Wad

Html, Css, Javascript, Bootstrap promises and async/await ,Ajax

What are the web frameworks their types, example and their use

Web frameworks are tools that provide a pre-built structure and components to accelerate web application development.

Types:

1) front-end frame work: React: A JavaScript library for building user interfaces, Angular: A comprehensive framework for building web applications.

2) back-end frame work: Express.js: A minimalist framework for Node.js, useful for building APIs.

Spring: A Java framework for building enterprise-level web applications.

What is MVC, their use with example and MVC on web frameworks

MVC (Model-View-Controller) is a software design pattern that separates an application into three interconnected parts: the Model (data and logic), the View (user interface), and the Controller (handles user input and manages interactions between Model and View). This separation promotes a more organized and maintainable codebase, particularly beneficial for complex web applications.

Helps developers to develop application efficiently , give clear idea about application

What is typescript, features of typescript, use, pros and cons

Features:

1) Static typing: devlopers able to define type of variable during devlopment to avoid errors

2Object-Oriented Programming: supports oop Like class, object and related properties

Pros: early error detection due to static typing, Scalability due to structured nature of typescript

Cons: Increased Compile Time:

Use: Large-Scale Applications, Angular Development

Angular

What is angular: it is typescript based web application framework develop by Google

Used for creating single page application (SPA), and dynamic web pages

Basic angular project structure

Src

  App

    App. Module. Ts

    App. Component. Ts

    App. Component. Html

App. Component. Css

Assets:

environments: Contains environment-b   specific configuration files.

index.html: The main HTML file

main.ts: The entry point of the application.

styles.css: Global styles for the application.

Angular Modules: block of code dedicated to specific functionality

Angular component: nasic building block of UI, component controla portion of screen called view

Component consist of

A TypeScript class that defines the component's behavior.

An HTML template that defines the component's view.

Optional CSS styles that define staying

Data binding: allows data flow between component (logic) and UI view

Directives: directive are special marker that tell angular to do something with DOM

Pipes : pipes are used to transform the data into Template before displaying it

Ex {{ price | currency }}

Angular services: are classes that encapsulate reusable logic or data, making them available to different components

Dependency injection (DI) : is process where a class receives its dependencies from external sources

DI main function includes providing components, directives, pipes, and services with the dependencies they need.

What is react.js and use and pros and cons

React. Js is JavaScript library used for craett user interfaces mainly used for creating SPA single page application where content is dynamically change without page load

Uses:

Single page application

Interactive UI great dynamic and user friendly UI

Reusable components: React's component-based architecture allows for the creation of reusable UI elements.

Pros

Virtual DOM:

React uses a virtual DOM, which optimizes rendering performance by updating only the changed components.

Reusable components:

Components can be reused throughout the application, promoting code reusability and maintainability.

Cons

Rapid development:

The fast pace of development can make it challenging to keep up with the latest changes

Large bundle size:

React applications can have large bundle sizes, which can impact initial load times.

What is react component

React components are **independent and reusable building blocks of UI** , They can be thought of as custom HTML elements with enhanced functionality. Each component encapsulates its own logic, state, and UI rendering, which makes it easier to manage and maintain complex applications.

React components two main types:

Function Components: written as a JavaScript function and return JavaScript XML (jsx)

Class components: hooks are better than this

React hooks, features, use, pro and cons

React Hooks **are functions that allow the use of state** and other React features within functional components . They provide a more straightforward and efficient way to manage component logic compared to class components.

Use state management useState , sideeffect useEffect

Pros

Simply the code making it more readable, enable the use of states

what is node JS its features its use and pros and cons

Features npm , npx, Asynchronous

Used in real time application development, web servers, API

Pros: east to learn , full stack JavaScript both for client side and server side,

Cons not indeal for heavy task

Npm: node package manager used to install, uninstall, and update Javascript packages on your workstation

NPX: package executer that is used to directly execute Javascript packages without installing them.

What is express.js , features , use, pros and cons

Express.js is web application framework that provides set of features like middlewire, rounting ,It simplifies the development of server-side applications by offering an easy-to-use API for routing, middleware, and HTTP utilities.

Features: Middleware, rounting

Used in developing SPA and server side web application logic

Pros

Simplicity and ease of use

REST API methods in Express.js correspond to HTTP methods for performing CRUD operations:

GET: Retrieves data from the server.

POST: Submits data to the server to create a new resource.

PUT: Updates an existing resource on the server.

DELETE: Removes a resource from the server.

What is mongoDB , its features, use , pro and cons

MongoDB is a NoSQL database primarily used for storing and managing both structured and unstructured data, especially in applications requiring flexibility(stores various datatypes)and scalability.(horizontal scalling)

Used in content management system, e commerce platform

Pros

Scalability, flexibility, dynamic schema

Cons

High memory usage due to key-value storage and mera data storage

CURD operation create read update delete

Mobile first :Mobile-first design is a web development strategy that prioritizes designing for smaller screens, like smartphones, before scaling up to larger devices

Mobile width 320 to 450

Mobile height 700 to 800

What is jquery, its features, its use, pro and cons

JavaScript library that simplifies common tasks in web development like DOM manipulation

Features:dom manipulation, event handling, ajax

Used to create dynamic web pages

Pros: simplified syntax, Cross-browser Compatibility

Cons: Performance: extension use can slower app performance

What is cloud computing, what is aws cloud, services provided by aws cloud, pros and cons

Cloud computing provides on demand services like computing power, storage, and databases over the internet,

Aws services: compute(EC2) , storage (S3) , database, network,

Alternative to aws: Microsoft Azure, google cloud platform

Pros: cost effective, scalability, flexibility

Cons: can be expensive, security, internet dependent