MERN Development Boot Camp

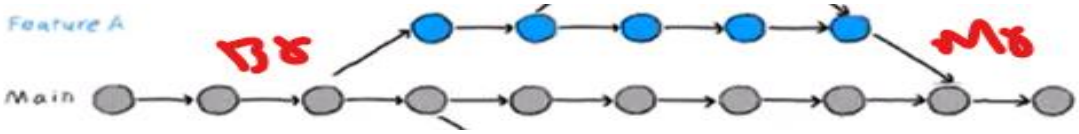
Module # 01 GIT

Git: Version Control System used to track changes to the file and facilitate collaborative development.

1) git init (to track the changes)
2) git add. (run it before commit)
3) git commit -m “Message”
4) git log (to see your commits)

Branches: series of commits.

we create branch if we are working in a team and both the members are working on different functionalities such as Singin/Signup so we create a branch signup and the signin will be implementing over the main then in the end we have to merge the branch into the main.



1) git branch feature/signup (create branch for signup)
2) git checkout feature/signup (to go to the branch)

Merging the Branch to main:

1st need to identify the destination of merge as we have created a branch for signup and now, we need to merge it with the main (master) so from master we need to run a command:

1) git merge feature/signup (so it’ll merge the feature/signup code into the master)

The staging area is where we do stage so the file will be ready for the commit means we have a box in which we are collecting the changes which are ready for commit known as staging.

Let suppose we have to make a partial commit means we have two files and we need to commit just one file so how we can do that:

by staging the file we can achieve this as commit require staging that’s why we use “git add .” it means move all the files (all files in which we have made changes) to the staging area so the we can make a commit but if we use “git add main.txt” so for now only main.txt will move to the staging and ready for commit so when we make a commit only main.txt will able to make a commit.

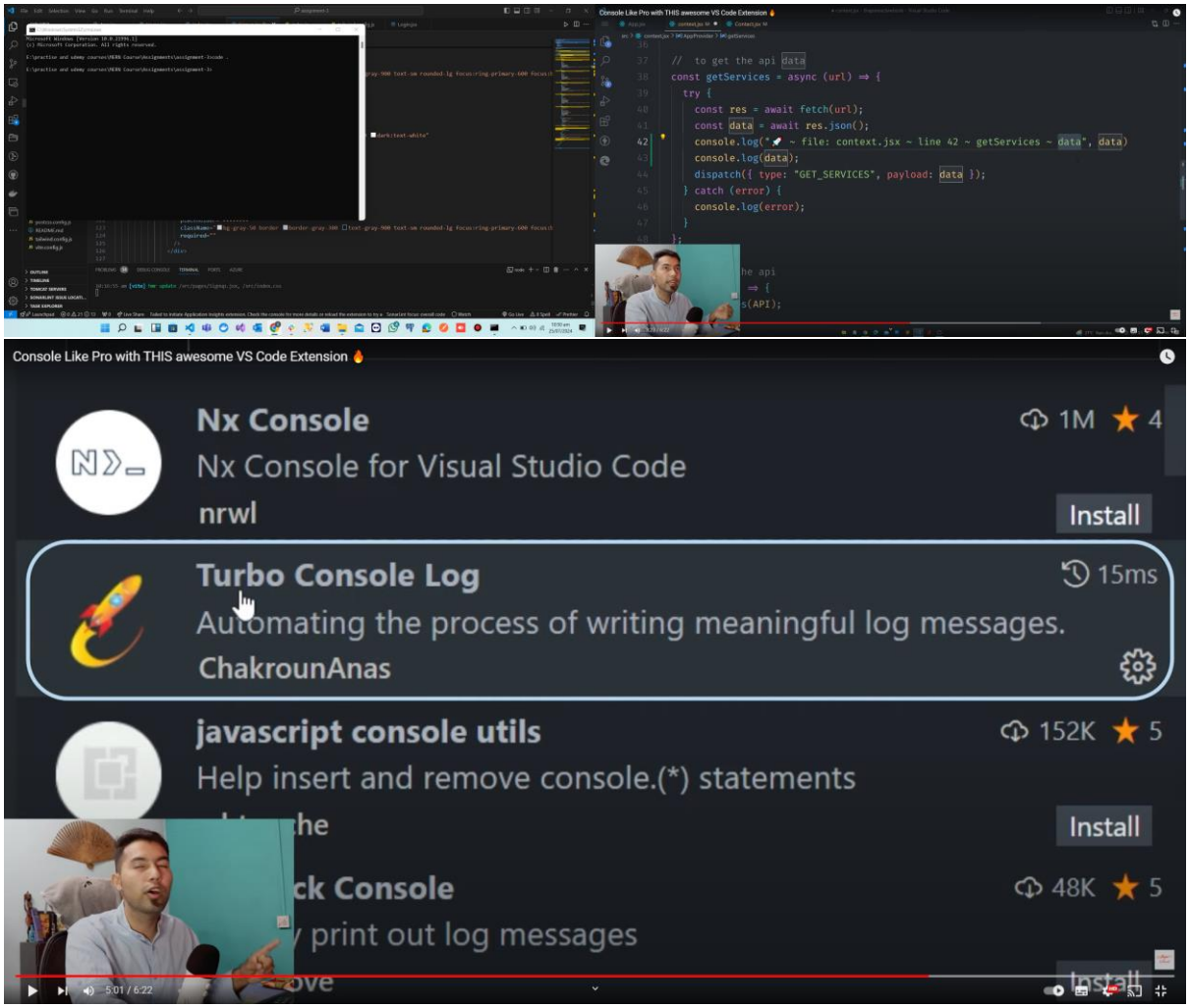
we cannot make changes to the file which is in the staging area; to make changes we need to remove the file from the staging area so that we can make changes.

Merge Conflict:

Occurs when we merge code and we find different code on same line of master and the specific branch, so there will be a merge conflict.

Tips

Console.log tips



HTML:

Html is a markup language not programming logic because it has no logic , its just a presentation , we can’t deal with situations like if this then this etc.

Programming languages: connection to db , logic building , dynamic functionality , user login etc

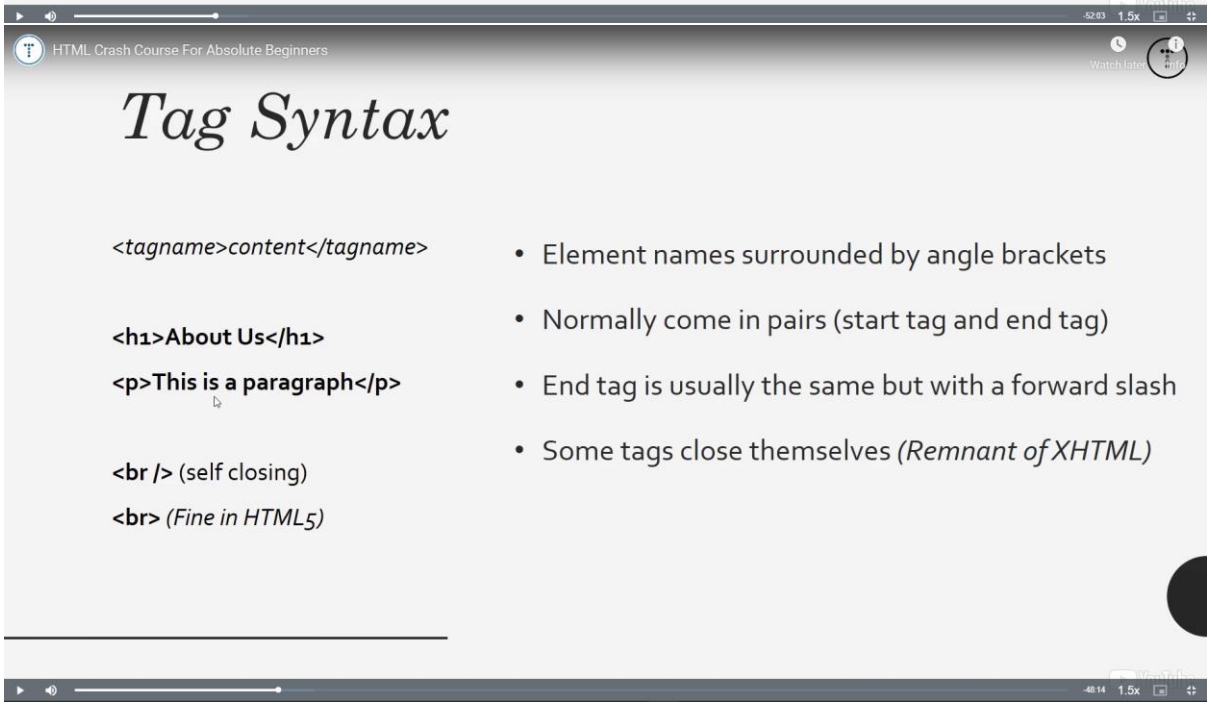
The extra spaces or lines in editor will not affect the result in web browser in case of html

Req:

A browser

A text Editor

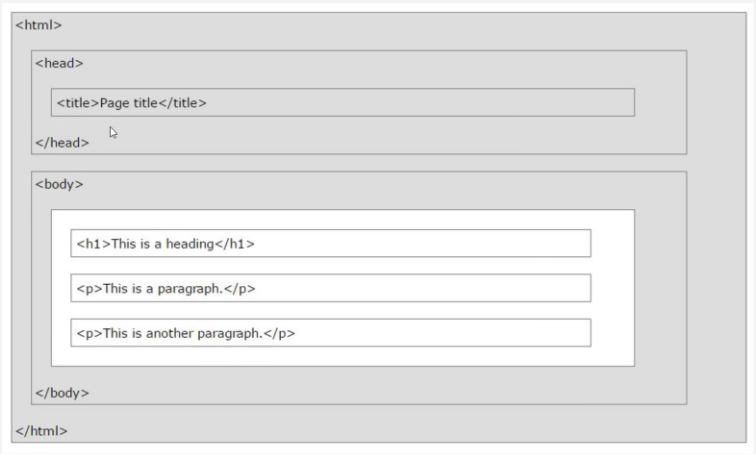

HTML Crash Course For Absolute Beginners
Creating an HTML file
• Does NOT need a server
• Files must end with the .html extension
• Runs in a web browser (Chrome, FireFox, etc)
• index.html is the root / home page of a website
http://www.something.com
Loads the index.html file
http://www.something.com/about.html
Loads the about.html file


HTML Crash Course For Absolute Beginners
Tag Syntax
<tagname>content</tagname>
<h1>About Us</h1>
This is a paragraph

 (self closing)

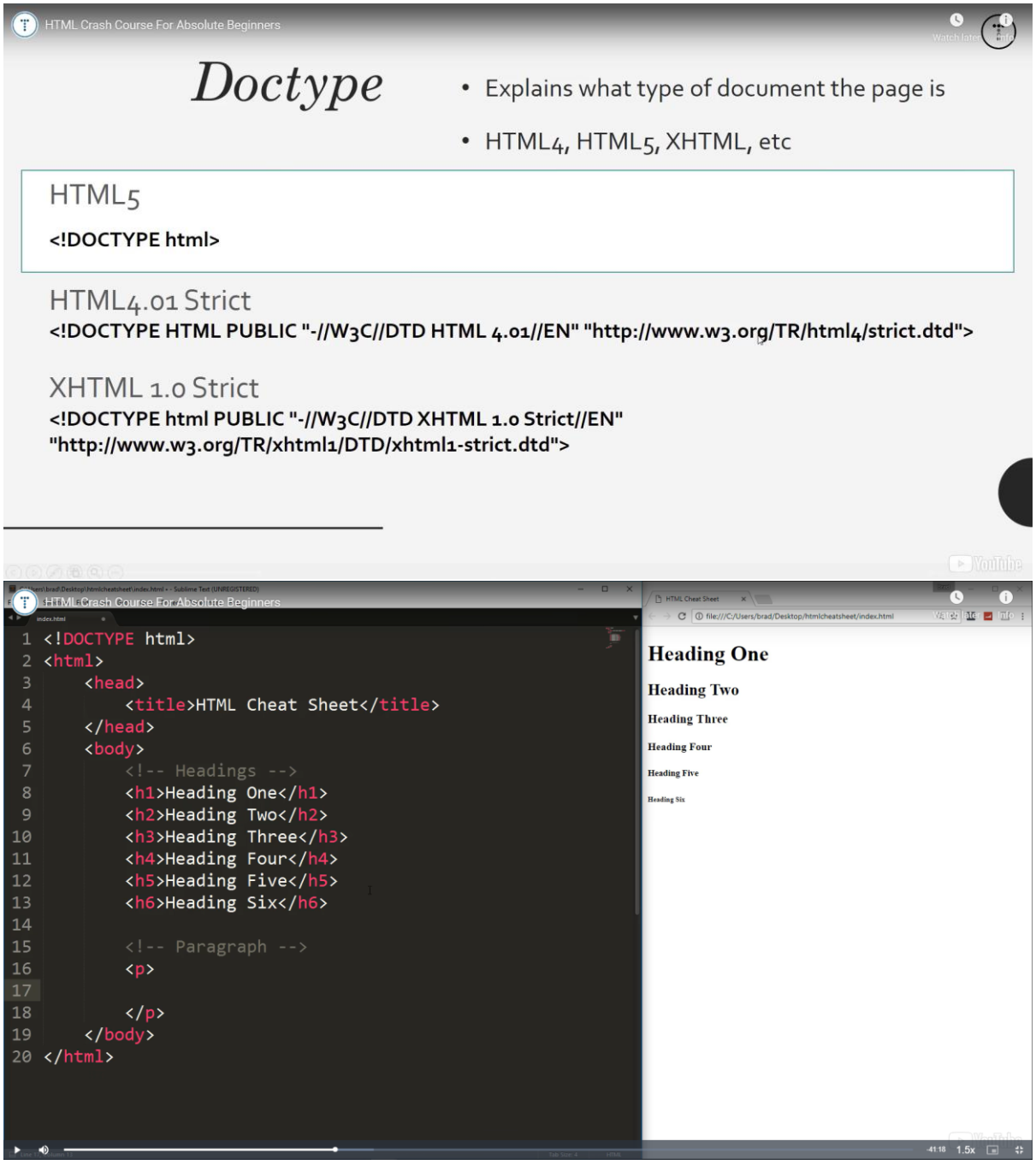
 (Fine in HTML5)
• Element names surrounded by angle brackets
• Normally come in pairs (start tag and end tag)
• End tag is usually the same but with a forward slash
• Some tags close themselves (Remnant of XHTML)

HTML Page Structure

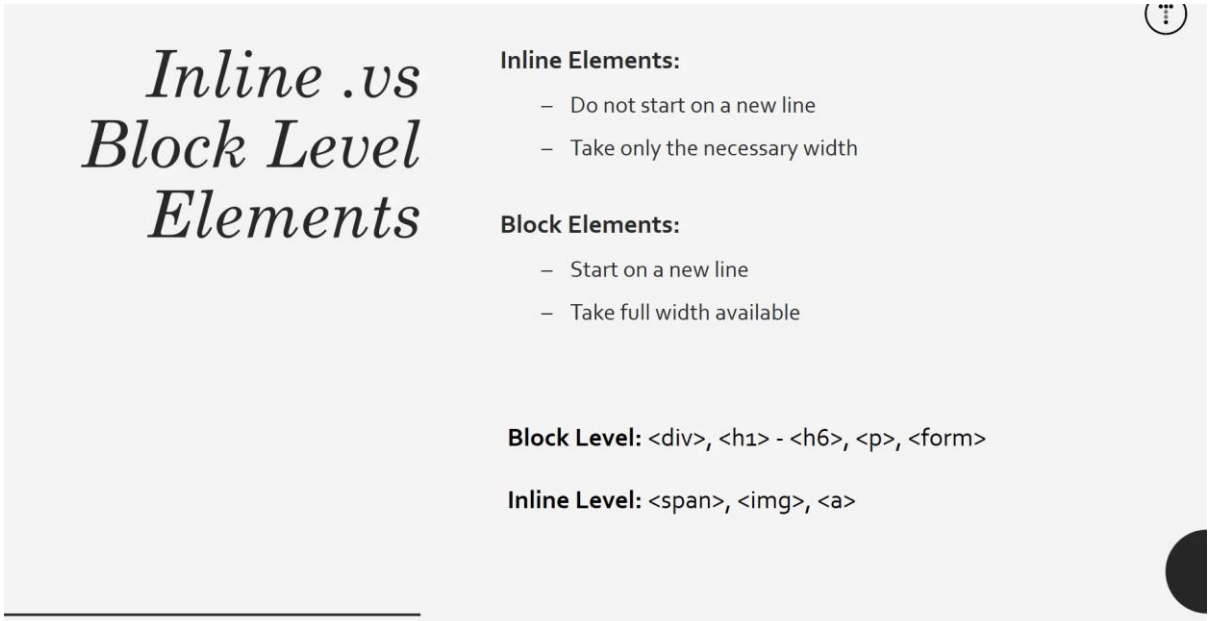


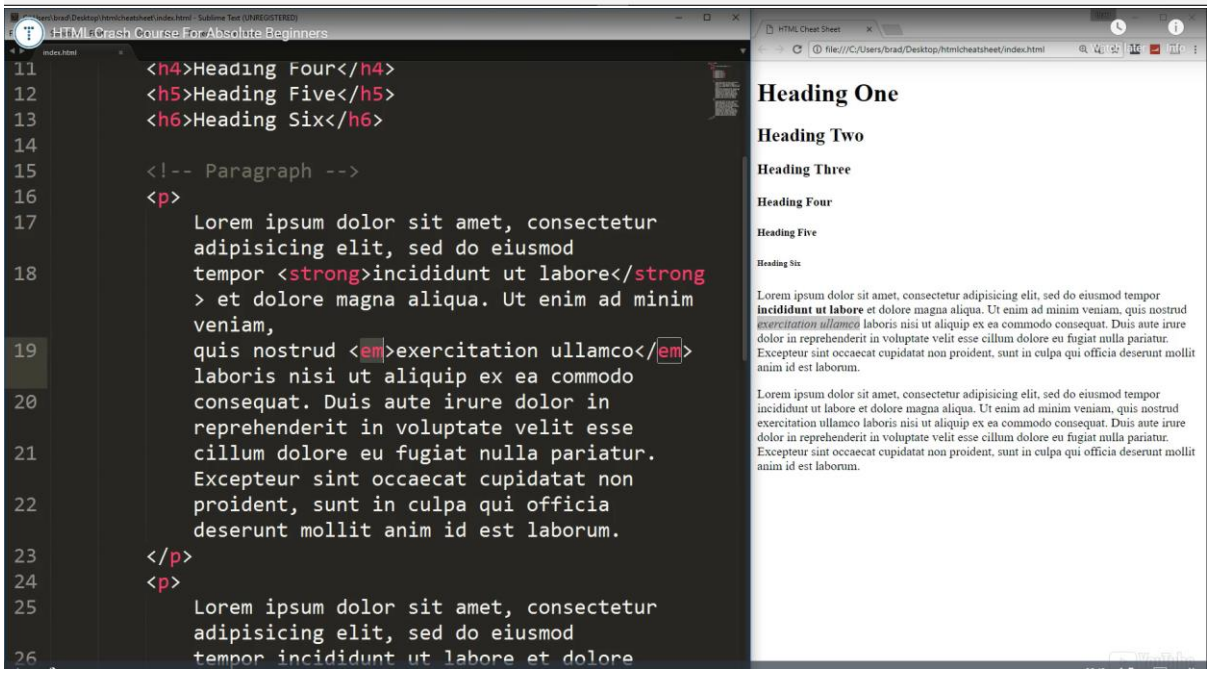
Page Structure (HTML)

```
<!DOCTYPE html>
<html>
        <head>
                <title>Page Title</title>
        </head>
        <body>
                <h1>My First Heading</h1>
                <p>My first paragraph.</p>
        </body>
</html>
```


HTML Crash Course For Absolute Beginners
Doctype
• Explains what type of document the page is
• HTML4, HTML5, XHTML, etc
HTML5
<!DOCTYPE html>
HTML4.01 Strict
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
XHTML 1.0 Strict
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
HTML Crash Course For Absolute Beginners
<!DOCTYPE html>
<html>
<head>
<title>HTML Cheat Sheet</title>
</head>
<body>
<!-- Headings -->
<h1>Heading One</h1>
<h2>Heading Two</h2>
<h3>Heading Three</h3>
<h4>Heading Four</h4>
<h5>Heading Five</h5>
<h6>Heading Six</h6>
<!-- Paragraph -->

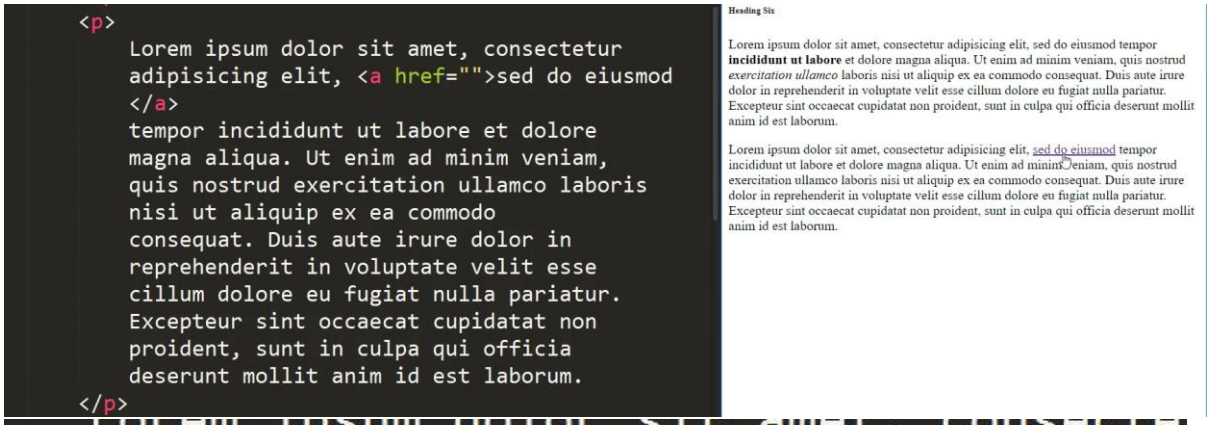
</body>
</html>
Heading One
Heading Two
Heading Three
Heading Four
Heading Five
Heading Six

