

## Day 16 – Introduction to Node.js & Basics

### Challenge 1: Node.js Fundamentals

#### User Story:

As a new developer, I want to understand what Node.js is and how it differs from browser-based JavaScript so that I can use it effectively for backend development.

#### Problem Statement:

Create a `hello-node.js` file that logs:

- Node.js version
- Current file name and directory
- A welcome message printed every 3 seconds (using `setInterval`).

#### Expected Outcome:

- Demonstrate basic Node execution using `node hello-node.js`.
- Console should show continuous messages every 3 seconds.

#### Bonus:

Add a stop timer logic after 10 seconds using `clearInterval()`.

#### Self-Evaluation Metrics:

Metric	Target
Successfully run Node script from terminal	
Used global objects ( <code>__filename</code> , <code>__dirname</code> )	
Used timers ( <code>setInterval</code> , <code>clearInterval</code> ) correctly	

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## Challenge 2: Understanding npm

### User Story:

As a developer, I want to use npm to manage dependencies for my Node application efficiently.

### Problem Statement:

Initialize a project using `npm init -y`.

Install `chalk` and `figlet` packages to display a colorful stylized message in the terminal.

### Expected Outcome:

- The app prints a stylized "Welcome to Node.js" banner in color.
- Uses external modules from npm.

### Bonus:

Add a script in `package.json` to run the app using `npm start`.

### Self-Evaluation Metrics:

Metric	Target
Created <code>package.json</code> correctly	
Installed npm dependencies	
Used npm script ( <code>npm start</code> )	

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## Challenge 3: Creating a Simple Node Application

### User Story:

As a user, I want a small CLI application that takes my name as input and greets me with the current date and time.

### Problem Statement:

Create a simple CLI Node app (`greet.js`) that:

- Accepts user input from command line (process.argv).
- Displays “Hello, [Name]! Today is [Date-Time]”.

**Expected Outcome:**

node greet.js John → “Hello, John! Today is Fri Nov 7 2025, 10:45 AM”.

**Bonus:**

Format date/time using the moment package.

**Self-Evaluation Metrics:**

Metric	Target
Used process.argv correctly	
Output matches expected format	
Used external npm package	

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