***What is React, and why do we need React?***

***What are the challenges in Modern Web Development?***

A)Modern Web Users are using the web from smart Devices more than 80 %

Mobiles, Tabs, etc.

**Challenges :**

1. **UX**
2. **Fluid User Experience**
3. **Loosely coupled and extensible.**

**1. We need a Unified User Experience**.

Unified Experience means an application must have the same experience, behaviour across any device.

**Example:**

We are watching YouTube on both PC/Laptop, it is working perfectly.

On Mobile through a browser (Mobile browsers are compact).

Earlier, we had to optimize(Compress) the YouTube site to fit on Mobile.

And Mobile Users are unable to use certain facilities. Some are working and some are not working.

Ex: MS Office on Pc/Laptop and Mobile are different.

**2. Fluid User Experience**

**Smooth Navigation** – Moving between pages or screens feels natural and fast.

**Quick Response** – Buttons, forms, and actions respond instantly with clear feedback.

**Easy to Use** – The design is simple and users understand what to do without confusion.

**Looks Good Everywhere** – Works well and looks consistent on all devices (mobile, tablet, desktop)

**3. Loosely coupled and extensible.**

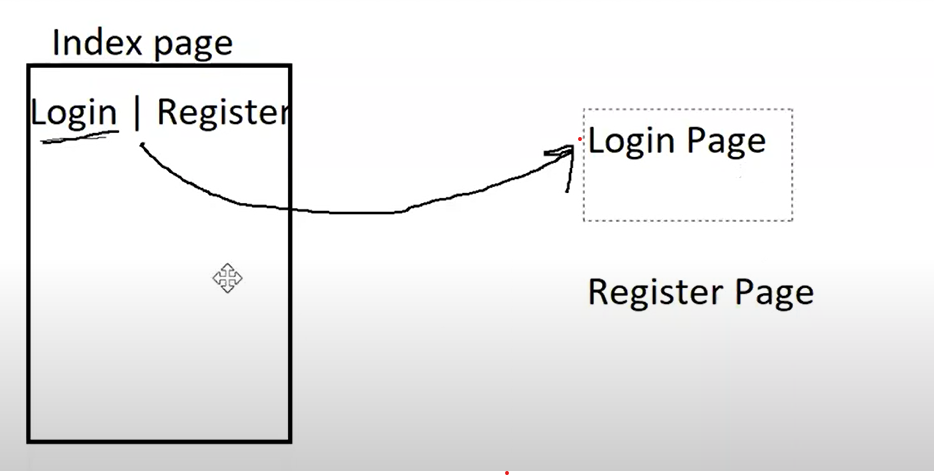
Without reinstalling the application, without stopping the application, you just keep the application idle for a few seconds.And add the new features to it.

This type of architecture is called loosely coupled and extensible.

***What is the Solution?***

Better to build an SPA (Single Page Application).

Example:

1)It is the normal way. All the pages are designed in differently and integrate into the index.html, and it will navigate to the particular page.

2)In this, we use the component in the SPA.

Like the login component, the Register Component will be integrated into the index.html.

***How to build an SPA?***

A)Can we build using JavaScript and jQuery? Yes

***What are the issues with JavaScript and jQuery?***

1. A lot of DOM Manipulations
2. A lot of references
3. A lot of Coding
4. A Lot of event handling
5. Explicit Ajax.

***What is the solution?***

A)Better use a library or a framework

React, Angular, Vue, Ember, Backbone, Knockout, etc.

* [React = Facebook]
* [Angular = Google]

***What is the difference between Angular & React?***

A) React is a library. Not a Framework.

Angular is not a Framework. it is a developer platform.

A developer platform means it will provide an end-to-end solution

For the developer.

