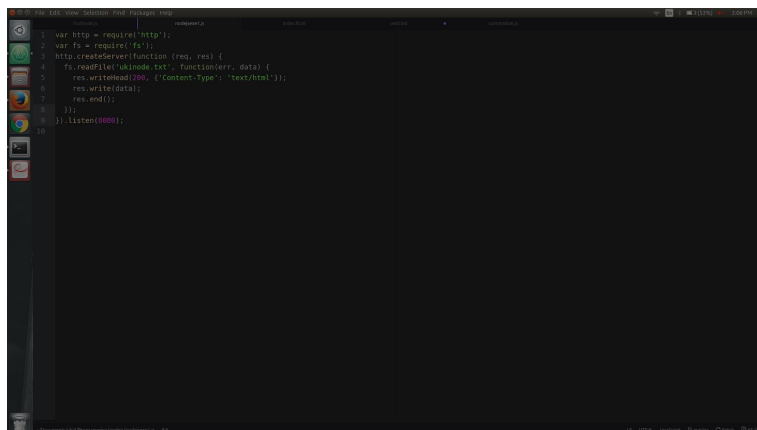
3. Using the file system module create a new file called ukinode.txt

3.1 Write a paragraph about Uki into that file

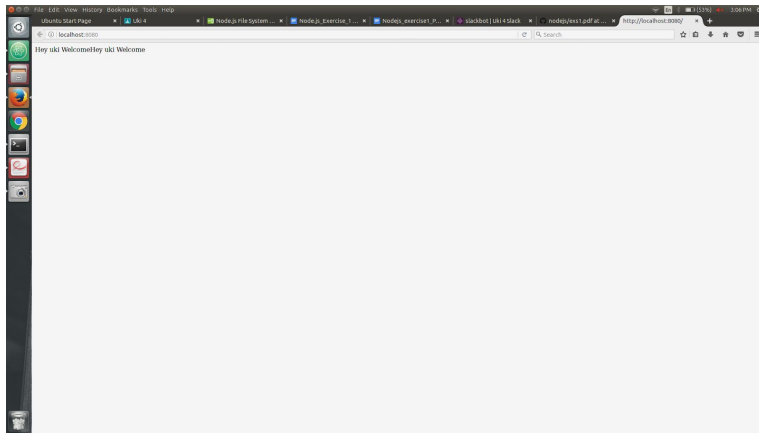


```
1
2 var fs = require('fs');
3
4 fs.appendFile('ukinode.txt', 'Hey uki Welcome', function (err) {
5   if (err) throw err;
6   console.log('Saved!');
7 });
8
```

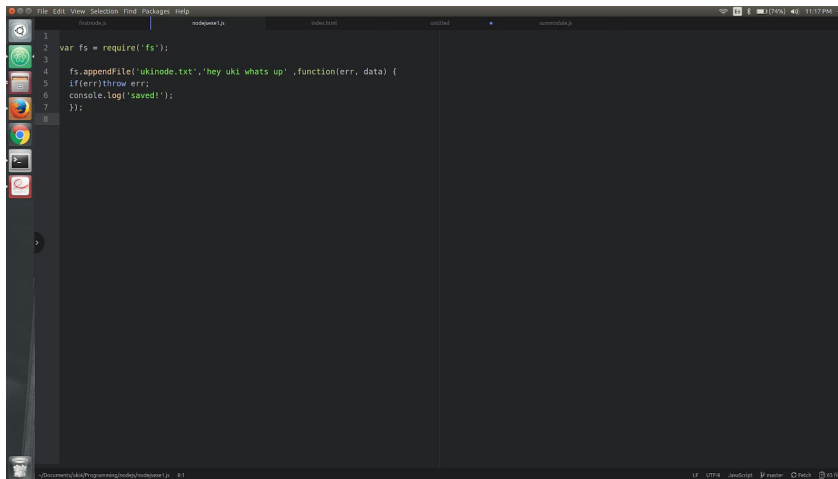
3.2 Serve that file to the client (Read File) over your server



