

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.

```
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ node ex1.js
```

localhost:8080

Average: 222

```
1 var http = require('http');
2 var dt = require('./sumandavg');
3
4 http.createServer(function (req, res) {
5     res.writeHead(200, {'Content-Type': 'text/html'});
6     res.write("Average: " + dt.ave(123,321));
7     res.end();
8 }).listen(8080);
9
```

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)

localhost:8475

Welcome to Uki. I am THUVARAKAN

```
1 var http = require('http');
2
3 //create a server object:
4 http.createServer(function (req, res) {
5     res.write('Welcome to Uki. I am THUVARAKAN '); //write a response to the client
6     res.end(); //end the response
7 }).listen(8475); //the server object listens on port 8080
8
```

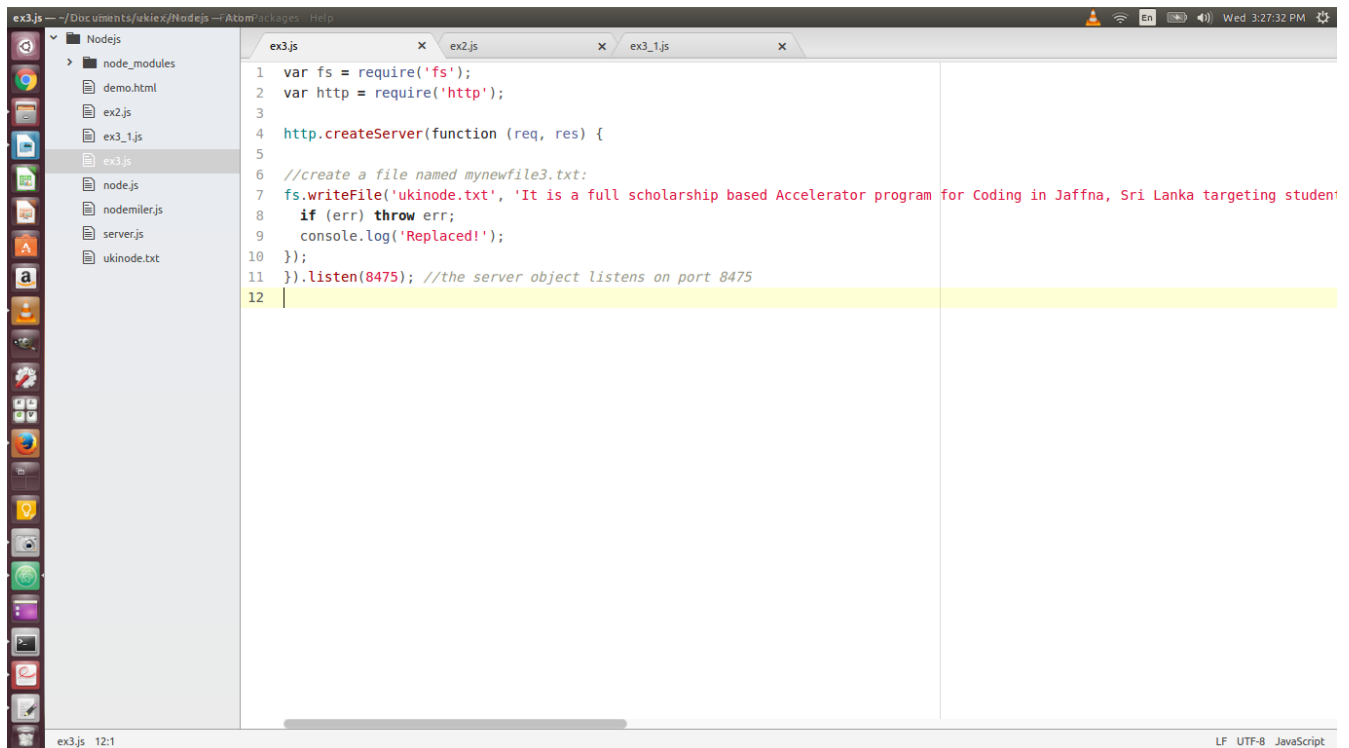
```
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ node ex2.js
```

