Celebrating Glorious Platinum Jubilee Year 2022

WALCHAND COLLEGE OF ENGINEERING

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WALCHAND LINUX USERS' GROUP

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UNLEASH THE FULL POTENTIAL

A CHANCE TO WIN
EXCITING PRIZES
LIMITED SEATS ONLY

29/04 **MEGA-EVENT** **30/04**

FRONT-END

- React Basics & Components
- React hooks
- API Integration & React Axios

BACK-END

- NodeJS basics & modules
- ExpressJS & Middleware
- MongoDB, GraphQL & REST API's

REGISTRATION ₹ 199 FEE

VENUE
MINI & MAIN CCF
9:30 AM

wcewlug.org

For any query
7020448836
8421006401

Miss D. A. Kolapkar
President
Walchand Linux Users' Group

Dr. M. A. Shah
HoD Computer Science Engineering

Dr. A. J. Umbarkar
HoD Information Technology and Staff Advisor

Dr. A. R. Surve
Chairperson ECAC and Staff Advisor

Dr. U.A. Dabade
I/C Director
Walchand College of Engineering

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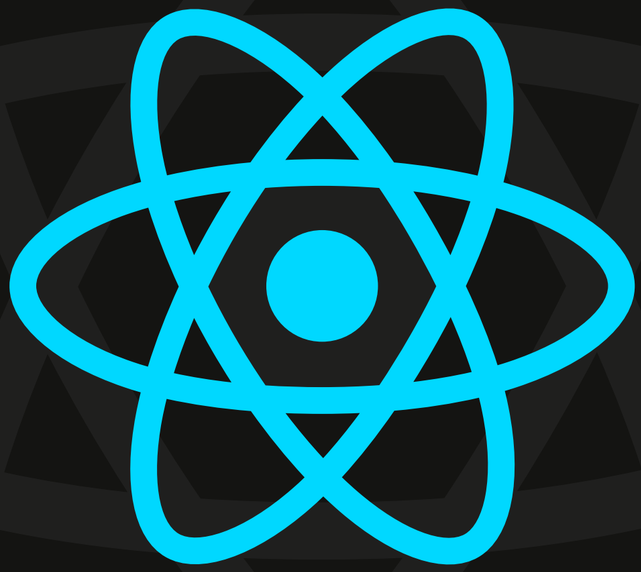

REACT MANIA

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BASICS OF JS

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WHAT IS JAVASCRIPT?

- Scripting language
- Adds interactivity to your website
- Used for Dynamic styling

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SAY "Hello" TO THE "World" OF JS

```
console.log("Hello World!!!");
```

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VARIABLES

- let

```
let wlug = "The best";
console.log(wlug);
```

- var

```
var wlug = "The best";
console.log(wlug);
```

- const

```
const wlug = "The best";
console.log(wlug);
```

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IF ELSE STATEMENT

```
// if checks the condition if true than execute the if block
if (4 > 5) {
  console.log("4 is bigger than 5");
}
// condition false then execute else block
else {
  console.log("4 is not bigger than 5");
}
```

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ARRAYS

```
//array to traverse
let array = [1, 3, 4, 5];

// prints the elements of the
//array with respect to the index

console.log(array[0]);
console.log(array[1]);
console.log(array[2]);
console.log(array[3]);

let array1 = ["wlug","best",1,4,5];
```

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OBJECTS

```
// key:value pair
const object = {
  // key:value,
  name: "WLUG",
  event: "TechnoTweet",
  position: 1,
};
// prints the whole object
console.log(object);
```

LOOPS IN JS

- for loop

```
// Loop will execute the block untill the condition is false

// for(expression; condition; operation)
for(let i=0; i<5; i++){

  //prints the value of i in console
  console.log(i);
}
```

LOOPS IN JS

- forEach loop

```
//array to traverse
let array = [1, 3, 4, 5];

// variable to store the multiplication
let mul = 1;

// array.forEach((variable) => {
//  *CODE*
//})
array.forEach((element) => {
  mul = mul * element;
});

// prints the array in console
console.log(array);

}
```

