Javascript

Introduction to Javascript 🙂

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Javascript is a single threaded Synchronous Programming Language.

Single Threaded

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 In JavaScript, "single-threaded" means that it executes one Statement or code or instruction at a time.

Synchronous

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Synchronous means JavaScript executes code line by line, in order, waiting for each operation to complete before moving to the next one.

Programming Language

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A programming language is a set of instructions that a computer can understand and execute. It allows developers to write code that tells a computer what to do.

Think of it as a language for computers, just like we use English or Hindi to communicate with people. Computers understand only binary (0s and 1s), so programming languages make it easier for humans to give instructions without writing in binary.

Purpose of Javascript 👋

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1. It is used to create Dynamic User Interface
    a. We can change the data on the existing UI Component
    b. We can change the style of the UI Component
    c. We can remove or add or modify the existing UI Components
    d. Everything is done on demand

2. It is used to create Entire Web Application
3. It is used for Form Validations or Data Validation
4. It is used to integrate Frontend Application & Backend Application.

Program in Javascript 🧐

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It is a file which contains a set of instructions in any Programming Language.

Programming 😀

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It is a Process of adding instruction in the file and giving it to a system so that it can follow it.

Execution 😁

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It is a Process of Following the instruction to do some action.

NodeJS Installation Process 👍

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Step 1: Download Node.js Installer

1. Open your web browser and go to the [official Node.js website](#).
2. You will see:
   - **LTS (Long-Term Support) download button:**
3. Click on the LTS version to download the installer (.msi file).

Step 2: Run the Installer

1. Go to the downloads Folder,and open the .msi file by Double-clicking the file to launch the Node.js Setup Wizard.
2. Click Next to proceed.

Step 3: Accept License Agreement

1. Read the license agreement and select I accept the terms in the License Agreement.
2. Click Next.

Step 4: Choose Installation Location

1. By default, Node.js will be installed in C:\Program Files\nodejs\.
2. If you want to change the location, click Change… and select a new directory.
3. Click Next.

Step 5: Select Components

1. Ensure all components are checked, especially:
   - Node.js runtime
   - npm package manager
   - Add to PATH
   - Corepack manager (optional)
2. Click Next.

Step 6: Install Node.js

1. Click Install to begin the installation process.
2. Wait for the installation to complete.
3. Click Finish to close the wizard.

Step 7: Verify Installation

To check if Node.js and npm (Node Package Manager) are installed correctly:

1. **Open Command Prompt (cmd) or PowerShell.**
   - **Press Win + R, type cmd, and press Enter.**

2. **Type the following command and press Enter to check the Node.js version.**
   - **node -v**
   - **If installed correctly, you will see an output like:**
     v18.17.0