

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.

```
node2.js | node1.js | javas.js
1  var http = require('http');
2  var dt = require('./javas');
3
4  http.createServer(function (req, res) {
5    res.writeHead(200, {'Content-Type': 'text/html'});
6    res.write("sum is " + dt.sum(123,321)+"<br> <br>");
7    res.write("ave is " + dt.ave(123,321));
8    res.end();
9  }).listen(8080);
10
```

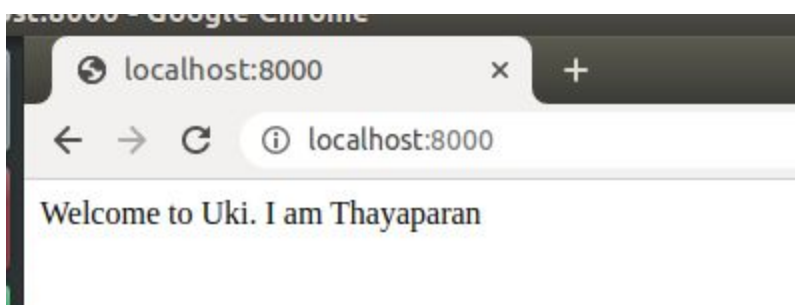
```
node2.js | node1.js | javas.js
1  exports.sum = function (a,b) {
2    return a+b;
3  };
4  exports.ave = function (a,b) {
5    return (a+b)/2;
6  };
7
```

```
ukistu01@ukipc01:~/Desktop/node$ node node1.js
^C
ukistu01@ukipc01:~/Desktop/node$ node node1.js
```

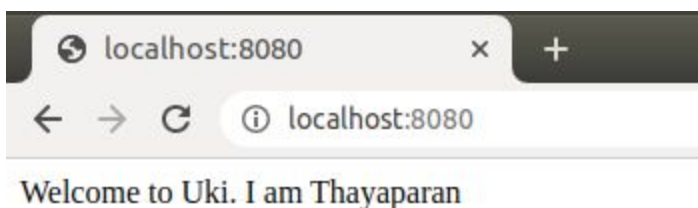
```
localhost:8080 x +
< > ↻ ⓘ localhost:8080
sum is 444
ave is 222
```

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)

```
node2.js
1  var http = require('http');
2
3  http.createServer(function (req, res) {
4    res.writeHead(200, {'Content-Type': 'text/html'});
5    res.end('Welcome to Uki. I am Thayaparan');
6  }).listen(8000);
7
```

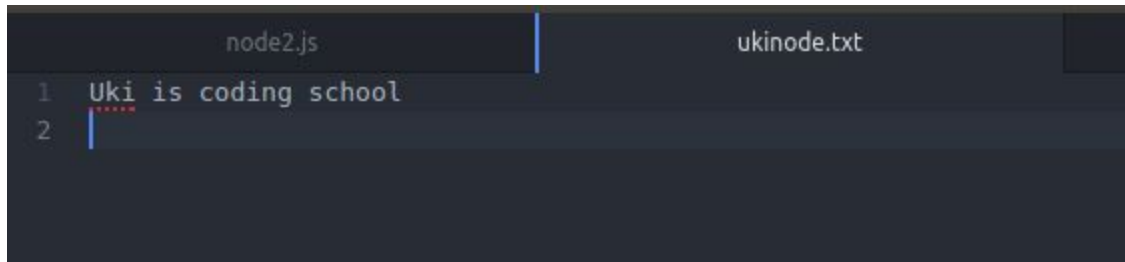


```
node2.js
1  var http = require('http');
2
3  http.createServer(function (req, res) {
4    res.writeHead(200, {'Content-Type': 'text/html'});
5    res.end('Welcome to Uki. I am Thayaparan');
6  }).listen(8080);
7
```