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

```
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ node ex3.js  
Saved!
```



3.1 Write a paragraph about Uki into that file



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

```
ex3.js x ex2.js x ex3_1.js x
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
```

```
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ node ex3_1.js
```

localhost:8080

It is a full scholarship based Accelerator program for Coding in Jaffna, Sri Lanka targeting students who has completed Advanced Level examinations and don't have access to university education or any other form of vocational education. It is aimed to provide the necessary training to enter Computer Software industry or to start an IT startup.

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

```
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ node ex3.js
Updated!
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ node ex3_1.js
```

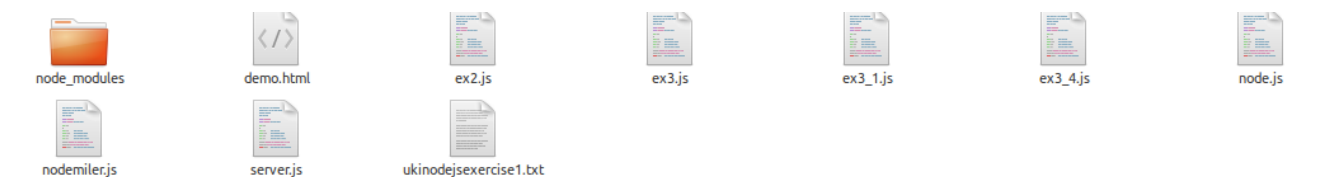
It is a full scholarship based Accelerator program for Coding in Jaffna, Sri Lanka targeting students who has completed Advanced Level examinations and donâ€™t have access to university education or any other form of vocational education. It is aimed to provide the necessary training to enter Computer Software industry or to start an IT startup. This is my text.

```
ex3.js  x  ex2.js  x  ex3_1.js  x
1  var fs = require('fs');
2
3  fs.appendFile('ukinode.txt', ' This is my text.', function (err) {
4    if (err) throw err;
5    console.log('Updated!');
6  });
7
```

3.4 Rename the file as ukinodejsexercise1.txt

```
1
2  var fs = require('fs');
3
4  fs.rename('ukinode.txt', 'ukinodejsexercise1.txt', function (err) {
5    if (err) throw err;
6    console.log('File Renamed!');
7  });
8
```

```
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ node ex3_4.js
File Renamed!
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$
```



3.5 Delete the file you created

```
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ node ex3_5.js
File deleted!
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$
```

```
ex3.js x ex3_4.js x ex3_5.js x ex2.js x ex3_1.js x
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
```

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

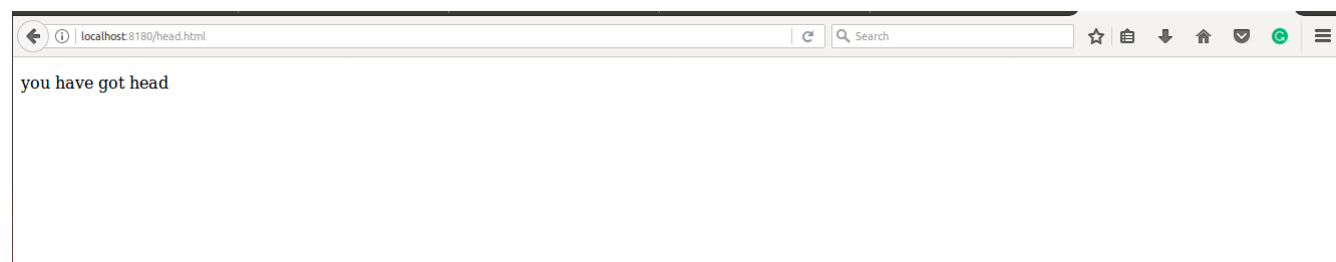
http://localhost:8080/tail.html -> You have got tail



```
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ node ex6.js
http://localhost:8080/head.html - > You have got head
```