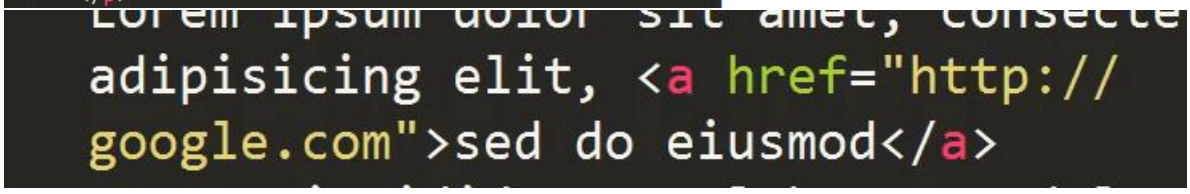




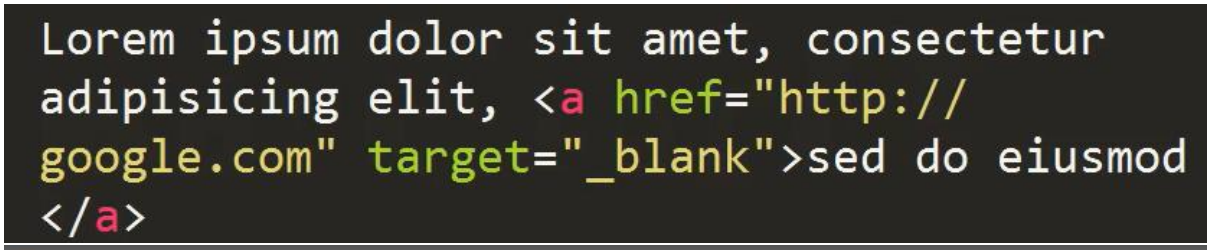
difference b/w <b> and

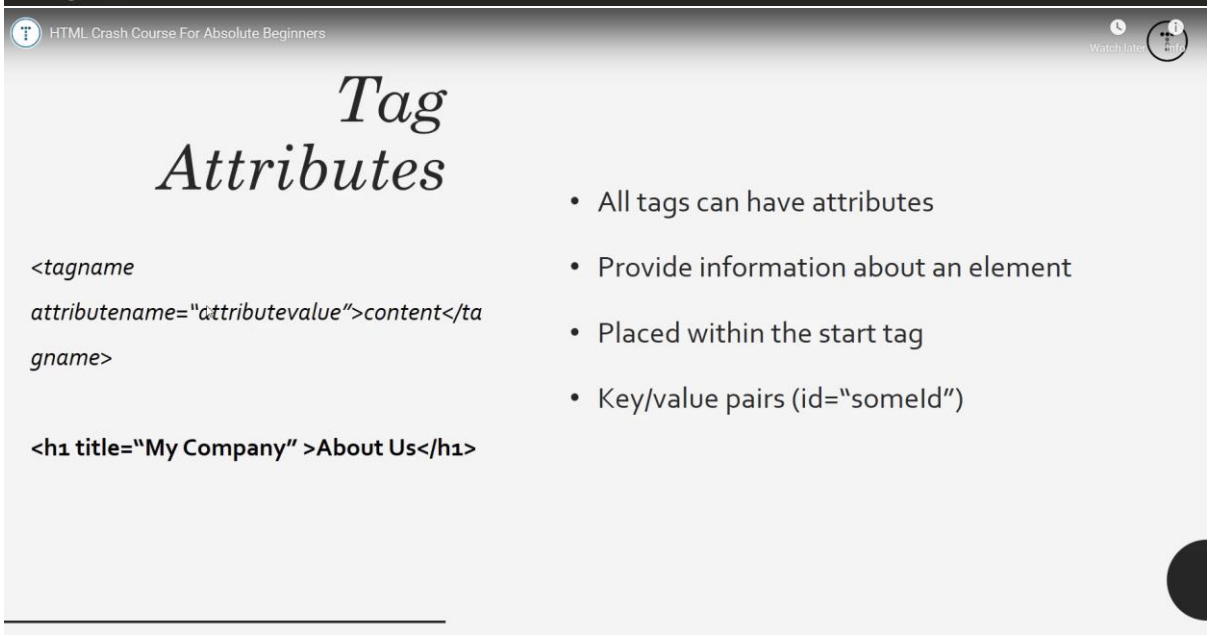
unlike other elements like , which indicates strong importance or emphasis, the <b> tag is primarily used for stylistic purposes. It simply instructs the browser to display the enclosed text in bold, without implying any inherent significance or importance.



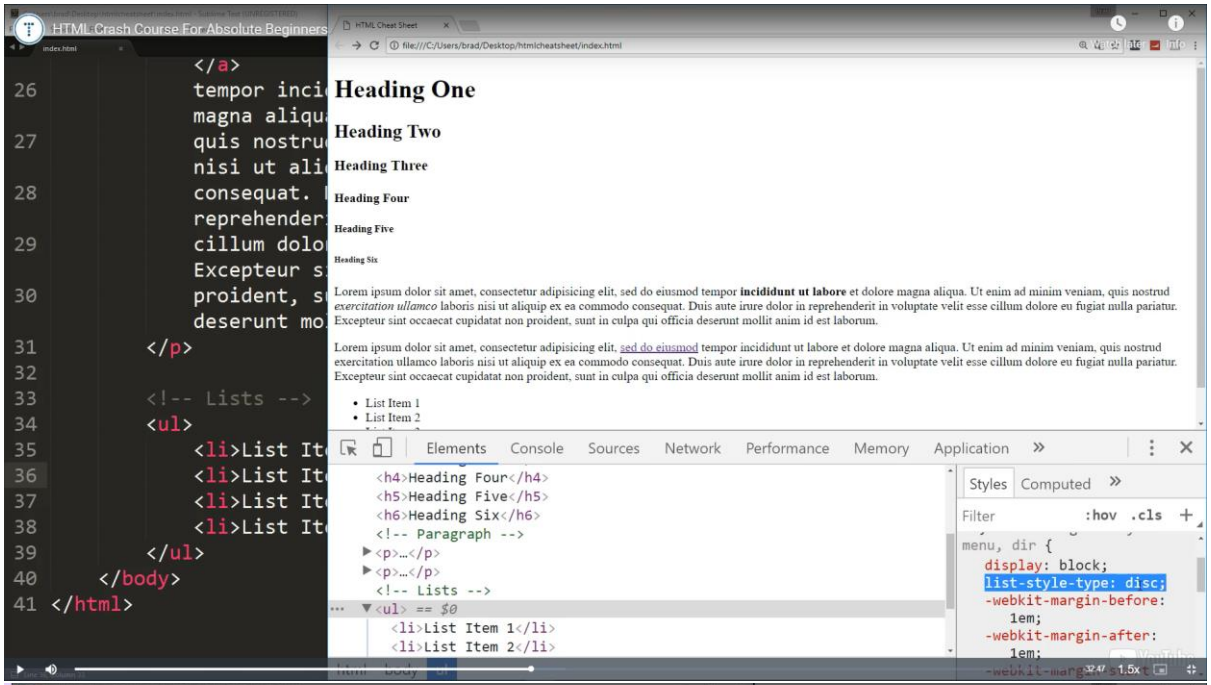


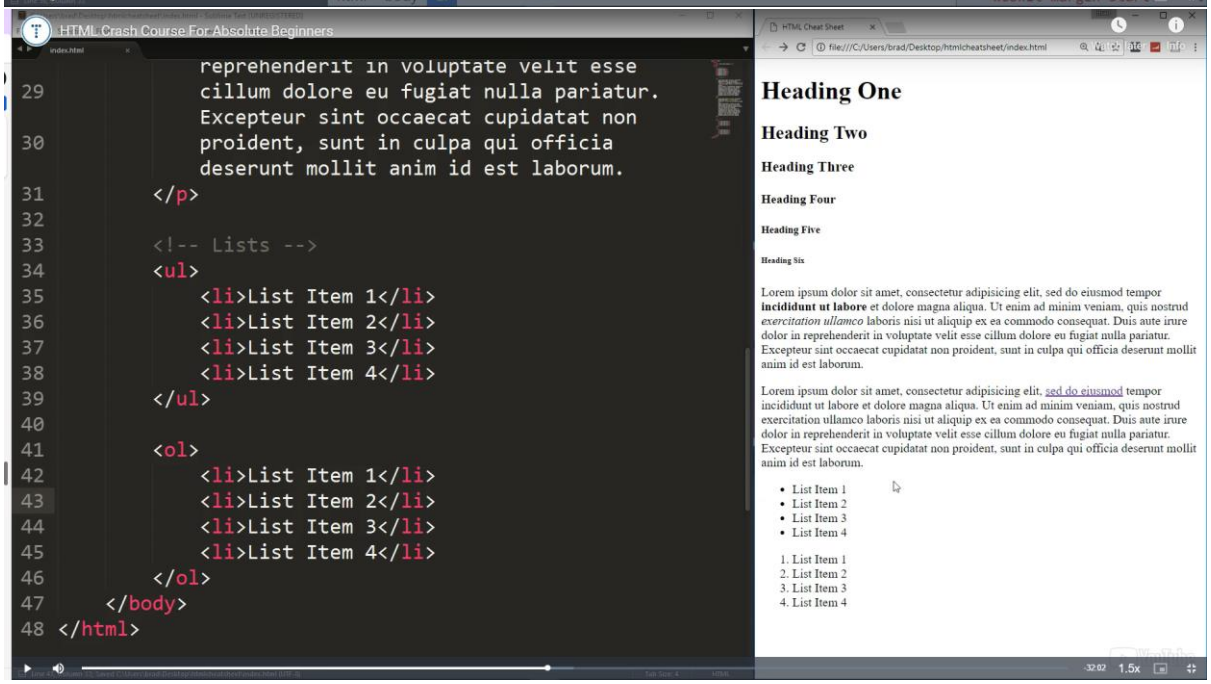
To open the link in new tab



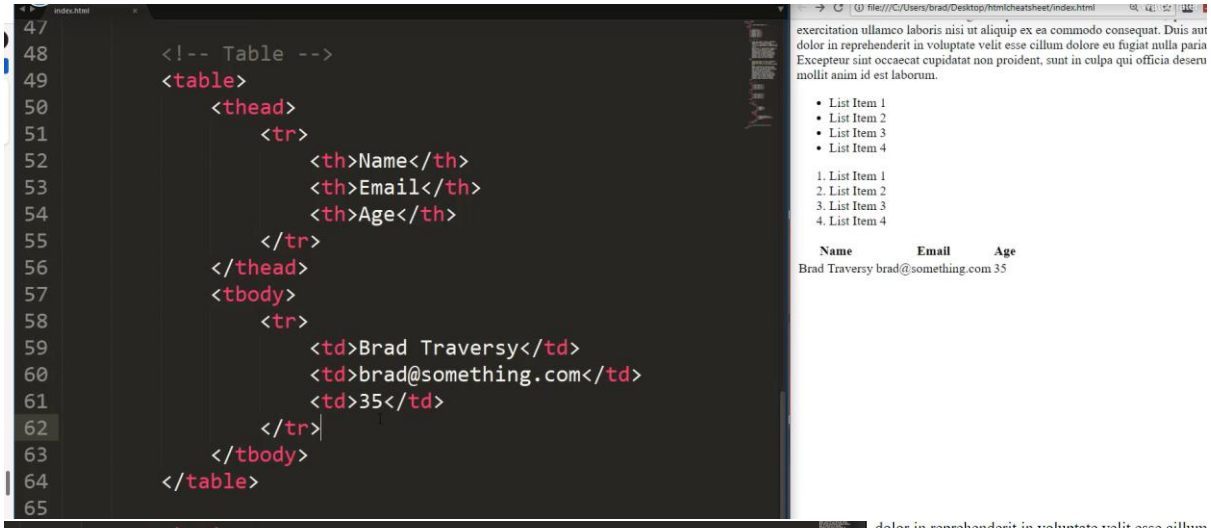


list:


HTML Crash Course For Absolute Beginners
Heading One
Heading Two
Heading Three
Heading Four
Heading Five
Heading Six
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
List Item 1
List Item 2
Elements
Console
Sources
Network
Performance
Memory
Application
Styles
Computed
display: block;
list-style-type: disc;
-webkit-margin-before: 1em;
-webkit-margin-after: 1em;


HTML Crash Course For Absolute Beginners
Heading One
Heading Two
Heading Three
Heading Four
Heading Five
Heading Six
List Item 1
List Item 2
List Item 3
List Item 4
1. List Item 1
2. List Item 2
3. List Item 3
4. List Item 4

tables:



```
<!-- Table -->
<table>
    <thead>
        <tr>
            <th>Name</th>
            <th>Email</th>
            <th>Age</th>
        </tr>
    </thead>
    <tbody>
        <tr>
            <td>Brad Traversy</td>
            <td>brad@something.com</td>
            <td>35</td>
        </tr>
    </tbody>
</table>
```

exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aut
dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla paria
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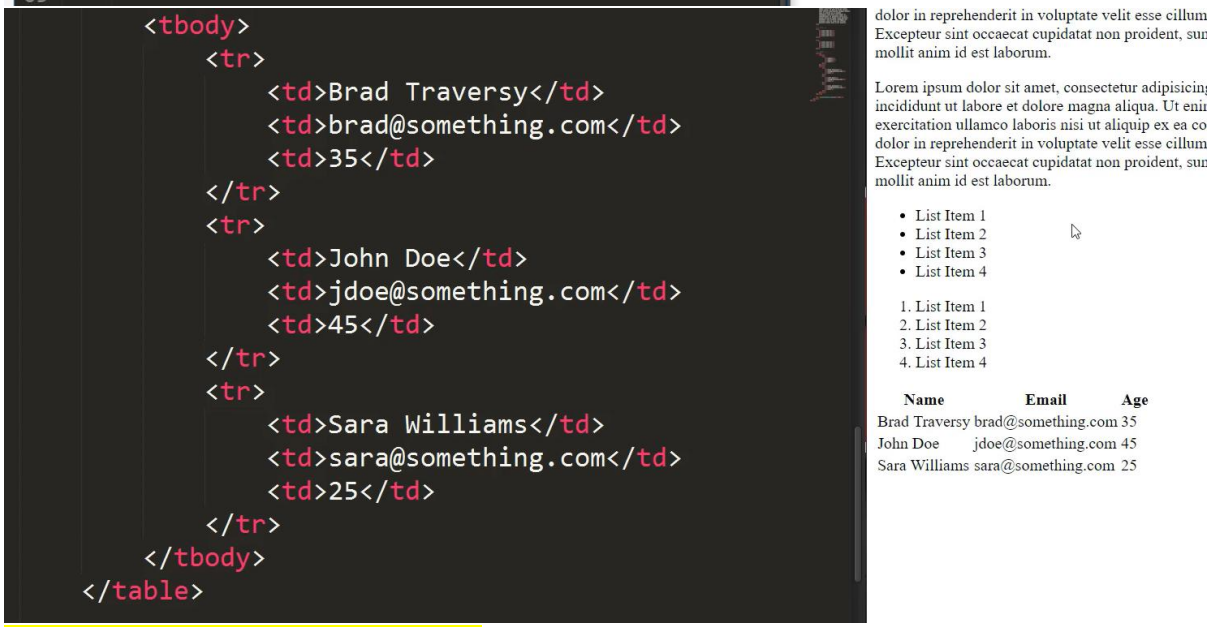
mollit anim id est laborum.

- List Item 1
- List Item 2
- List Item 3
- List Item 4

1. List Item 1
2. List Item 2
3. List Item 3
4. List Item 4

Name	Email	Age
Brad Traversy	brad@something.com	35



```
    <tbody>
        <tr>
            <td>Brad Traversy</td>
            <td>brad@something.com</td>
            <td>35</td>
        </tr>
        <tr>
            <td>John Doe</td>
            <td>jdoe@something.com</td>
            <td>45</td>
        </tr>
        <tr>
            <td>Sara Williams</td>
            <td>sara@something.com</td>
            <td>25</td>
        </tr>
    </tbody>
</table>
```

dolor in reprehenderit in voluptate velit esse cillum
Excepteur sint occaecat cupidatat non proident, sun
mollit anim id est laborum.

Lorem ipsum dolor sit amet, consectetur adipisicing
incididunt ut labore et dolore magna aliqua. Ut enir
exercitation ullamco laboris nisi ut aliquip ex ea co
dolor in reprehenderit in voluptate velit esse cillum
Excepteur sint occaecat cupidatat non proident, sun
mollit anim id est laborum.

- List Item 1
- List Item 2
- List Item 3
- List Item 4

1. List Item 1
2. List Item 2
3. List Item 3
4. List Item 4

Name	Email	Age
Brad Traversy	brad@something.com	35
John Doe	jdoe@something.com	45
Sara Williams	sara@something.com	25

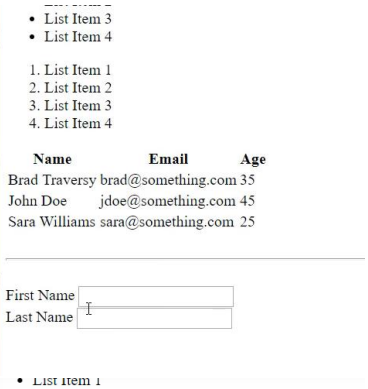
using table for layout is wrong approach

 line break

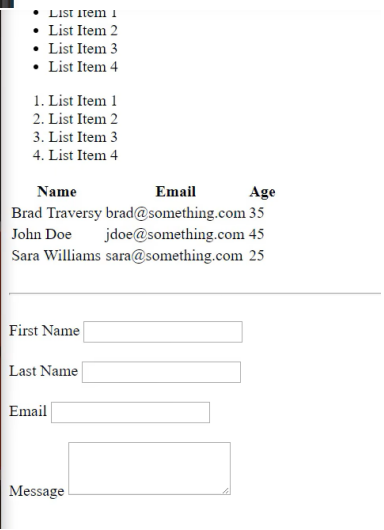
<hr> : horizontal row ; this will draw a line

Forms

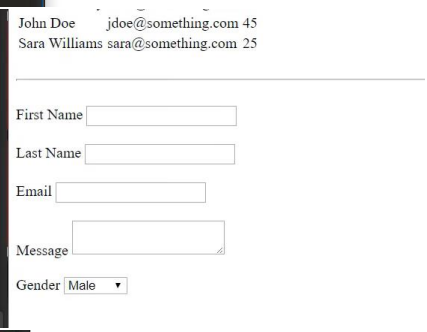
```
<!-- Forms -->
<form action="process.php" method="POST">
    <div>
        <label>First Name</label>
        <input type="text" name="firstName">
    </div>
    <div>
        <label>Last Name</label>
        <input type="text" name="lastName">
    </div>
</form>
```



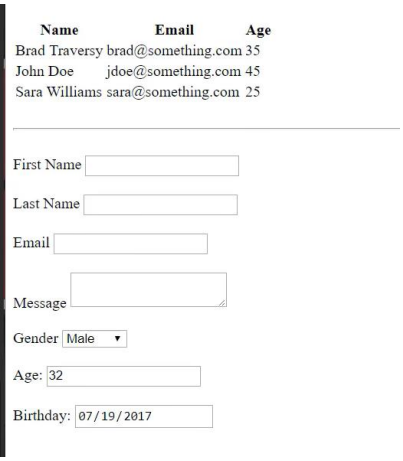

```
    <div>
        <label>Email</label>
        <input type="email" name="email">
    </div>
    <br>
    <div>
        <label>Message</label>
        <textarea name="message"></textarea>
    </div>
    <br>
    <div>
        <label>Message</label>
        <textarea name="message"></textarea>
    </div>
</form>
```




```
    <div>
        <label>Gender</label>
        <select name="gender">
            <option value="male">Male</option>
            <option value="female">Female</
            option>
            <option value="other">Other</
            option>
        </select>
    </div>
```




```
        <div>
            <label>Age:</label>
            <input type="number" name="age"
            value="30">
        </div>
        <br>
        <div>
            <label>Birthday:</label>
            <input type="date" name="birthday"
            >
        </div>
        <br>
</form>
```



```
<div>
    <label>First Name</label>
    <input type="text" name="firstName"
    placeholder="Enter first name">
</div>
<br>
```

```
            <br>
            <input type="submit" name="submit"
            value="Submit">
    </form>

    <!-- Button -->
    <button>Click</button>
```

```
            <br>
            <input type="submit" name="submit"
            value="Submit">
    </form>

    <!-- Button -->
    <button click="someFunctio">Click Me</button>
```

4. List Item 4

Name	Email	Ag
Brad Traversy	brad@something.com	35
John Doe	jdoe@something.com	45
Sara Williams	sara@something.com	25

First Name Enter first name

Message

Gender Male

Age: 30

Birthday: mm/dd/yyyy

Submit

Birthday: mm/dd/yyyy

Submit

Click Me

Input me jo name attribute ha wo server side k lye hota ha k hum value kaise grap krenge backend pe

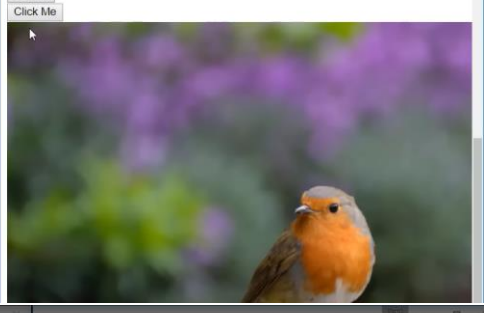
Image

```
            <br>
            <input type="submit" name="submit"
            value="Submit">
    </form>

    <!-- Button -->
    <button>Click Me</button>

    <!-- Image -->
    <img src="images/sample.jpg">
```