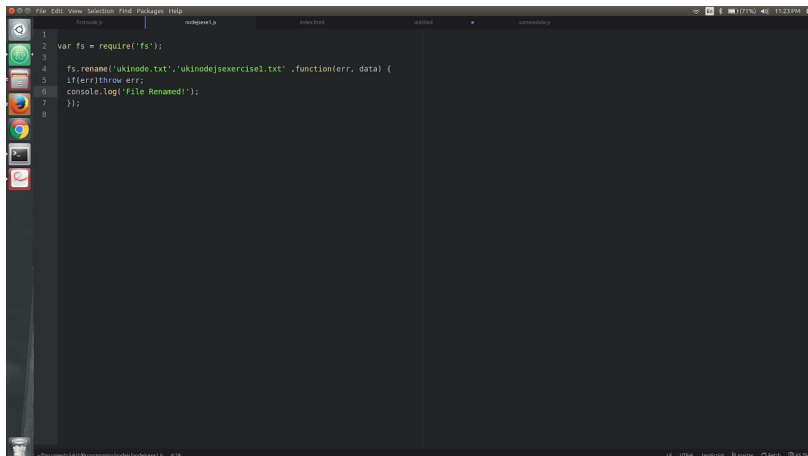
```
1 var http = require('http');
2 var fs = require('fs');
3 http.createServer(function (req, res) {
4   fs.readFile('ukinode.txt', function(err, data) {
5     res.writeHead(200, {'Content-Type': 'text/html'});
6     res.write(data);
7     res.end();
8   });
9 }).listen(3000);
```



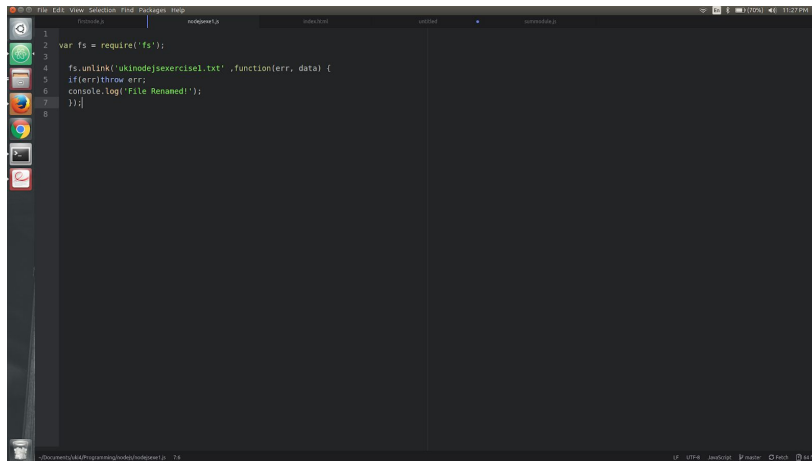
3.3 Append another paragraph about Uki and now serve the new file



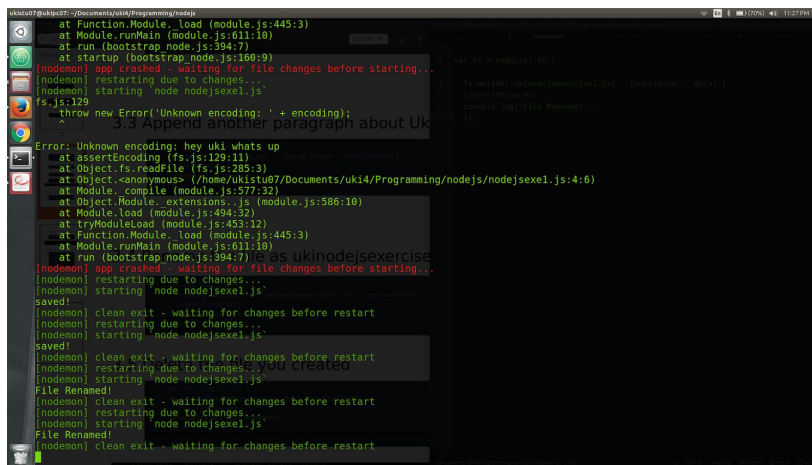
3.4 Rename the file as ukinodejsexercise1.txt