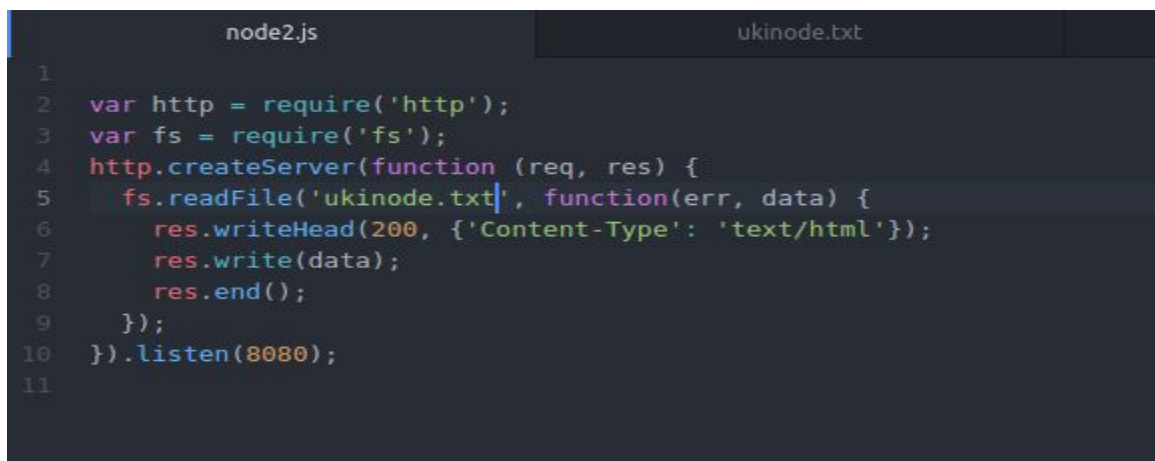
3. Using the file system module create a new file called ukinode.txt

3.1 Write a paragraph about Uki into that file



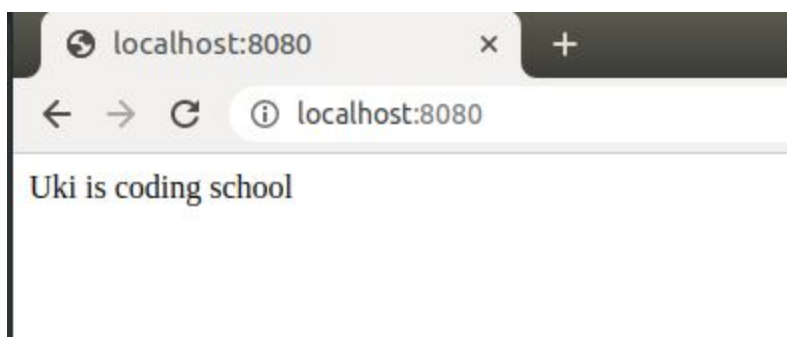
The screenshot shows a code editor with two tabs: 'node2.js' and 'ukinode.txt'. The 'ukinode.txt' tab is active, and it contains the text 'Uki is coding school' on the first line. The second line is empty.

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



The screenshot shows a code editor with two tabs: 'node2.js' and 'ukinode.txt'. The 'node2.js' tab is active, and it contains the following code:

```
1
2 var http = require('http');
3 var fs = require('fs');
4 http.createServer(function (req, res) {
5   fs.readFile('ukinode.txt', function(err, data) {
6     res.writeHead(200, {'Content-Type': 'text/html'});
7     res.write(data);
8     res.end();
9   });
10 }).listen(8080);
11
```



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

```
node2.js      ukinode.txt
1
2  var fs = require('fs');
3
4  fs.appendFile('ukinode.txt', 'uki6 good ', function (err) {
5    if (err) throw err;
6    console.log('Saved!');
7  });
8
```

```
ukistu01@ukipc01:~/Desktop/node$ node node2.js
Saved!
ukistu01@ukipc01:~/Desktop/node$
```

```
node2.js      ukinode.txt
1  Uki is coding school
2  uki6 good
```

