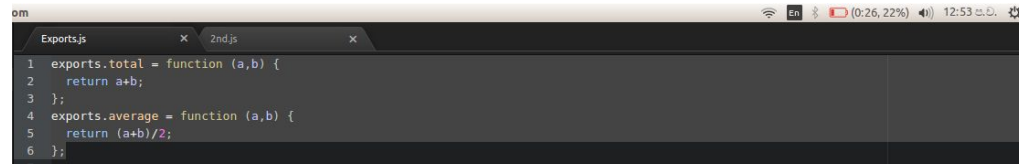1. Create a custom module which returns the sum and average of any two numbers passed into it. Require the module and run the server by passing 123 and 321 so that the server prints out the sum and average.
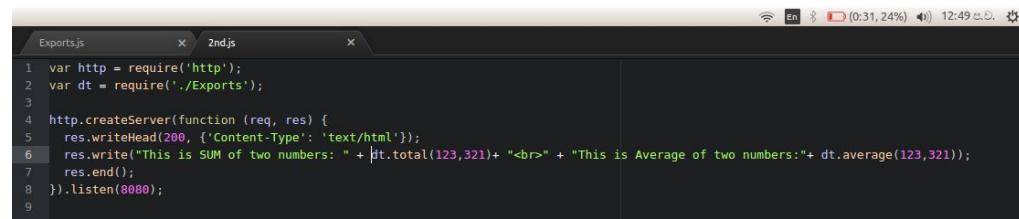
----------This file name is "export.js"


```
exports.total = function (a,b) {
  return a+b;
};
exports.average = function (a,b) {
  return (a+b)/2;
};
```
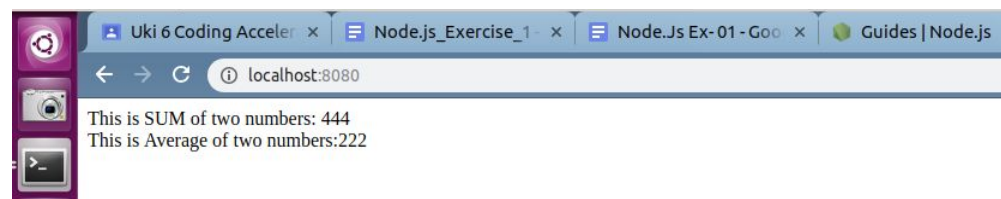
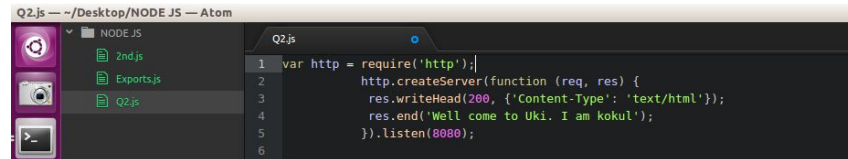----------This file name is "2nd.js"


```
var http = require('http');
var dt = require('./Exports');
http.createServer(function (req, res) {
  res.writeHead(200, {'Content-Type': 'text/html'});
  res.write("This is SUM of two numbers: " + dt.total(123,321)+ "<br>" + "This is
Average of two numbers:"+ dt.average(123,321));
  res.end();
}).listen(8080);
```
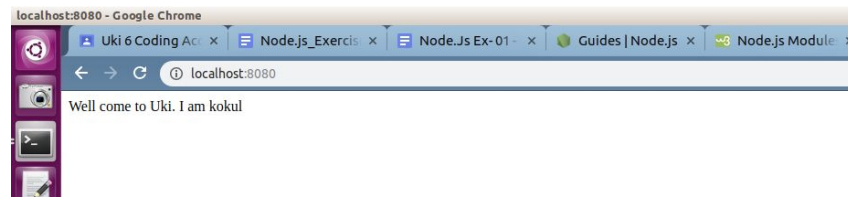
Final Output :

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)

------------This file name is "Q2.js"


```
var http = require('http');
        http.createServer(function (req, res) {
        res.writeHead(200, {'Content-Type': 'text/html'});
        res.end('Well come to Uki. I am kokul');
        }).listen(8080);
```

Final Output :

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

------------This file name is "Q3.js"


```
var fs = require('fs');
fs.appendFile('ukinode.txt', 'Hello Uki!.Welcome all!', function (err) {
  if (err) throw err;
  console.log('Saved!');
});
```