3.5 Delete the file you created



```
1 var fs = require('fs');
2
3
4 fs.unlink('ukinodesexercise1.txt', function(err, data) {
5   if(err) throw err;
6   console.log('File Renamed!');
7 });
8
```



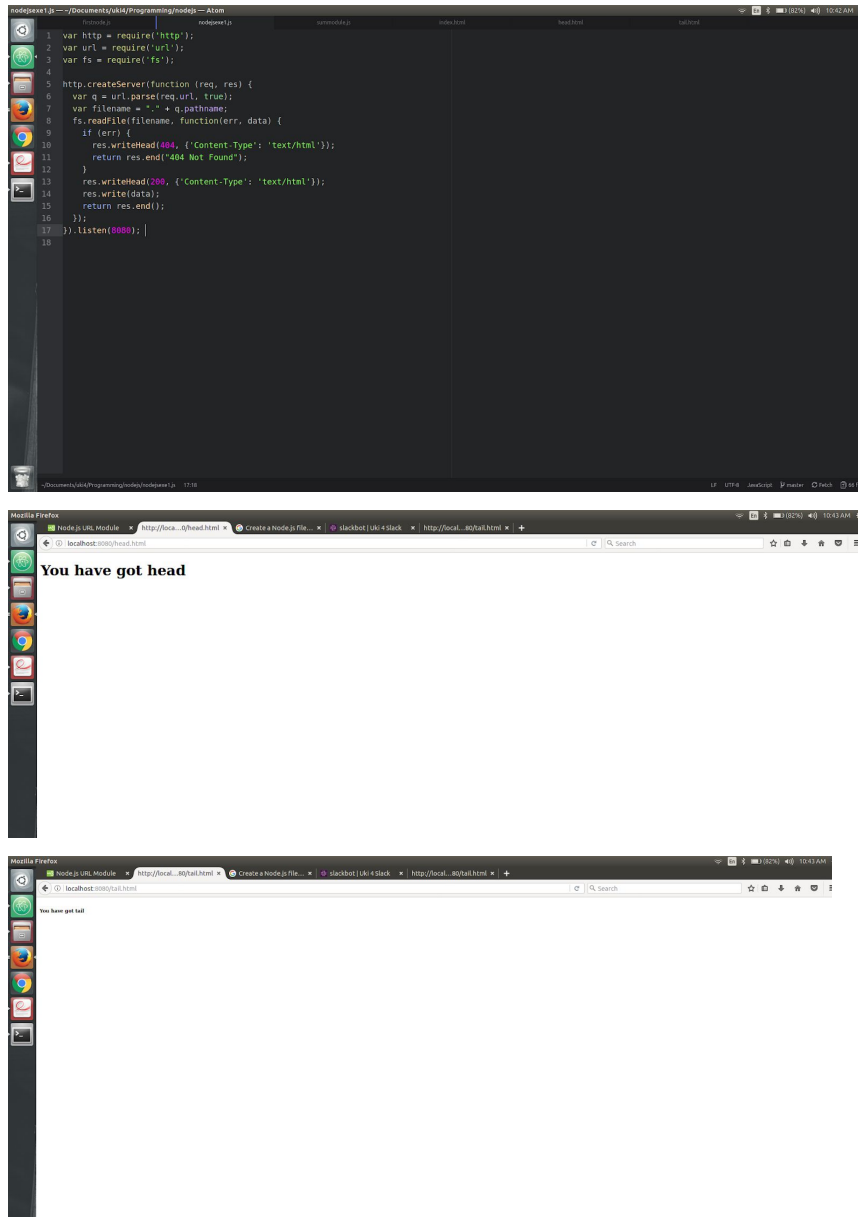
```
at Function.Module.load (module.js:445:3)
at Module.runMain (module.js:611:10)
at run (bootstrap-node.js:394:7)
at startup (bootstrap-node.js:160:9)
[nodemon] app crashed - waiting for file changes before starting...
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejssexel.js'
fs.js:129
    throw new Error('Unknown encoding: ' + encoding);
          ^
Error: Unknown encoding: hey uki whats up
    at assertEncoding (fs.js:129:11)
    at Object.fs.readFile (fs.js:285:3)
    at Object.<anonymous> (/home/UKistu07/Documents/uk14/Programming/nodejs/nodejssexel.js:4:6)
    at Module.compile (module.js:577:32)
    at Object.Module._extensions..js (module.js:586:10)
    at Module.load (module.js:494:32)
    at tryModuleLoad (module.js:432:12)
    at Function.Module.load (module.js:445:3)
    at Module.runMain (module.js:611:10)
    at run (bootstrap-node.js:394:7)
[nodemon] app crashed - waiting for file changes before starting...
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejssexel.js'
saved!
[nodemon] clean exit - waiting for changes before restart
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejssexel.js'
saved!
[nodemon] clean exit - waiting for changes before restart
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejssexel.js'
File Renamed!
[nodemon] clean exit - waiting for changes before restart
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejssexel.js'
File Renamed!
[nodemon] clean exit - waiting for changes before restart
```