3.4 Rename the file as ukinodejsexercise1.txt

3.5 Delete the file you created

```
node2.js      ukinode.txt
1
2  var fs = require('fs');
3
4  fs.unlink('ukinode.txt', function (err) {
5    if (err) throw err;
6    console.log('File deleted!');
7  });
8
```

```
ukistu01@ukipc01:~/Desktop/node$ node node2.js
File deleted!
ukistu01@ukipc01:~/Desktop/node$
ukistu01@ukipc01:~/Desktop/node$
ukistu01@ukipc01:~/Desktop/node$
```

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

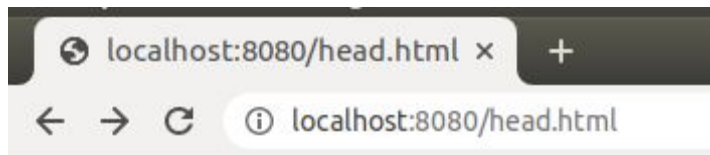
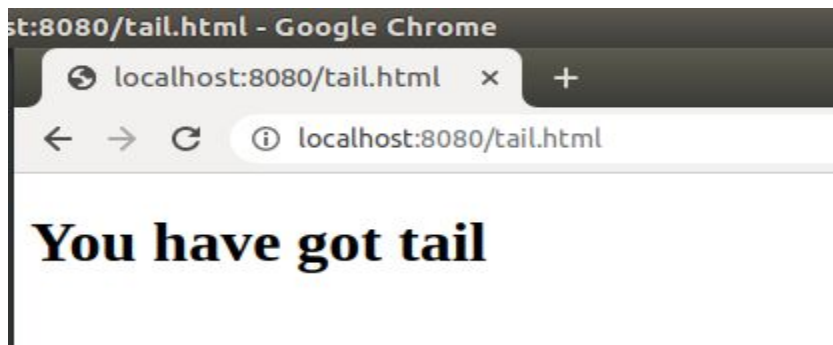
http://localhost:8080/tail.html -> You have got tail

```
node2.js    head.html
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(8080);
19
```

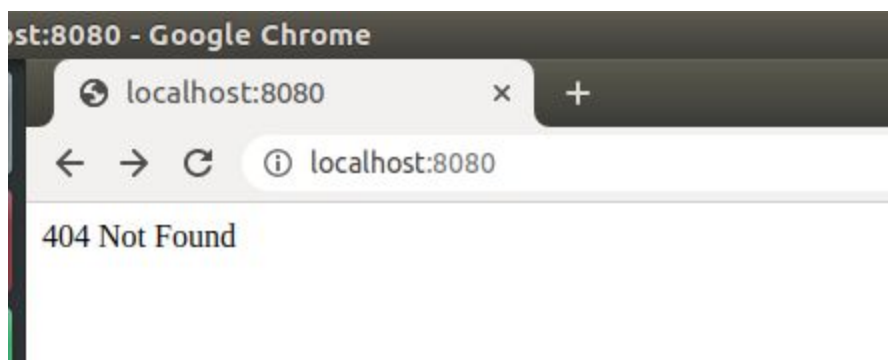
```
node2.js    head.html
1 <!DOCTYPE html>
2 <html>
3 <body>
4 <h1>You have got head</h1>
5 </body>
6 </html>
7
```

```
node2.js      tail.html
1  <!DOCTYPE html>
2  <html>
3  <body>
4  <h1> You have got tail</h1>
5  </body>
6  </html>
7
```

```
ukistu01@ukipc01:~/Desktop/node$ node node2.js
```



You have got head



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.

```
node2.js | node3.js
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.toUpperCase("Uki is the best place to learn programming !"));
6   res.end();
7 }).listen(8080);
8
```

```
ukistu01@ukipc01:~/Desktop/node$
ukistu01@ukipc01:~/Desktop/node$ node node3.js
```

st:8080 - Google Chrome

localhost:8080 x res.write(uc("Hello World x

← → ↻ ⓘ localhost:8080

UKI IS THE BEST PLACE TO LEARN PROGRAMMING !