Final Output :

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

-------------This file name is "Read.js"
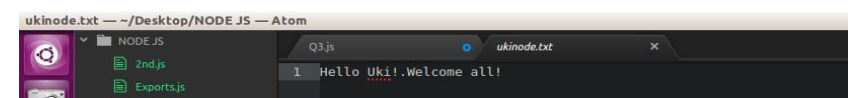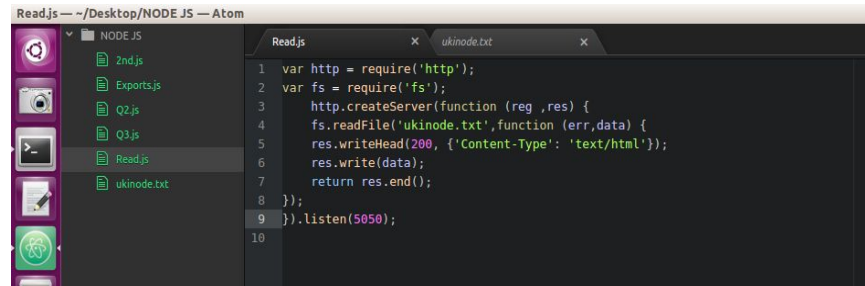


```
var http = require('http');
var fs = require('fs');
    http.createServer(function (reg ,res) {
    fs.readFile('ukinode.txt',function (err,data) {
    res.writeHead(200, {'Content-Type': 'text/html'});
    res.write(data);
    return res.end();
});
}).listen(5050);
```

Final Output :
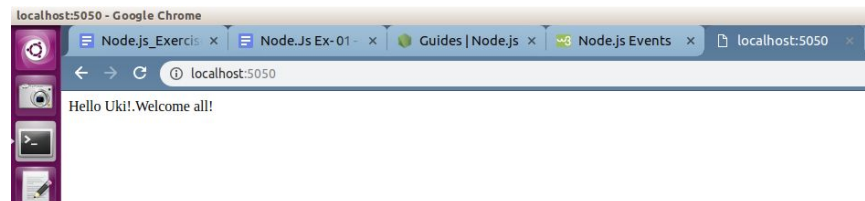

```
var http = require('http');
var fs = require('fs');
    http.createServer(function (reg ,res) {
    fs.readFile('ukinode.txt',function (err,data) {
    res.writeHead(200, {'Content-Type': 'text/html'});
    res.write(data);
    return res.end();
});
}).listen(5050);
```

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

-------------This file name is "viewappend.js"


```
var fs = require('fs');
fs.writeFile('mynewfile3.txt', 'Hello Uki!', function (err) {
  if (err) throw err;
  console.log('Saved!');
});
```
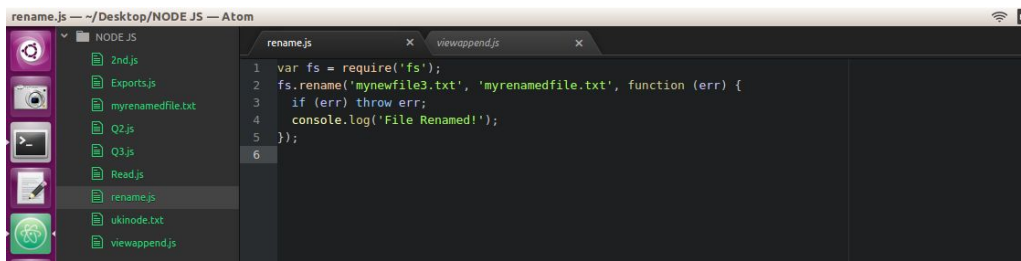
Final Output :

## 3.4 Rename the file as ukinodejsexercise1.txt

--------------This filename is "rename.js"


```
var fs = require('fs');
fs.rename('mynewfile3.txt', 'myrenamedfile.txt', function (err) {
  if (err) throw err;
  console.log('File Renamed!');
});
```