Click Me



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```
            <br>
            <div>
                <label>Birthday:</label>
                <input type="date" name="birthday"
                >
            </div>
            <br>
            <input type="submit" name="submit"
            value="Submit">
    </form>

    <!-- Button -->
    <button>Click Me</button>

    <!-- Image -->
    <img src="images/sample1.jpg" alt="My Sample
    Image">
```

Message

Gender Male

Age: 30

Birthday: mm/dd/yyyy

Submit

Click Me

My Sample Image

```
<br>

<!-- Image -->
<img src="images/sample.jpg" alt="My Sample
Image" width="200" height="50">
```

to open img in a new tab

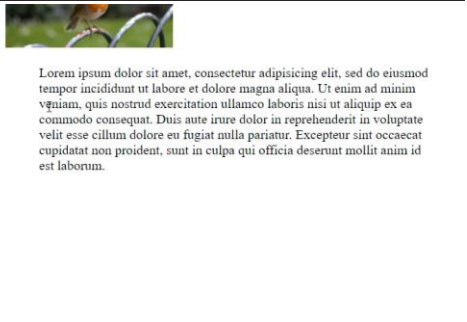
```
<!-- Image -->
<a href="images/sample.jpg">
    <img src="images/sample.jpg" alt="My
    Sample Image" width="200">
</a>
```

Quotations

```
<!-- Quotations -->
<blockquote cite="http://traversymed">

</blockquote>
```

```
<!-- Quotations -->
<blockquote cite="http://traversymedia.com">
    Lorem ipsum dolor sit amet, consectetur
    adipisicing elit, sed do eiusmod
    tempor incididunt ut labore et dolore
    magna aliqua. Ut enim ad minim veniam,
    quis nostrud exercitation ullamco laboris
    nisi ut aliquip ex ea commodo
    consequat. Duis aute irure dolor in
    reprehenderit in voluptate velit esse
    cillum dolore eu fugiat nulla pariatur.
```


Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

abbr

```
<p>The <abbr title="World Wide Web">WWW</abbr>
 is awesome</p>
```

velit esse cillum dolore eu fugiat nulla cupidatat non proident, sunt in culpa q est laborum.

The WWW is awesome

```
<p>The <abbr title="World Wide Web">WWW</abbr>
 is awesome</p>

<div style="margin-top:500px"></div>
```

commodo consequat. Duis aute irure dolor i velit esse cillum dolore eu fugiat nulla paria cupidatat non proident, sunt in culpa qui off est laborum.

The WWW is awesome
World Wide Web

cite tag

```
<p><cite>HTML crash course</cite> by Brad
Traversy</p>
```

The WWW is awesome

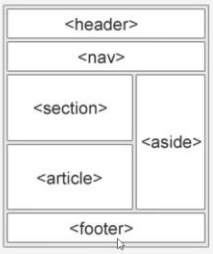
HTML crash course by Brad Traversy

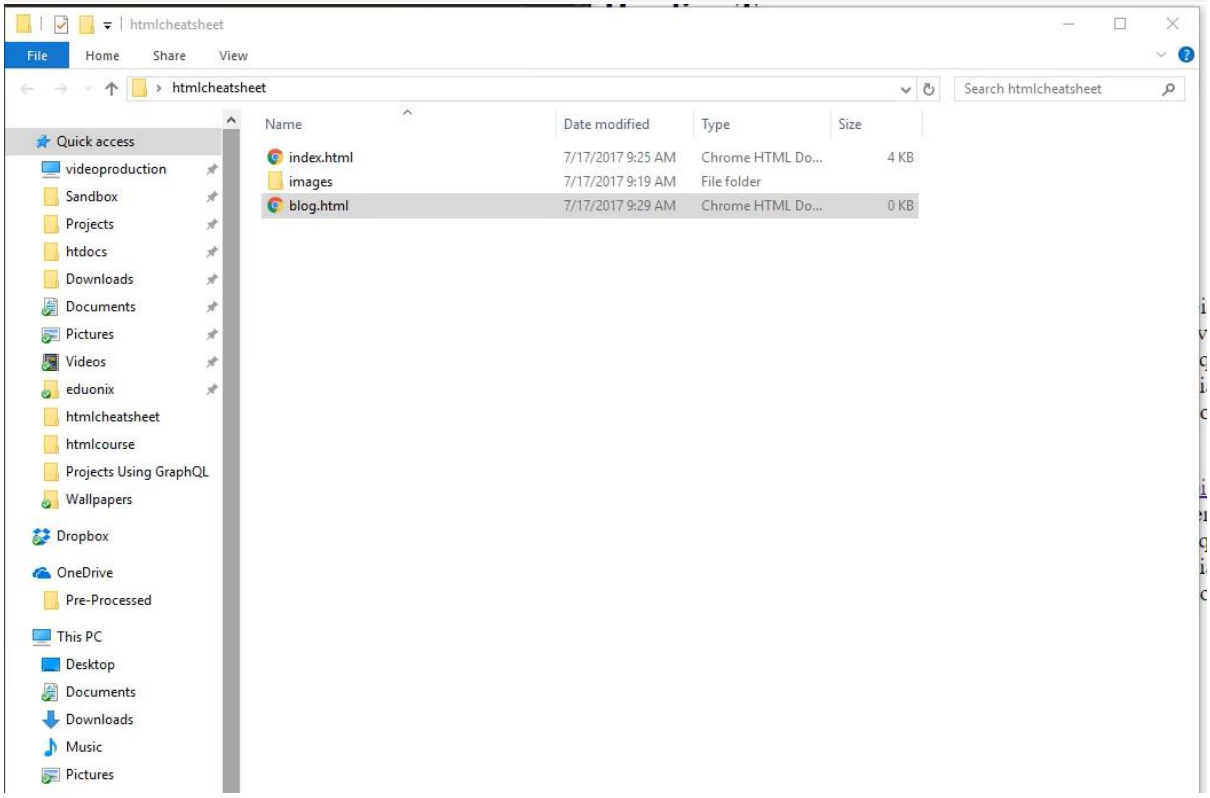
Scemantic tags

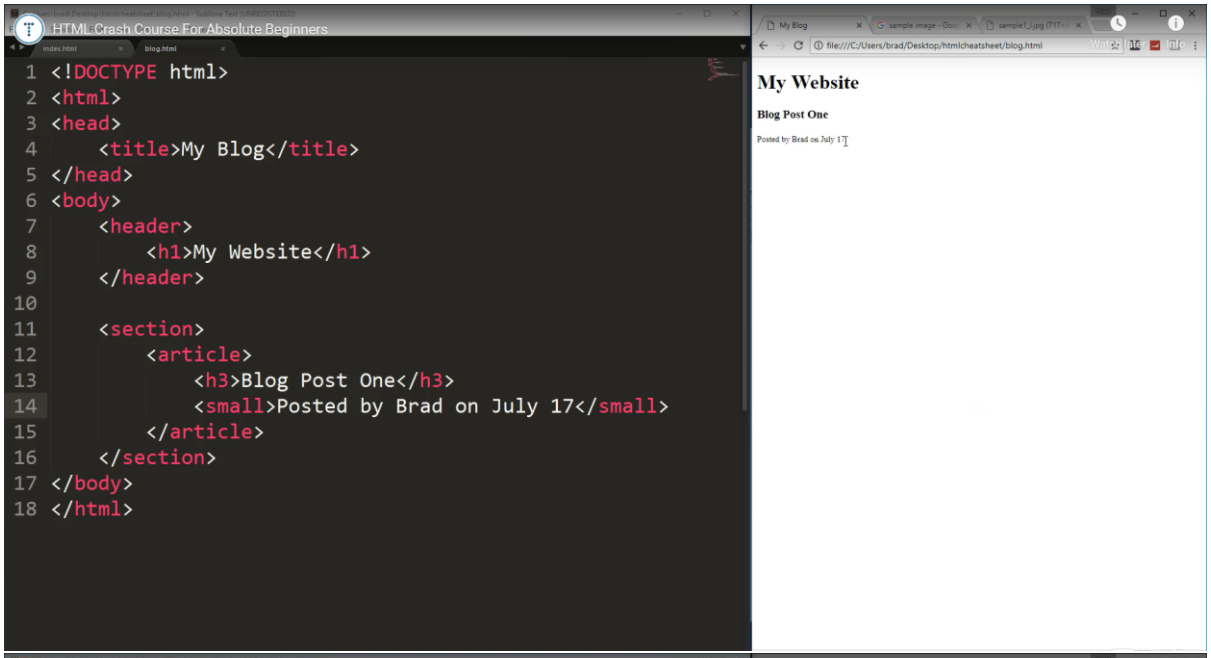
HTML5 Semantic Tags

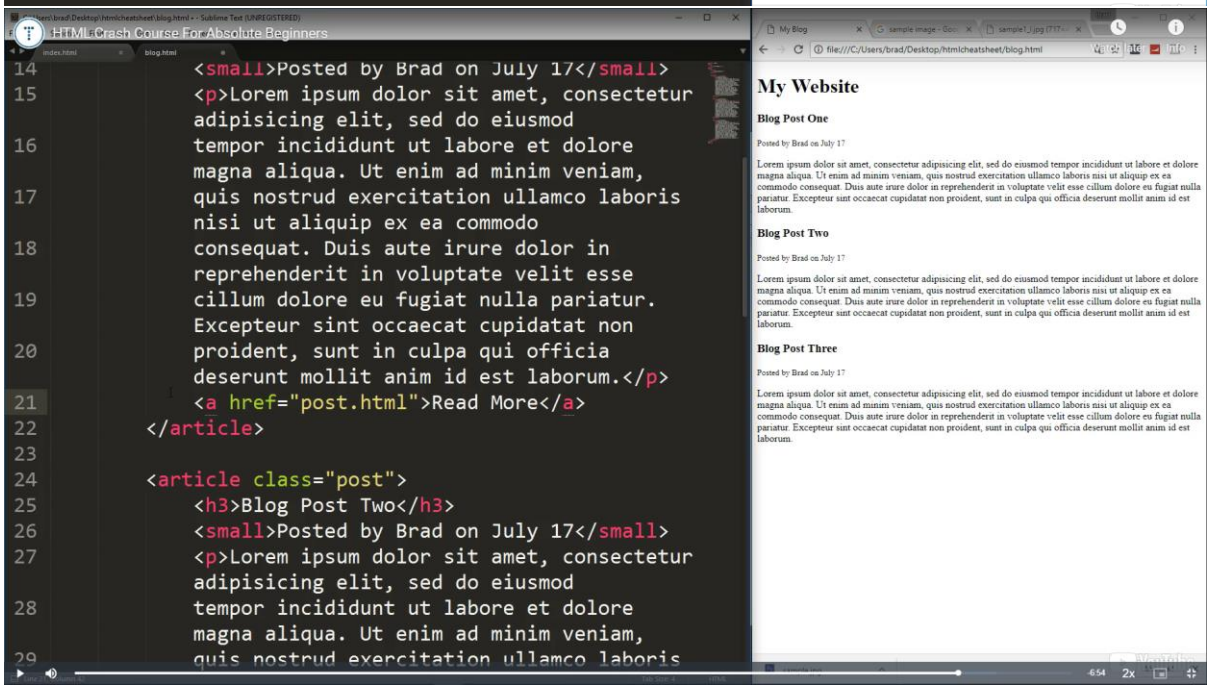
A semantic element clearly describes its meaning to both the browser and the developer.

<header></header>
<footer></footer>
<aside></aside>
<main></main>
<article></article>
<nav></nav>
<section></section>
<details></details>






HTML Crash Course For Absolute Beginners
index.html
blog.html
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>My Blog</title>
5 </head>
6 <body>
7 <header>
8 <h1>My Website</h1>
9 </header>
10
11 <section>
12 <article>
13 <h3>Blog Post One</h3>
14 <small>Posted by Brad on July 17</small>
15 </article>
16 </section>
17 </body>
18 </html>
My Blog
file:///C:/Users/brad/Desktop/htmlcheatsheet/blog.html
My Website
Blog Post One
Posted by Brad on July 17


HTML Crash Course For Absolute Beginners
index.html
blog.html
14 <small>Posted by Brad on July 17</small>
15 Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod
16 tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam,
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20 proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
21 Read More
22 </article>
23
24 <article class="post">
25 <h3>Blog Post Two</h3>
26 <small>Posted by Brad on July 17</small>
27 Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod
28 tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam,
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My Blog
file:///C:/Users/brad/Desktop/htmlcheatsheet/blog.html
My Website
Blog Post One
Posted by Brad on July 17
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
Blog Post Two
Posted by Brad on July 17
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Blog Post Three
Posted by Brad on July 17
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-6:54
2x

```
        <small>Posted by Brad on July 17</small>
        <p>Lorem ipsum dolor sit amet, consectetur
        adipisicing elit, sed do eiusmod
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        cillum dolore eu fugiat nulla pariatur.
        Excepteur sint occaecat cupidatat non
        proident, sunt in culpa qui officia
        deserunt mollit anim id est laborum.</p>
        <a href="post.html">Read More</a>
    </article>
  </section>
body>
html>
```
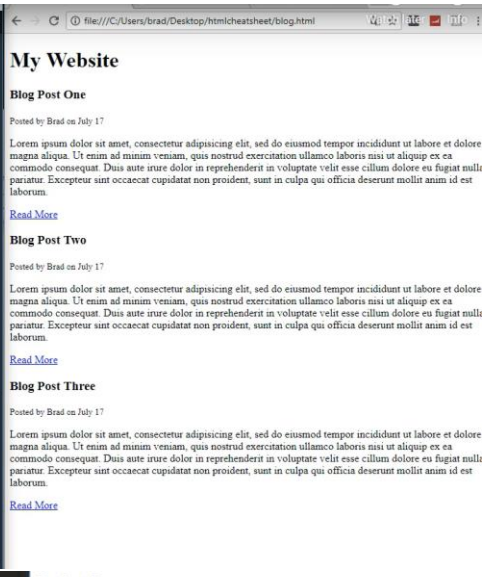
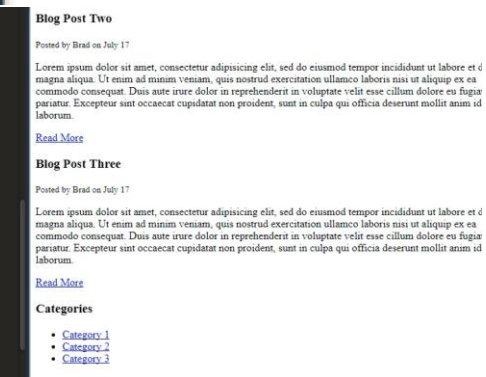
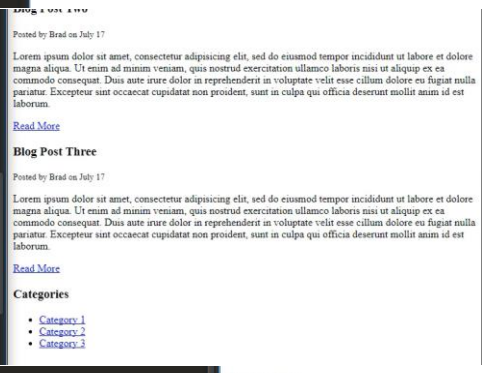



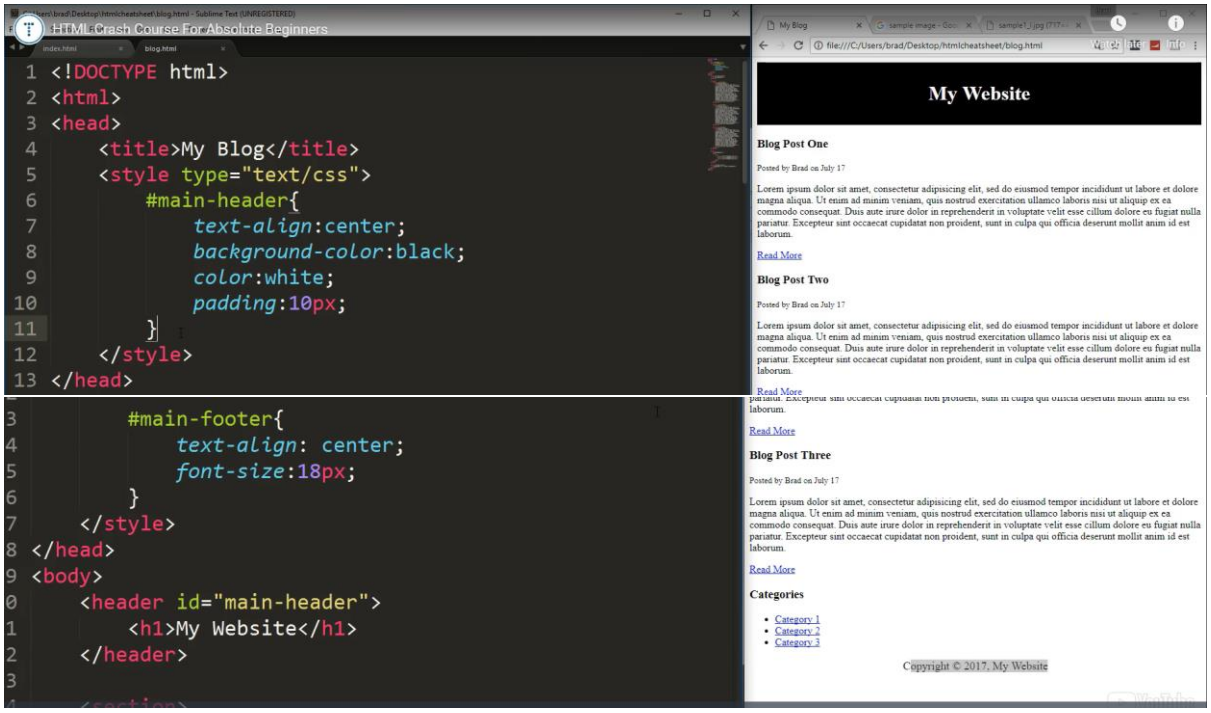

```
    <aside>
        <h3>Categories</h3>
        <ul>
            <li><a href="#">Category 1</a></li>
            <li><a href="#">Category 2</a></li>
            <li><a href="#">Category 3</a></li>
        </ul>
    </aside>
</body>
</html>
```




```
    <aside>
        <h3>Categories</h3>
        <nav>
            <ul>
                <li><a href="#">Category 1</a></li>
                <li><a href="#">Category 2</a></li>
                <li><a href="#">Category 3</a></li>
            </ul>
        </nav>
    </aside>

