

JavaScript is an high-level, object-oriented programming language optimized for incorporation into websites and executed by the client-side browser.



Also, the language can also run independently, like other languages, with the help of runtime environments like Node.js.

```
graph TD; A[JavaScript is an high-level, object-oriented programming language optimized for incorporation into websites and executed by the client-side browser.] --> B[High-level programming language: A programming language designed for use by human programmers in a language that resembles natural language. There is no need to work with addresses in the computer's memory, managing processor resources, etc. Writing the code is done with the help of variables, arrays, objects, boolean expressions, functions, etc.]; A --> C[Object-Oriented Programming - OOP Object-Oriented Programming (OOP) is a methodology that uses 'objects' to structure programs. This system organizes objects in hierarchical relationships, each embodying unique properties and operations. Encapsulation, a primary principle of OOP, ensures that each object is a self-sufficient unit. Moreover, OOP leverages inheritance, allowing objects to inherit characteristics from 'parent' objects, fostering code reusability. Additionally, it utilizes polymorphism, enabling inherited properties to be used in multiple forms, enhancing flexibility and facilitating cleaner, more intuitive code design.];
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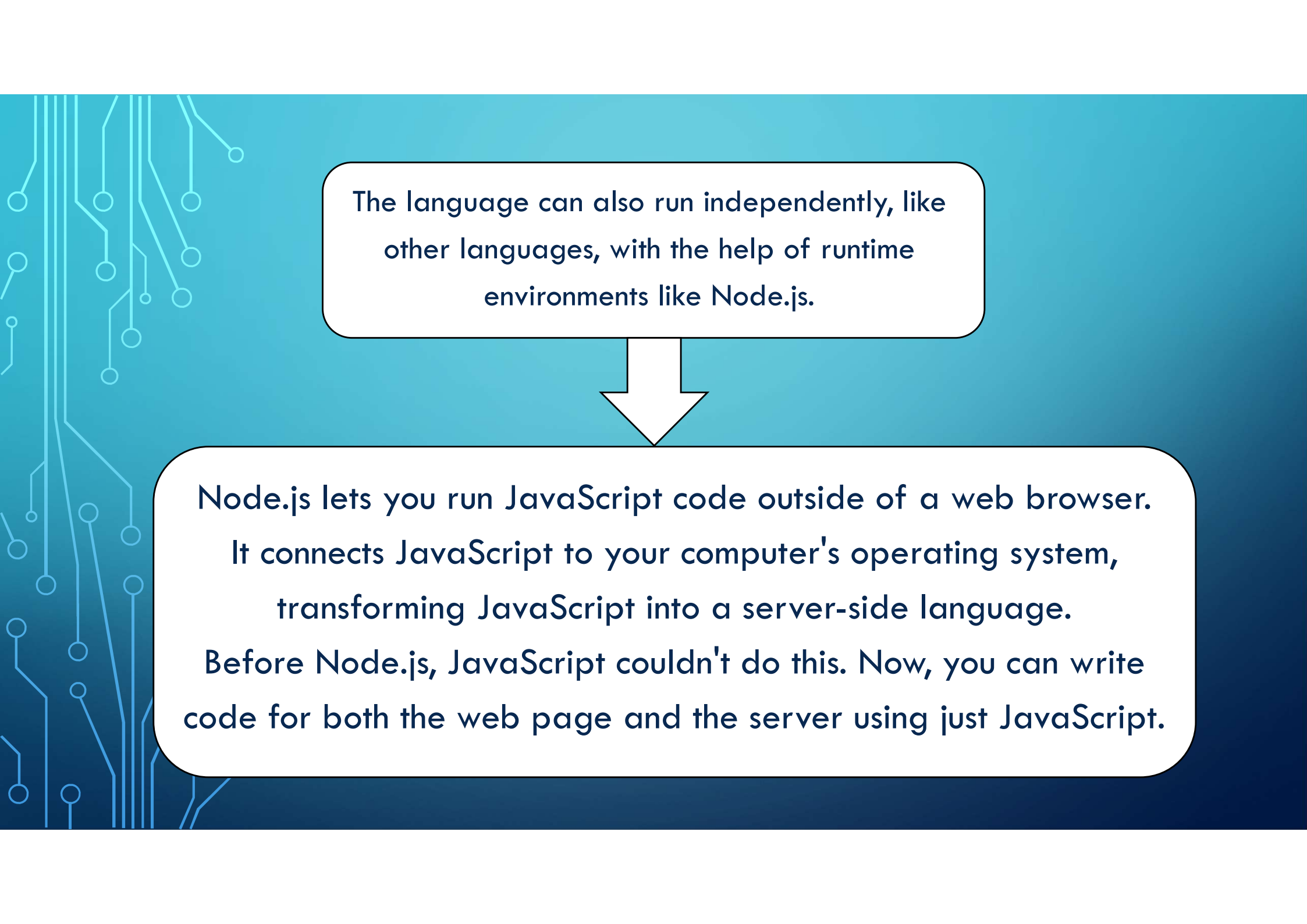
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**High-level programming language:**

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**Object-Oriented Programming - OOP**

Object-Oriented Programming (OOP) is a methodology that uses 'objects' to structure programs. This system organizes objects in hierarchical relationships, each embodying unique properties and operations. Encapsulation, a primary principle of OOP, ensures that each object is a self-sufficient unit. Moreover, OOP leverages inheritance, allowing objects to inherit characteristics from 'parent' objects, fostering code reusability. Additionally, it utilizes polymorphism, enabling inherited properties to be used in multiple forms, enhancing flexibility and facilitating cleaner, more intuitive code design.



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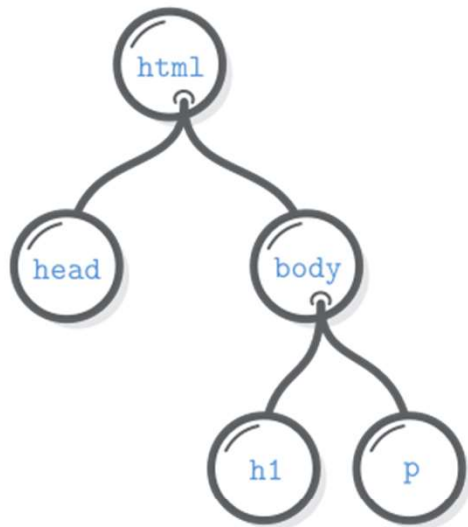
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Node.js lets you run JavaScript code outside of a web browser. It connects JavaScript to your computer's operating system, transforming JavaScript into a server-side language. Before Node.js, JavaScript couldn't do this. Now, you can write code for both the web page and the server using just JavaScript.