Final Output :

```
NODE JS                    rename.js          ×    myrenamedfile.txt    ×
  2nd.js                 1   Hello Uki!
  Exports.js
  myrenamedfile.txt
  Q2.js
  Q3.js
```
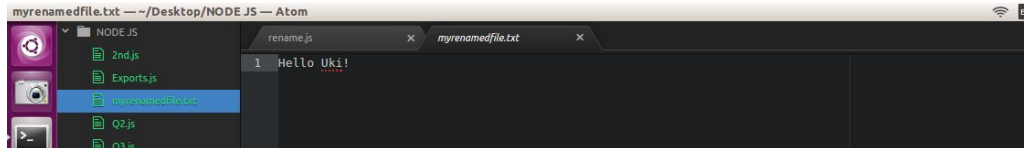
3.5 Delete the file you created

--------------This filename is "delete.js"

```
NODE JS                  delete.js       ×
  2nd.js               1   var fs = require('fs');              ukistu13@ukipc13: ~/Desktop/NODE JS
  delete.js            2                                        ukistu13@ukipc13:~/Desktop/NODE JS$ node dele
  Exports.js           3   fs.unlink('myrenamedfile.txt', function (err) {   File deleted!
  Q2.js                4     if (err) throw err;               ukistu13@ukipc13:~/Desktop/NODE JS$
  Q3.js                5     console.log('File deleted!');
  Read.js              6   });
  rename.js            7
  ukinode.txt
  viewappend.js
```

```javascript
var fs = require('fs');

fs.unlink('myrenamedfile.txt', function (err) {
  if (err) throw err;
  console.log('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

-------------This file name is "question4.js"

