Day 16 — Introduction to Node.js & Basics

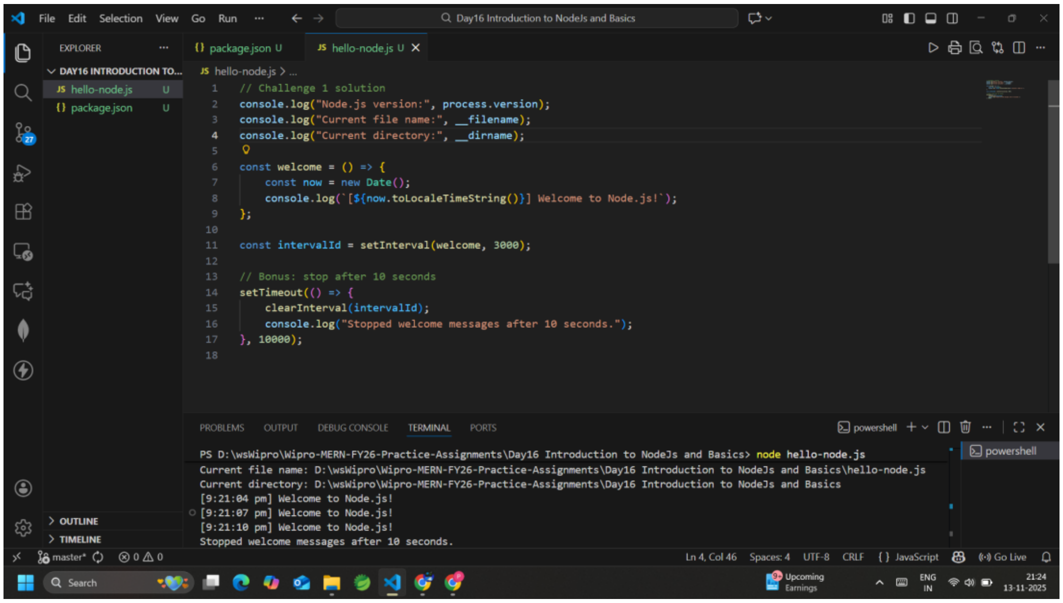
This report summarizes the three coding challenges completed as part of the Day 16 Node.js assignment. Each challenge demonstrates a key Node.js concept such as global objects, timers, CLI arguments, and external npm packages.

Challenge 1: Hello Node

This challenge demonstrates Node.js fundamentals. The program prints Node version, file name, and directory path. It uses setInterval() to display a welcome message every 3 seconds and clearInterval() to stop after 10 seconds.

Approach:

1. Used built-in global objects (__filename, __dirname).
2. Implemented setInterval() for periodic messages.
3. Used setTimeout() to clear the interval automatically.



```javascript
// Challenge 1 solution
console.log("Node.js version:", process.version);
console.log("Current file name:", __filename);
console.log("Current directory:", __dirname);

const welcome = () => {
    const now = new Date();
    console.log(`[${now.toLocaleTimeString()}] Welcome to Node.js!`);
};

const intervalId = setInterval(welcome, 3000);

// Bonus: stop after 10 seconds
setTimeout(() => {
    clearInterval(intervalId);
    console.log("Stopped welcome messages after 10 seconds.");
}, 10000);
```

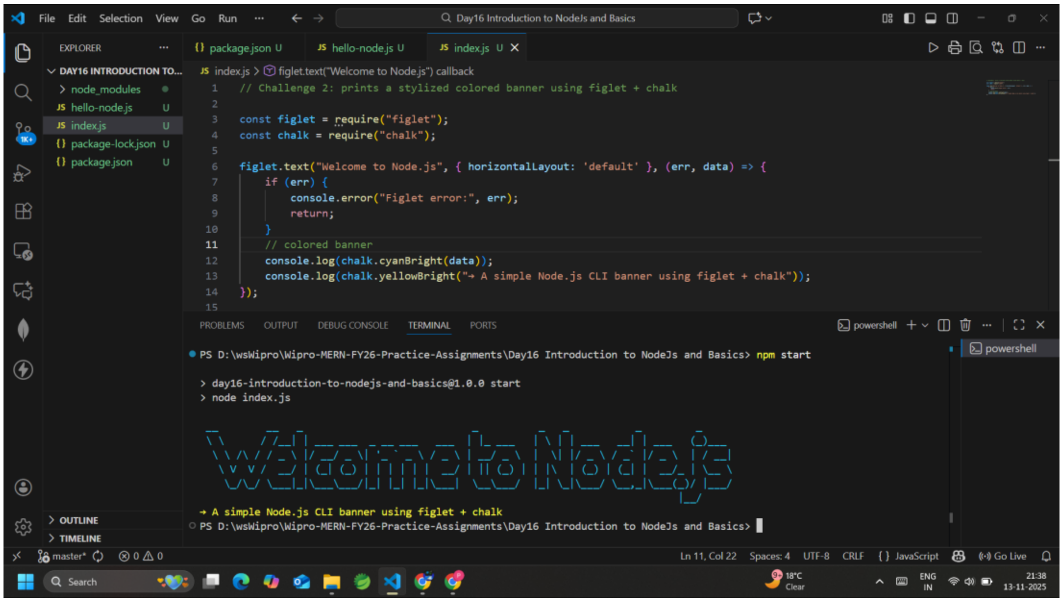
```
PS D:\wsWipro\Wipro-MERN-FY26-Practice-Assignments\Day16 Introduction to NodeJs and Basics> node hello-node.js
Current file name: D:\wsWipro\Wipro-MERN-FY26-Practice-Assignments\Day16 Introduction to NodeJs and Basics\hello-node.js
Current directory: D:\wsWipro\Wipro-MERN-FY26-Practice-Assignments\Day16 Introduction to NodeJs and Basics
[9:21:04 pm] Welcome to Node.js!
[9:21:07 pm] Welcome to Node.js!
[9:21:10 pm] Welcome to Node.js!
Stopped welcome messages after 10 seconds.
```

Challenge 2: Colorful Banner App

This challenge prints a colorful banner on the terminal using the figlet and chalk libraries. It demonstrates how to install and use external npm packages and create a custom npm start script.

