

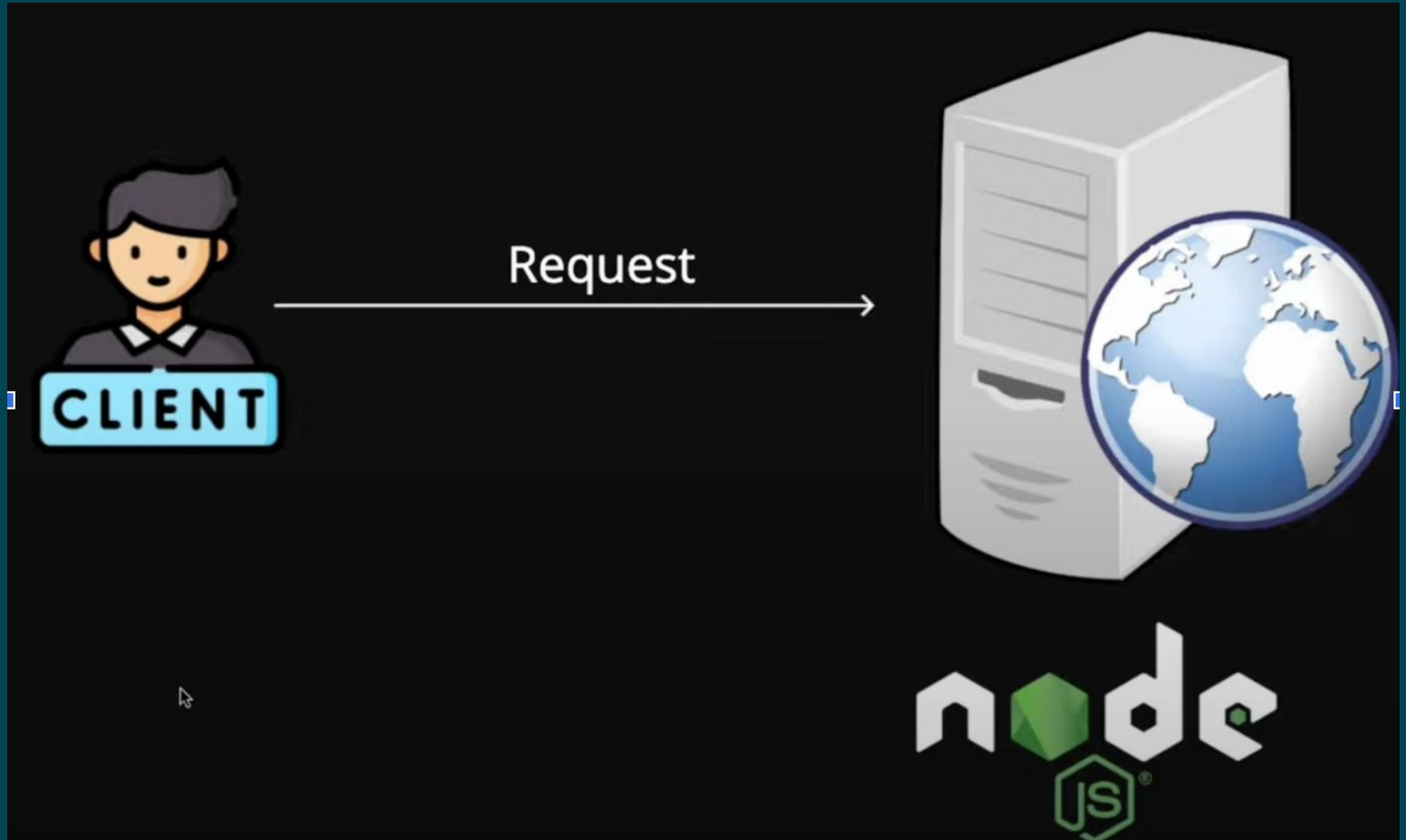
HTTP Server

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Client Server Architecture



What is Server ?

An HTTP server is a type of server that communicates with clients (like web browsers) using the HTTP (Hypertext Transfer Protocol). Its main job is to receive requests from clients and respond with the appropriate resources, such as HTML pages, images, or data

What Does an HTTP Server Do?

Listens for Requests: The HTTP server waits for incoming client requests, typically over the internet. These requests usually ask for web pages or resources like images, stylesheets, or JavaScript files.

Processes the Requests: Once the server receives a request, it checks what the client is asking for. This could be:

- An HTML webpage.
- Data from a database.
- A file (like an image or a document).

Sends a Response: After processing the request, the server sends back a response. This response might include:

- An HTML page for the client's browser to display.
- JSON data for an API call.
- A status code (like 200 for success, 404 for "Not Found").

What is port ?

A port in computer networking is a virtual "door" or communication endpoint that allows devices to connect and send data over a network. Think of it as a specific channel through which data can enter or leave your computer.

What is localhost ?

Localhost refers to the computer you're currently using. It acts as a hostname that points to your own device, allowing you to test network applications without needing an internet connection or involving any external devices

JS index.js



package.json

JS index.js > ...

```
1  const http = require('http');
2  const httpServer = http.createServer((req, res) => {
3      console.log('Received request from Client');
4      console.log('Sending Response to client ');
5      res.end("Response from Server");
6  });
7  httpServer.listen(8001, () => console.log("Server Started"));
8
```

PROBLEMS

1

TERMINAL

DEBUG CONSOLE

PORTS

node + v

gajanan@Gajanan's-MacBook-Air first-app % npm start

> first-app@1.0.0 start

> node index

Server Started

Nodemon Dependency

Nodemon is a tool that helps automatically restart your Node.js application when it detects file changes in the project. It's primarily used during development to save time by avoiding the need to manually stop and restart the server every time you make a change.