```
NODE JS                  question4.js      ×
  2nd.js               1   var http = require('http');
  delete.js            2   var url = require('url');
  Exports.js           3   var fs = require('fs');
  head.html            4
  Q2.js                5   http.createServer(function (req, res) {
  Q3.js                6     var q = url.parse(req.url, true);
  question4.js         7     var filename = "." + q.pathname;
  Read.js              8     fs.readFile(filename, function(err, data) {
  rename.js            9       if (err) {
  tail.html           10         res.writeHead(404, {'Content-Type': 'text/html'});
  ukinode.txt         11         return res.end("404 Not Found");
  viewappend.js       12       }
                      13       res.writeHead(200, {'Content-Type': 'text/html'});
                      14       res.write(data);
                      15       return res.end();
                      16     });
                      17   }).listen(8080);
                      18
```
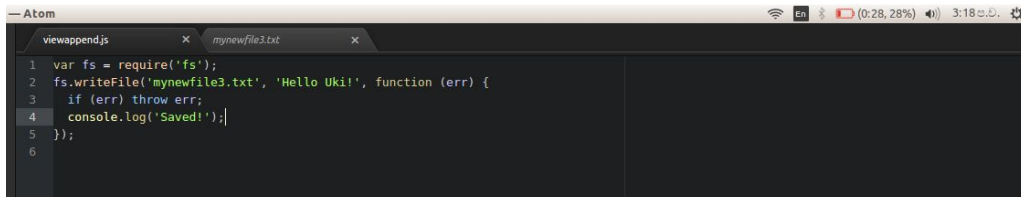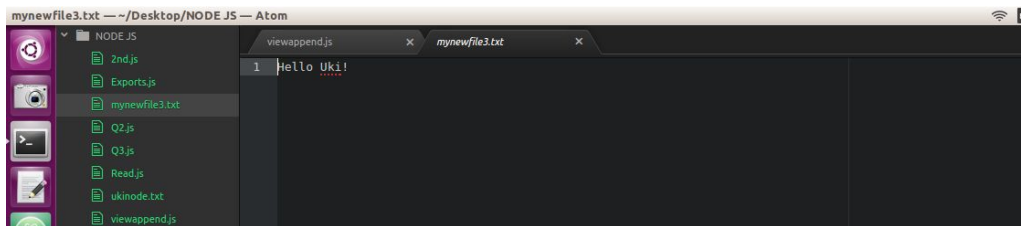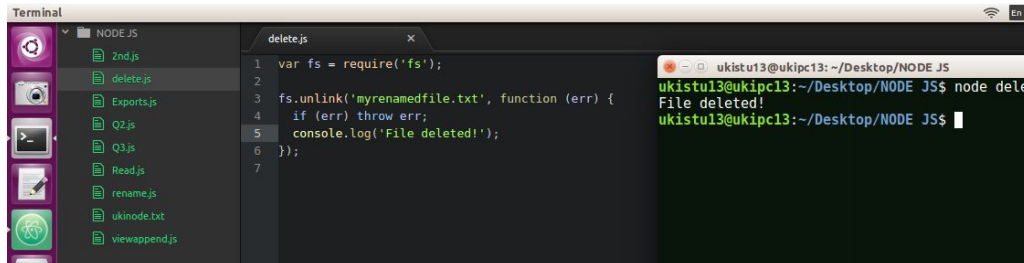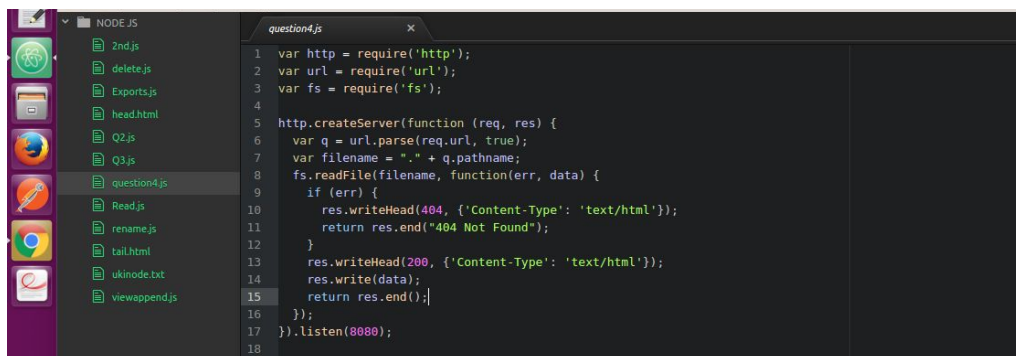
```
var http = require('http');
var url = require('url');
var fs = require('fs');
http.createServer(function (req, res) {
  var q = url.parse(req.url, true);
  var filename = "." + q.pathname;
  fs.readFile(filename, function(err, data) {
    if (err) {
      res.writeHead(404, {'Content-Type': 'text/html'});
      return res.end("404 Not Found");
    }
    res.writeHead(200, {'Content-Type': 'text/html'});
    res.write(data);
    return res.end();
  });
}).listen(8080);
```

----This file name is "head.html" -------------This file name is "tail.html"
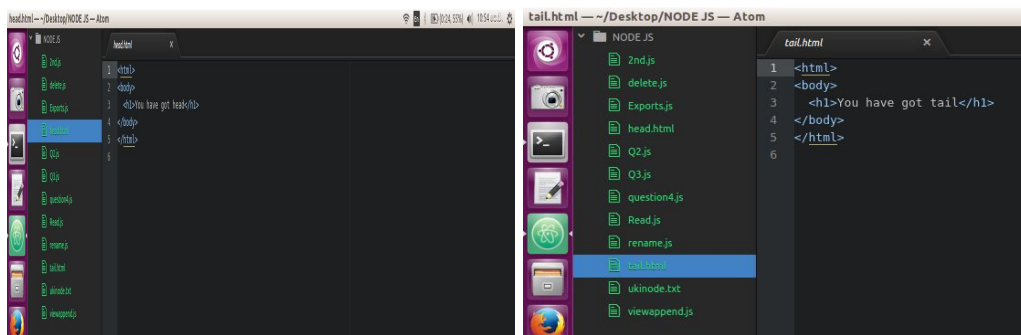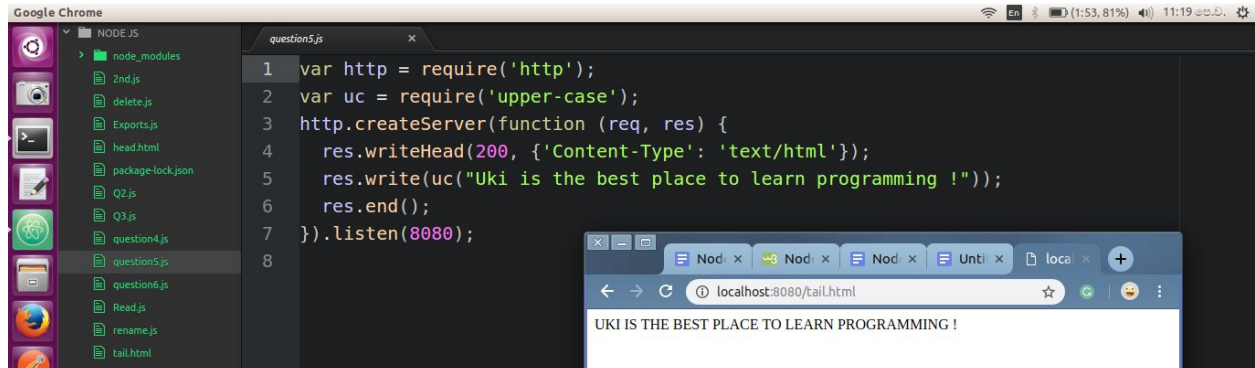

Final Output :
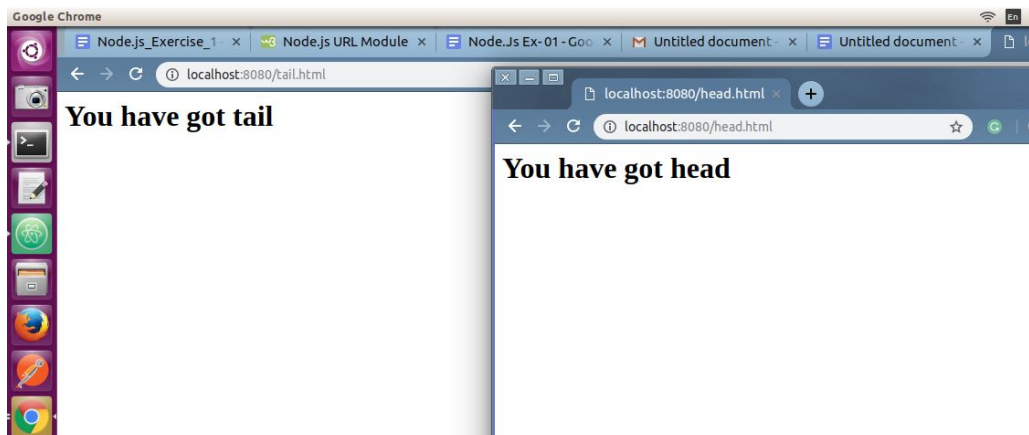
5. Install the package "upper-case" using NPM and create a Node.js file that will convert the output "Uki is the best place to learn programming !" into upper-case letters.

-------------This file name is "question5.html"


