1. **What is Emmet ?**

Emmet is a popular web development toolkit and abbreviation engine that helps web developers write HTML and CSS code more quickly and efficiently. It is a built-in feature in Visual Studio. You don't have to install any extension for Emmet support. Emmet prevents you from writing the entire code by yourself by providing Emmet abbreviation. Emmet is enabled by default in html, sass, JSX, xml, less, but it can also be used with programming languages like handlebars and PHP.

1. **Difference between library and framework ?**

A framework is a set of pre-written code that provides a structure for developing software applications. A library , is a collection of pre-written code that can be used to perform specific tasks.

When you use a library, You can choose when and where to call the library. When you use a framework, the framework is in charge of the flow. It provides some places for you to plug in your code, but it calls the code you plugged in as needed.

1. **What is CDN ? Why do we use it ?**

CDN stands for Content Delivery Network or Content Distribution Network that helps to load the heavy application faster. The primary purpose of CDN is to reduce the delay in communication created by a network's design.  Because of the global and complex nature of the internet, communication traffic between websites (servers) and their users (clients) has to move over large physical distances. The communication is also two-way, with requests going from the client to the server and responses coming back.

CDN can do the following tasks:

**Faster Content Delivery:** CDNs help load heavy web applications faster by storing website content on servers geographically closer to users. This reduces the time it takes for data to travel from the web server to the user's computer.

**Reducing Page Load Time:** Faster page load times lead to a better user experience and can decrease bounce rates while increasing user engagement on a website.

**Reducing Bandwidth Costs:** CDNs reduce bandwidth costs by optimizing content delivery, caching resources, and minimizing the data that needs to be served directly from the origin server.

**Increased Content Availability:** CDNs improve website availability by handling more web traffic and distributing it across multiple servers. This helps prevent website crashes due to high traffic or hardware failures.

**Improved Website Security:** CDNs can mitigate Distributed Denial of Service (DDoS) attacks by distributing traffic across multiple intermediary servers. This reduces the impact on the origin server and helps maintain website security and uptime.

1. Why is React known as React ?

React, the JavaScript library for building user interfaces, is known as "React" because of its core concept of "reactive" or "declarative" programming. The name reflects the way React approaches the construction of user interfaces, which is fundamentally different from traditional, imperative programming. React was originally created by Facebook for use in their web applications, and it was released as an open-source project in 2013.

The idea behind React is to build reusable components that can be rendered on the front-end, rather than writing a new piece of code every time you need to display something on the screen.

1. What is cross-origin in the script tag ?

"cross-origin" request or action refers to a request or interaction that occurs between two different origins or domains. An origin is defined by the combination of the protocol (e.g., HTTP, HTTPS), domain (e.g., example.com), and port (if specified). One common scenario where cross-origin restrictions apply is when using the <script> tag to load JavaScript resources.

The purpose of cross-origin attribute is used to share the resource from one domain to another domain. Basically, it is used to handle the CORS request that checks whether it is safe to allow for sharing the resource from other domains. The resource may include Audio, Video, Images, Link or external scripts that specifies whether to support cross-origin or not. The attributes contains two values.

1. anonymous - It has a default value. It defines a CORS request which will be sent without passing the credential information.

2. use-credentials - A cross-origin request will be sent with credentials, cookies, and certificate.

1. What is the difference between React and ReactDOM ?

React :

○ React is a JavaScript library for building user interfaces. It allows developers to create reusable UI components and manage the state of those components efficiently.

React provides the core functionality for building components, managing their state, and handling updates to the user interface.

○ It uses a virtual DOM (Document Object Model) to optimize updates to the actual DOM, making UI updates more efficient and performant.

ReactDOM :

○ ReactDOM is a specific package within the React ecosystem that is responsible for rendering React components into the browser's DOM (Document Object Model).

○ It provides the necessary methods for rendering React elements and components into HTML elements on a web page.

○ ReactDOM is primarily used in web applications to take the virtual DOM generated by React and update the real DOM, which is what the user sees and interacts with.

In summary, React is the core library for building user interfaces in a declarative and component-based way, while ReactDOM is a package that handles the rendering of those React components to the browser's DOM. When building web applications with React, you typically import both React and ReactDOM, but in other environments (e.g., React Native for mobile development), you may use different rendering libraries suited for the platform.

1. What is he difference between react.development.js and react.production.js files via CDN ?

. In development mode, we can enable and utilize React developer tools, devtools profiler, debugging environment attached with source code. We can utilize various functionalities such as Hot Module Replacement, diagnostics so that development environment will help to debug code.

In production mode, compression and minification of JavaScript and other resources happens to reduce size of the code which is not the case when it comes to development mode. Performance will be much faster in production mode when compared to development mode.

1. What are async and defer ?

**async** and **defer** are attributes that can be added to the <script> element when including external JavaScript files in an HTML document. They affect how the browser loads and executes the JavaScript code, and they are primarily used to control the timing of script execution in relation to the HTML document's parsing and rendering process.

async and defer are attributes that control how external JavaScript files are loaded and executed in an HTML document. Use async when you want to load and execute a script asynchronously without waiting for HTML parsing, and use defer when you want to load a script asynchronously but delay its execution until after HTML parsing is complete and maintain the order of script execution. The choice between them depends on your specific use case and requirements.

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