    f
</body>
```

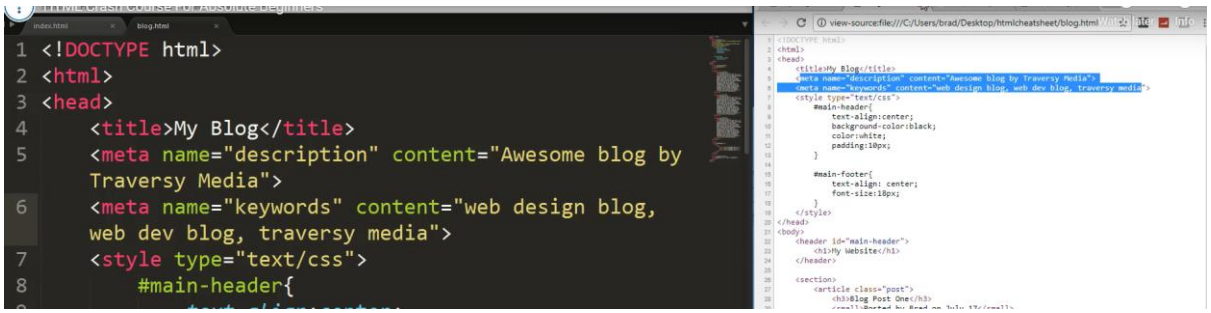



```
    <footer>
        <p>Copyright &copy; 2017, My Website</p>
    </footer>
/body>
```

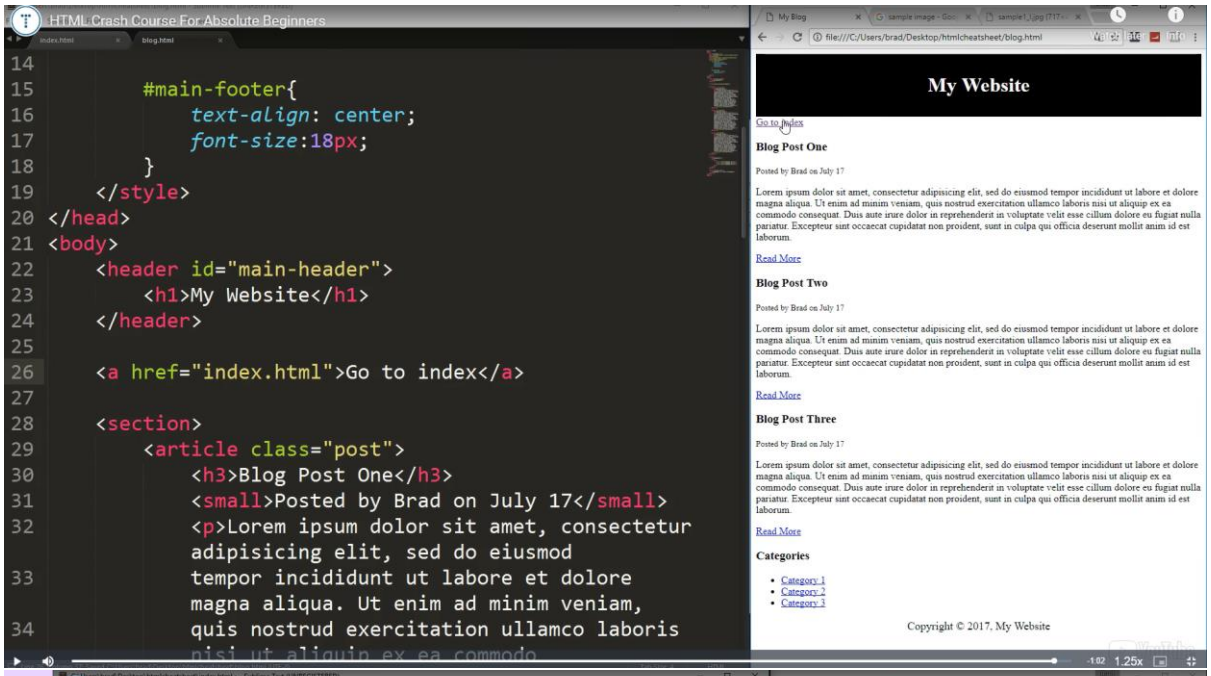


<meta> tags

When google indexes your website , its gonna look at description and keywords things like that



navigation


HTML Crash Course For Absolute Beginners
#main-footer{
text-align: center;
font-size:18px;
}
</style>
</head>
<body>
<header id="main-header">
<h1>My Website</h1>
</header>
Go to index
<section>
<article class="post">
<h3>Blog Post One</h3>
<small>Posted by Brad on July 17</small>
<p>Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris
My Website
Go to Index
Blog Post One
Posted by Brad on July 17
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
Read More
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Posted by Brad on July 17
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Read More
Blog Post Three
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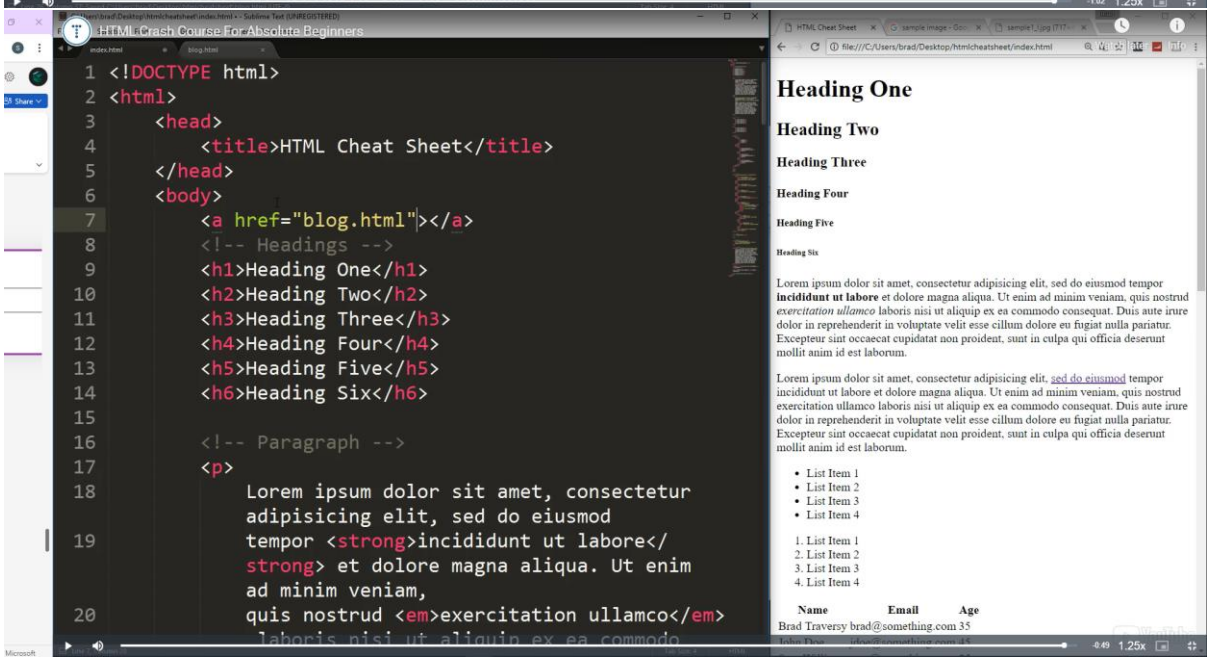
Read More
Categories
Category 1
Category 2
Category 3
Copyright © 2017, My Website


HTML Crash Course For Absolute Beginners
<!DOCTYPE html>
<html>
<head>
<title>HTML Cheat Sheet</title>
</head>
<body>

<!-- Headings -->
<h1>Heading One</h1>
<h2>Heading Two</h2>
<h3>Heading Three</h3>
<h4>Heading Four</h4>
<h5>Heading Five</h5>
<h6>Heading Six</h6>
<!-- Paragraph -->
<p>
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam,
quis nostrud exercitation ullamco
Heading One
Heading Two
Heading Three
Heading Four
Heading Five
Heading Six
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
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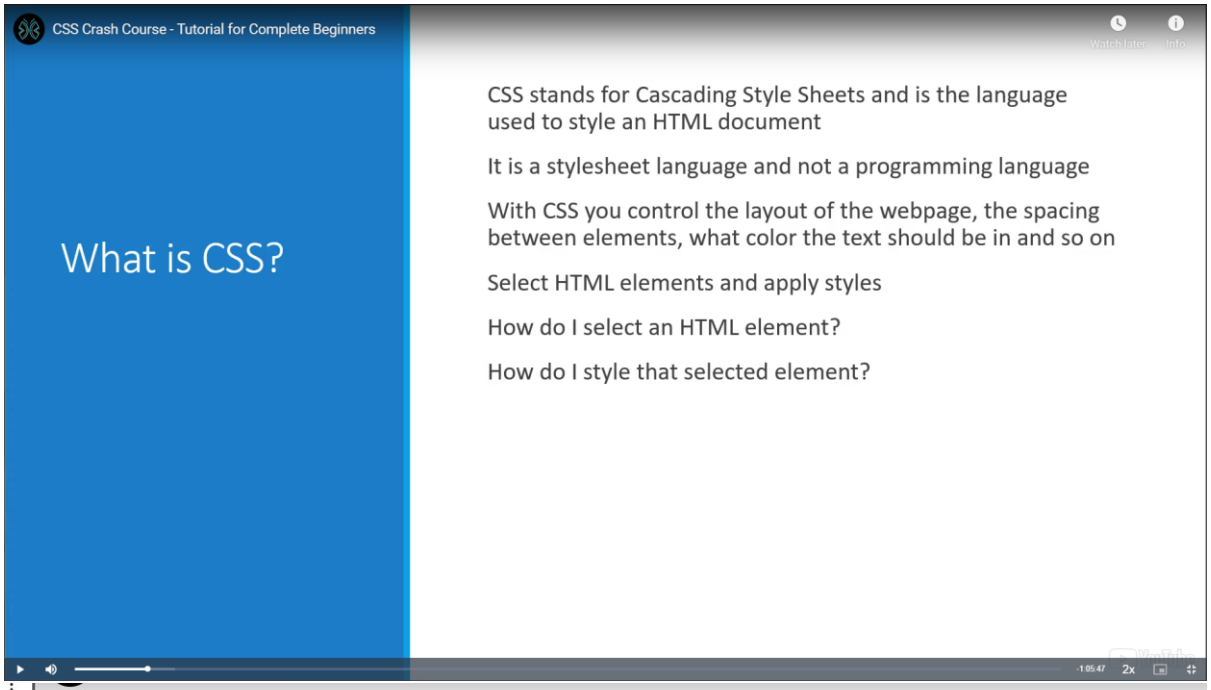
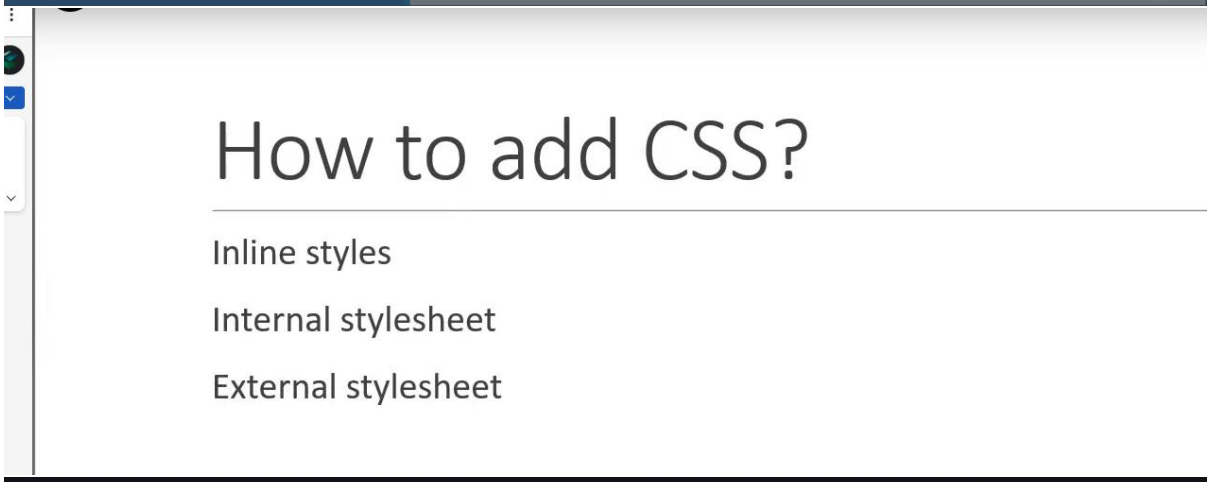
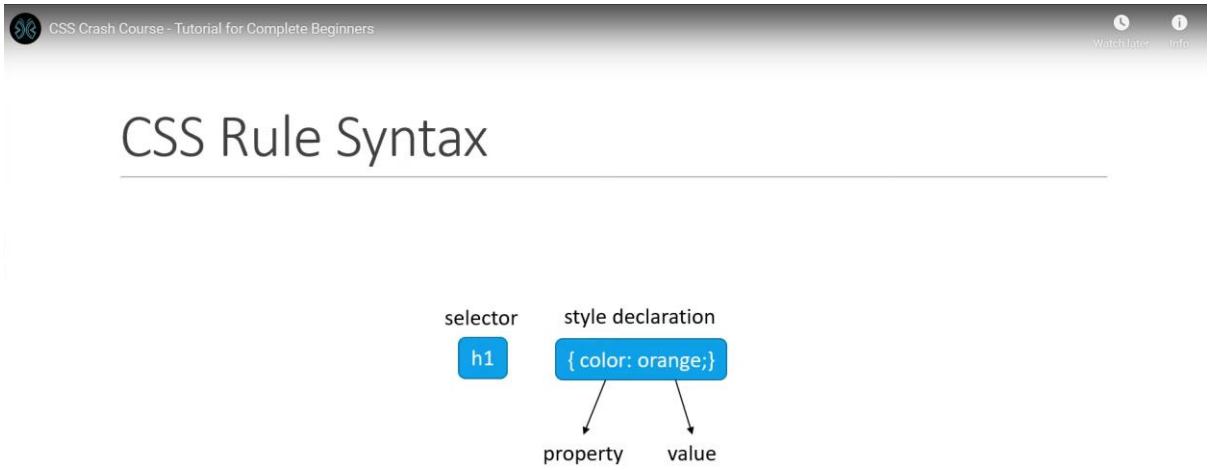
List Item 1
List Item 2
List Item 3
List Item 4
List Item 1
List Item 2
List Item 3
List Item 4
Name Email Age
Brad Traversy brad@something.com 35

CSS

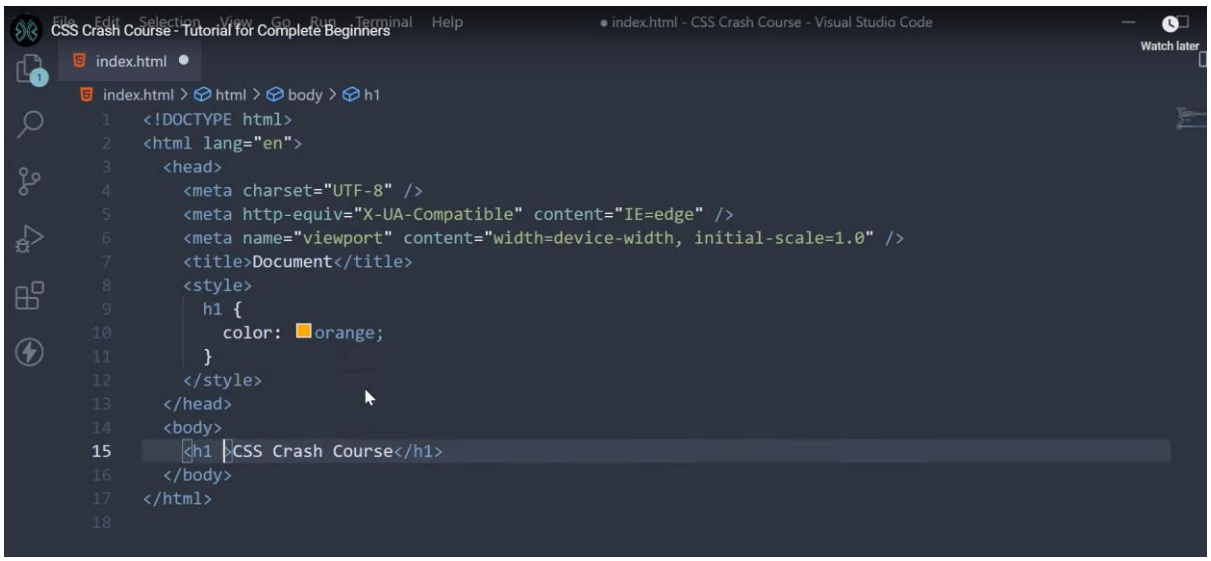

CSS Crash Course - Tutorial for Complete Beginners
What is CSS?
CSS stands for Cascading Style Sheets and is the language used to style an HTML document
It is a stylesheet language and not a programming language
With CSS you control the layout of the webpage, the spacing between elements, what color the text should be in and so on
Select HTML elements and apply styles
How do I select an HTML element?
How do I style that selected element?


How to add CSS?
Inline styles
Internal stylesheet
External stylesheet

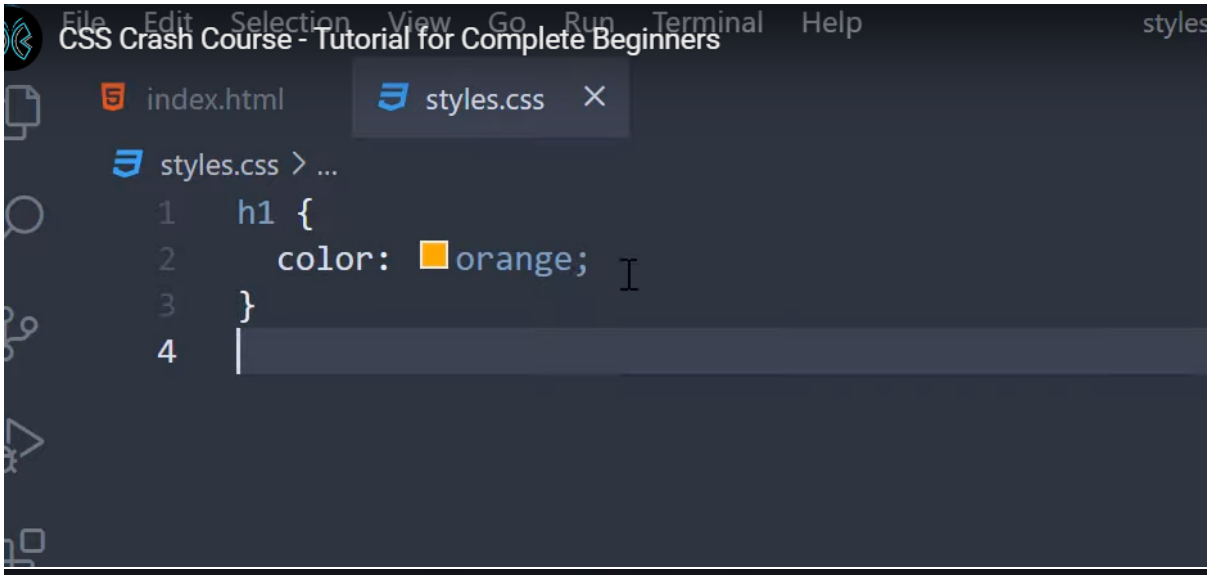

CSS Crash Course - Tutorial for Complete Beginners
index.html
index.html > html > body > h1
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8" />
<meta http-equiv="X-UA-Compatible" content="IE=edge" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<title>Document</title>
</head>
<body>
<h1 style="color: orange">CSS Crash Course</h1>
</body>
</html>

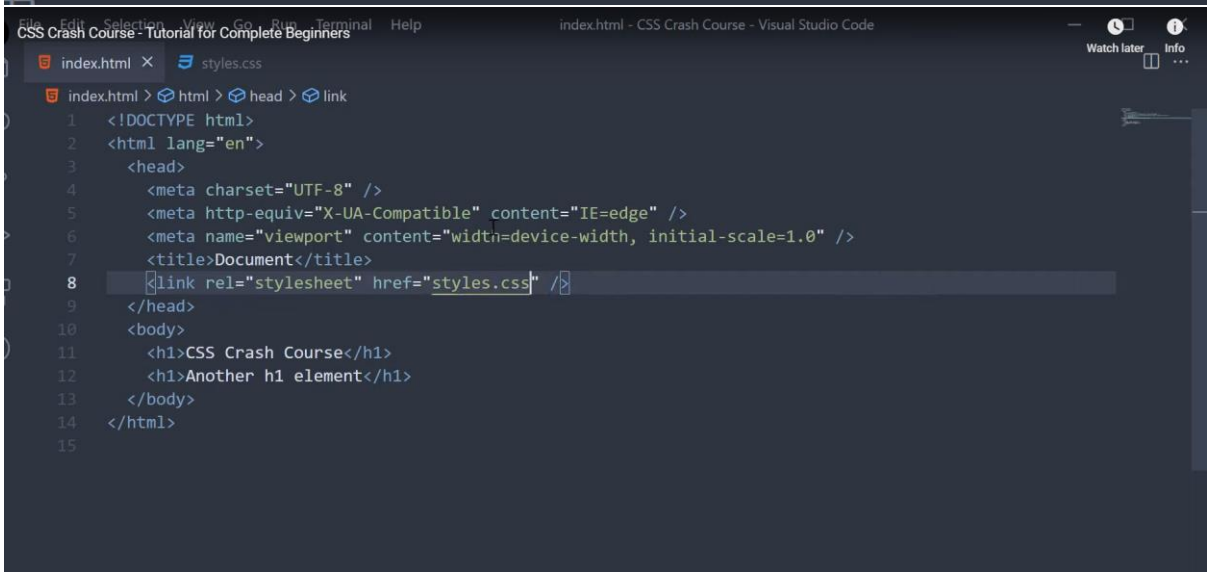

CSS Crash Course - Tutorial for Complete Beginners
Watch later
Info
CSS Rule Syntax
selector
style declaration
h1
{ color: orange;}
property
value

2nd method:


CSS Crash Course - Tutorial for Complete Beginners
File Edit Selection View Go Run Terminal Help
• index.html - CSS Crash Course - Visual Studio Code
Watch later
index.html
index.html > html > body > h1
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8" />
<meta http-equiv="X-UA-Compatible" content="IE=edge" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<title>Document</title>
<style>
h1 {
color: orange;
}
</style>
</head>
<body>
<h1>CSS Crash Course</h1>
</body>
</html>

3rd way:





universal selector *

Used to reset properties that browser set by default

CSS Reset

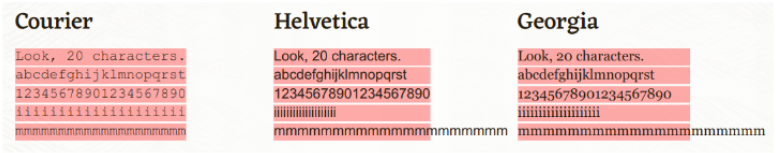
`ch`

Character unit. The CSS `ch` unit is defined as the width of the character 0 (zero, or U+0030) of the font.

While the `ch` unit works as an exact measurement for monospaced / fixed width fonts like Courier, it can be unpredictable with proportional fonts like Arial.

For example, if your font is Courier and you set an element's width to `60ch`, that element will be 60 exactly 60 characters wide.

But if your font is Arial and you set an element's width to `60ch` there's no telling how wide the element will be – characters may overflow the container, or fall short.

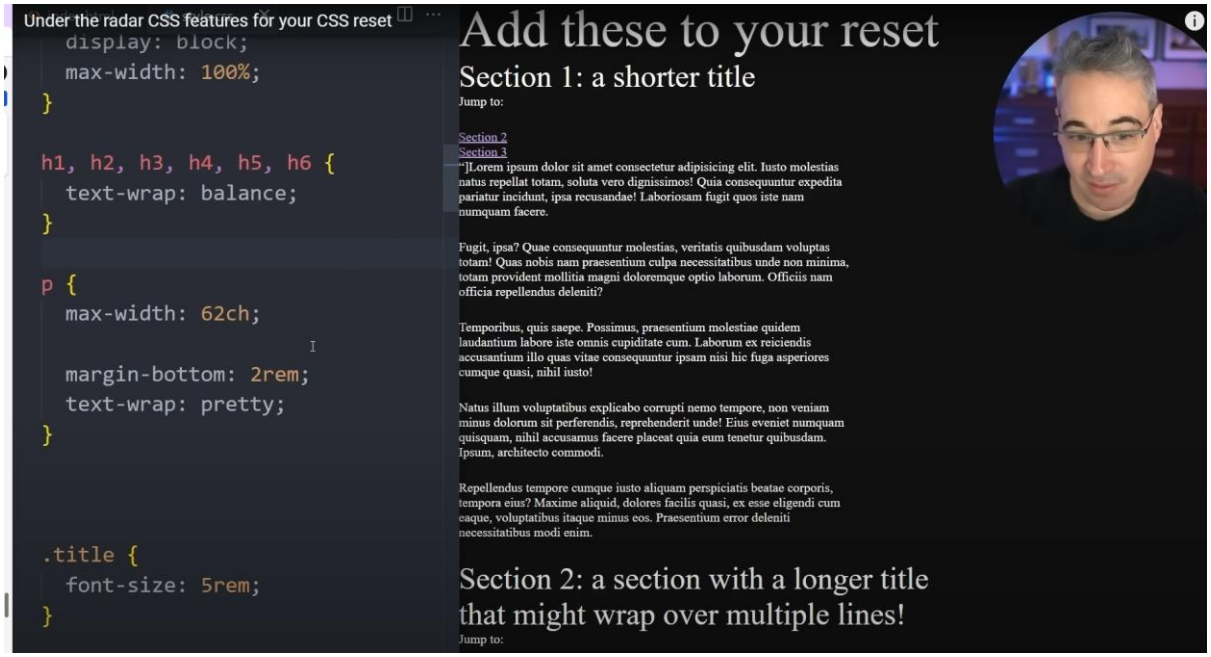


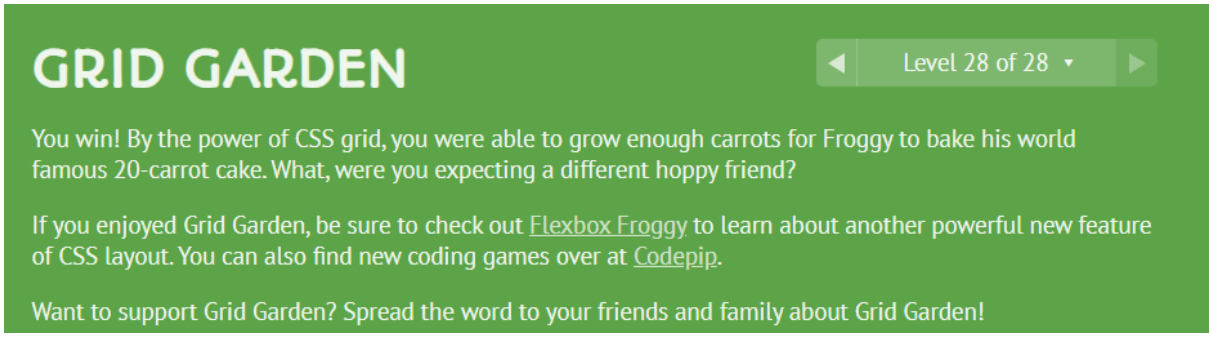
Source

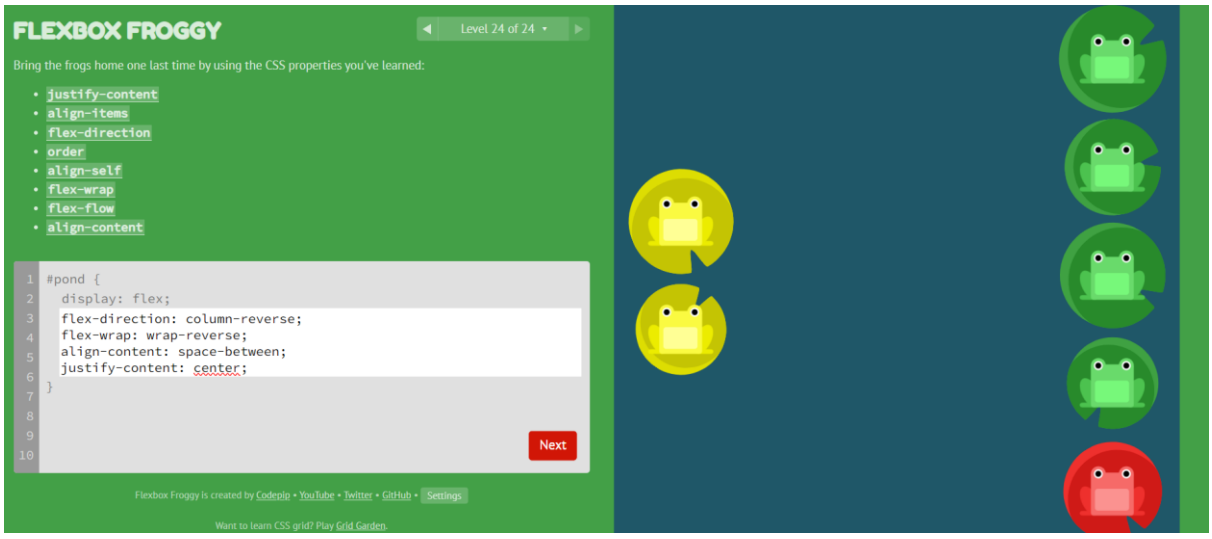
CSS Unit

https://www.freecodecamp.org/news/css-unit-guide/#:~:text=The%20CSS%20ch%20unit%20is,with%20proportional%20fonts%20like%20Arial.

