Node.js Exercise 1

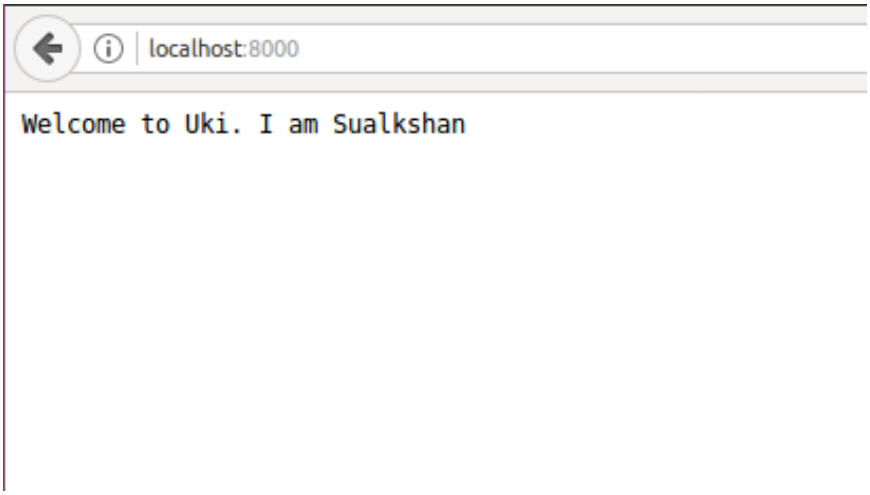
1. Create a custom module which returns the sum and average of any two numbers passed into it. Require the module and run the server by passing 123 and 321 so that the server prints out the sum and average.

```
exports.sumAve = function(a,b){
  var sum = a+b;
  var avg = sum/2;
  return "sum : "+sum+" avg : " + avg;
}
```

```
var http = require('http');
var sums = require('./summodule');
http.createServer(function (req, res) {
    res.writeHead(200, {'Content-Type': 'text/html'});
    res.write("sum of two number is : "+ sums.sumAve(123,321));
    res.end();

}).listen(8080);
```

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)

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

//create a server object:

http.createServer(function (req, res) {

res.write('Welcome to Uki. I am Sualkshan'); //write a response to the
client

res.end(); //end the response

}).listen(8000); //the server object listens on port 8000
```

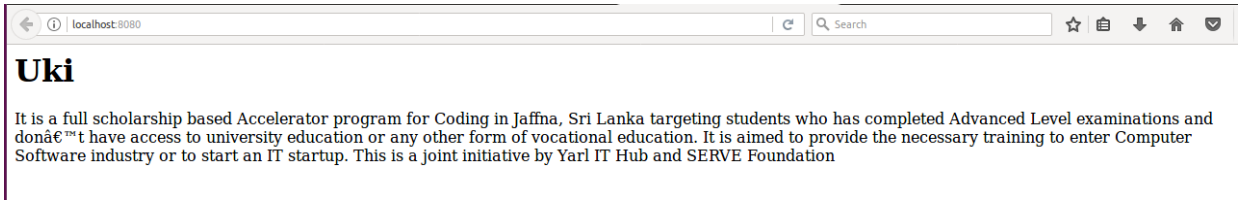



```
ukistu01@ukipc01:~/Documents/uki4/programming/node.js/excercise$ nodemon excerci
se1node.js
[nodemon] 1.18.9
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting `node excercise1node.js`
/home/ukistu01/Documents/uki4/programming/node.js/excercise/excercise1node.js:8
client
^

ReferenceError: client is not defined
    at Server.<anonymous> (/home/ukistu01/Documents/uki4/programming/node.js/exc
ercise/excercise1node.js:8:1)
    at emitTwo (events.js:106:13)
    at Server.emit (events.js:191:7)
    at HTTPParser.parserOnIncoming [as onIncoming] (_http_server.js:567:12)
    at HTTPParser.parserOnHeadersComplete (_http_common.js:99:23)
[nodemon] app crashed - waiting for file changes before starting...
```

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




```
ukistu01@ukipc01:~/Documents/uki4/programming/node.js/excercise$ nodemon fsnode.
js
[nodemon] 1.18.9
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting `node fsnode.js`
```

```
var http = require('http');
var fs = require('fs');
http.createServer(function (req, res) {
  fs.readFile('fs1.html', function(err, data) {
    res.writeHead(200, {'Content-Type': 'text/html'});
    res.write(data);
    res.end();
  });
}).listen(8080);
```

```
<html>
<body>
<h1>Uki</h1>
<p>It is a full scholarship based Accelerator program f
This is a joint initiative by Yarl IT Hub and SERVE Fou
</body>
</html>
```

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