The background is a blue gradient. In the corners, there are white line-art illustrations of circuit boards or neural networks, with lines and small circles connecting them.

# WHAT CAN WE DO WITH JAVASCRIPT?

- **Perform Calculations:** Just like a calculator, we can do all sorts of mathematical operations with JavaScript.
- **Control Flow with Conditions:** We can use conditions to control the flow of a program. JavaScript can make decisions and choose different paths based on conditions (If it's raining, take an umbrella).
- **Repeat Actions with Loops:** Loops allow us to repeat certain actions multiple times without rewriting the same code. Think of it as listening to your favorite song on repeat.
- **Create Functions:** Functions are reusable blocks of code that perform a specific task. It's like having a personal chef who can cook your favorite meal whenever you ask.
- **Organize Data with Structures:** JavaScript provides data structures like arrays and objects to store and organize data. Consider it as different types of containers for storing your belongings.
- **Manipulate Data Structures:** Not only can we store data, but we can also change, sort, or retrieve it using various methods. Imagine being able to instantly find your favorite book on a massive bookshelf.
- **Interact with Web Pages:** JavaScript can change the content and style of a webpage, or react to user interactions. It's like a magical paintbrush that can dynamically change the look and feel of your website.
- **Make Web Requests:** JavaScript can talk to servers and APIs to get new data, submit data, and more. Imagine being able to send a letter (request) and getting a response back.
- **Handle Errors:** Using error handling, JavaScript can respond gracefully to unexpected problems, ensuring our program continues to work. Think of it as a safety net.



**HTML**



**CSS**



**JAVASCRIPT**

The blue car drives

Adjectives

Nouns

Verbs

HTML



CSS



JS



Verbs

Adjectives

Nouns

```
submitBtn.addEventListener("click", () => {  
  alert("Hello World!");  
});
```

```
input[type=submit] {  
  width: 100%;  
  background-color: #4CAF50;  
  color: white;  
  padding: 14px 20px;  
  margin: 8px 0;  
  border: none;  
  border-radius: 4px;  
  cursor: pointer;  
}
```

```
<div class="container">  
  <form action="/action_page.php">  
    <input type="submit" value="Submit">  
  </form>  
</div>
```

JS

HTML

CSS





**The most significant  
update!**

ES5

ES6/  
ES2015

ES7/  
ES2016

ES8/  
ES2017

ES9/  
ES2018

ES10/  
ES2019

ES11/  
ES2020

**Modern Javascript**