```
* {
  margin: 0;
  padding: 0;
  font: inherit;
}

/* dark mode user-agent-styles */

html {
  color-scheme: dark light;
}

/* min body height */

body {
  min-height: 100svh;
}
```







Week # 03 JavaScript

Variables

There are 3 types of variables in javascript

1) Let
2) Const
3) Var

Three major aspects to see differences:

- Scope
- Re-assignment / updating value
- Re-declaration

Dynamically typed language not static: therefore, we don't define data types. means jab ham variable declare krte hain tou data type nhi btate wo khud value se judge krlega aur runtime pe hi assign krdega whether its string num or boolean , obj etc

1) **Variables:**

Const: The scope of a const variable is block scope. And value of const can't be re-assigned again. Can't be redeclared

Let and const 2 different scopes me 2 different variables hain

E.g: {

```
const v1 = 1;
console.log(v1);
```

}

let The scope of a let variable is block scope but can be updateable or re-assigned. Within a single scope var with same name can't be redeclared.

E.g:

```
let v1 = 1;
Console.log(v1);
{
v1  = 10;
console.log(v1);
```

}

---------xxxxxxxxxx----------

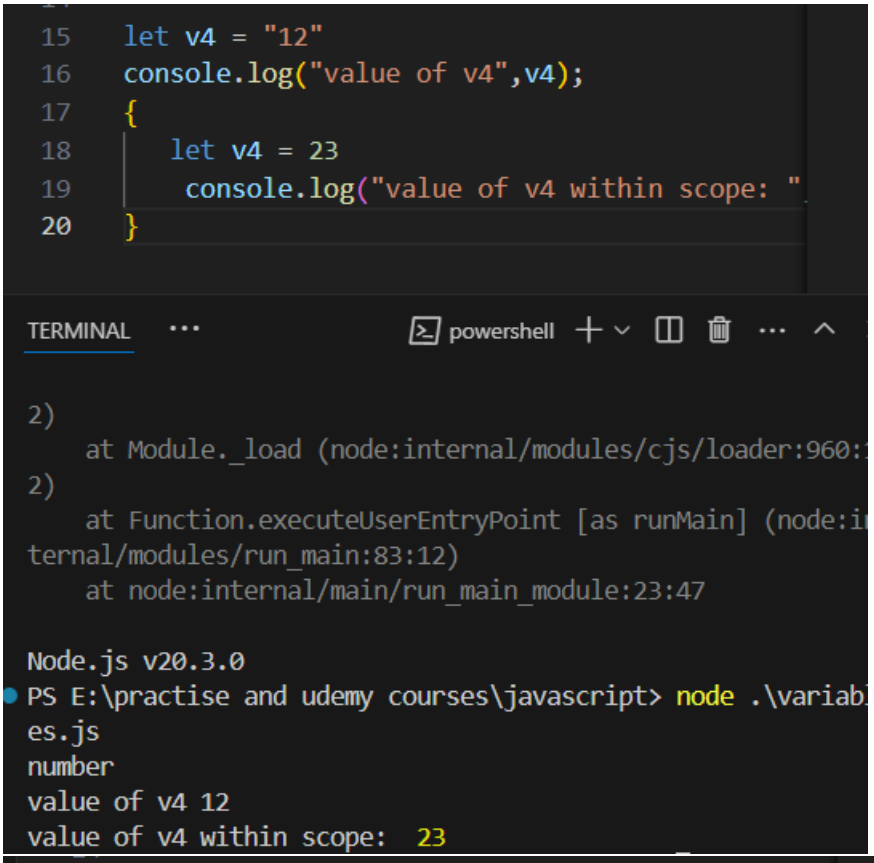
Let v1 =23;

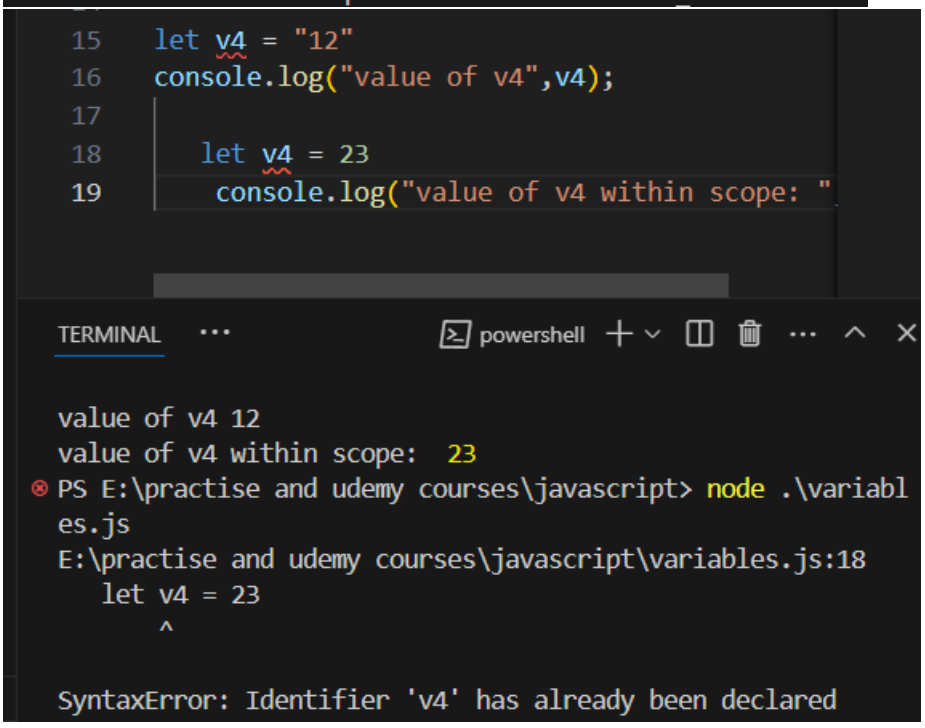
v1= 24 --> ok

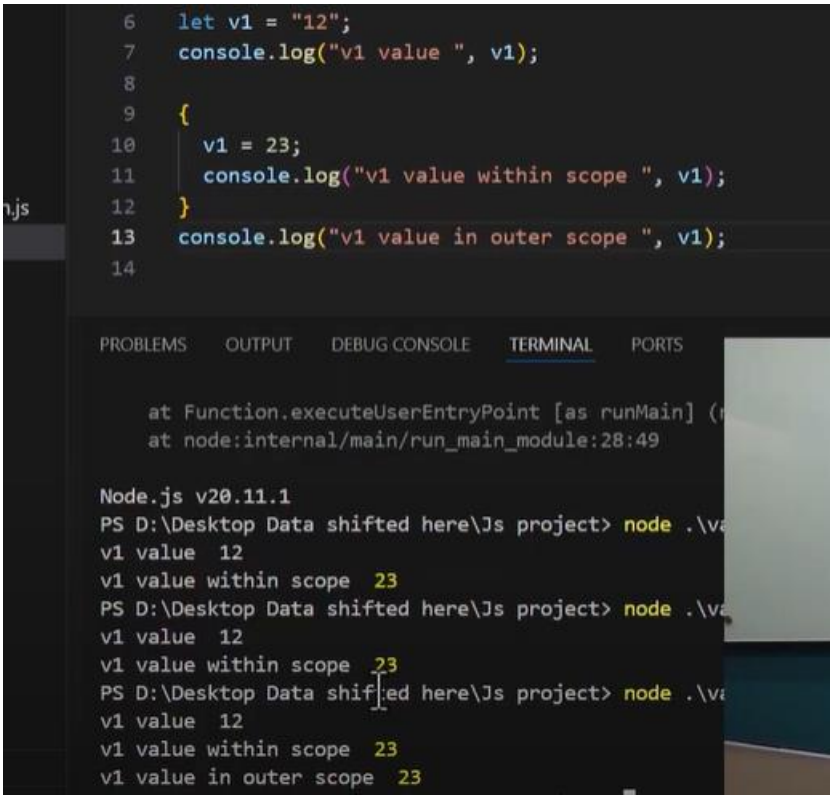
But

Let v1=23;

Let v1 = 24 -->error


15 let v4 = "12"
16 console.log("value of v4",v4);
17 {
18 let v4 = 23
19 console.log("value of v4 within scope: "
20 }
TERMINAL
powershell
2)
at Module._load (node:internal/modules/cjs/loader:960:
2)
at Function.executeUserEntryPoint [as runMain] (node:i
ternal/modules/run_main:83:12)
at node:internal/main/run_main_module:23:47
Node.js v20.3.0
PS E:\practise and udemy courses\javascript> node .\variab
es.js
number
value of v4 12
value of v4 within scope: 23


15 let v4 = "12"
16 console.log("value of v4",v4);
17
18 let v4 = 23
19 console.log("value of v4 within scope: "
TERMINAL
powershell
value of v4 12
value of v4 within scope: 23
PS E:\practise and udemy courses\javascript> node .\variabl
es.js
E:\practise and udemy courses\javascript\variables.js:18
let v4 = 23
^
SyntaxError: Identifier 'v4' has already been declared



Var: The scope of a var variable is functional or global scope. Can be Re-assgined and re-declared

Existing variable hi update hoga irrespective of any scope

```
var v1 = "12";
console.log("v1 value ", v1);

{
  var v1 = 23;
}

console.log("v1 value in outer scope ", v1);
```

var	let	const
The scope of a *var* variable is functional or global scope.	The scope of a *let* variable is block scope.	The scope of a *const* variable is block scope.
It can be updated and re-declared in the same scope.	It can be updated but cannot be re-declared in the same scope.	It can neither be updated or re-declared in any scope.
It can be declared without initialization.	It can be declared without initialization.	It cannot be declared without initialization.
It can be accessed without initialization as its default value is “undefined”.	It cannot be accessed without initialization otherwise it will give ‘referenceError’.	It cannot be accessed without initialization, as it cannot be declared without initialization.
These variables are hoisted.	These variables are hoisted but stay in the temporal dead zone untill the initialization.	These variables are hoisted but stays in the temporal dead zone until the initialization.

2) Data Types:

7 primitive data types in js:

1. String 2. Number 3. Boolean 4. Undeifined 5. Null 6. Array 7. Object

3) Statement and Expression:

Every code line considered as Statement. Eg: const a = 1;

In a line if we use any arithmetic or logical operator so it becomes Expression.

Eg: const a = 1 +1 ;
Eg: if(a<b){}

if , else if , else

4) **Loops:**
Conditional Loops and Counter Loops:
1) for(let i=0; i<=20; i++){} >>> Counter Loop
2) while(i < 20){ >>> Condition Loop
Console.log();
i++;
}

5) **Nested Loop:**
for(int i=0; i<=10; i++){
for(int j=0; j<=5; j++){
}

3) Nested Loop:
for(int i=0; i<=10; i++){
for(int j=0; j<=5; j++){
Console.log(i,j);
}

}

6) **Arrays:**
const arr [];
Methods in Arrays:
Slice, splice, reverse, concat, sort, join, filter, reduce, find, flat, push, pop, shift, unshift, indexOf, includes
Functions and Methods:
> functions can be accessible without any object
> methods are for any class or can be linked with object

7) **De-Structuring in Arrays:**
Const arr = [1, 2, 3, 4];
Const [val1, val2] = arr; //ih this step we are storing arr index 0 and 1 value in val1 and val2 this is destructuring.
Console.log(val1, val2);

}

Difference between Function and Method:

Wo functions jo without any object independently exist krte hain wo functions hotey hain
and method hamesha kisi class k hote hain means kisi object k sath link hote hain saarey methods jo array k hain wo saare kisi object se related honge for instance: indexOf use krne k lye aik array ka hona zaroori h.

Objects

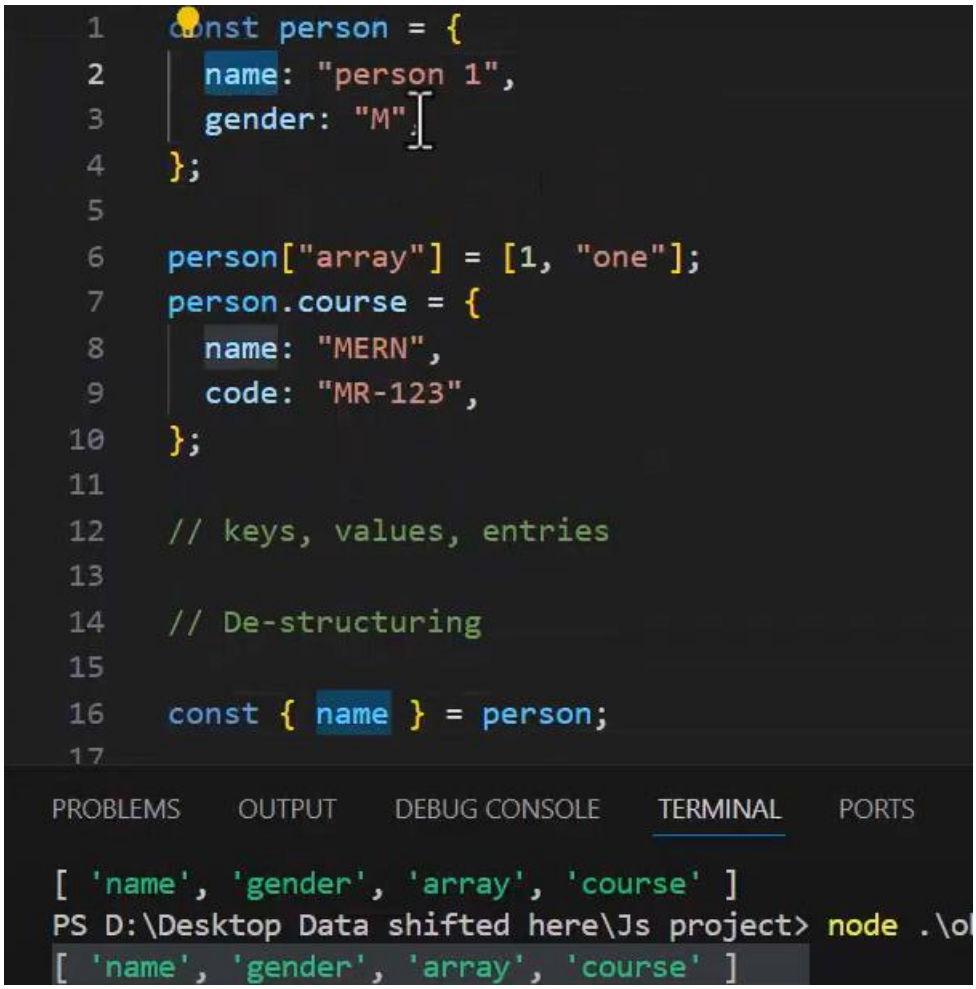
-iterable

-key value pairs

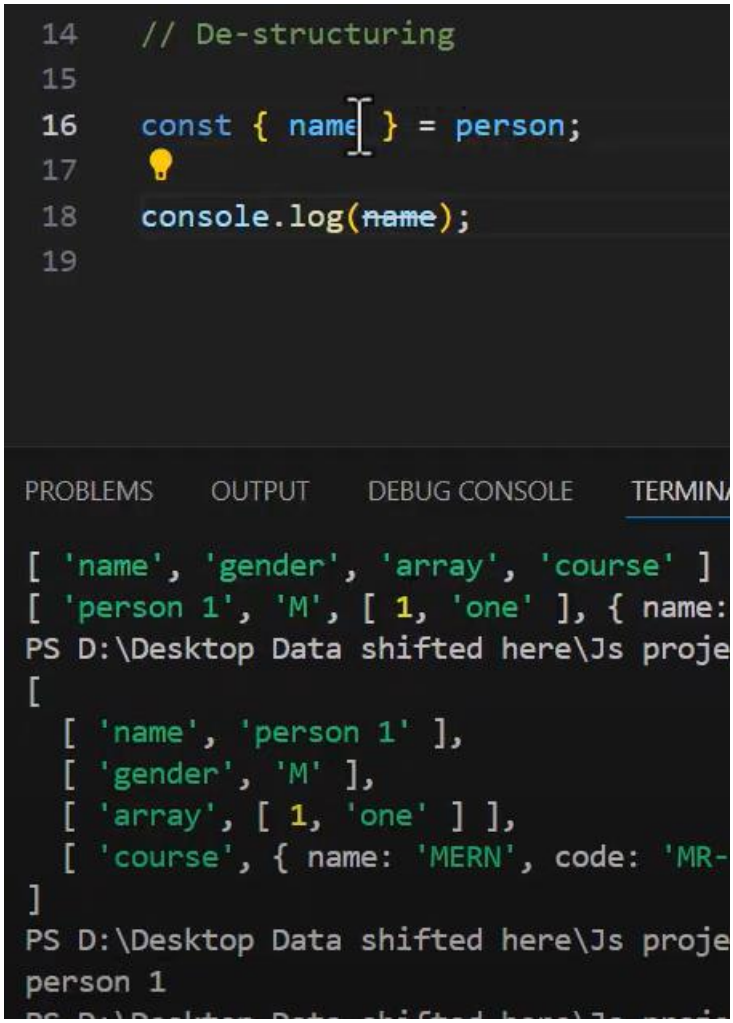
-We can modify key names

-can store multiple data types

De-structuring in object



Destructuring krte waqt {} use krenge
{} me exactly same key ka name denge jiski value chahye unlike in array hum variable ka koi bhi name rakh dete the



Agr ma koi aisa variable name rakhdun jiske name ki koi key exist hi nhi krti tou mere pas undefined aayega

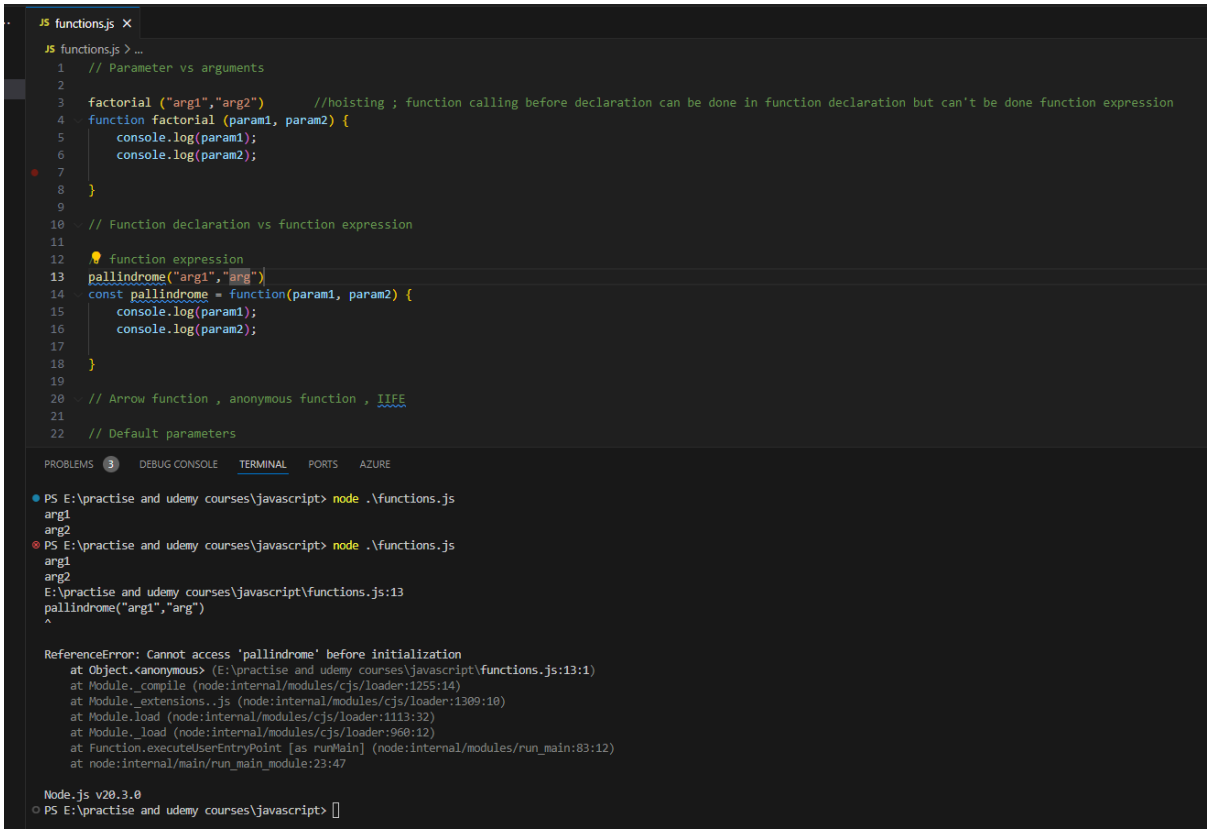
Function

// Function declaration vs function expression

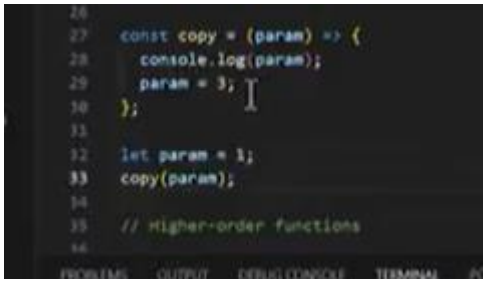
Hoisting