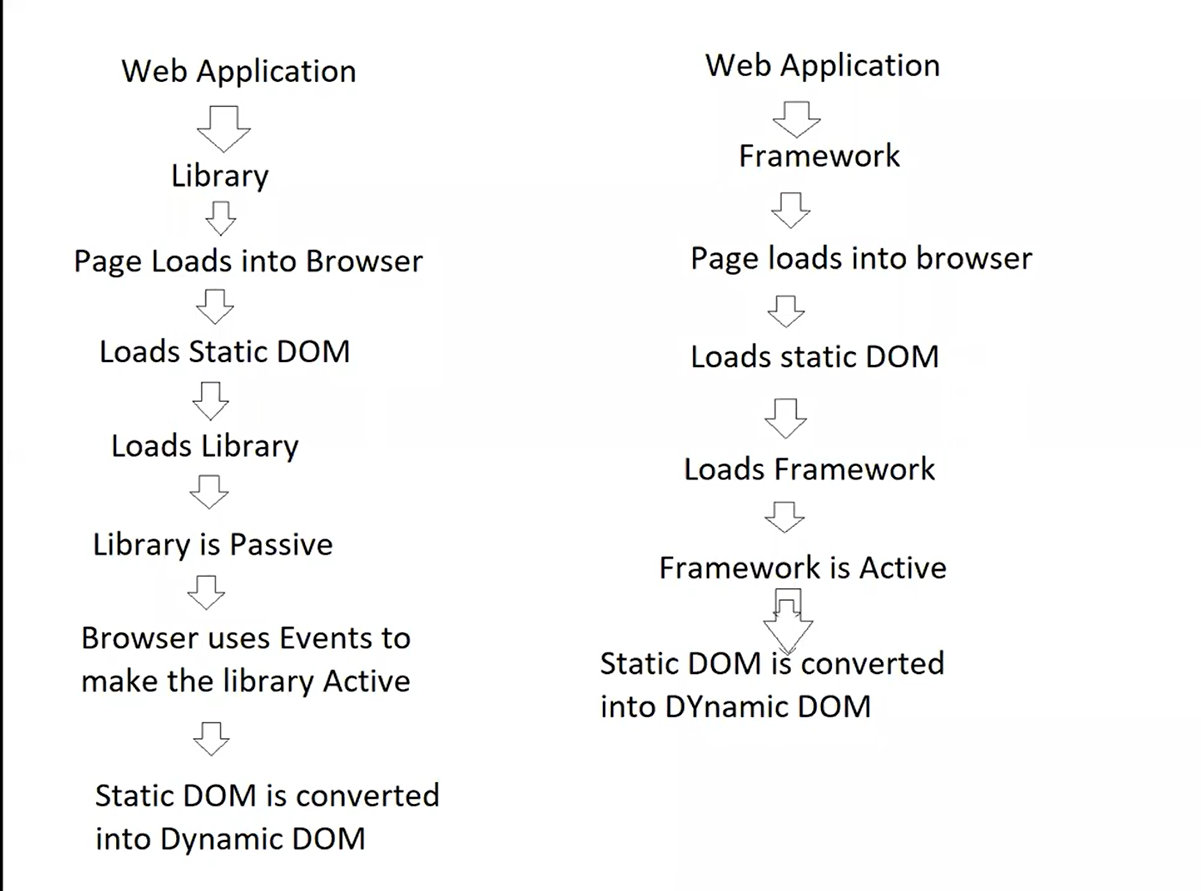
Actually developer needs some tools for building, debugging, testing, and deploying.

If any technology provides an end-to-end solution from building to deploying everything it has then it is called a Developer platform.

***What is the difference between a library and a framework?***

A) The library is building the application.

The framework can be used to build and controlling the application's flow.



**For the Example of library:**



**For the Example of Framework:**



***What is React?***

1. React is a JavaScript library for building UI.
2. UI = SPA
3. Fluid UX
4. Unified
5. Loose-Coupled and Extensible.

***What are the Features of React?***

1. 1) Component-Based
2. Easy to build interfaces
3. Easy to reuse
4. Building faster
5. Easy to extend
6. Loosely coupled

2) Modular Library