WADL ASSIGNMENT 3A

Static Web Server

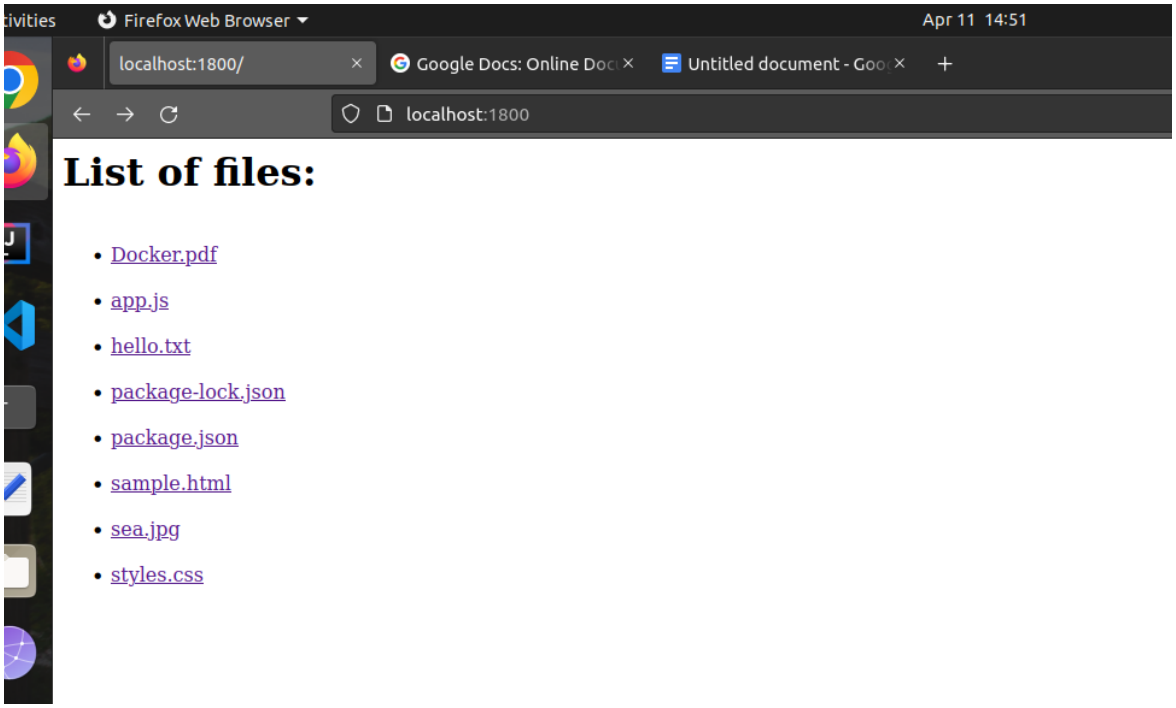
Code:

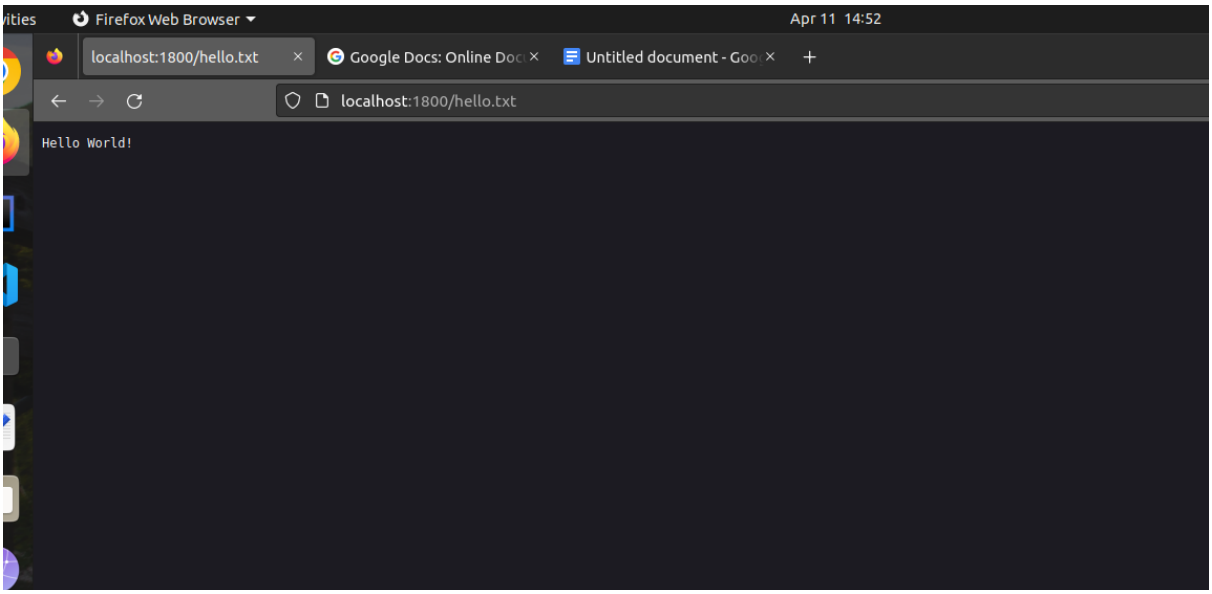
```
/* Node.js static file web server */

// Importing necessary modules
const http = require('http');
const url = require('url');
const fs = require('fs');
const path = require('path');

// Port on which the server will create
const PORT = 1800;

// Maps file extension to MIME types which
// helps browser to understand what to do
// with the file
const mimeType = {
        '.ico': 'image/x-icon',
        '.html': 'text/html',
        '.js': 'text/javascript',
        '.json': 'application/json',
        '.css': 'text/css',
        '.png': 'image/png',
        '.jpg': 'image/jpeg',
        '.wav': 'audio/wav',
        '.mp3': 'audio/mpeg',
        '.svg': 'image/svg+xml',
        '.pdf': 'application/pdf',
        '.doc': 'application/msword',
        '.eot': 'application/vnd.ms-fontobject',
        '.ttf': 'application/font-sfnt'
};
```

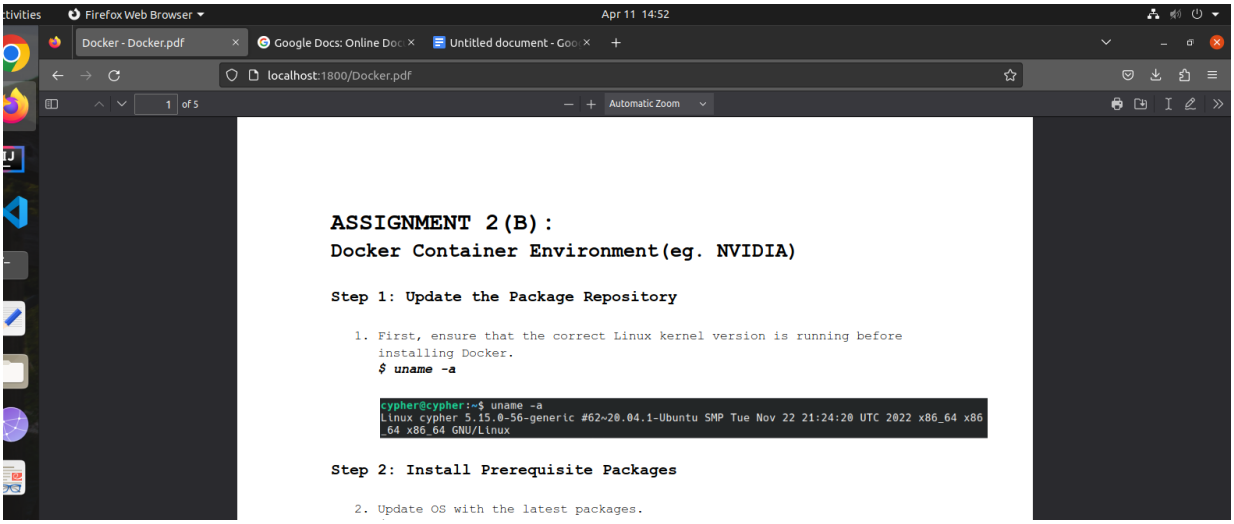
```
// Creating a server and listening at port 1800
http.createServer( (req, res) => {


        // Parsing the requested URL
        const parsedUrl = url.parse(req.url);

        // If requested url is "/" like "http://localhost:1800/"
        if(parsedUrl.pathname==="/"){
                var filesLink="<ul>";
                res.setHeader('Content-type', 'text/html');
                var filesList=fs.readdirSync("./");
                filesList.forEach(element => {
                        if(fs.statSync("./"+element).isFile()){
                                filesLink+=`<br/><li><a href='./${element}'>
                                        ${element}
                                </a></li>` ;
                        }
                });

                filesLink+="</ul>";

                res.end("<h1>List of files:</h1> " + filesLink);
        }

        /* Processing the requested file pathname to
        avoid directory traversal like,
        http://localhost:1800/../fileOutofContext.txt
        by limiting to the current directory only. */
        const sanitizePath =
        path.normalize(parsedUrl.pathname).replace(/^(\.\.[\/\\])+/, '');

        let pathname = path.join(__dirname, sanitizePath);

        if(!fs.existsSync(pathname)) {
```