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FUNCTIONS IN JS

- Block of code to perform the task
- You wish to reuse
- Alternative to repeatedly writing the same code

```
function multiply(num1, num2) {
  let mul = num1 * num2;
  return mul;
}

console.log(multiply(7, 9));
console.log(multiply(5, 3));
```

ARROW FUNCTIONS

- Arrow functions allow us to write shorter function syntax

```
multiply = (num1, num2=5) => {
  let mul = num1 * num2;
  return mul;
}
```

- If function has only one statement we can remove brackets and return keyword

```
multiply = (num1, num2=5) => num1 * num2
```

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CALLBACKS IN JS

- Callback is a function passed as argument to another function
- Callback function waits for result of previous function call and then execute another function call

```
function DisplayResult(res) {
  console.log(`Product is ${res}`);
}

function multiply(num1, num2, myCallback) {
  let mul = num1 * num2;
  myCallback(mul);
}

multiply(7, 9, DisplayResult);
```

WHAT ARE EVENTS?

- Event is something a user or browser does
- We can add event listeners or event handlers

```
document.querySelector("html").addEventListener("click", ()=>{
  alert("Welcome to Technotweet")
});
```

ADD EVENT LISTENER

- addEventListener() method attaches an event handler to an element
- Syntax: element.addEventListener(event, function)

```
const button = document.querySelector('button')

button.addEventListener('click', () =>{
  button.style.color='red';
  console.log('Button Clicked');
})
```

ASYNC AND AWAIT

- The keyword ASYNC makes the function return a promise
- AWAIT keyword can only be used inside an async function
- AWAIT keyword makes the function pause the execution and wait for a resolved promise before it continues

```
async function fetchPosts() {
  const response =await
fetch('https://jsonplaceholder.typicode.com/posts');
  const posts = await response.json();
  return posts;
}


fetchPosts()
.then(posts => console.log(posts))
.catch(error => console.log(error));
```

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Let's REACT!!!

Type this command in your terminal

```
// creates the react project

npx create-react-app wlug
```

JSX

- JavaScript XML-Extension to the Javascript Language Syntax
- JSX tags have tag name attribute and children
- JSX makes our code simpler and elegant
- It ultimately transpiles to js which is understood by browsers

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Differences in JSX

- for -> htmlFor
- class -> className
- camelCase property

```
import React from 'react'

const WLUG = () =>{
  return(
    <div className='input_container'>
        <label htmlFor='name'>Name:</label>
        <input type='text' id='name'>
    </div>
  )
}
export default WLUG
```

