

Experiment 1

Node.js: Setting Up Coding Environment

Experiment 1: Setting Up Node.js Environment

Lab Objective: Set up a Node.js development environment.

Step 1: Install Node.js

Download Node.js®

Get Node.js® v22.19.0 (LTS) for Windows using Docker with npm

Info Want new features sooner? Get the [latest Node.js version](#) instead and try the latest improvements!

```
1 # Docker has specific installation instructions for each operating system.
2 # Please refer to the official documentation at https://docker.com/get-started/
3
4 # Pull the Node.js Docker image:
5 docker pull node:22-alpine
6
7 # Create a Node.js container and start a Shell session:
8 docker run -it --rm --entrypoint sh node:22-alpine
9
10 # Verify the Node.js version:
11 node -v # Should print "v22.19.0".
12
13 # Verify npm version:
14 npm -v # Should print "10.9.3".
```

PowerShell Copy to clipboard

Docker is a containerization platform. If you encounter any issues please visit [Docker's website](#)

Or get a prebuilt Node.js® for Windows running a x64 architecture.

[Windows Installer \(.msi\)](#) [Standalone Binary \(.zip\)](#)

Verify Installation:

```
C:\Users\91959>node -v
v22.17.1
```

```
C:\Users\91959>npm -v
11.4.2
```

Step 2: Set Up a Project Directory

```
PS C:\Users\91959\Desktop\Collage\3rd_year\Gulsan_Sir\Backend> mkdir my-node-app  
  
Directory: C:\Users\91959\Desktop\Collage\3rd_year\Gulsan_Sir\Backend  
  
Mode          LastWriteTime    Length Name  
----          -----          ----  
d----  02-09-2025    20:38      my-node-app  
  
PS C:\Users\91959\Desktop\Collage\3rd_year\Gulsan_Sir\Backend> cd my-node-app  
PS C:\Users\91959\Desktop\Collage\3rd_year\Gulsan_Sir\Backend\my-node-app> |
```

Step 3: Initialize a Node.js Project

- PS C:\Users\91959\Desktop\Collage\3rd_year\Gulsan_Sir\Backend\my-node-app> npm init -y
Wrote to C:\Users\91959\Desktop\Collage\3rd_year\Gulsan_Sir\Backend\my-node-app\package.json:

{
 "name": "my-node-app",
 "version": "1.0.0",
 "description": "",
 "main": "index.js",
 "scripts": {
 "test": "echo \"Error: no test specified\" && exit 1"
 },
 "keywords": [],
 "author": "",
 "license": "ISC",
 "type": "commonjs"
}

Step 4: Install Dependencies

- PS C:\Users\91959\Desktop\Collage\3rd_year\Gulsan_Sir\Backend\my-node-app> npm install express
added 67 packages, and audited 68 packages in 4s
14 packages are looking for funding
 run `npm fund` for details
found 0 vulnerabilities

Step 5: Create Your First Node.js File

- PS C:\Users\91959\Desktop\Collage\3rd_year\Gulsan_Sir\Backend\my-node-app> touch app.js
Touching app.js

```
● ● ●  
1 const http = require("http");  
2 const hostname = "127.0.0.1";  
3 const port = 3000;  
4 const server = http.createServer((req, res) => {  
5     res.statusCode = 200;  
6     res.setHeader("Content-Type", "text/plain");  
7     res.end("Hello World\n");  
8 });  
9 server.listen(port, hostname, () => {  
10     console.log(`Server running at http://${hostname}:${port}/`);  
11 })
```

Step 6: Run the Node.js Application

```
PS C:\Users\91959\Desktop\Collage\3rd_year\Gulsan_Sir\Backend\my-node-app> node app.js  
Server running at http://127.0.0.1:3000/
```