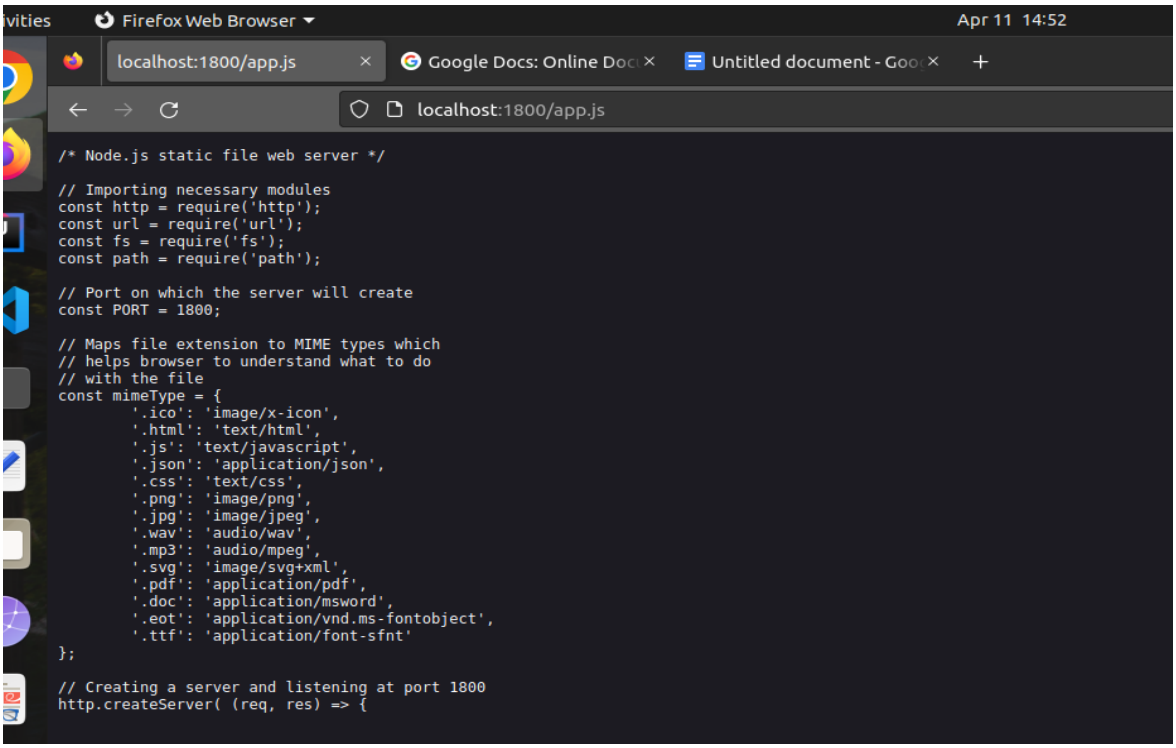
```
            // If the file is not found, return 404
            res.statusCode = 404;
            res.end(`File ${pathname} not found!`);
        }
        else {

            // Read file from file system limit to
            // the current directory only.
            fs.readFile(pathname, function(err, data) {
                if(err){
                    res.statusCode = 500;
                    res.end(`Error in getting the file.`);
                }
                else {

                    // Based on the URL path, extract the
                    // file extension. Ex .js, .doc, ...
                    const ext = path.parse(pathname).ext;

                    // If the file is found, set Content-type
                    // and send data
                    res.setHeader('Content-type',
                                mimeType[ext] || 'text/plain' );

                    res.end(data);
                }
            });
        }
}).listen(PORT);

console.log(`Server listening on port ${PORT}`);
```