Note: please make sure to install nodemon with flat g to avoid errors.

→ `npm install nodemon -g`

Nodemon command to start server

`nodemon start`

What is Routing ?

In Node.js, a route is simply a way to define how your server responds to different URLs (paths) when users visit or interact with your website or application. Each route is associated with a specific URL and HTTP method (like GET or POST).

Easy Analogy:

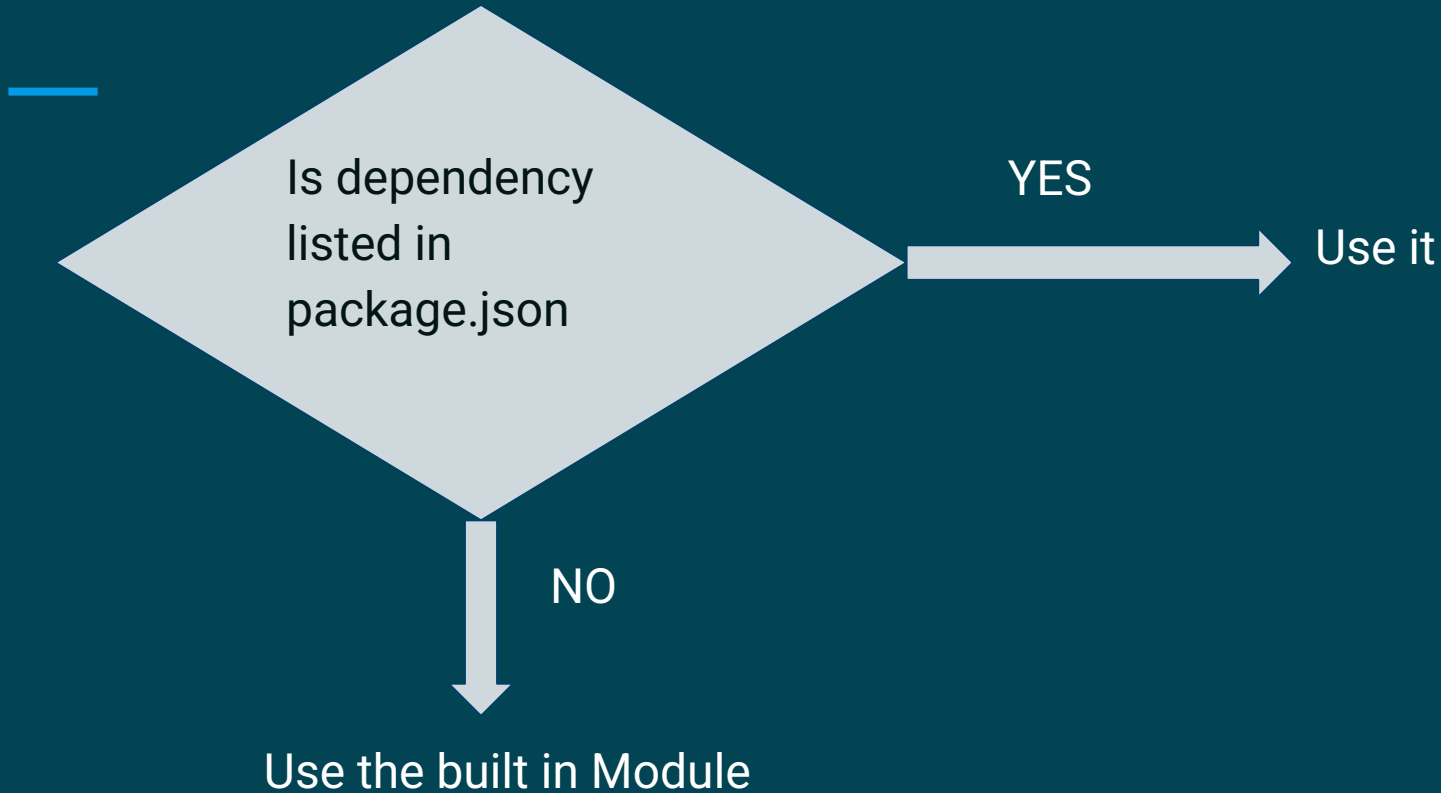
Imagine you're running a food delivery service. The routes are like delivery instructions. For example:

- `/home` could show the homepage.
- `/about` could provide information about your service.
- `/order` could allow users to place an order

Routing using http core module

```
const http = require('http');
const server = http.createServer((req, res)=>{
  console.log('Received request from client');
  const url = req.url;
  switch (url) {
    case '/':
      res.end('Hey this is Home Page..');
      break;
    case '/about':
      res.end('Hey This is about me page');
      break;
    case 'education':
      res.end('This is education page');
    default:
      res.end("Page not found..");
      break;
  }
});
server.listen(8001, ()=>{
  console.log('Started server successfully');
});
```


Dependency Search Flow



Website → npmjs.com

The website npmjs.com is the official site for npm (Node Package Manager). It is a registry where developers can find, share, and download reusable packages (libraries, modules) for Node.js projects.

Key Features:

1. **Search for Packages:** Developers can search for millions of open-source JavaScript libraries and tools that help build web applications, services, and more.
2. **Download and Install:** npm allows you to easily install these packages into your projects by using the `npm install` command.
3. **Publish Your Own Packages:** You can upload and share your own packages with the community.
4. **Package Documentation:** Each package has detailed documentation, including installation instructions, usage examples, and version history.

Install module 'url' from npmjs.com

Use command → `npm install url` OR `npm i url`

Thank You



Success is not a milestone, it's a journey. And we have vowed to help you in yours.



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