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.

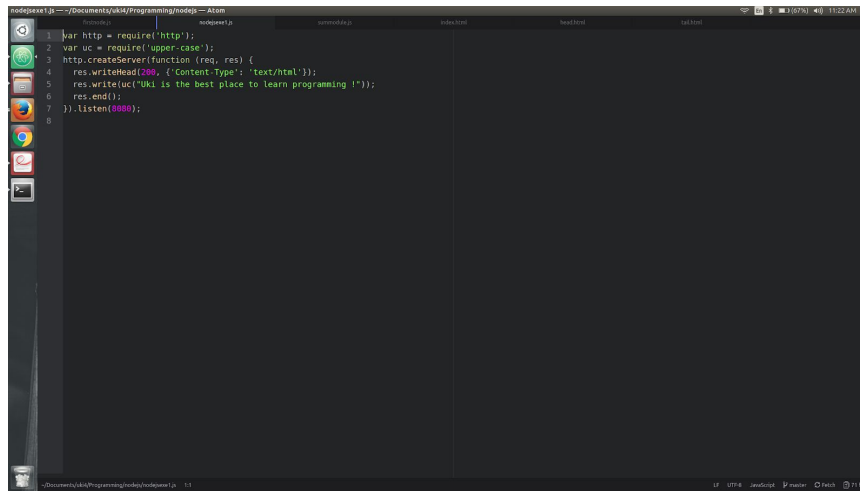
If you have followed the correct steps you should see two different results when opening these two addresses:

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

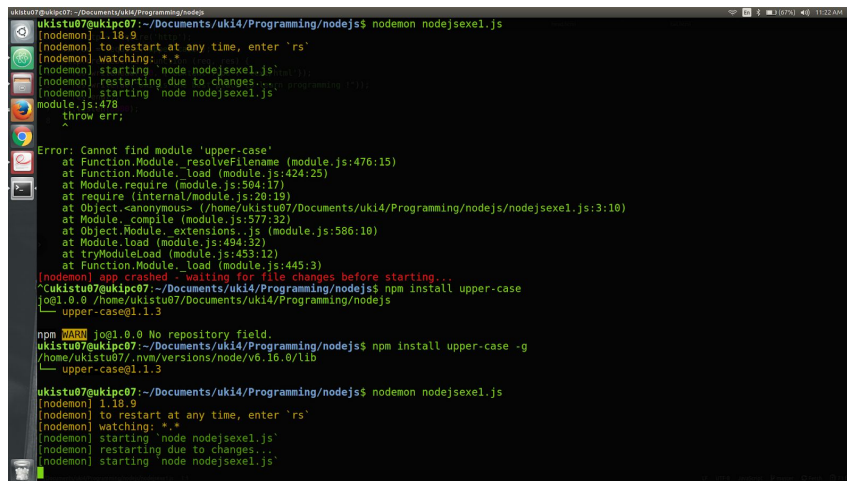
<http://localhost:8080/tail.html> -> You have got tail



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.



