Web Development Concepts

0:30

Internet: The global network connecting millions of private, public, academic, business, and government networks.

0:46

Internet Protocol (IP) Suite: The set of communications protocols used for the Internet and other similar networks.

0:55

IP Address: A unique string of numbers separated by periods that identifies each computer using the Internet Protocol to communicate over a network.

1:00

Transmission Control Protocol (TCP): A core protocol of the Internet Protocol Suite that provides reliable, ordered, and error-checked delivery of a stream of data between applications.

1:03

Packets and Data Link (Open Systems Interconnection(OSI) Model): Packets are units of data transmitted over a network. The OSI model is a conceptual framework used to understand network interactions in seven layers.

1:15

World Wide Web (WWW): An information system where documents and other web resources are identified by URLs, interconnected by hyperlinks, and accessible over the Internet.

1:22

Hypertext Transfer Protocol (HTTP): The foundation of data communication for the World Wide Web, defining how messages are formatted and transmitted, and how web servers and browsers should respond to various commands.

1:26

Uniform Resource Locator (URL): The address of a resource on the Internet, consisting of a protocol, domain name, and path to the resource.

1:31

Browser: Software application used to access information on the World Wide Web.

1:36

Client: A piece of computer hardware or software that accesses a service made available by a server.

1:41

Server: A computer program or device that provides functionality for other programs or devices, called clients.

1:43

HTTP Request: A request message from a client to a server asking for a resource.

1:45

HTTP Response: The message sent by the server back to the client after receiving an HTTP request.

1:48

HTTP Messages: The format of requests and responses in the Hypertext Transfer Protocol (HTTP).

1:52

Domain Name: The part of a network address that identifies it as belonging to a particular domain.

1:59

Registrar: An organization or commercial entity that manages the reservation of Internet domain names.

2:01

Internet Corporation for Assigned Names and Numbers (ICANN): A non-profit organization responsible for coordinating the maintenance and procedures of several databases related to the namespaces and numerical spaces of the Internet.

2:08

Domain Name System (DNS): The system that translates domain names into IP addresses so that browsers can load Internet resources.

2:18

HyperText Markup Language (HTML): The standard markup language for documents designed to be displayed in a web browser.

2:21

Dev Tools: A set of tools built directly into the browser that helps developers inspect and debug their code.

2:26

Code Editor: A tool that is designed specifically for writing and editing code, offering features such as syntax highlighting, code completion, and debugging.

2:30

HTML Elements: The building blocks of HTML pages, defined by tags such as , <p>, <a>, etc.

2:41

HTML Forms: Used to collect user input, with elements like <form>, <input>, <textarea>, and <button>.

2:44

HTML Attributes: Provide additional information about HTML elements, defined within the opening tag of an element.

2:56

Anchor tag: The <a> tag in HTML, used to create hyperlinks.

3:05

Document Object Model (DOM): A programming interface for web documents, representing the page so that programs can change the document structure, style, and content.

3:10

Head: The <head> element contains metadata for the document, including the title, links to stylesheets, and scripts.

2:14

Body: The <body> element contains the contents of an HTML document, such as headings, paragraphs, images, links, etc.

3:21

Accessibility and Semantics: Refers to making web content usable for as many people as possible, and using HTML elements according to their meaning to improve usability and accessibility.

3:38

Div tag: The element is a generic container for flow content, which does not inherently represent anything.

3:51

Cascading Style Sheets (CSS): A stylesheet language used to describe the presentation of a document written in HTML or XML.

4:01

Inline Style: CSS code that is applied directly within an HTML element using the style attribute.

4:04

CSS properties: Attributes in CSS that define the styles for HTML elements, such as color, font, and layout properties.

4:14

Cascade: Refers to the way CSS rules are applied in order of specificity and importance, resolving conflicts among different rules.

4:23

Style Tag: The <style> element contains CSS rules to apply styles to an HTML document.

4:26

Selector: A pattern in CSS used to select the elements you want to style.

4:35

Class: An attribute in HTML that can be used to assign a CSS style to one or more elements.

4:45

CSS Specificity: A mechanism that determines which CSS rule to apply by calculating the specificity of the selectors.

4:56

External Stylesheet: A separate CSS file linked to an HTML document, which contains all the styles for the document.

5:04

Box Model: A box that wraps around HTML elements, consisting of margins, borders, padding, and the actual content.

5:12

Block: A display value that makes an element take up the full width available, starting on a new line.

5:20

Inline: A display value that makes an element take up only as much width as necessary, without starting on a new line.

5:29

Relative positioning: Positions the element relative to its normal position without affecting the layout of other elements.

5:34

Absolute positioning: Positions the element relative to the nearest positioned ancestor or initial containing block.

5:40

Fixed positioning: Positions the element relative to the browser window, remaining in place even when the page is scrolled.

5:49

Responsive Layout: A web design approach that makes web pages render well on a variety of devices and window or screen sizes.

6:00

Media Query: A CSS technique used to apply styles based on the conditions such as screen size, resolution, and orientation.

6:10

Flexbox: A CSS layout model that allows elements to align and distribute space within a container, even when its size is unknown or dynamic.

6:19

Grid Layout: A CSS layout method for creating complex, responsive layouts with rows and columns.

6:28

calc() function: A CSS function that performs calculations to determine CSS property values.

6:32

Custom Properties: Also known as CSS variables, they allow you to store values and reuse them throughout a document.

6:39

Syntactically Awesome Stylesheets (SASS): A preprocessor scripting language that is interpreted or compiled into CSS, adding features such as variables, nested rules, and functions.