you have got tail



```

1
2 var http = require('http');
3 var url = require('url');
4 var fs = require('fs');
5
6 http.createServer(function (req, res) {
7   var q = url.parse(req.url, true);
8   var filename = "." + q.pathname;
9   fs.readFile(filename, function(err, data) {
10     if (err) {
11       res.writeHead(404, {'Content-Type': 'text/html'});
12       return res.end("404 Not Found");
13     }
14     res.writeHead(200, {'Content-Type': 'text/html'});
15     res.write(data);
16     return res.end();
17   });
18 }).listen(8180);
19

```

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.

```

ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ npm install upper-case
/home/ukistu06/Documents/ukiex/Nodejs
└─ upper-case@1.1.3 package you want.
npm WARN enoent ENOENT: no such file or directory, open '/home/ukistu06/Documents/ukiex/Nodejs/package.json'
npm WARN Nodejs No description
npm WARN Nodejs No repository field.
npm WARN Nodejs No README data
npm WARN Nodejs No license field.

```

localhost:8080

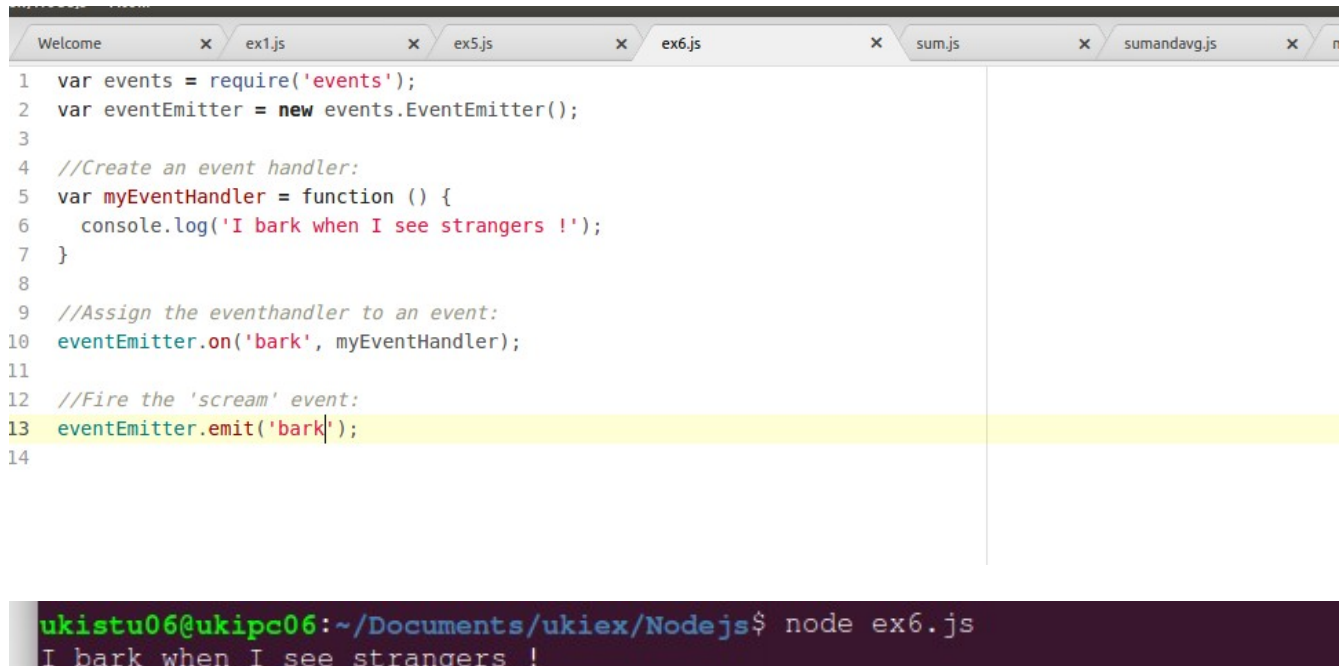
UKI IS THE BEST PLACE TO LEARN PROGRAMMING !

```

Welcome x ex1.js x ex5.js x sum.js x sumandavg.js x myfird.js x
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(8080);
8