```
var http = require('http');
var uc = require('upper-case');
http.createServer(function (req, res) {
  res.writeHead(200, {'Content-Type': 'text/html'});
  res.write(uc("Uki is the best place to learn programming !"));
  res.end();
}).listen(8080);
```

6. Create an event handler function that will say "I bark when I see strangers !" when a "bark" event is fired.
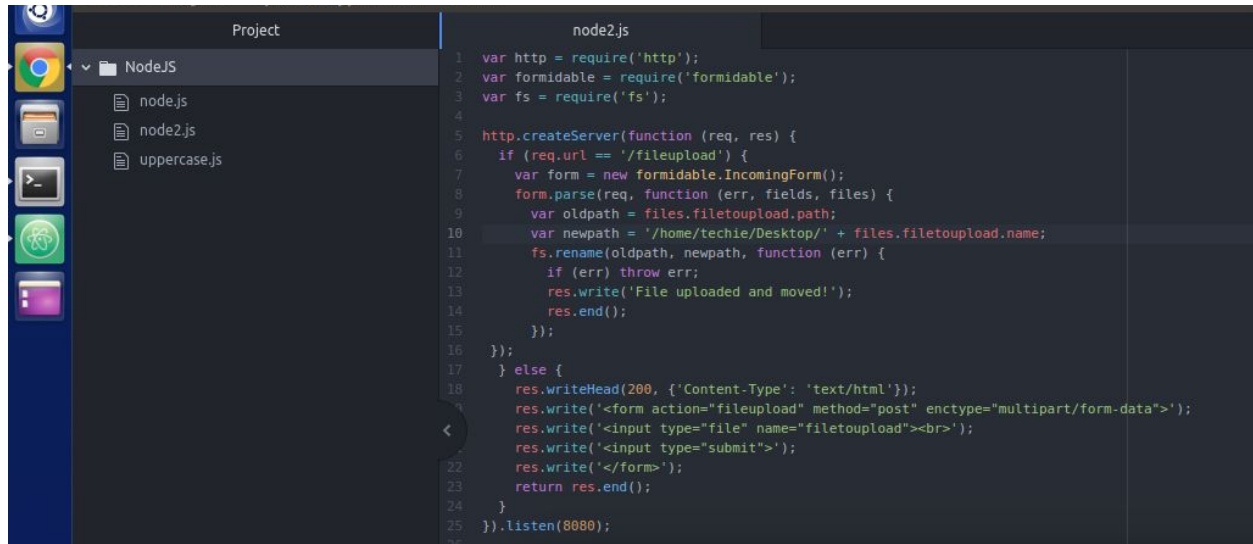
-------------This file name is "question6.html"
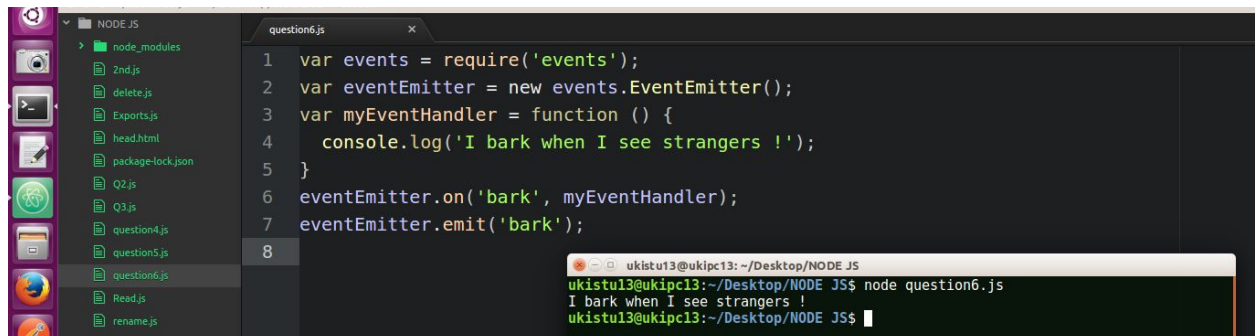