6:47

JavaScript: A programming language that enables you to create dynamically updating content, control multimedia, animate images, and much more.

6:56

Script Tag: The <script> element is used to embed or refer to an executable script within an HTML or XHTML document.

7:13

Defer attribute: An attribute that can be added to the <script> tag to ensure that the script is executed after the HTML document has been parsed.

7:19

ECMAScript: The standard for scripting languages like JavaScript, defining the language syntax and features.

7:25

Let keyword: Declares a block-scoped local variable, optionally initializing it to a value.

7:28

Const keyword: Declares a block-scoped, read-only named constant.

7:30

Dynamically Typed: Refers to languages like JavaScript where variable types are determined at runtime rather than compile-time.

7:35

TypeScript: A superset of JavaScript that adds static types, providing optional type checking at compile time.

7:43

Events: Actions or occurrences that happen in the system you are programming, which can be responded to using event handlers.

7:53

Browser API: Application Programming Interfaces provided by web browsers to interact with the browser and the device it runs on.

8:03

Event Listener: A procedure or function that waits for an event to occur, such as a user clicking a button.

8:10

Functions and Data Structures: Fundamental building blocks in programming for creating reusable code and organizing data.

8:13

Array: A data structure that can hold more than one value at a time, accessed by an index.

8:19

Object: A data structure that stores data in key-value pairs, often used to represent real-world entities.

8:22

Primitive types: The most basic data types in a programming language, such as number, string, and boolean.

8:29

Prototypal Inheritance: A feature in JavaScript where objects can inherit properties and methods from other objects.

8:38

Classes: A syntactical sugar in JavaScript for creating objects and dealing with inheritance, providing a clearer and more traditional object-oriented approach.

8:53

Frontend Framework: A library or collection of tools that helps developers build user interfaces more efficiently.

9:00

Components: Reusable pieces of code that can be used to build elements of the user interface in a web application.

9:11

Declarative Code: A programming paradigm that expresses the logic of a computation without describing its control flow.

9:16

Imperative Code: A programming paradigm that uses statements to change a program's state, describing the steps that change the state.

9:24

NodeJS: A JavaScript runtime built on Chrome's V8 JavaScript engine, allowing developers to use JavaScript on the server side.

9:35

V8 Engine: The JavaScript engine developed by Google, used in Google Chrome and NodeJS to execute JavaScript code.

9:39

Event Loop: A programming construct that waits for and dispatches events or messages in a program.

9:48

Node Package Manager (NPM): A package manager for JavaScript, allowing developers to share and reuse code and manage dependencies.

9:50

Module: A reusable piece of code that can be exported from one program and imported for use in another.

9:55

Export statement: A statement in JavaScript that allows a module to export its functions or variables for use in other files.

9:57

Import statement: A statement in JavaScript that allows a file to import functions or variables from another module.

10:06

Server-Side Rendering (SSR): The process of rendering a web page on the server instead of in the browser, which can improve performance and SEO.

10:11

HTTP Methods: A set of request methods to indicate the desired action to be performed on the identified resource, such as GET, POST, PUT, DELETE, etc.

10:28

Status Code: A code returned by a web server to indicate the result of a client's request, such as 200 (OK), 404 (Not Found), etc.

10:36

404 Not Found: A standard HTTP status code indicating that the server could not find the requested resource.

10:45

Single-page application (SPA): A web application that interacts with the user by dynamically rewriting the current page rather than loading entire new pages from the server.

11:08

JavaScript Object Notation (JSON): A lightweight data interchange format that is easy for humans to read and write and easy for machines to parse and generate.

11:21

Static-Site Generation (SSG): The process of generating HTML pages at build time rather than on each request, improving performance and security.

11:32

Hydration: The process of converting a static HTML document into a dynamic and interactive one by merging it with JavaScript on the client side.

11:42

First Contentful Paint (FCP) & Time to Interactive (TTI): Metrics used to measure the performance of web pages, FCP marks the time when the first text or image is painted, and TTI marks the time when the page becomes fully interactive.

11:48

Fullstack Framework: A framework that provides tools and features for both frontend and backend development, allowing developers to build complete web applications.

11:57

Module Bundlers: Tools that process and bundle JavaScript files and their dependencies into a single file or a set of files for deployment.

12:05

Linter: A tool that analyzes code for potential errors, stylistic issues, and bugs, helping developers maintain code quality.

12:12

Database: An organized collection of data, generally stored and accessed electronically from a computer system.

12:22

User Authentication: The process of verifying the identity of a user, ensuring that the user is who they claim to be.

12:27

Web Server: Software that serves web content to clients over HTTP or HTTPS, such as Apache or Nginx.

12:33

Localhost: A hostname that refers to the local computer used for testing and development, typically resolved to the IP address 127.0.0.1.

12:39

Cloud: Remote servers accessed over the Internet to store, manage, and process data, often provided by services like AWS, Azure, and Google Cloud.

12:41

Containers: Lightweight, portable, and self-sufficient environments that package applications and their dependencies, commonly managed by tools like Docker and Kubernetes.

12:49

Infrastructure as a service (IAAS) / Platform-as-a-Service (PAAS) / Backend-as-a-Service (BAAS) / Software as a service (SAAS): Various cloud service models that provide different levels of management, from infrastructure to complete applications.

12:57

World Wide Web-based on blockchain technology (Web3): A new iteration of the web that incorporates decentralization, blockchain, and token-based economics.

13:07

Google it!: A new iteration of the web that incorporates decentralization, blockchain, and token-based economics.