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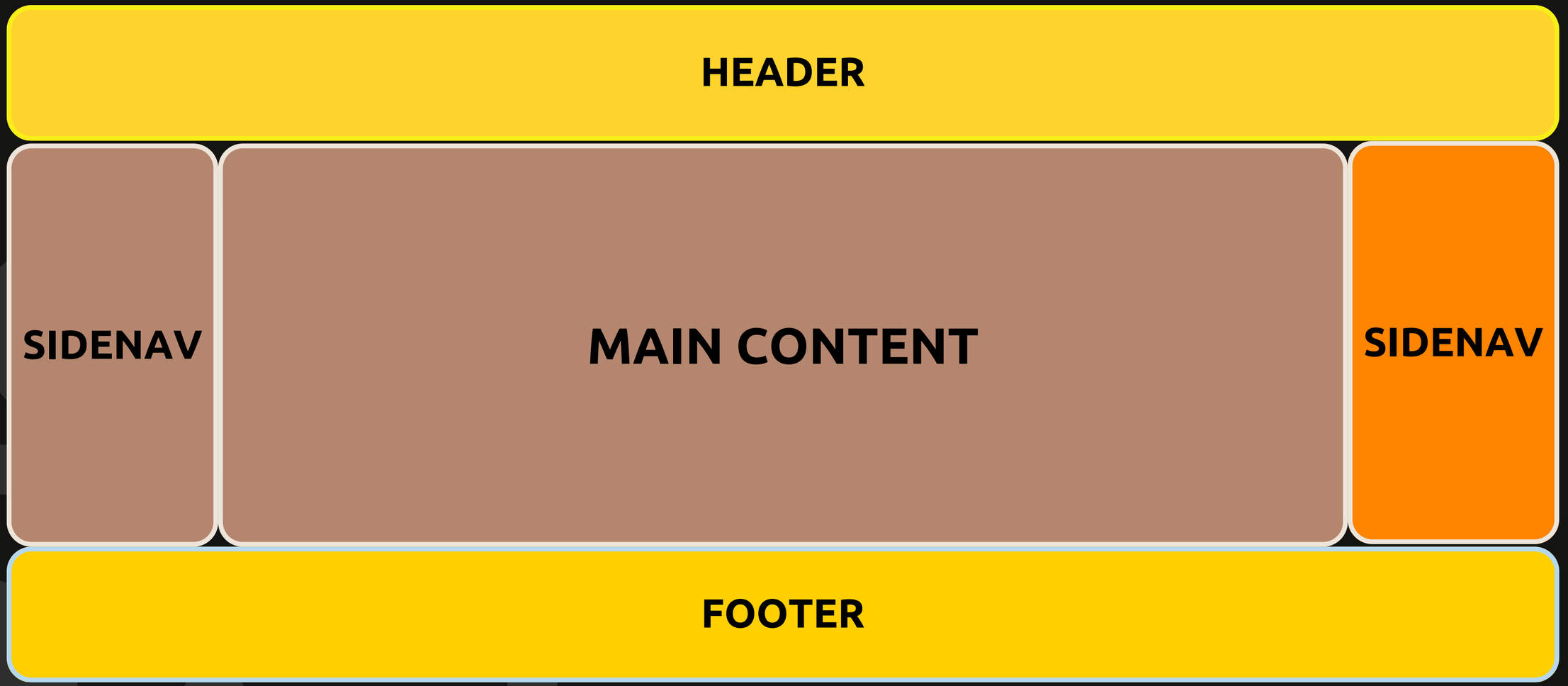
COMPONENTS

- A component is a piece of the UI (user interface) that has its own logic and appearance

- A component can be as small as a button or as large as an entire page

```
function welcome(){
  // return the h1 tag which prints "Hello world"
  return <h1>Hello world</h1>
}
```

COMPONENTS



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TYPES OF COMPONENTS

- Functional Components
- Class Components

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CLASS COMPONENTS

- Class components are called stateful
- Tracks the state and the lifecycle of the react components

```
class WLUG extends React.Component {
  render(){

    //class which returns h1 tag
    return <h1> Hello,TechnoTweet!!</h1>
  }
}
```

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FUNCTIONAL COMPONENTS

- JavaScript function that accepts props and returns a React element

```
function welcome(){
  // return the h1 tag which prints "Hello world"
  return <h1>Hello world</h1>
}
```

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PROPS

- React components use props to communicate with each other
- Every parent component can pass some information to its child components by giving them props

```
import React from 'react'

const App = () =>{
  return (
  <>
    // OS is a prop
    <Welcome OS="ubuntu">
    <Welcome OS="kali">
    <Welcome OS="mint">
  </>
  )
}
```