```
[nodemon] restarting due to changes...
[nodemon] starting `node appendnode.js`
Saved!
[nodemon] clean exit - waiting for changes before restart
```

sum.js ● | fsnode.j ● | fs1.html | appendno... | Telemetry... | Welco

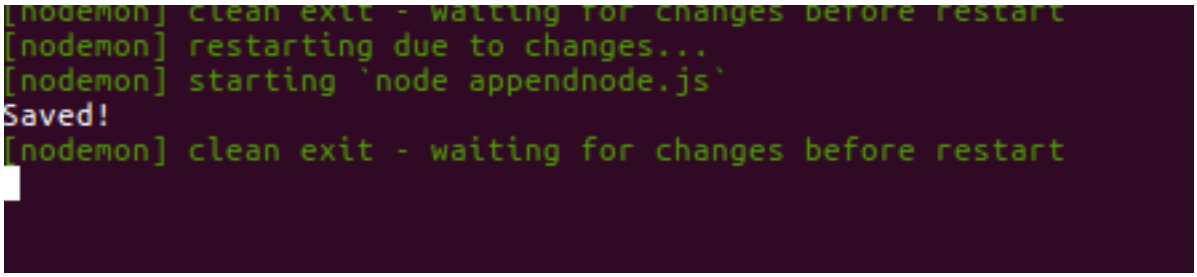
```
var fs = require('fs');

fs.appendFile('appendfile.txt', function (err) {
  if (err) throw err;
  console.log('Saved!');
});
```

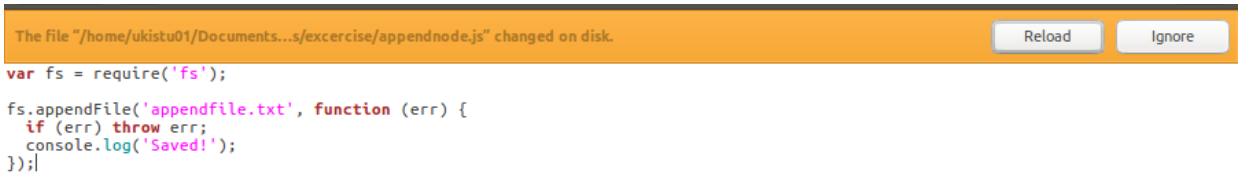
appendfile.txt (~/Documents/uki4/programming/node.js/excercise) - gedit

Open | Sav

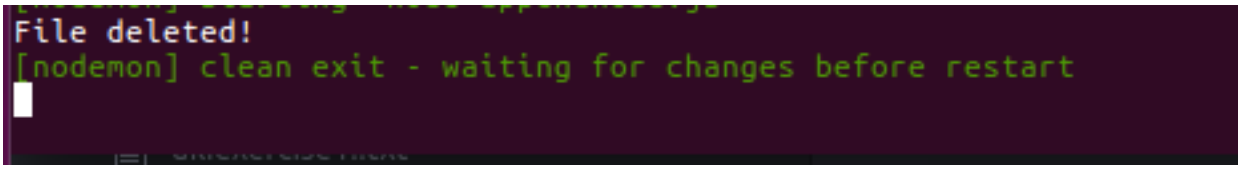
```
Yarl IT Hub has been functioning for the last five years as a not for profit social enterprise focusing on technology
entrepreneurship in northern Sri Lanka and SERVE Foundation is a four year old foundation focusing on using technology to
uplift secondary education standards in rural schools in northern Sri Lanka.
function (err) {
  if (err) throw err;
  console.log('Saved!');
}
```

3.4 Rename the file as ukinodejsexercise1.txt





3.5 Delete the file you created



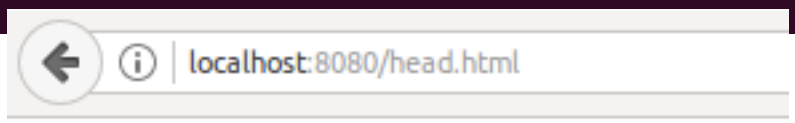
4. Create two html files called head.html which is a web page which says ‘you have got head ‘ and tail.html which is a web page which says ‘you have got tail’ and save them in the same folder as your node.js files. Create a Node.js file that opens the requested file and returns the content to the client. 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

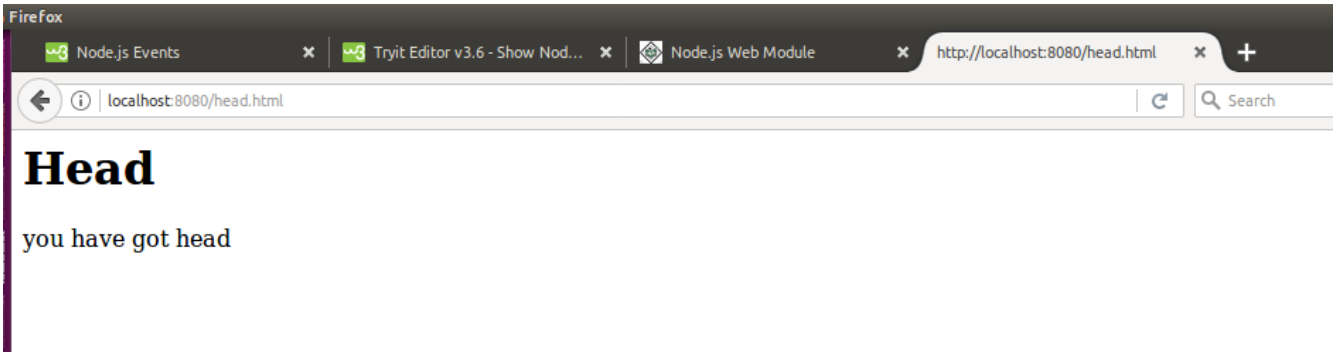
```
[nodemon] app crashed - waiting for file changes before starting...
[nodemon] restarting due to changes...
[nodemon] starting `node urlnode.js`
```



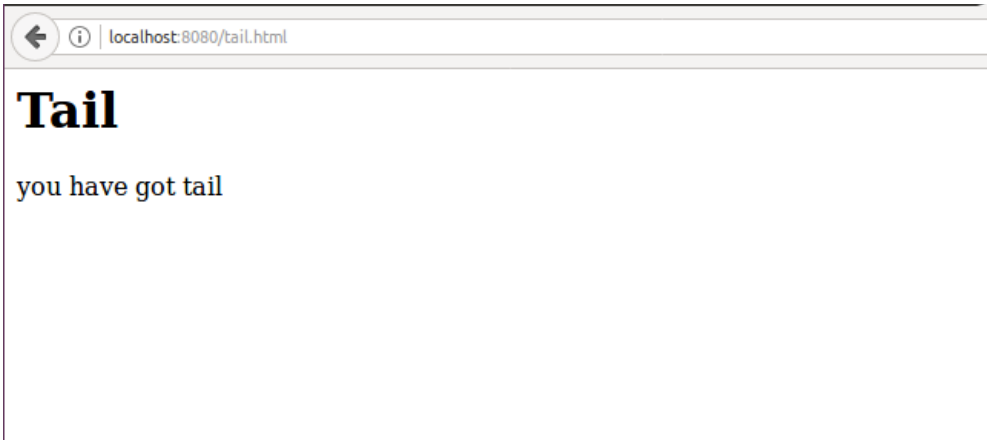
404 Not Found