Output:


Firefox Web Browser
Apr 11 14:51
localhost:1800/
Google Docs: Online Doc
Untitled document - Goo
localhost:1800
List of files:
Docker.pdf
app.js
hello.txt
package-lock.json
package.json
sample.html
sea.jpg
styles.css


Firefox Web Browser
Apr 11 14:52
localhost:1800/hello.txt
Google Docs: Online Doc
Untitled document - Goo
localhost:1800/hello.txt
Hello World!


Firefox Web Browser
Apr 11 14:52
Docker - Docker.pdf
Google Docs: Online Doc
Untitled document - Goo
localhost:1800/Docker.pdf
1 of 5
Automatic Zoom
ASSIGNMENT 2(B):
Docker Container Environment(eg. NVIDIA)
Step 1: Update the Package Repository
1. First, ensure that the correct Linux kernel version is running before installing Docker.
$ uname -a
cypher@cypher:~$ uname -a
Linux cypher 5.15.0-56-generic #62~20.04.1-Ubuntu SMP Tue Nov 22 21:24:20 UTC 2022 x86_64 x86_64 x86_64 GNU/Linux
Step 2: Install Prerequisite Packages
2. Update OS with the latest packages.


Firefox Web Browser
Apr 11 14:52
localhost:1800/app.js
Google Docs: Online Doc
Untitled document - Goo
localhost:1800/app.js
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'.wav': 'audio/wav',
'.mp3': 'audio/mpeg',
'.svg': 'image/svg+xml',
'.pdf': 'application/pdf',
'.doc': 'application/msword',
'.eot': 'application/vnd.ms-fontobject',
'.ttf': 'application/font-sfnt'
};
// Creating a server and listening at port 1800
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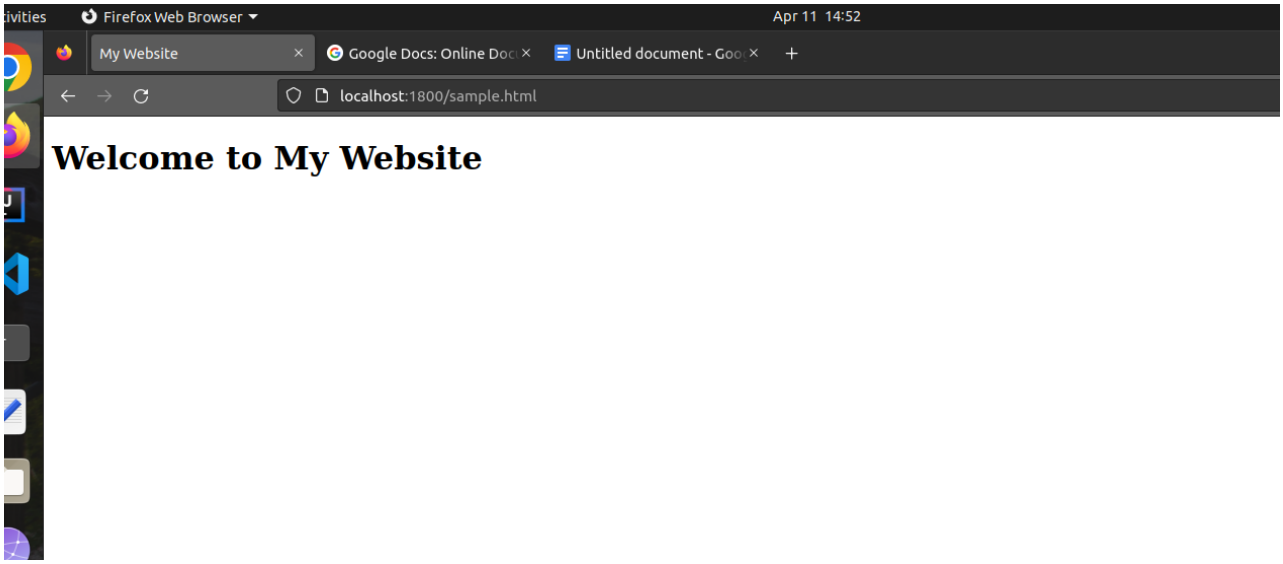
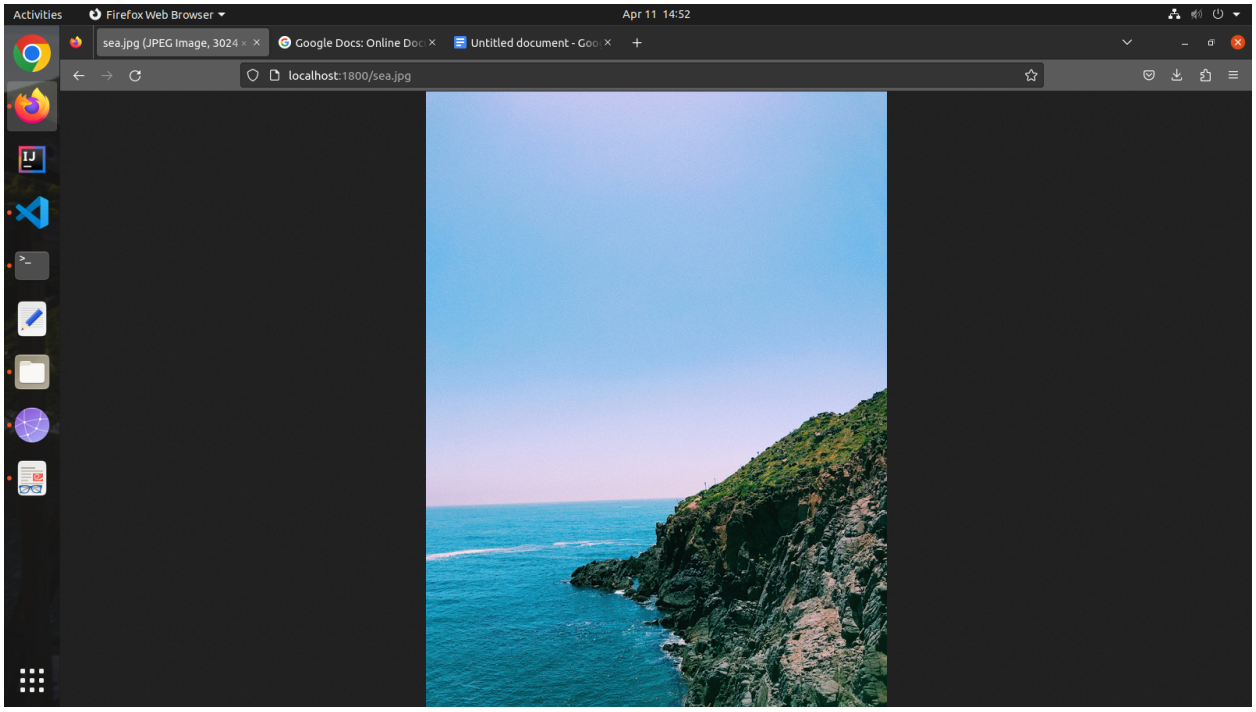

Firefox Web Browser
Apr 11 14:52
My Website
Google Docs: Online Doc
Untitled document - Goo
localhost:1800/sample.html
Welcome to My Website


Activities
Firefox Web Browser
Apr 11 14:52
sea.jpg (JPEG Image, 3024
Google Docs: Online Doc
Untitled document - Goo
localhost:1800/sea.jpg