

SIT323/SIT737- Cloud Native Application Development

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2.1P: Node.js and Express

GitHub Link: <https://github.com/AndyWanng/Deakin-SIT323-2024.git>

Code Overview:

The provided code establishes a web server using Node.js and the Express framework. It serves a static HTML file to clients accessing the server.

Key Components:

- **Express Initialization:**
 - `const app = express();`: Initializes an Express application, allowing us to define routes and handle HTTP requests.
- **Port Configuration:**
 - `const port = 3000;`: Specifies the port number where the server will listen for incoming requests.
- **Static File Serving:**
 - `app.use(express.static('public'));`: Instructs Express to serve static files (e.g., HTML, CSS, images) from the 'public' directory.
- **Handling Root Route:**
 - `app.get('/', ...)`: Defines a route handler for GET requests to the root URL ('/'). It responds by sending the HTML file located at '/public/index.html' to the client.
- **Server Initialization:**
 - `app.listen(port, ...)`: Starts the server and listens for incoming connections on the specified port. Upon server startup, it logs a message indicating that it's

listening.

HTML File:

The HTML file (**index.html**) serves as the basic webpage content. It includes a heading (**<h1>**) and a paragraph (**<p>**), displaying the text "Hello, World!" and "This is a simple HTML page served by Express on Node.js."

Conclusion:

The provided code creates a straightforward web server using Node.js and Express, serving a static HTML page. This setup can be expanded and customized to develop more complex web applications.

Screenshots of the code:

index.html:

```
package.json  server.js  <> index.html x
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>My Simple Web Page</title>
7  </head>
8  <body>
9      <h1>Hello, World!</h1>
10     <p>This is a simple HTML page served by Express on Node.js.</p>
11 </body>
12 </html>
13
```

server.js

```
package.json  server.js x  <> index.html
1  const express : e | () => core.Express = require("express");
2  const app : any | Express = express();
3  const port : number = 3000;
4
5  app.use(express.static( root: 'public' ));
6
7  app.get('/', (req : Request<P, ResBody, ReqBody, ReqQuery, LocalsObj> , res : Response<ResBody, LocalsObj> ) : void => {
8      res.sendFile( path: __dirname + '/public/index.html' );
9  });
10
11 app.listen(port, hostname: () : void => {
12     console.log('Server listening at ${port}');
13 });
```

running on port 3000:

```
Terminal  Local x + v
Windows PowerShell
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安装最新的 PowerShell，了解新功能和改进！ https://aka.ms/PSWindows

PS C:\Users\22396\WebstormProjects\task-2.1> node server.js
Server listening at 3000
█
```

Webpage:

Hello, World!

This is a simple HTML page served by Express on Node.js.