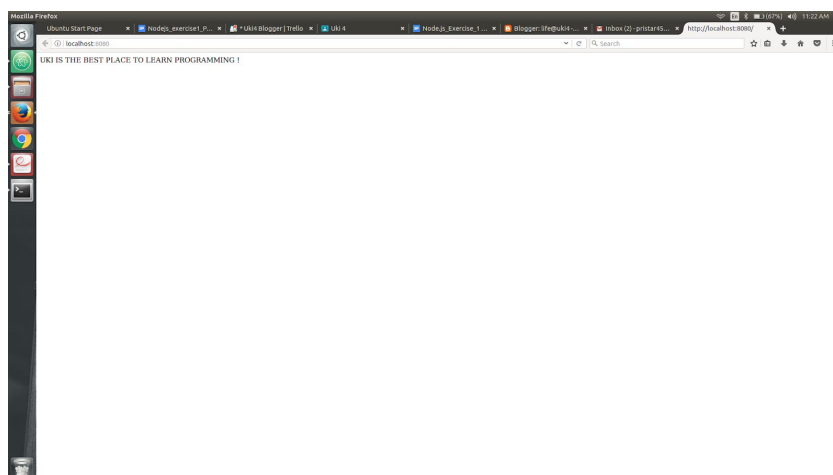
```
1 var http = require('http');
2 var uc = require('upper-case');
3 http.createServer(function (req, res) {
4   res.writeHead(200, {'Content-Type': 'text/html'});
5   res.write(uc("Uki is the best place to learn programming !"));
6   res.end();
7 }).listen(5080);
8
```



```
ukistu07@ukipc07:~/Documents/uki4/Programming/nodejs$ nodemon nodejssexel.js
[nodemon] 1.18.0
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching: *.*
[nodemon] starting 'node nodejssexel.js'
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejssexel.js'
module.js:478
  throw err;
      ^

Error: Cannot find module 'upper-case'
    at Function.Module.resolveFilename (module.js:476:15)
    at Function.Module.load (module.js:424:25)
    at Module.require (module.js:504:17)
    at require (internal/module.js:20:19)
    at Object.<anonymous> (/home/ukistu07/Documents/uki4/Programming/nodejs/nodejssexel.js:3:10)
    at Module.compile (module.js:577:32)
    at Object.Module._extensions.js (module.js:586:10)
    at Module.load (module.js:494:32)
    at tryModuleLoad (module.js:453:12)
    at Function.Module.load (module.js:445:3)
[nodemon] app crashed - waiting for file changes before starting...
ukistu07@ukipc07:~/Documents/uki4/Programming/nodejs$ npm install upper-case
npm WARN joel.0.0 No repository field.
ukistu07@ukipc07:~/Documents/uki4/Programming/nodejs$ npm install upper-case -g
/home/ukistu07/.npm/version/node/v6.16.0/lib
  upper-case@1.1.3

ukistu07@ukipc07:~/Documents/uki4/Programming/nodejs$ nodemon nodejssexel.js
[nodemon] 1.18.0
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching: *.*
[nodemon] starting 'node nodejssexel.js'
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejssexel.js'
```