Approach:

1. Imported figlet to generate stylized ASCII text.
2. Used chalk to color the terminal output.
3. Configured an npm start script in package.json to execute index.js directly.



```javascript
// Challenge 2: prints a stylized colored banner using figlet + chalk

const figlet = require("figlet");
const chalk = require("chalk");

figlet.text("Welcome to Node.js", { horizontalLayout: 'default' }, (err, data) => {
    if (err) {
        console.error("Figlet error:", err);
        return;
    }
    // colored banner
    console.log(chalk.cyanBright(data));
    console.log(chalk.yellowBright("→ A simple Node.js CLI banner using figlet + chalk"));
});
```

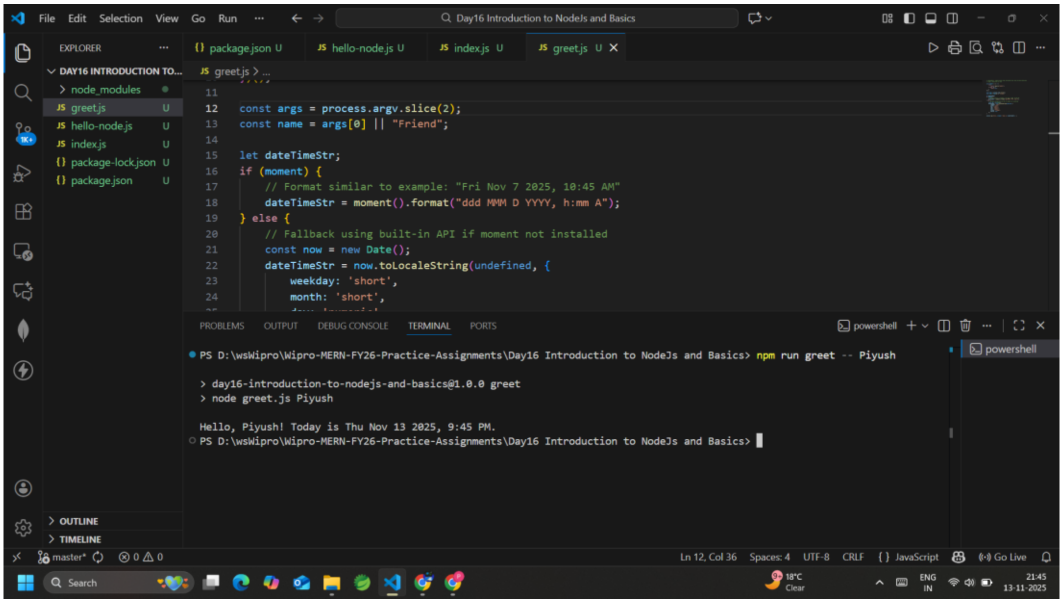
```
PS D:\wsWipro\Wipro-MERN-FY26-Practice-Assignments\Day16 Introduction to NodeJs and Basics> npm start

> day16-introduction-to-nodejs-and-basics@1.0.0 start
> node index.js

→ A simple Node.js CLI banner using figlet + chalk
PS D:\wsWipro\Wipro-MERN-FY26-Practice-Assignments\Day16 Introduction to NodeJs and Basics>
```

Challenge 3: CLI Greeting App

This challenge takes a user's name as a command-line argument and greets them with the current date and time. It uses the process.argv array to capture input and the moment library for formatted timestamps.

Approach:

1. Retrieved user input using process.argv.
2. Formatted date and time using moment().
3. Provided a fallback using JavaScript's built-in Date object if moment was not available.



```javascript

const args = process.argv.slice(2);
const name = args[0] || "Friend";

let dateTimeStr;
if (moment) {
    // Format similar to example: "Fri Nov 7 2025, 10:45 AM"
    dateTimeStr = moment().format("ddd MMM D YYYY, h:mm A");
} else {
    // Fallback using built-in API if moment not installed
    const now = new Date();
    dateTimeStr = now.toLocaleString(undefined, {
        weekday: 'short',
        month: 'short',
```

```
PS D:\wsWipro\Wipro-MERN-FY26-Practice-Assignments\Day16 Introduction to NodeJs and Basics> npm run greet -- Piyush

> day16-introduction-to-nodejs-and-basics@1.0.0 greet
> node greet.js Piyush

Hello, Piyush! Today is Thu Nov 13 2025, 9:45 PM.
PS D:\wsWipro\Wipro-MERN-FY26-Practice-Assignments\Day16 Introduction to NodeJs and Basics>
```

Conclusion

All three challenges successfully demonstrate the fundamentals of Node.js, including working with global objects, timers, npm packages, and command-line interaction. This assignment provided practical experience in executing and managing Node.js scripts.