```
factorial ("arg1","arg2")       //hoisting ; function calling before declaration can be done in function declaration but can't be done function expression
function factorial (param1, param2) {
    console.log(param1);
    console.log(param2);

}
```

Function expression me hoisting nhi hoti means we cannot call function before dc



Function Pass by Copy:



Function Pass by Reference:

Difference between map and forEach loop:

the main difference between map and forEach is that map returns a new array with the results of the function, while forEach does not return anything and only modifies the original array

ForEach:

forEach is a method that executes a provided function once for each element in an array. It does not return a new array, but instead modifies the original array.

Let's understand the line **It does not return a new array, but instead modifies the original array**

```
const names = ["Rohit","Aakash","Vinay","Ashish","Vasu"];

const newNames=name.forEach(function(name, index, array) {
  array[index] = name + "DEV";
});
console.log(newName) // Undefined

console.log(names); // Output: ['RohitDEV', 'AakashDEV',
'VinayDEV', 'AshishDEV', 'VasuDEV']
```

Here we can see the original array names are changed and newNames is coming undefined means it is not returning anything.

REACT

Framework and library difference

Framework --> opiniated (mujhe jo bhi task krna ha framework me hoga uska method as it is extensive set of tool)

Library: choti choti libraries ko milake hum aik task krte hain

DOM (Document Object Model): html k multiple tags like 1 div uske ander multiple h and p etc browser uska 1 tree like structure bananta ha apne pas, nodes ki heirarchhy.

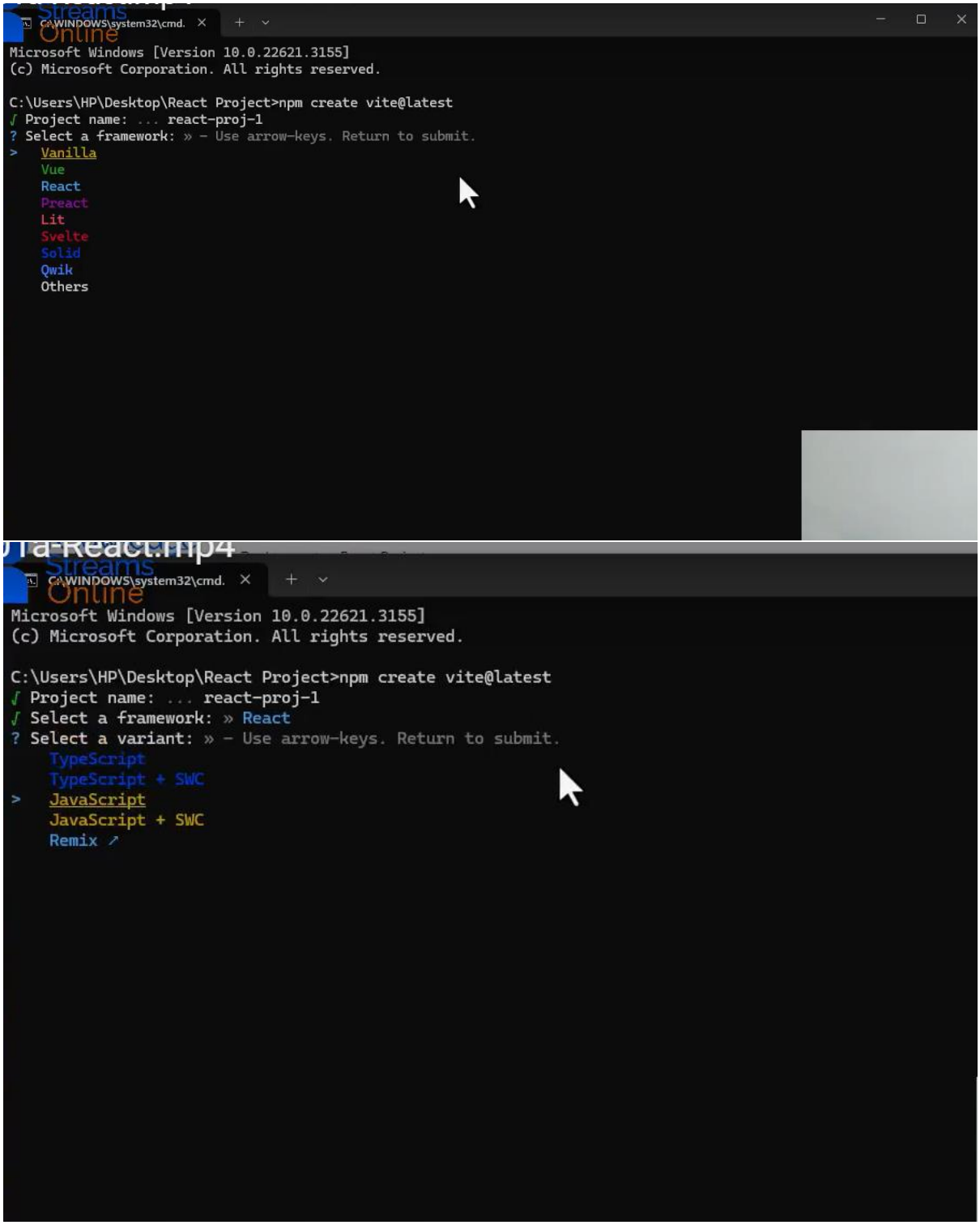
Jab bhi hum kisi pg ko refresh krte hain tou ye DOM re-build hota h, agr switch krte hain kisi pg pe tab bhi DOM Refresh hota h.

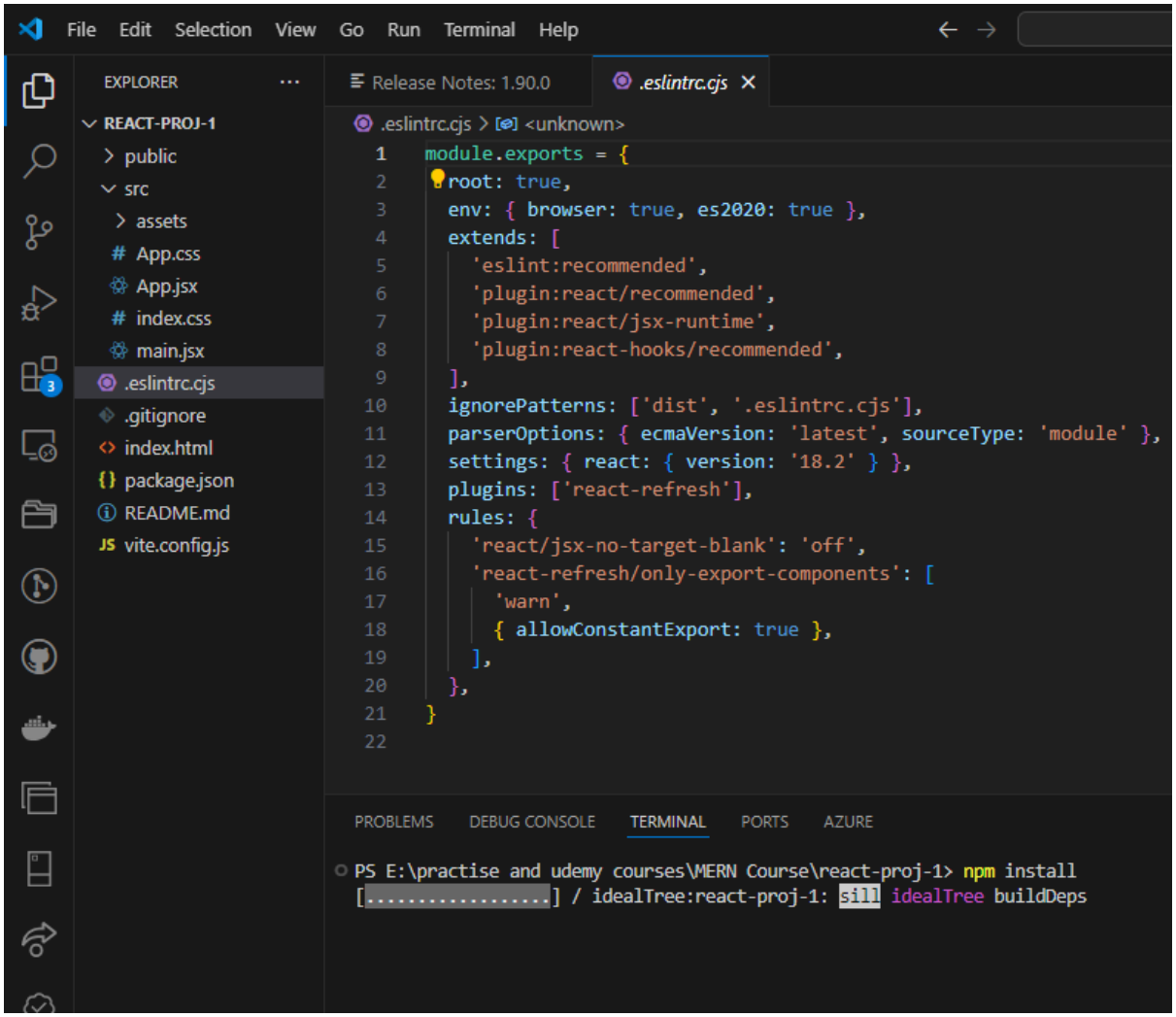
React apne pas actual DOM ki 1 copy banake rakhleta ha , jb bhi koi change aata ha kisi node me wo change virtual DOM me hota ha then actual DOM and **virtual DOM** compare hote hain aur jo chnage hota h sirf wo actual DOM me update hota ha

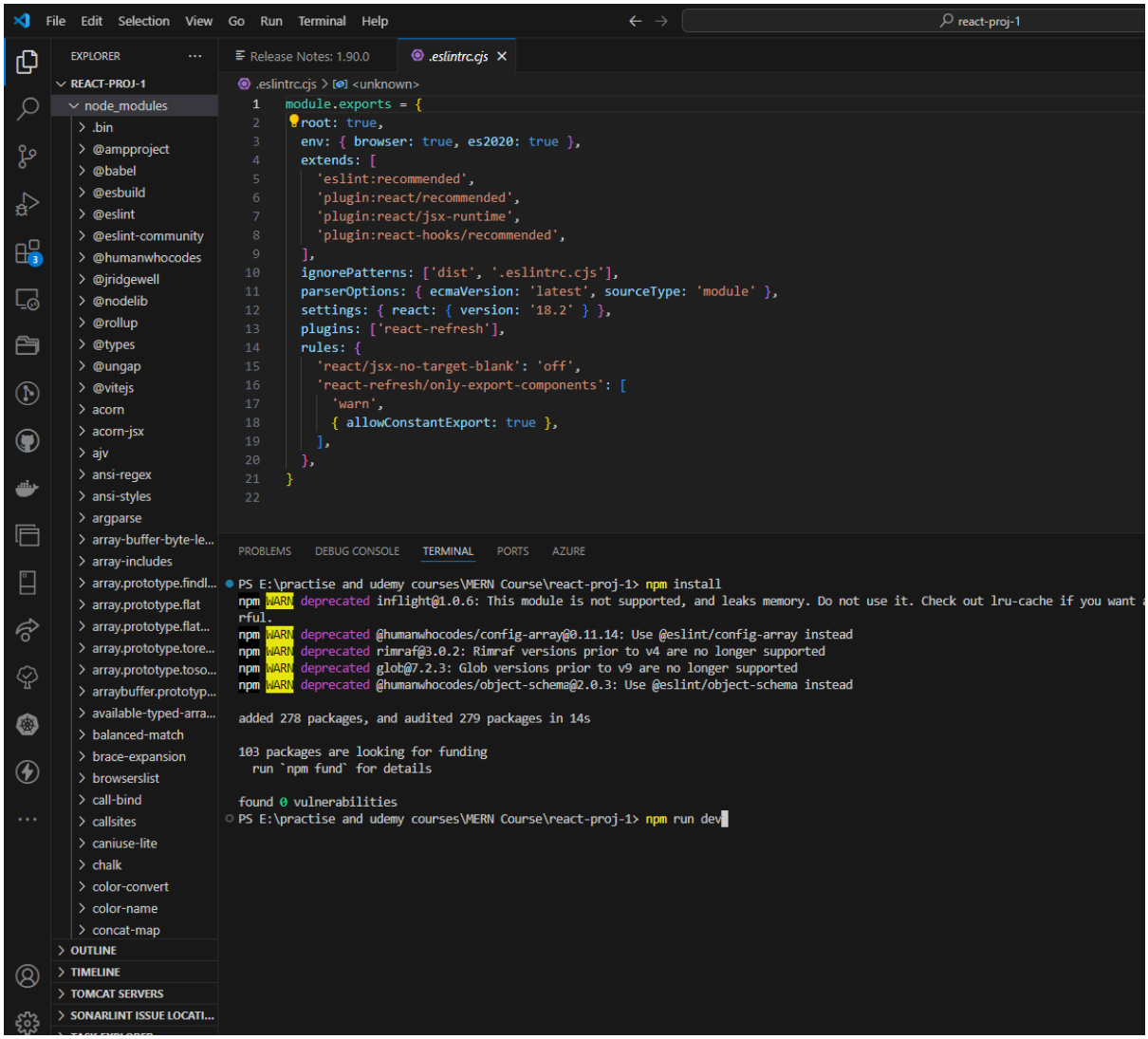
React ko chalane k lye aik software ki need h which is **node JS**

V8 Engine is name of software jo hamare browser me hota h aur javascript ko chalata h **node = V8Engine + C++**, Aim is k javascript code without browser bhi run hojaye

Project setup




File Edit Selection View Go Run Terminal Help
EXPLORER
REACT-PROJ-1
public
src
assets
App.css
App.jsx
index.css
main.jsx
.eslintrc.cjs
.gitignore
index.html
package.json
README.md
vite.config.js
Release Notes: 1.90.0
.eslintrc.cjs
.eslintrc.cjs > <unknown>
module.exports = {
root: true,
env: { browser: true, es2020: true },
extends: [
'eslint:recommended',
'plugin:react/recommended',
'plugin:react/jsx-runtime',
'plugin:react-hooks/recommended',
],
ignorePatterns: ['dist', '.eslintrc.cjs'],
parserOptions: { ecmaVersion: 'latest', sourceType: 'module' },
settings: { react: { version: '18.2' } },
plugins: ['react-refresh'],
rules: {
'react/jsx-no-target-blank': 'off',
'react-refresh/only-export-components': [
'warn',
{ allowConstantExport: true },
],
},
}
PROBLEMS DEBUG CONSOLE TERMINAL PORTS AZURE
PS E:\practise and udemy courses\MERN Course\react-proj-1> npm install
[...] / idealTree:react-proj-1: sill idealTree buildDeps


File Edit Selection View Go Run Terminal Help
react-proj-1
EXPLORER
REACT-PROJ-1
node_modules
.bin
@ampproject
@babel
@esbuild
@eslint
@eslint-community
@humanwhocodes
@jridgewell
@nodelib
@rollup
@types
@ungap
@vitejs
acorn
acorn-jsx
ajv
ansi-regex
ansi-styles
argparse
array-buffer-byte-le...
array-includes
array.prototype.findl...
array.prototype.flat
array.prototype.flat...
array.prototype.tore...
array.prototype.toso...
arraybuffer.prototyp...
available-typed-arra...
balanced-match
brace-expansion
browserslist
call-bind
callsites
caniuse-lite
chalk
color-convert
color-name
concat-map
OUTLINE
TIMELINE
TOMCAT SERVERS
SONARLINT ISSUE LOCATI...
Release Notes: 1.90.0
.eslintrc.cjs
.eslintrc.cjs > <unknown>
module.exports = {
root: true,
env: { browser: true, es2020: true },
extends: [
'eslint:recommended',
'plugin:react/recommended',
'plugin:react/jsx-runtime',
'plugin:react-hooks/recommended',
],
ignorePatterns: ['dist', '.eslintrc.cjs'],
parserOptions: { ecmaVersion: 'latest', sourceType: 'module' },
settings: { react: { version: '18.2' } },
plugins: ['react-refresh'],
rules: {
'react/jsx-no-target-blank': 'off',
'react-refresh/only-export-components': [
'warn',
{ allowConstantExport: true },
],
},
}
PROBLEMS DEBUG CONSOLE TERMINAL PORTS AZURE
PS E:\practise and udemy courses\MERN Course\react-proj-1> npm install
npm WARN deprecated inflight@1.0.6: This module is not supported, and leaks memory. Do not use it. Check out lru-cache if you want a
rful.
npm WARN deprecated @humanwhocodes/config-array@0.11.14: Use @eslint/config-array instead
npm WARN deprecated rimraf@3.0.2: Rimraf versions prior to v4 are no longer supported
npm WARN deprecated glob@7.2.3: Glob versions prior to v9 are no longer supported
npm WARN deprecated @humanwhocodes/object-schema@2.0.3: Use @eslint/object-schema instead
added 278 packages, and audited 279 packages in 14s
103 packages are looking for funding
run `npm fund` for details
found 0 vulnerabilities
PS E:\practise and udemy courses\MERN Course\react-proj-1> npm run dev

JSX


JSX
Write HTML directly inside JavaScript code

MEANS we can write javascript and html combined.
Javascript ka code html return kr raha ha

JSX me **X** denote kr raha h k ye HTML nhi **XML** h means **extended markup language** kuch certain functionalities aisi hain jo HTML me nhi hain isme hain

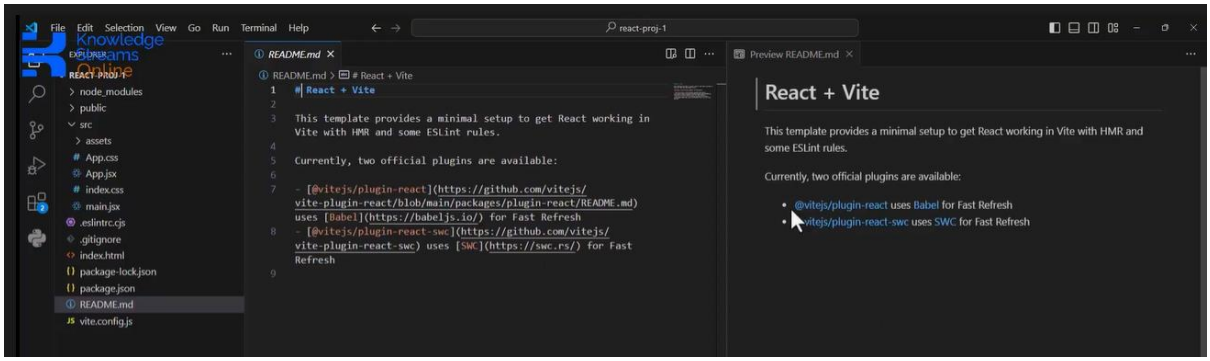
Jab project run hota ha tou code plain javascript me convert hoke run hota ha , tjis work is done by **BABEL**

Aisa translator jo apko aik language se doosri me le jaye without changing the complexity is known as **transpiler**

We are using **Vite** , there could be multiple transpilers , multiple techniques jo aik tool k proj me use hoti hain.

Default Project Structure

Readme.md : file contain project relevant info



Package.json: React proj configuration stored here , kon konsi dependencies is proj me use hui wi hain along with their versions. If another dev wants to continue my proj he can

Scripts --> cmd short commands

Package-lock.json : detailed information in this file

Mera proj jin packages pe dependent ha wo further kin packages me dependent ha wo info hoti ha is file me

.gitignore

Wo files jinko ham nhi chahte k git track kren unke names git ignore me mention krne hote hain

Eslinterc.cjs

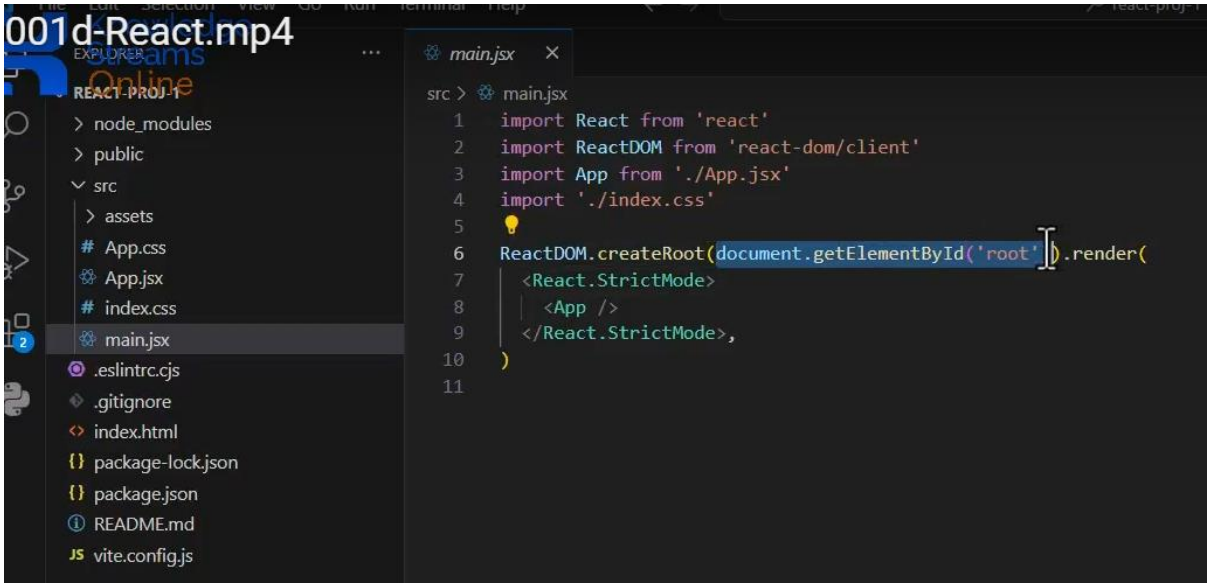
Aik tool h esclinter uski configuration fie ha ye

Ye tool hamare upper achi coding practises enforce krta h for e.g kahin variable let se create kia wa ha aage kahin value change nhi hui code me

Index.html

Isme aik empty div ha jiski id root ha

Main.jsx



Hum us div ki id pass kr rahe hain tou React DOM ko hum wo html wala div de rahe hain k yahan se apna DOM banana shuroo krdo tou React ka virtual DOM is tarah se html k real DOM se connect hota

Index.css deleted\, main.jsx se import of index.css remove

App.jsx code removed ; write from scratch

App.css removed

Assets folder removed

Remove svg from public folder

Props and children

Previously, you learned to pass props to and within a component. But there is also a special prop called **`props.children`**, which is automatically passed to every component. In this reading, you'll learn about **`props.children`** and its purpose.

To understand the concept of **`props.children`**, consider the following real-life situation: you have a couple of apples, and you have a couple of pears. You'd like to carry the apples some distance, so obviously, you'll use a bag.

It's not a "bag for apples", and it's not a "bag for pears." It's just a bag. Nothing about this bag makes it such that it needs to be referred to as a bag in which you'd only and always carry apples, nor a bag in which you'd only and always carry pears.

In a way, the bag "doesn't care" if it is used to carry apples or pears. Nothing about the bag changes. There are no changes in the bag's material, size, shape, or color - because it can handle apples or pears being carried inside, without issues.
Now, consider the following component:

```
export default Apples
```

There is also a **`Pears`** component:

```
}
```

Now, the question is this: Let's say you want a **`Bag`** component, which can be used to "carry" **`Apples`** or **`Pears`**. How would you do that?
This is where **`props.children`** comes in.
You can define a **`Bag`** component as follows:

```
function Bag(props) {
    const bag = {
        padding: "20px",
        border: "1px solid gray",
        background: "#fff",
        margin: "20px 0"
    }
    return (
        <div style={bag}>
            {props.children}
        </div>
    )
}
export default Bag
```

So, what this does in the **`Bag`** component is: it adds a wrapping **`div`** with a specific styling, and then gives it **`props.children`** as its content.
But what is this **`props.children`**?
Consider a very simple example:

```
<Example>
```

```
    Hello there
</Example>
```

The **`Hello there`** text is a child of the Example JSX element. The Example JSX Element above is an "invocation" of the **Example.js** file, which, in modern React, is usually a function component.

This **`Hello there`** text can be passed as a **named prop** when rendering the **`Example`** component.

Here's what that would look like:

```
<Example children="Hello there" />
```

There are two ways to perform this action. But this is just the beginning.

What if you, say, wanted to surround the **`Hello there`** text in an **`h3`** HTML element?

Obviously, in JSX, that is easily achievable:

```
<Example children={<h3>Hello there</h3>} />
```

What if the **`<h3>Hello there</h3>`** was a separate component, for example, named **`Hello`**?

In that case, you'd have to update the code like this:

```
<Example children={<Hello />} />
```

You could even make the **`Hello`** component more dynamic, by giving it its own prop:

```
<Example children={<Hello message="Hello there" />} />
```

So, how can you make the **Bag**, **Apples**, and **Pears** examples from the beginning of this reading work?

Here's how you'd render the **`Bag`** component with the **`Apples`** component as its **`props.children`**:

```
<Bag children={<Apples color="yellow" number="5" />} />
```

And here's how you'd render the **`Bag`** component, wrapping the **`Pears`** component:

```
<Bag children={<Pears friend="Peter" />} />
```

While the above syntax might look strange, it's important to understand what is happening. Effectively, the above syntax is the same as the two examples below.

```
</Bag>
```

You can even have multiple levels of nested JSX elements, or a single JSX element having multiple children, such as, for example:

```
<Trunk>
    <Bag>
        <Apples color="yellow" number="5" />
        <Pears friend="Peter" />
    </Bag>
</Trunk>
```

So, in the above structure, there's a **`Trunk`** JSX element, inside of which is a single **`Bag`** JSX element, holding an **`Apples`** and a **`Pairs`** JSX element.
Before the end of this reading, consider this JSX element again:

```
<Bag>
    <Apples color="yellow" number="5" />
</Bag>
```

What is **Apples** to **Bag** in the above code?
In the above code, `Apples` is a prop of the `Bag` component. To explain further, the Bag component can wrap the Apples component, **or *any* other component**, because I used the **`{props.children}` syntax in the `Bag` component function declaration**. In other words, just like in the real world, when you take a bag to a grocery store, you can “wrap” a wide variety of groceries inside the bag, you can do the same thing in React: wrap a wide variety of components inside the **`Bag`** component, using the children prop to achieve this**.**
It's crucial to understand this when working with React.
Before the end of this reading, there's another important concept that you need to be aware of: *finding the right amount of modularization*. What does this mean? Imagine, for example, that you had a number of small bags, and that each bag could only carry a single apple or pear. You'd have to wrap each "apple" inside a "bag". That doesn't make much sense. You can think about components making your layouts modular in a similar way. You don't want to have an entire layout contained in a single component, because that would be very difficult to work with. On the flip side, if you made each HTML element in your layout a separate component, it would be very hard to work with, although such layout would be modular. So it's all about moderation. You need to organize your layouts by splitting them into meaningful areas of the page, and then code those meaningful areas as separate components. that would constitute the right amount of modularity.
To reinforce this point, It might help to think of how a person would describe a website: a menu, a footer, a shopping cart, etc.
In conclusion, when you see a JSX element wrapping another JSX element, you can easily understand that it's all just **`props.children`** in the background.

Components

Structure , small piece of code ; different data put krsakte hain bar bar use krsakte hain ; take instagram post example

We can have multiple smal chunks of code on a page and/or we can use same component on multiple places

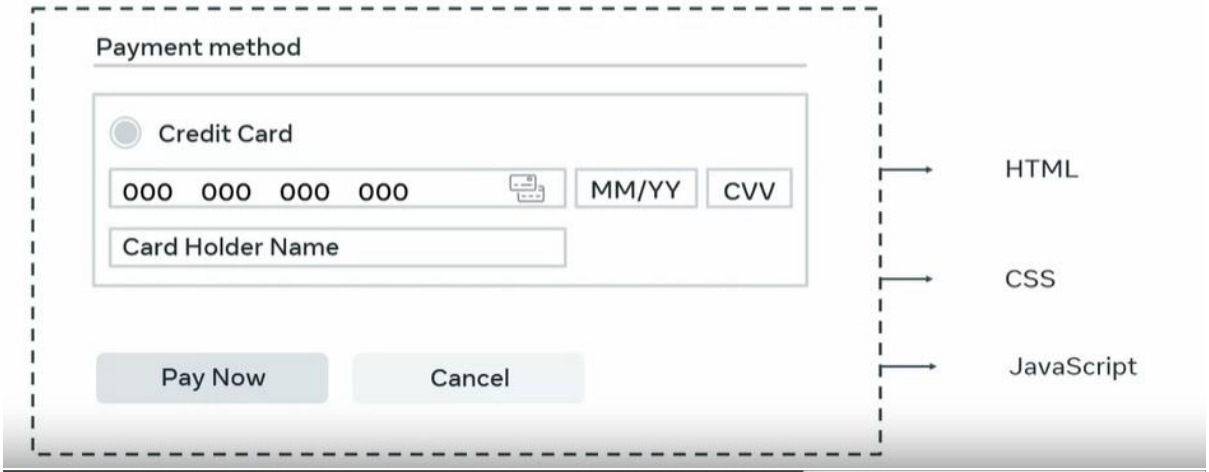
Reusable

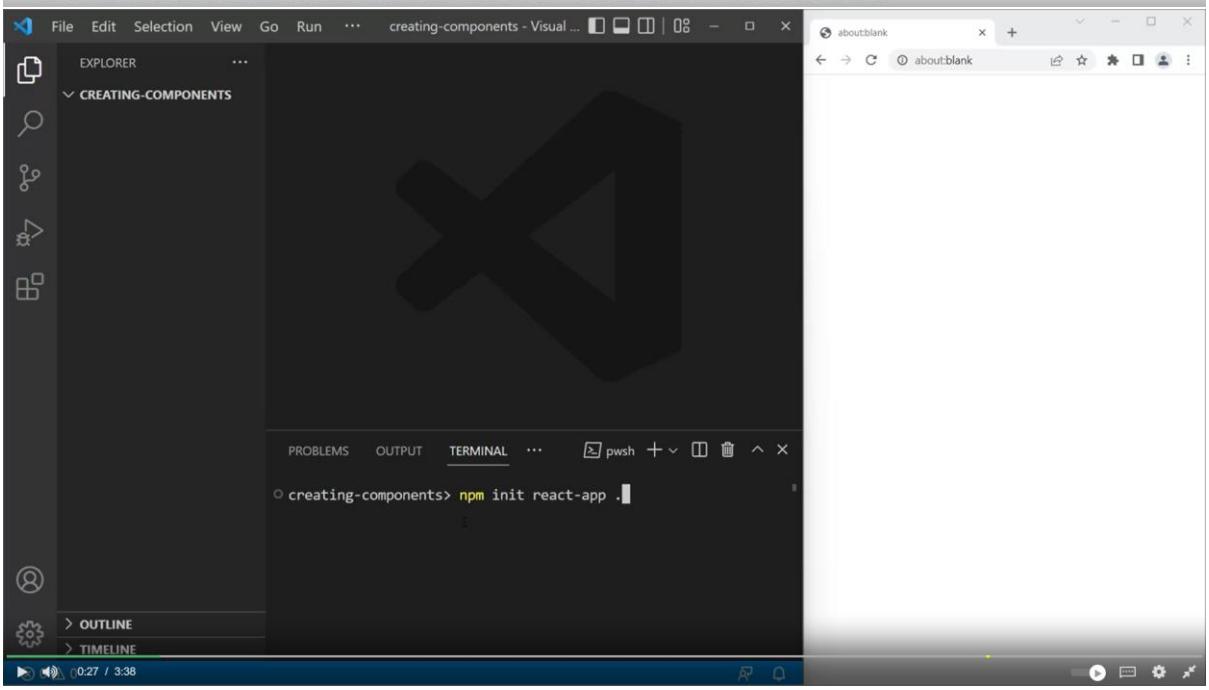
Used multiple times and easily inserted anywhere where needed

Independent

Components can exist within the same space independently from each other

Component





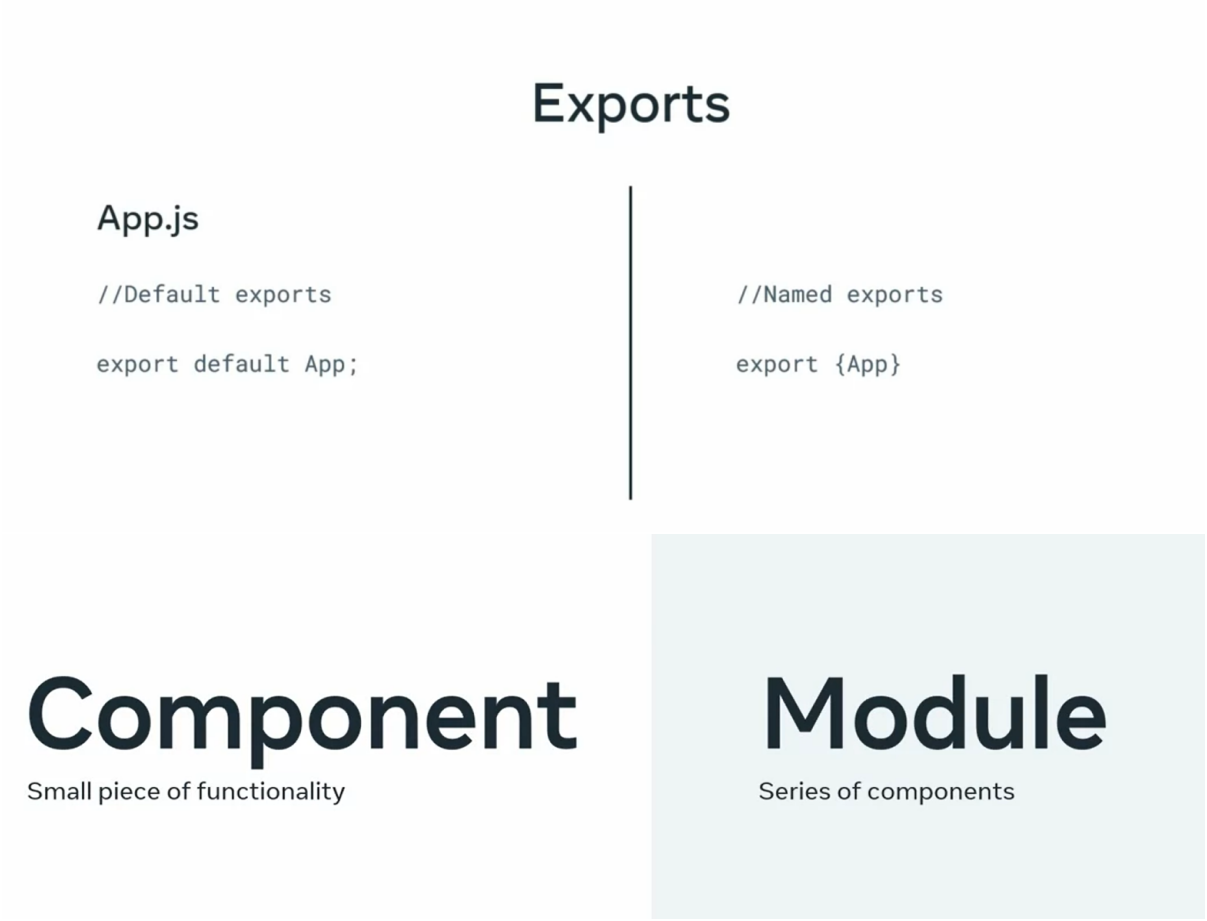
Transpiler:

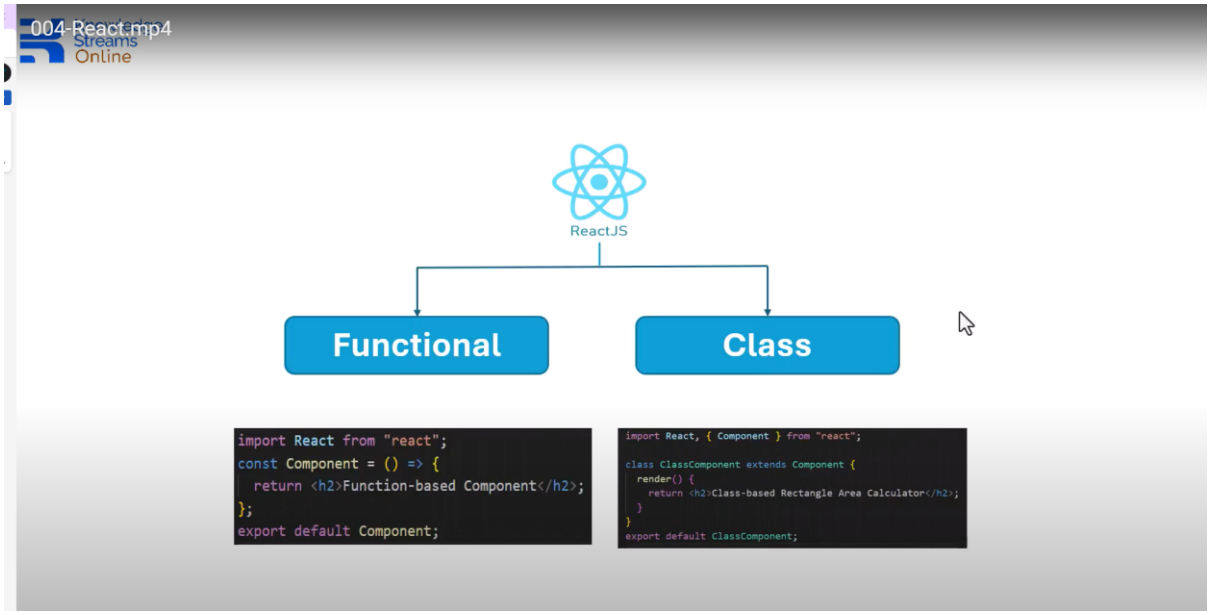
A browser cannot understand JSX syntax.
This means that making a browser understand React code requires a lot of supporting technologies.
An example of such a technology is a **transpiler**.
A **transpiler** takes a piece of code and transforms it into some other code.

Babel

What Babel does is this: it allows you to transpile JSX code (which cannot be understood by a browser) into plain JavaScript code (which can be understood by a browser).

Exports





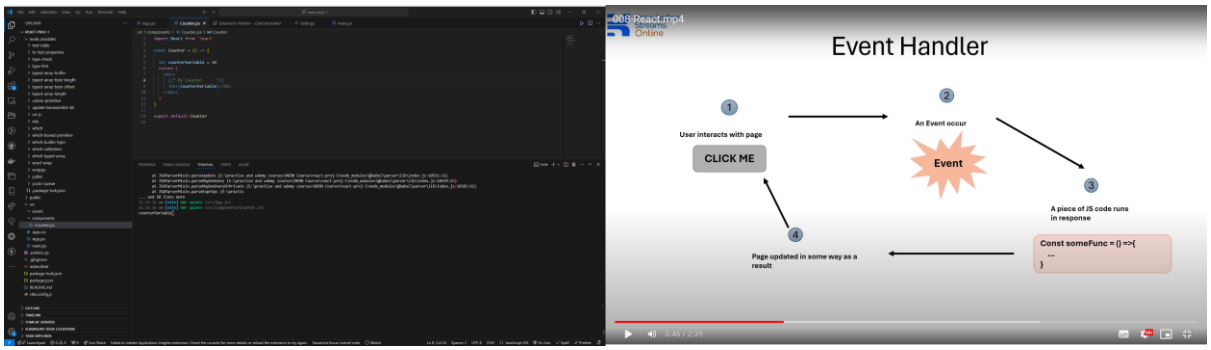
Aisa function or arrow function jisse kuch HTML return tkr rahe ho usey as a component use krsakte hain

Requirments

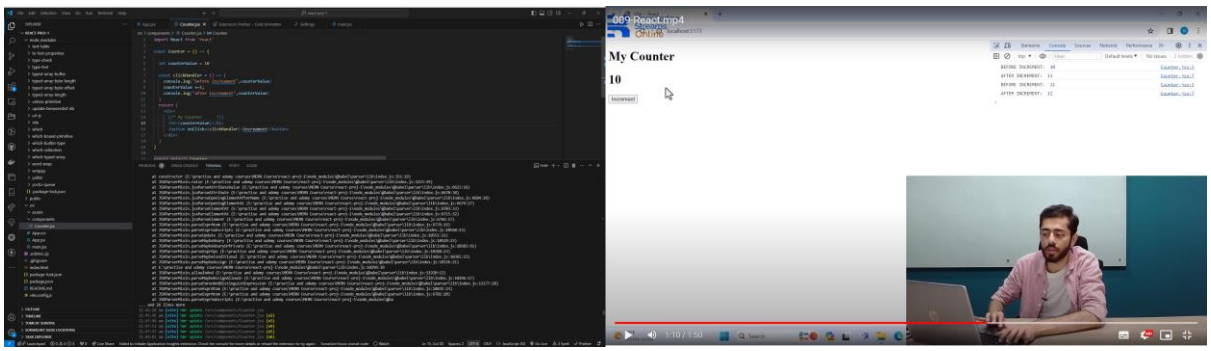
First letter must be capital

Return statement must have 1 outer most div

Event Handler



Html me jab user kisi element se interact ktra h tou aik event trigger hota h , event k trigger pe hum aik function pas karadete hai k iset run k



Issue: DOM is not updating

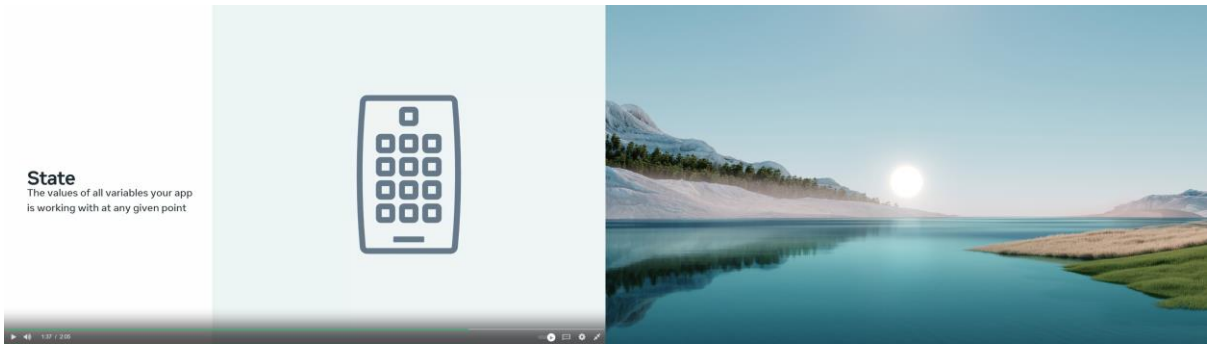
Variable ki value tou update horarhi ha event handler se ,console me value chnage horahi ha per DOM update nhi horha is waja se screen pe print nhi horha

reason

Aik dafa jab component render hoga tou browser kko component ka structure miljayega apne pas dikhane k lye uske baad beshak variable ko ma update krta rahun memory me, DOM ka structure tou chnage hi nhi horaha wo jo aik dafa ban gaya wohi h.

How to deal with it?

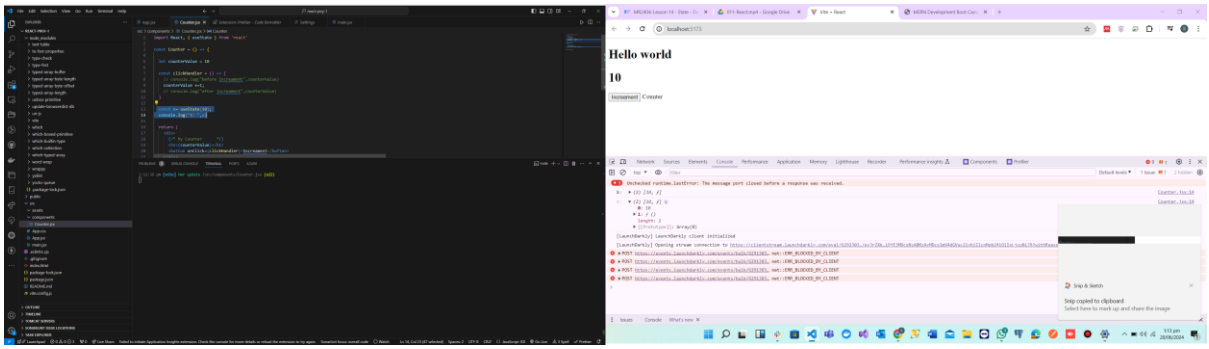
state



We need variables jinke chnage hone per hum react ko ye msg convey kren k apna DOM refresh kro and that are known as States

UseState

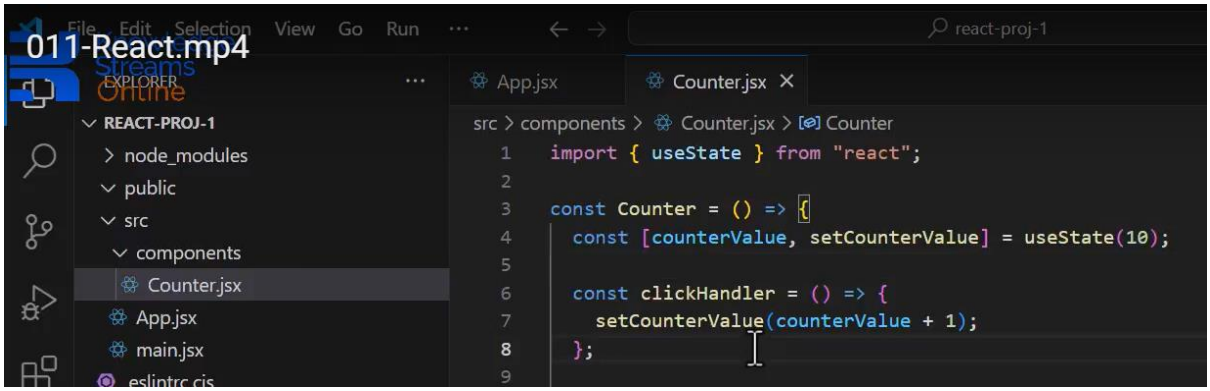
State variable ko build krne k lye aik function hota ha usey useState kehte hain



Use state aik array ki form me data return krta ha ; look at the pic above
0th index pe value ha jo useState me pass ki which is 10

1st index me func return kia ha

Tou ham is data ko destructure krlete hain.



Few points to be noted:

1. Yahan pe we dont use let instead we use const ; reason behind is variable ki value change nhi hogi jo function se set hogi wohi rahegi agr let use kr bhi len aur variable ko update krlen jaise pehle kr rahe the tou var tou update hojayega mem me lakin DOM update nhi hoga. Therefore we use const
2. Jis name se statae ka variable banaya ha uska setter hamesha isi name se aayega, its a good practise not mendatory
3. State variables are immutable , we can not change the value of variables using let , only setter function iis used to change the value
4. On a certain condition we can update the value of our state variables. Condition deni hogi hndler me

