Node.js - Day 1: Introduction & Hello World

■ Session Plan (2 Academic Hours)

- Part 1 (35 min): Introduction to Node.js
- Part 2 (20 min): Setting up the environment
- Part 3 (20 min): Writing and running the first program (Hello World)
- Part 4 (15 min): Quick recap & questions

■ Part 1: What is Node.js?

Node.js is an open-source, cross-platform runtime environment that allows JavaScript to run outside the browser. It is used for building servers, APIs, tools, and full applications.

■■ Why Node.js?

- ■ Fast & efficient – uses Google's V8 JavaScript engine.
- ■ Huge ecosystem – NPM provides access to millions of libraries.
- ■ Non-blocking & event-driven – ideal for real-time apps.
- ■ Same language (JavaScript) for front-end & back-end.
- ■ Scalable – powers apps like Netflix, Uber, PayPal.

■■ Part 2: Setting Up Node.js

1. Install Node.js from https://nodejs.org/ (choose LTS version).
2. Installation also includes NPM (Node Package Manager).
3. Verify installation:
node -v
npm -v

■ Part 3: Hello World in Node.js

1. Create a project folder:
mkdir my-first-node-app
cd my-first-node-app
2. Create a file:
touch app.js
3. Write in **app.js**:
console.log("Hello, Node.js World!");
4. Run the program:
node app.js You should see: **Hello, Node.js World!**

■ Hands-On Challenge

Ask students to create their own file (e.g., greeting.js) and print a custom message.
console.log('Hello from [Student Name]!');

■ Part 4: Recap & Questions

- Node.js lets JavaScript run outside the browser.
- Ideal for building back-end, APIs, and real-time apps.
- Installed via nodejs.org
- First program run using: node app.js

■ Homework

- Research 3 popular apps built with Node.js.
- Write a small program that prints your name, today’s date, and one fact about yourself.
console.log("My name is Ardit"); console.log("Today’s date is " + new Date().toDateString()); console.log("I love learning Node.js!");