

Introduction to Node.js

1. What is Node.js?

-> Node.js ek JavaScript runtime hai jo browser ke bahar JS chalata hai. Fast hota hai kyunki V8 engine use karta hai.

Founder :- Ryan Dahl

Launch :- 2009

2. What is a Server?

-> Ek system hota hai jo client ko data ya service deta hai.

3. What is Cross-Platform?

-> Cross-platform ka matlab hota hai aisa software jo Windows, macOS aur Linux jaise multiple operating systems par bina dobara likhe chal sakta hai.

4. What is Server-Side Scripting?

-> Server-side scripting mein code server par run hota hai, browser par nahi. Isse database se data laakar user ko dynamic aur customized web pages milte hain.

5. Alternatives to Node.js :-

- > 1.PHP
- 2.Java
- 3.Ruby
- 4.Python

6. Uses of Node.js :-

- > 1.Real-time applications (e.g., chat applications, online gaming)
- 2.Data streaming
- 3.Wireless connectivity
- 4.System monitoring dashboards
- 5.Chatbots
- 6.RESTful APIs

7. What is REPL(Read-Eval-Print Loop)?

-> REPL ek interactive shell hai jo Node.js ke saath aata hai aur terminal me run hota hai. Isme aap JavaScript code line by line run kar sakte ho.

1.Read: User ka input leta hai

2.Eval: Code ko execute karta hai

3.Print: Result show karta hai

4.Loop: Ye process repeat hota rehta hai jab tak aap exit na karo (Ctrl+C ya Ctrl+D)

8. What is Global Objects in Node.js?

-> Node.js me kuch global objects hote hain jo bina import kiye kahin bhi use ho sakte hain.

1.__filename: Current file ka complete path batata hai

2.__dirname: Current file ke folder ka complete path batata hai

9. Node.js Modules types and Example.

-> Types of Modules :-

- 1.Core Modules
- 2.Local Modules
- 3.Third-Party Modules

1.Core Module :- Core modules Node.js me built-in hote hain, inhe install karne ki zarurat nahi hoti. Inhe require() se use karte hain.

Examples :-

1.http: HTTP server banane ke liye

2.fs: File system ke saath kaam karne ke liye

- 3.path: File aur folder paths handle karne ke liye
- 4.querystring: URL query string parse/format karne ke liye
- 5.url: URL ko parse aur handle karne ke liye

2.Local Modules :- Local modules user-defined hote hain jo Node.js app ke andar banaye jaate hain. Ye specific functionality ko alag files ya folders me organize karte hain.

3.Third-Party Modules :- Third-party modules npm se milte hain aur project me install kiye jaate hain.

Examples :-

- 1.mongoose: MongoDB ke saath kaam karne ke liye
- 2.multer: File upload handle karne ke liye
- 3.passport: Authentication ke liye
- 4.cookie-parser: Cookies parse karne ke liye

10. What is Express.js?

-> Express.js ek lightweight Node.js framework hai jo server banana aur HTTP request/response handle karna easy banata hai.

11. MVC Framework :-

- > 1.Model(M) :- Data aur logic handle karta hai.
- 2.View(V) :- User ko data show karta hai (UI).
- 3.Controller(C) :- User input handle karta hai.
- 4.EJS (Embedded JavaScript) :- EJS ek templating engine hai jo JavaScript se dynamic HTML banata hai. Express ke saath use hota hai.

12. Installation of Express.js and EJS :-

- > 1.npm install express
- 2.npm install ejs

13. What is Nodemon?

-> File change hote hi server auto-restart karta hai.

```
"scripts": {  
  "start": "nodemon index.js"  
}
```

Note :- EJS files ko views folder me .ejs extension ke saath rakho