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

```
nodejs@kali:~/Documents/uki4/Programming/nodejs$ node index.js
1 var events = require('events');
2 var EventEmitter = new events.EventEmitter();
3
4
5 var myEventHandler = function () {
6   console.log('I bark when I see strangers !');
7 }
8
9 EventEmitter.on('bark', myEventHandler);
10
11 EventEmitter.emit('bark');
12
```

```
ukistu07@ukipc07:~/Documents/uki4/Programming/nodejs$ node index.js
Error: Cannot find module 'upper-case'
    at Function.Module.resolveFilename (module.js:476:15)
    at Function.Module.load (module.js:424:25)
    at Module.require (module.js:504:17)
    at require (internal/module.js:20:19)
    at Object.<anonymous> (/home/ukistu07/Documents/uki4/Programming/nodejs/nodejs1.js:3:10)
    at Module.compile (module.js:577:32)
    at Object.Module._extensions..js (module.js:586:10)
    at Module.load (module.js:494:32)
    at tryModuleLoad (module.js:433:12)
    at Function.Module.load (module.js:445:3)
[nodemon] app crashed - waiting for file changes before starting...
ukistu07@ukipc07:~/Documents/uki4/Programming/nodejs$ npm install upper-case
npm WARN jspm No repository field.
ukistu07@ukipc07:~/Documents/uki4/Programming/nodejs$ npm install upper-case -g
/home/ukistu07/.npm/versions/node/v6.16.0/lib
└─ upper-case@1.1.3

ukistu07@ukipc07:~/Documents/uki4/Programming/nodejs$ nodemon nodejs1.js
[nodemon] 1.18.9
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting 'node nodejs1.js'
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejs1.js'
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejs1.js'
I bark when I see strangers !
[nodemon] clean exit - waiting for changes before restart
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejs1.js'
I bark when I see strangers !
[nodemon] clean exit - waiting for changes before restart
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejs1.js'
I bark when I see strangers !
[nodemon] clean exit - waiting for changes before restart
```


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.

```
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/ukistu07/Documents/uk14/Programming/nodejs/' + files.fileupload.name;
11      fs.rename(oldpath, newpath, function (err) {
12        if (err) throw err;
13        res.write('File uploaded and moved!');
14      });
15    });
16  } else {
17    res.writeHead(200, {'Content-Type': 'text/html'});
18    res.write('<form action="/fileupload" method="post" enctype="multipart/form-data">');
19    res.write('<input type="file" name="fileupload"><br>');
20    res.write('<input type="submit">');
21    res.write('</form>');
22    return res.end();
23  }
24 })
25 ).listen(3000);
26
```