```

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

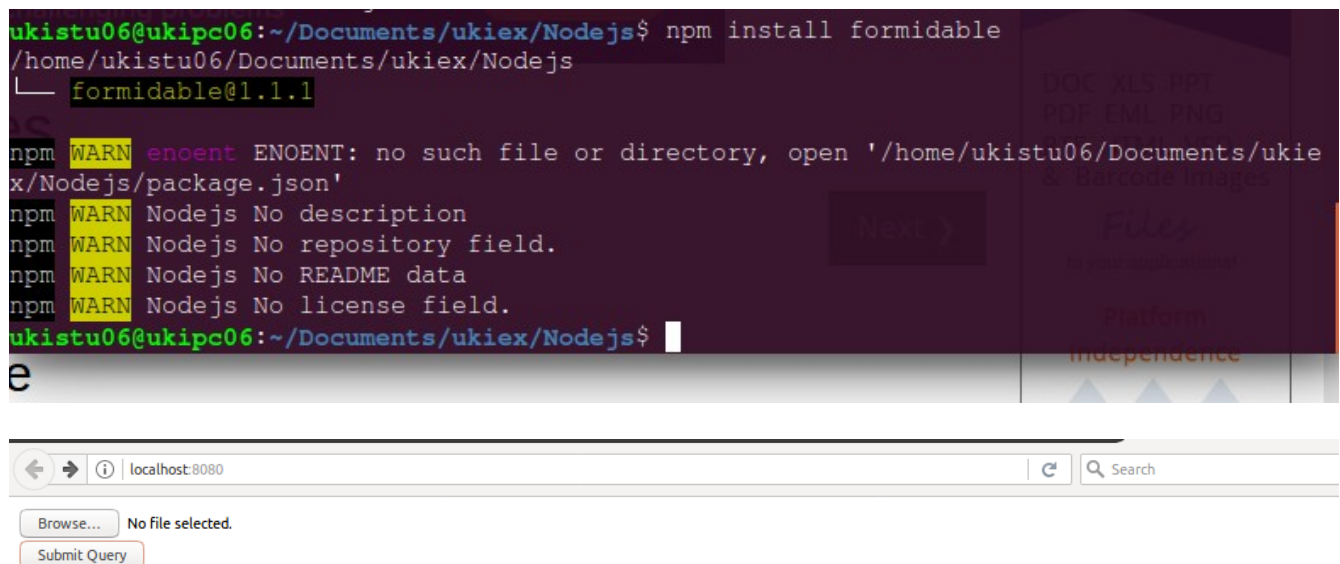


The screenshot shows a code editor with several tabs: 'Welcome', 'ex1.js', 'ex5.js', 'ex6.js', 'sum.js', and 'sumandavg.js'. The 'ex6.js' tab is active, displaying the following JavaScript code:

```
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 emitter.on('bark', myEventHandler);
11
12 //Fire the 'scream' event:
13 emitter.emit('bark');
```

Below the code editor, a terminal window shows the command `node ex6.js` being executed, resulting in the output: `I bark when I see strangers !`

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



The screenshot is divided into two parts. The top part shows a terminal window with the following commands and output:

```
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$ npm install formidable
/home/ukistu06/Documents/ukiex/Nodejs
└─ formidable@1.1.1

npm WARN enoent ENOENT: no such file or directory, open '/home/ukistu06/Documents/ukiex/Nodejs/package.json'
npm WARN Nodejs No description
npm WARN Nodejs No repository field.
npm WARN Nodejs No README data
npm WARN Nodejs No license field.
ukistu06@ukipc06:~/Documents/ukiex/Nodejs$
```

The bottom part shows a web browser window at `localhost:8080`. The page displays a search bar with the text "Search" and a "Submit Query" button. Below the search bar, there is a "Browse..." button and the text "No file selected." On the right side of the browser window, there is a sidebar with a list of file types: DOC, XLS, PPT, PDF, EML, PNG, and a section for "Files" with a "Next >" button.