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

```
node3.js | node1.js
1 var events = require('events');
2 var EventEmitter = new events.EventEmitter();
3 var myEventHandler = function () {
4   console.log('I bark when I see strangers !');
5 }
6 emitter.on('bark', myEventHandler);
7 emitter.emit('bark');
8
```

```
ukistu01@ukipc01:~/Desktop/node$ node node1.js
I bark when I see strangers !
ukistu01@ukipc01:~/Desktop/node$
```

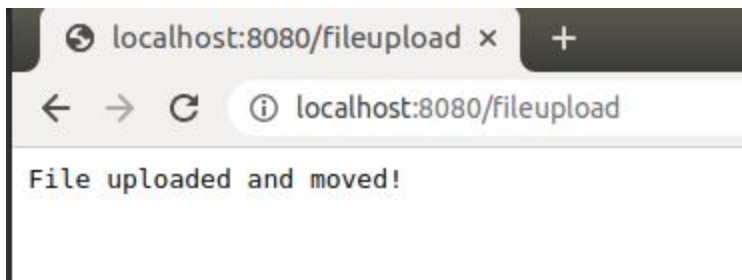
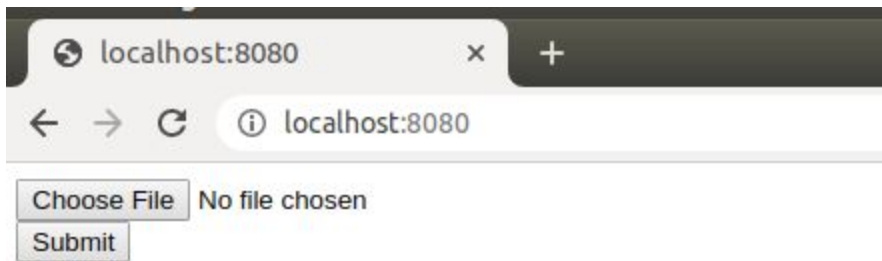
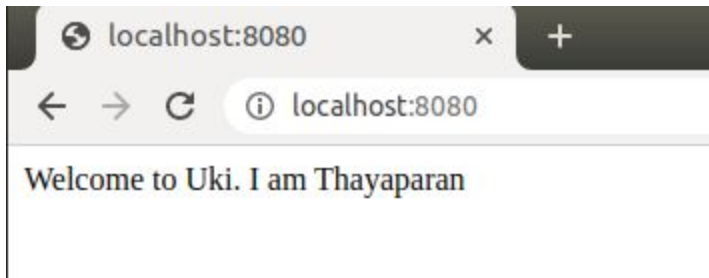
7. Install “formidable” module using npm and make a web page in Node.js that lets the user upload files to your computer.

```
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.fileupload.path;
      var newpath = '/home/ukistu01/' + files.fileupload.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="fileupload"><br>');
    res.write('<input type="submit">');
    res.write('</form>');
    return res.end();
  }
}).listen(8080);
```

```
ukistu01@ukipc01:~/Desktop/node$
ukistu01@ukipc01:~/Desktop/node$ node node2.js
```


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 !"

```
var nodemailer = require('nodemailer');

var transporter = nodemailer.createTransport({
  service: 'gmail',
  auth: {
    user: 'pullinkouki6@gmail.com',
    pass: '@ukipulli6'
  }
});

var mailOptions = {
  from: 'thayaparant72@gmail.com',
  to: 'info@uki.life',
  subject: 'Testing my nodemailer module',
  text: 'This is easy !'
};

transporter.sendMail(mailOptions, function(error, info){
  if (error) {
    console.log(error);
  } else {
    console.log('Email sent: ' + info.response);
  }
});
```

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

```
command: 'AUTH PLAIN'
}
ukistu01@ukipc01:~/Desktop/node$ node node1.js
Email sent: 250 2.0.0 OK 1580204897 r187sm20139615pgr.56 - gsmt
ukistu01@ukipc01:~/Desktop/node$
```