```
var events = require('events');
var eventEmitter = new events.EventEmitter();
var myEventHandler = function () {
  console.log('I bark when I see strangers !');
}
eventEmitter.on('bark', myEventHandler);
eventEmitter.emit('bark');
```

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

---------This file name is "node.js"


```javascript
var http = require('http');
var formidable = require('formidable');
var fs = require('fs');
http.createServer(function (req, res) {
  if (req.url == '/fileupload') {
    var form = new formidable.IncomingForm();
    form.parse(req, function (err, fields, files) {
      var oldpath = files.filetoupload.path;
      var newpath = '/home/techie/Desktop/' + files.filetoupload.name;
      fs.rename(oldpath, newpath, function (err) {
        if (err) throw err;
        res.write('File uploaded and moved!');
        res.end();
      });
    });
  } else {
    res.writeHead(200, {'Content-Type': 'text/html'});
    res.write('<form action="fileupload" method="post" enctype="multipart/form-data">');
    res.write('<input type="file" name="filetoupload"><br>');
    res.write('<input type="submit">');
    res.write('</form>');
```

```
        return res.end();
        }
    }).listen(8080);
```

7.1 Save that uploaded file into your Documents directory.
         ---------This file name is "node2.js"
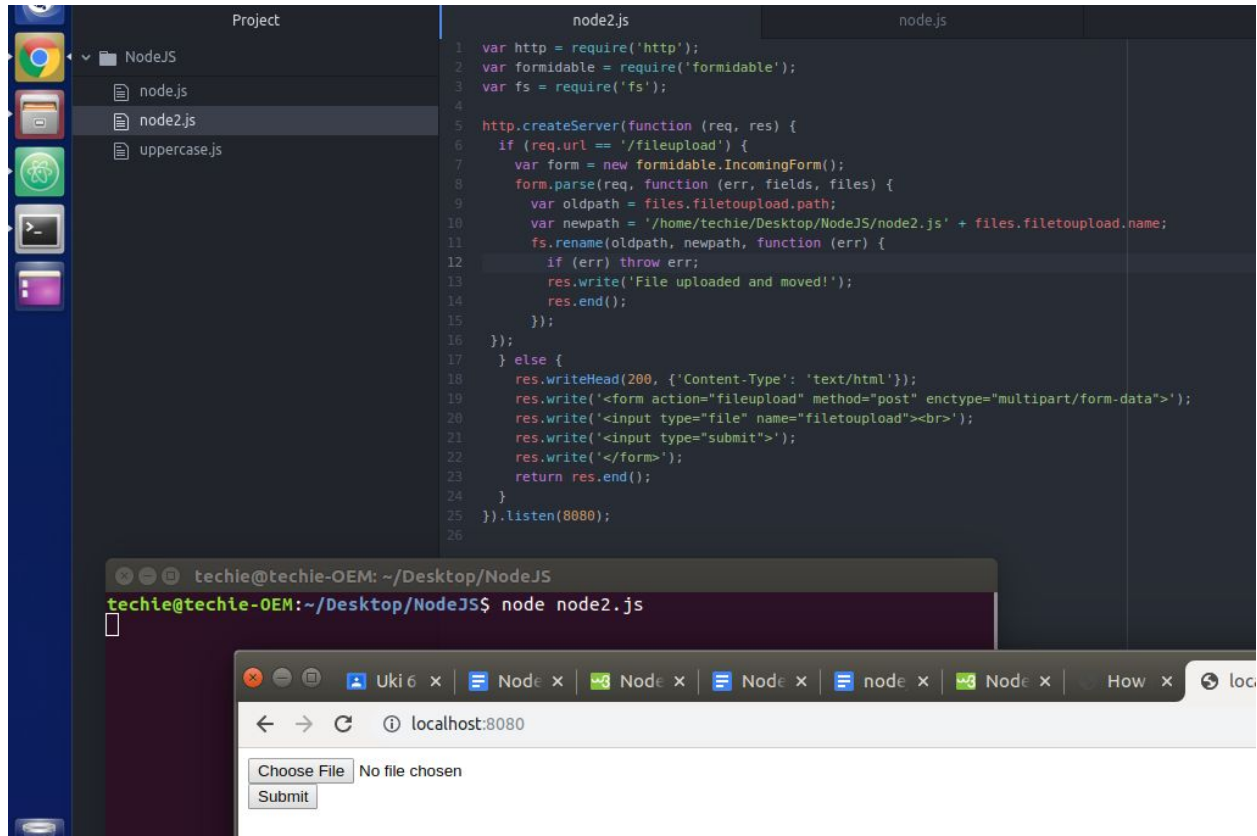

```javascript
var http = require('http');
var formidable = require('formidable');
var fs = require('fs');

http.createServer(function (req, res) {
  if (req.url == '/fileupload') {
    var form = new formidable.IncomingForm();
    form.parse(req, function (err, fields, files) {
      var oldpath = files.filetoupload.path;
      var newpath = '/home/techie/Desktop/NodeJS/node2.js' +
files.filetoupload.name;
      fs.rename(oldpath, newpath, function (err) {
        if (err) throw err;
```

```
            res.write('File uploaded and moved!');
            res.end();
          });
      });
    } else {
      res.writeHead(200, {'Content-Type': 'text/html'});
      res.write('<form action="fileupload" method="post"
enctype="multipart/form-data">');
      res.write('<input type="file" name="filetoupload"><br>');
      res.write('<input type="submit">');
      res.write('</form>');
      return res.end();
    }
}).listen(8080);
```
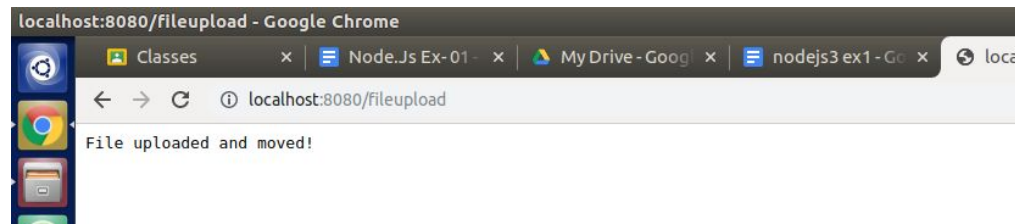
Final Output :

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.