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REACT ROUTERS

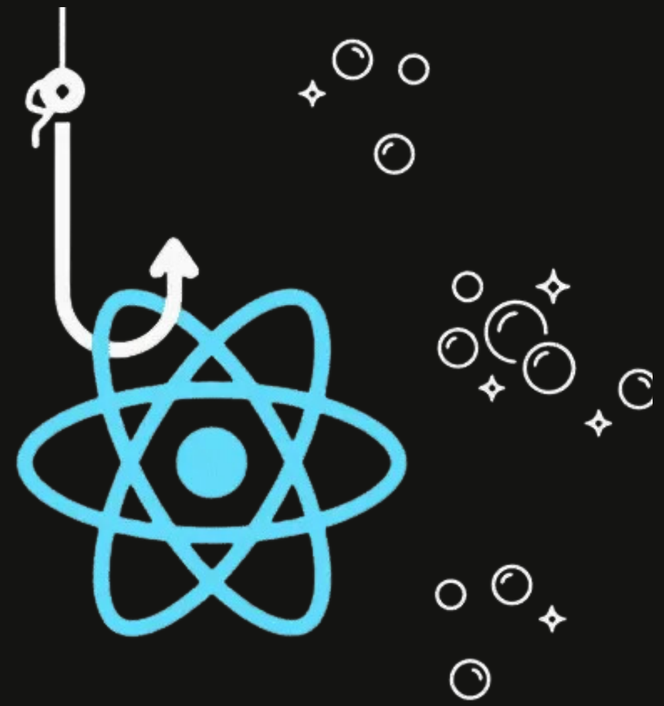
- To create an application with multiple page routes,we use React routers
- Router help us move to different pages without reloading the website

```
export default function App() {
  return (
    <BrowserRouter>
      <Routes>
        <Route path="/" element={<Layout />}>
          <Route index element={<Home />} />
          <Route path="blogs" element={<Blogs />} />
          <Route path="contact" element={<Contact />} />
          <Route path="*" element={<NoPage />} />
        </Route>
      </Routes>
    </BrowserRouter>
  );
}
console.log(object);
```

WHAT ARE HOOKS ¿

- Features of Class based components in Functional based components
- React Hooks are the functions which "Hook into" React state and lifecycle features from functional components

TYPES OF HOOKS



- useState Hook
- useEffect Hook

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useState HOOK

- useState is a React Hook that lets you add a state variable to your component

```
const [state,setState]=useState(initialState)
// where state -> state variable
//       setState -> state setter function
```

Parameters and Returns

- useState accepts an initial state and returns an array :
  - The current state, During the first render, it will match the initial state you have passed
  - The set function that lets you update the state to a different value and trigger a re-render

useEffect HOOK

- The Effect Hook lets you perform side effects in function components
- useEffect lets you synchronize a component with an external system

```
useEffect(setup,dependencies)
// where setup -> function with effect's logic
//       dependencies -> optional array for conditional rendering
```

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Does useEffect run after every render ?

Can we make it run Conditionally ?

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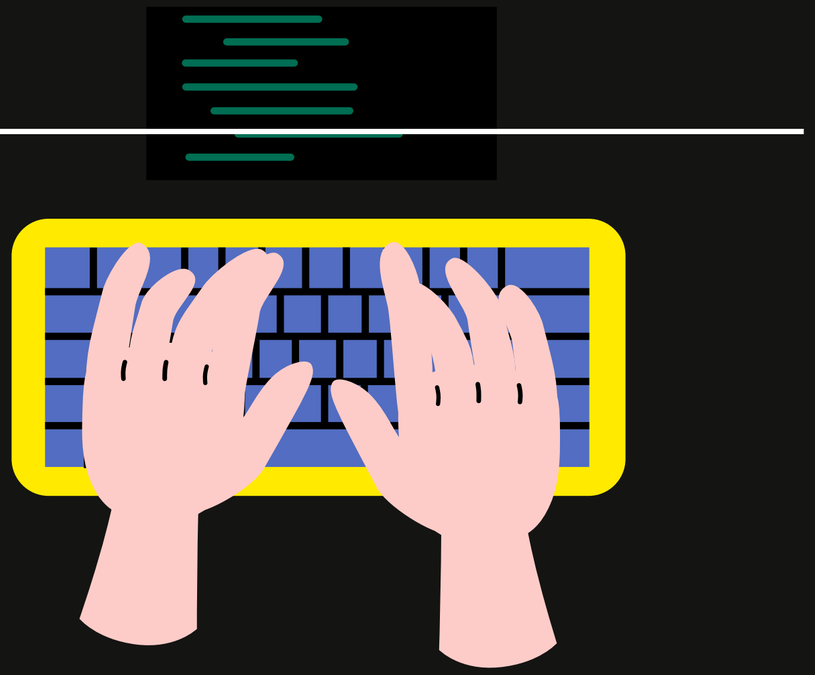
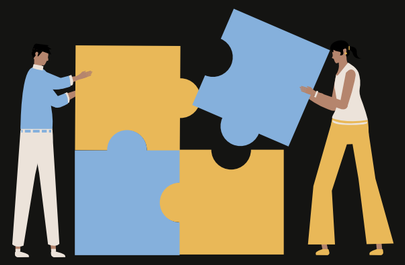
LET'S BUILD SIGNUP PAGE





