

# Creating Web Server using Node

Node.js provides **http** module which can be used to create either HTTP client or server. Following is a bare minimum structure of HTTP server which listens at 8081 port.

Create a js file named server.js:

*File: server.js*

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

// Create a server
http.createServer( function (request, response) {
    // Parse the request containing file name
    var pathname = url.parse(request.url).pathname;

    // Print the name of the file for which request is made.
    console.log("Request for " + pathname + " received.");

    // Read the requested file content from file system
    fs.readFile(pathname.substr(1), function (err, data) {
        if (err) {
            console.log(err);
            // HTTP Status: 404 : NOT FOUND
            // Content Type: text/plain
            response.writeHead(404, {'Content-Type': 'text/html'});
        }else{
            //Page found
            // HTTP Status: 200 : OK
            // Content Type: text/plain
            response.writeHead(200, {'Content-Type': 'text/html'});
```

```
        // Write the content of the file to response body
        response.write(data.toString());
    }

    // Send the response body
    response.end();
});

}).listen(8081);

// Console will print the message
console.log('Server running at http://127.0.0.1:8081/');
```

Next let's create following html file named index.htm in the same directory where you created server.js

*File: index.htm*

```
<html>
<head>
<title>Sample Page</title>
</head>
<body>
Hello World!
</body>
</html>
```

Now let us run the server.js to see the result:

```
$ node server.js
```

Verify the Output

```
Server running at http://127.0.0.1:8081/
```

## Make a request to Node.js server

Open <http://127.0.0.1:8081/index.htm> in any browser and see the below result.



Verify the Output at server end.

Server running at http://127.0.0.1:8081/  
Request for /index.htm received.

## Creating Web client using Node

A web client can be created using **http** module. Let's check the following example.

Create a js file named client.js:

*File: client.js*

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

// Options to be used by request
var options = {
  host: 'localhost',
  port: '8081',
  path: '/index.htm'
};

// Callback function is used to deal with response
```

```
var callback = function(response){  
    // Continuously update stream with data  
    var body = '';  
    response.on('data', function(data) {  
        body += data;  
    });  
  
    response.on('end', function() {  
        // Data received completely.  
        console.log(body);  
    });  
}  
  
// Make a request to the server  
var req = http.request(options, callback);  
req.end();
```

Now run the client.js from a different command terminal other than server.js to see the result:

```
$ node client.js
```

Verify the Output.

```
<html>  
<head>  
<title>Sample Page</title>  
</head>  
<body>  
Hello World!  
</body>  
</html>
```

Verify the Output at server end.

```
Server running at http://127.0.0.1:8081/  
Request for /index.htm received.
```