

ASSIGNMENT 01 - INCEPTION

1. What is Emmet?

- ❖ Emmet is the essential toolkit for web-developers.
- ❖ Emmet is a set of plug-ins for text editors that allow for high-speed coding and editing in HTML, XML, CSS, and other structured code formats via content assist.

2. Difference between Library and Framework?

Libraries	Frameworks
Library is a tool you can include in your application to achieve some sort of functionalities which have to re-implement.	You can't include the framework in your application, instead you have to write your application using the frameworks.
Even the small piece of code you can include in your application.	Entire code is based on the framework.
Library is a collection of helper functions, modules and objects.	Framework is a collection of libraries and APIs.
Examples: jQuery, React.js	Examples: Angular.js, Vue.js

3. What is CDN? Why do we use it?

- ❖ A content delivery network (CDN) is a group of servers spread out over a region or around the world that work together to speed up content delivery on the web.
- ❖ The servers temporarily (or Cached) store the web page content like images, videos, HTML pages, Javascript, and stylesheets
- ❖ So that a CDN allows for the quick transfer of assets needed for loading the above Internet contents.

Benefits:

1. better performance:

- Decreasing the distance between where it is stored and where it needs to go.
- Reducing file size to increase the load speed.

2. increased reliability:

- Sometimes, things go wrong on the Internet. Servers go down, networks become congested, and connections get interrupted.
- A CDN enables web applications to provide uninterrupted service to users even in the face of these problems.

3. cost savings:

- The main way that CDNs cut down on expenditure for website operators is by reducing trips to and from the origin server.
- Because CDNs cache much of the content on a website and serve that content from the cache, the origin server does not have to deliver the same content over and over.

4. resilience against cyber attacks:

- Among many servers, CDNs are better able to absorb large amounts of traffic, even unnatural traffic spikes from a DDoS attack, than a single origin server.
- By doing so, they keep websites online even when under attack.

(Source: cloudflare)

4. Why is React called 'React'?

- ❖ React is called React because it is a library that reacts to changes in the data and renders the user interface accordingly.
- ❖ The name "React" comes from the concept of reactive programming, which is a programming paradigm that emphasizes the declarative description of the behavior of a system in response to changes in its inputs.

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

- ❖ **CORS - Cross-Origin Resource Sharing**
- ❖ In both image and script tags if we use cross-origin you can access both scripts and images on other domains.
- ❖ For images, Its purpose is to allow images from third-party sites that allow cross-origin access to be used with **canvas**.
- ❖ For scripts, It controls, for scripts that are obtained from other origins, whether error information will be exposed.
- ❖ Note: crossorigin="anonymous", crossorigin="", and crossorigin are all the same.

6. What is the difference between React and ReactDOM?

React	React-DOM
<ul style="list-style-type: none">• The react package holds the react source for components,	<ul style="list-style-type: none">• The react-dom package as the name implies is the glue

state, props and all the code that is react.	between React and the DOM. Often, you will only use it for one single thing: mounting your application to the index.html file with ReactDOM.render().
<ul style="list-style-type: none"> The react package contains React.createElement, React.createClass and React.Component, React.PropTypes, React.Children, and the other helpers related to elements and component classes. 	<ul style="list-style-type: none"> The react-dom package contains ReactDOM.render, ReactDOM.unmountComponentAtNode, and ReactDOM.findDOMNode, and in react-dom/server we have server-side rendering support with ReactDOMServer.renderToString and ReactDOMServer.renderToStaticMarkup.

7. Difference between react.development.js and react.production.js?

Development build:

- ❖ The development build is used - as the name suggests - for development reasons. You have **Source Maps**, **debugging** and oftentimes **hot reloading** ability in those builds.

Production build:

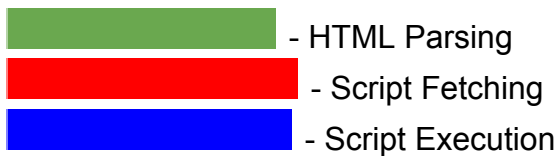
- ❖ The production build, on the other hand, runs in production mode which means this is the code running on your client's machine. The production build runs **uglify** and builds your source files into **one or multiple minimized files**. It also extracts **CSS and images** and of course any other sources you're loading with **Webpack**. There's also no hot reloading included.

8. What are async and defer?

- ❖ Async and defer are the boolean attributes which are used along with the script tags in order to load the external scripts efficiently in our webpage.
- ❖ When loading the webpage two things will happen,
 1. HTML Parsing
 2. Loading of scripts.

In that loading of scripts contains two processes,

1. Fetching the scripts from internet
2. Execution of the scripts



Normal Script tag	HTML	
	Script	
Async	HTML	
	Script	
Defer	HTML	
	Script	

Notes: (when to use which?)

1. When we have multiple scripts, the **Async** attribute does not guarantee the order of the execution. Whereas the **Defer** maintains the order of the execution.

2. When we load some external scripts like google analytics or any other analytics which are independent to our code, in that case we have to use **Async**.