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 !”

```
ukistu06@ukipe06:~/Documents/ukiex/Nodejs$ node ex8.js
{ Error: Invalid login: 535-5.7.8 Username and Password not accepted. Learn more at
535 5.7.8 https://support.google.com/mail/?p=BadCredentials c23sm25241034pfh.131 - gsmt
  at SMTPConnection._formatError (/home/ukistu06/Documents/ukiex/Nodejs/node_modules/nodemailer/lib/smtp-connection/index.js:557:19)
  at SMTPConnection._actionAUTHComplete (/home/ukistu06/Documents/ukiex/Nodejs/node_modules/nodemailer/lib/smtp-connection/index.js:1253:34)
  at SMTPConnection._responseActions.push.str (/home/ukistu06/Documents/ukiex/Nodejs/node_modules/nodemailer/lib/smtp-connection/index.js:340:26)
}
  at SMTPConnection._processResponse (/home/ukistu06/Documents/ukiex/Nodejs/node_modules/nodemailer/lib/smtp-connection/index.js:706:20)
  at SMTPConnection._onData (/home/ukistu06/Documents/ukiex/Nodejs/node_modules/nodemailer/lib/smtp-connection/index.js:509:14)
  at TLSSocket._socket.on.chunk (/home/ukistu06/Documents/ukiex/Nodejs/node_modules/nodemailer/lib/smtp-connection/index.js:461:47)
  at emitOne (events.js:96:13)
  at TLSSocket.emit (events.js:188:7)
  at readableAddChunk (_stream_readable.js:176:18)
  at TLSSocket.Readable.push (_stream_readable.js:134:10)
  code: 'EAUTH',
  response: '535-5.7.8 Username and Password not accepted. Learn more at\n535 5.7.8 https://support.google.com/mail/?p=BadCredentials c23sm252410
34pfh.131 - gsmt',
  responseCode: 535,
  command: 'AUTH PLAIN' }
  at SMTPConnection._processResponse (/home/ukistu06/Documents/ukiex/Nodejs/node_modules/nodemailer/lib/smtp-connection/index.js:706:20)
  at SMTPConnection._onData (/home/ukistu06/Documents/ukiex/Nodejs/node_modules/nodemailer/lib/smtp-connection/index.js:509:14)
  at TLSSocket._socket.on.chunk (/home/ukistu06/Documents/ukiex/Nodejs/node_modules/nodemailer/lib/smtp-connection/index.js:461:47)
  at emitOne (events.js:96:13)
  at TLSSocket.emit (events.js:188:7)
  at readableAddChunk (_stream_readable.js:176:18)
  at TLSSocket.Readable.push (_stream_readable.js:134:10)
  code: 'EAUTH',
  response: '535-5.7.8 Username and Password not accepted. Learn more at\n535 5.7.8 https://support.google.com/mail/?p=BadCredentials c23sm252410
34pfh.131 - gsmt',
  responseCode: 535,
  command: 'AUTH PLAIN' }
```

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

```
Welcome x ex1.js x ex5.js x ex6.js x ex7.js x ex8.js x sum.js x
1 var nodemailer = require('nodemailer');
2
3 var transporter = nodemailer.createTransport({
4   service: 'gmail',
5   auth: {
6     user: 'Thuvarakan Perinpanayagam',
7     pass: 'password'
8   }
9 });
10
11 var mailOptions = {
12   from: 'thuvarakan@gmail.com',
13   to: 'info@uki.life',
14   subject: 'Testing my nodemailer module',
15   text: '<h1>head</h1><p>That is 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
```