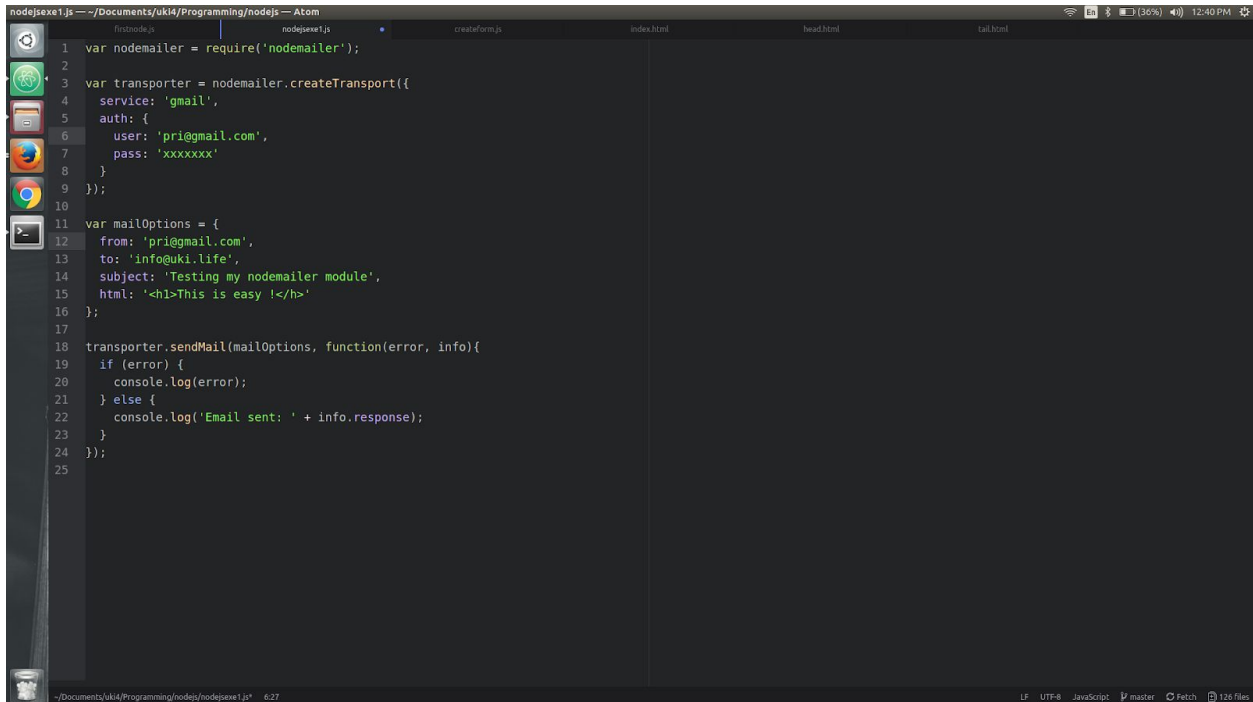
```
at Object.Module._extensions..js (module.js:586:10)
at Module.load (module.js:494:32)
at tryModuleLoad (module.js:453:12)
at Function.Module._load (module.js:445:3)
[nodemon] app crashed - waiting for file changes before starting...
ukistu07@ukipc07:~/Documents/uk14/Programming/nodejs$ npm install formidable
npm WARN io@1.0.0 No repository field.
ukistu07@ukipc07:~/Documents/uk14/Programming/nodejs$ node createform.js
[nodemon] 1.18.9
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting node createform.js
[nodemon] restarting due to changes...
[nodemon] starting node createform.js
/home/ukistu07/Documents/uk14/Programming/nodejs/createform.js:9
    var oldpath = files.fileupload.path;
                                ^
TypeError: Cannot read property 'path' of undefined
    at IncomingForm.<anonymous> (/home/ukistu07/Documents/uk14/Programming/nodejs/node_modules/formidable/lib/incoming_form.js:107:9)
    at emitNone (events.js:86:13)
    at IncomingForm.emit (events.js:185:7)
    at IncomingForm._maybeEnd (/home/ukistu07/Documents/uk14/Programming/nodejs/node_modules/formidable/lib/incoming_form.js:557:8)
    at Object.end (/home/ukistu07/Documents/uk14/Programming/nodejs/node_modules/formidable/lib/incoming_form.js:247:12)
    at IncomingMessage.<anonymous> (/home/ukistu07/Documents/uk14/Programming/nodejs/node_modules/formidable/lib/incoming_form.js:132:30)
    at emitNone (events.js:86:13)
    at IncomingMessage.emit (events.js:185:7)
    at endReadableNT (/home/ukistu07/Documents/uk14/Programming/nodejs/node_modules/formidable/lib/incoming_form.js:978:12)
    at process._tickCallback (node.js:519:13)
[nodemon] app crashed - waiting for file changes before starting...
[nodemon] restarting due to changes...
[nodemon] starting node createform.js
```

File Edit View History Bookmarks Tools Help
Node.js Upload Files Create a Node.js File... StackBot (UK) Slack http://localhost:3000/