```
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 = "head.html" + q.pathname;
  fs.readFile('head.html', 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);
```

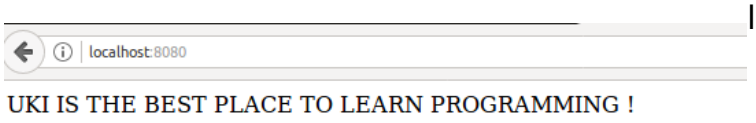
```
ukistu01@ukipc01:~/Documents/uki4/programming/node.js/excercise/coinnode.js$ nod
emon urlnode.js
[nodemon] 1.18.9
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting `node urlnode.js`
```




```
Server running at http://localhost:8080/tail.html
Request for /tail.html received.
```



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.




```
ukistu01@ukipc01:~/Documents/uki4/programming/node.js/excercise/uppercase$ nodem
on uppercasemode.js
[nodemon] 1.18.9
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting `node uppercasemode.js`
```

```
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.

```
ukistu01@ukipc01:~/Documents/uki4/programming/node.js/excercise/event$ node
vent.js
[nodemon] 1.18.9
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting `node event.js`
I bark when I see strangers !
[nodemon] clean exit - waiting for changes before restart
```

```
var events = require('events');
var eventEmitter = new events.EventEmitter();

//Create an event handler:
var myEventHandler = function () {
  console.log('I bark when I see strangers !');
}

//Assign the event handler to an event:
eventEmitter.on('bark', myEventHandler);

//Fire the 'scream' event:
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.

7.1 Save that uploaded file into your Documents directory.

```
ukistu01@ukipc01:~/Documents/uki4/programming/node.js/excercise/upload$ nodemon
upload.js
[nodemon] 1.18.9
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting `node upload.js`
```

```
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/ukistu01/Documents/uki4/programming/node.js/excercise/' + 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);
```

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.

```
ukistu01@ukipc01:~/Documents/uki4/programming/node.js/excercise/email$ nodemon e
mail.js
[nodemon] 1.18.9
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: *.*
[nodemon] starting `node email.js`
{ Error: Invalid login: 534-5.7.9 Application-specific password required. Learn
more at
```

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

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

var mailOptions = {
  from: 'sulakshan.loganathan@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);
  }
});
```