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BLOG COMPONENT

WHAT IS AN API ?

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API

Application Programming Interface

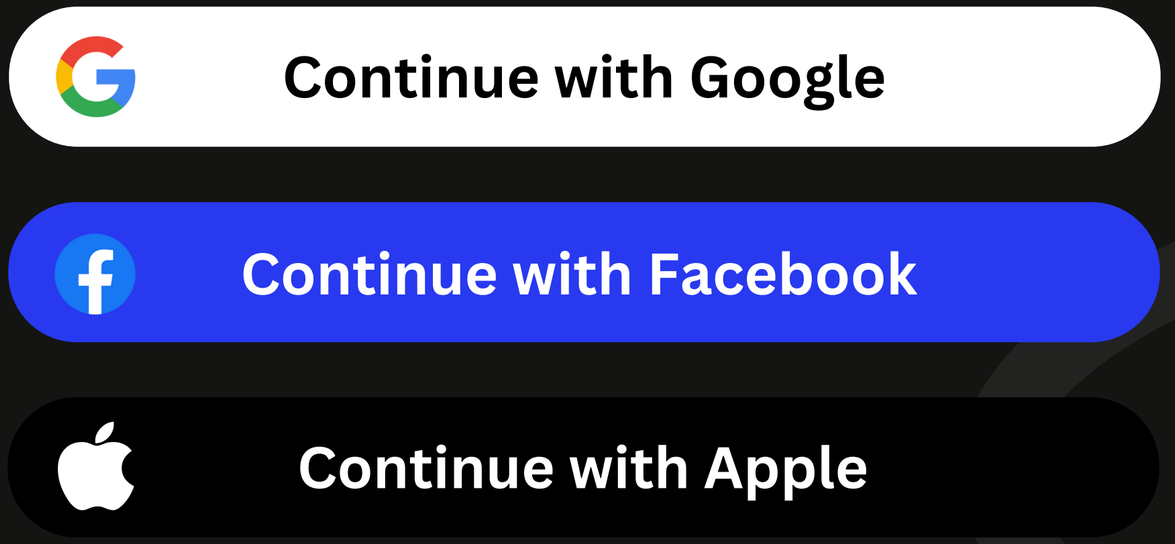
Client

API

System/ Application

API

Software Example



API

Application Programming Interface

API is a way for software applications to talk to each other and share information

- Allow different applications to communicate
- Exchange data, regardless of the programming language or OS
- Access data, services, or functionality

API INTEGRATION

SIGN UP

```
https://backendtechno.onrender.com/signup
```

- Parameters required

```
{
  username: string,
  password: string,
  emailId: string
}
```

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ADD BLOGS

```
https://backendtechno.onrender.com/blog/createBlog
```

- Parameters required

```
{
  title: string,
  author: string,
  description:string,
  content:string,
  file:file
}
```

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GET BLOGS

```
https://backendtechno.onrender.com/blogs/
```

GET SINGLE BLOG

```
https://backendtechno.onrender.com/blog/getBlog/:id
```

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ADD COMMENT

```
https://backendtechno.onrender.com/blog/addComment
```

- Parameters required

```
{
  _id:string,
  name:string,
  date:string,
  text:string
}
```

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DELETE BLOG

```
https://backendtechno.onrender.com/blog/deleteBlog
```

➤ Parameters required

```
{
  _id:string,
}
```

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```
console.log('Thank You!');
```