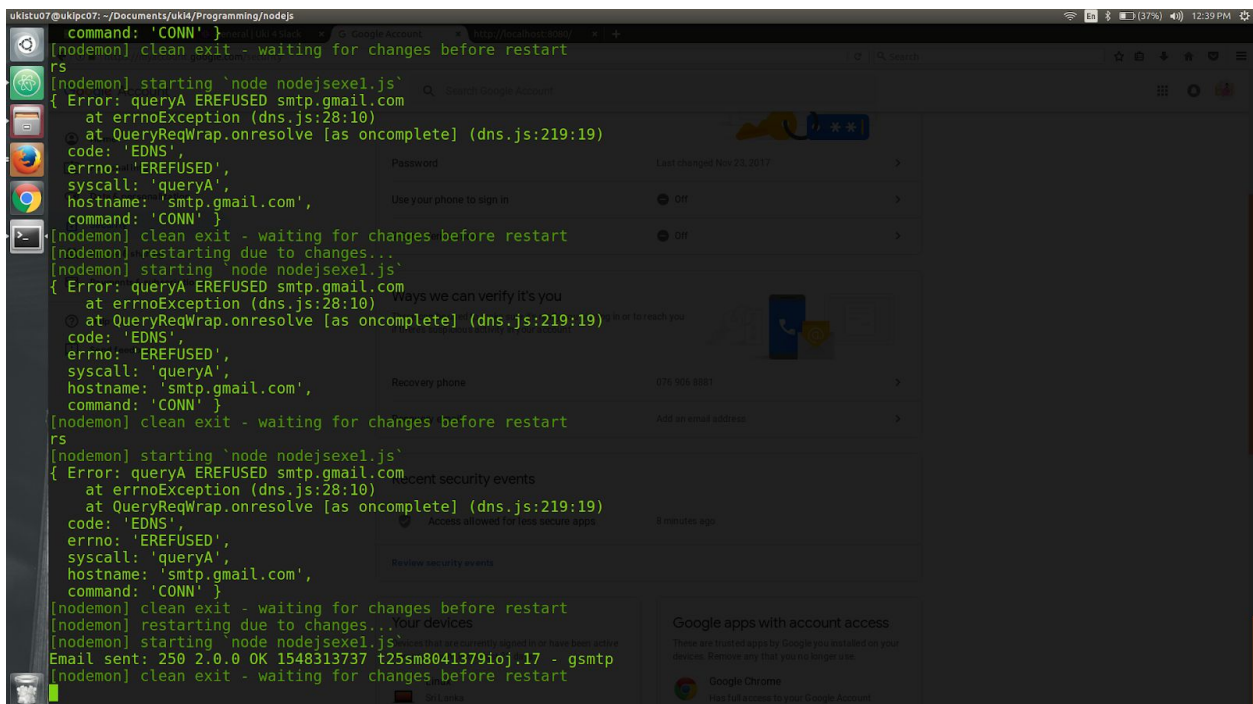
Browse... Screenshot from 2018-11-12 18:52:33.png
Submit Query

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 !”

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: 'pri@gmail.com',
7     pass: 'xxxxxxx'
8   }
9 });
10
11 var mailOptions = {
12   from: 'pri@gmail.com',
13   to: 'info@uki.life',
14   subject: 'Testing my nodemailer module',
15   html: '<h1>This is easy !</h1>'
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
```



```
[command: 'CONN'] }
[nodemon] clean exit - waiting for changes before restart
rs
[nodemon] starting 'node nodejsexel.js'
{ Error: queryA EREFUSED smtp.gmail.com
  at errnoException (dns.js:28:10)
  at QueryReqWrap.onresolve [as oncomplete] (dns.js:219:19)
  code: 'EDNS',
  errno: 'EREFUSED',
  syscall: 'queryA',
  hostname: 'smtp.gmail.com',
  command: 'CONN' }
[nodemon] clean exit - waiting for changes before restart
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejsexel.js'
{ Error: queryA EREFUSED smtp.gmail.com
  at errnoException (dns.js:28:10)
  at QueryReqWrap.onresolve [as oncomplete] (dns.js:219:19)
  code: 'EDNS',
  errno: 'EREFUSED',
  syscall: 'queryA',
  hostname: 'smtp.gmail.com',
  command: 'CONN' }
[nodemon] clean exit - waiting for changes before restart
rs
[nodemon] starting 'node nodejsexel.js'
{ Error: queryA EREFUSED smtp.gmail.com
  at errnoException (dns.js:28:10)
  at QueryReqWrap.onresolve [as oncomplete] (dns.js:219:19)
  code: 'EDNS',
  errno: 'EREFUSED',
  syscall: 'queryA',
  hostname: 'smtp.gmail.com',
  command: 'CONN' }
[nodemon] clean exit - waiting for changes before restart
[nodemon] restarting due to changes...
[nodemon] starting 'node nodejsexel.js'
Email sent: 250 2.0.0 OK 1548313737 t25sm8041379ioj.17 - gsmt
[nodemon] clean exit - waiting for changes before restart
```

The browser window shows a Google account security screen with the following elements:

- Header: "Ways we can verify it's you"
- Form fields: Password, Last changed Nov 23, 2017, Use your phone to sign in, Recovery phone (070 905 8881), Add an email address.
- Security events section: "Recent security events", "Access allowed for this secure app", "Review security events".
- Google apps with account access section: "These are trusted apps by Google you installed on your device. Remove any that you no longer use.", "Google Chrome".