```
const decrementHandler = () => {
  if (counterValue > 0) {
    setCounterValue(counterValue - 1);
  }
};
```

5.

ISSUE RESOLVED DOM IS UPDATING AS WE CHNAGE THE VALUE : THIS DONE BY STATE VAR USING USESTATE HOOK

Strict mode enable hone ki waja se console.log wali statement 2 times chalti hain

```
<button onClick={incrementHandler}>Increment</button>
<button onClick={decrementHandler}>Decrement</button>
```

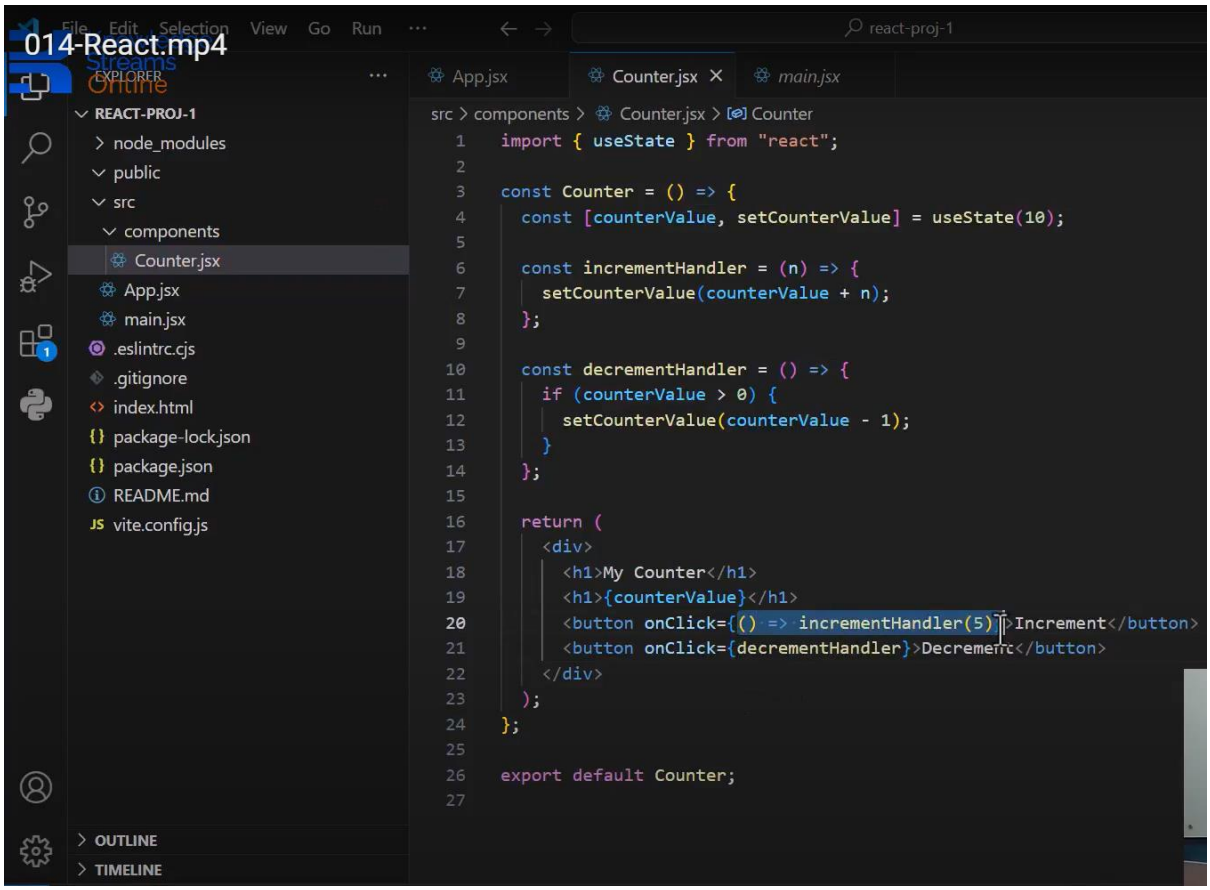
Event handler ko function ka reference pass kia wa ha. Hame function ka reference hi pass krna h k abhi is func ka reference rakhlo on click function call krna.

```
<h1>{counterValue}</h1>
<button onClick={incrementHandler()}>Increment</button>
```

Ye function call hua wa ha. Jaise hi program run hoga ye khud call hojayega.

Issue: What if I want to pass the parameter in the function?

Solution:



Aik arrow function banallia jiske ander koi parametrr nhi h yani wo onclick pe hi call hoga aur is function k ander apna function call krlia along with parameter.Problem solved. This is short syntax for arrow function where we are not using curly brackets jahan {} nhi ha means ye function yehi return kr raha h.

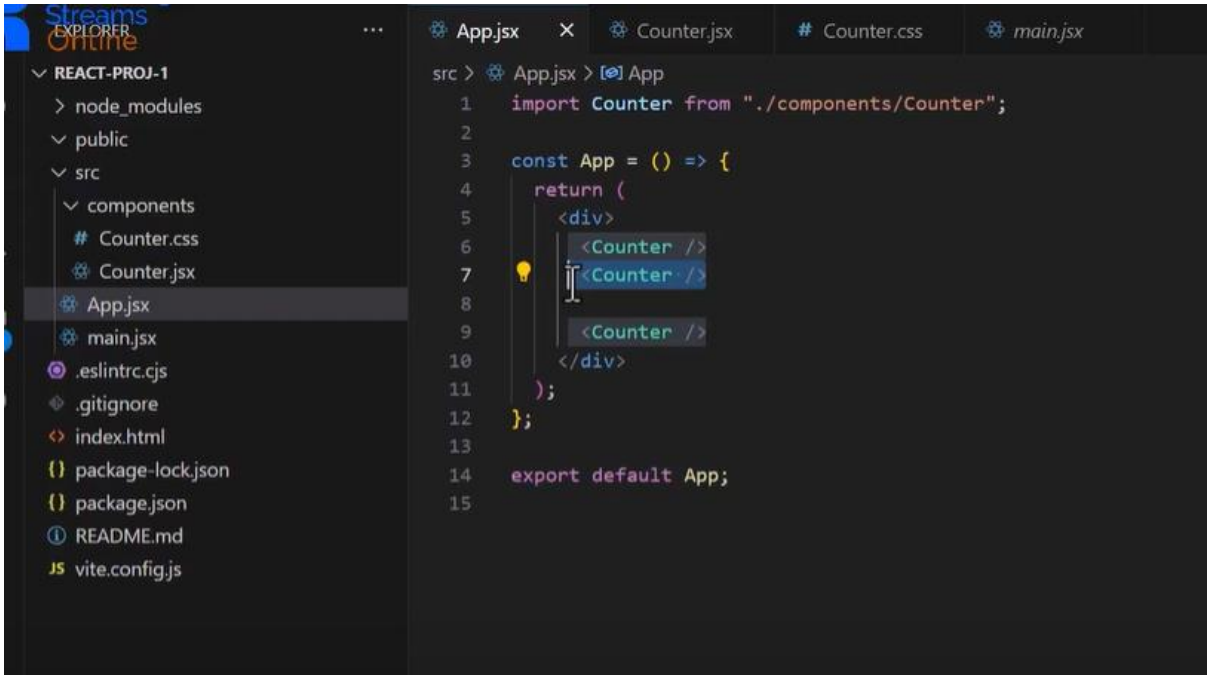
1.Ternary operator conditional rendering

2.Short Circuiting

AND operator me saare inputs true hun tou hi result true hota ha , agr aik condition bhi false hogain tou aage ki check hi nhi hotin, isilye agr pehli cond hi false hogai tou button render hi nhi hoga

3.Conditional Rendering with functions

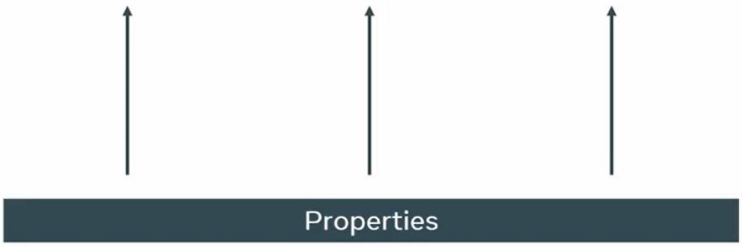
State is seperate for every occurence of the same component



Javascript objects:

JavaScript object

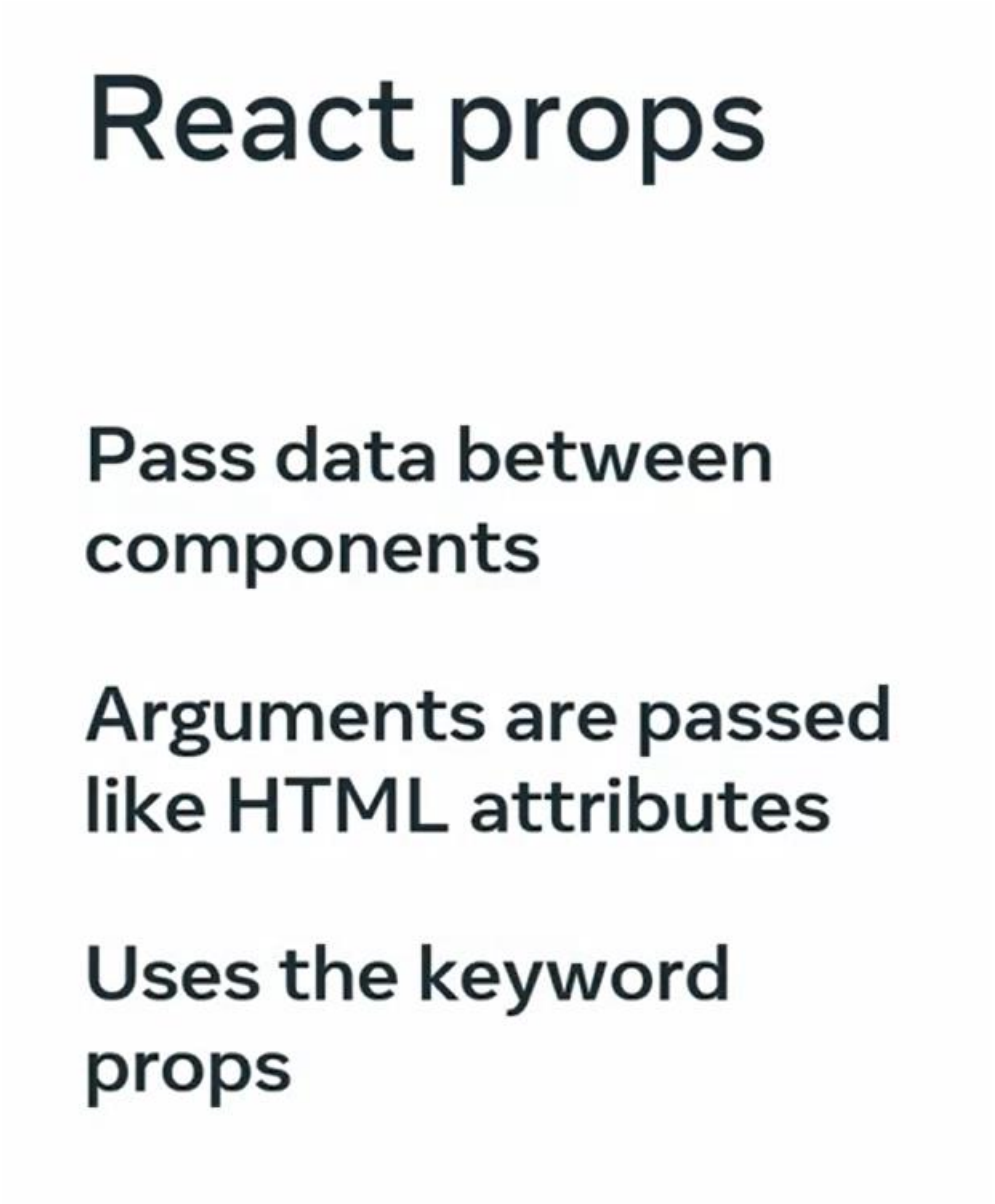
```
const fruit = {type:"Apple", quantity:500, color:"green"};
```



JavaScript object

```
const fruit = {type:"Apple", quantity:500, color:"green"};

console.log(fruit.type)
```

Props


React props
Pass data between components
Arguments are passed like HTML attributes
Uses the keyword props

Index.js

```
import React from 'react';
import ReactDOM from 'react-dom/client';

import App from './App.js'

ReactDOM.createRoot(
  document.querySelector('#root')
).render(<App title="Welcome" />)
```

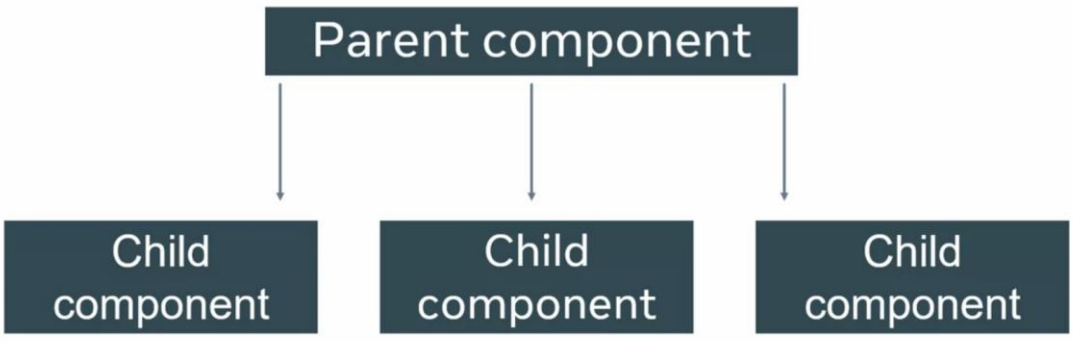
App.js

```
import React from 'react';

export function App(props) {
     return (
        <h1>{props.title}</h1>
    );
};
```

React props

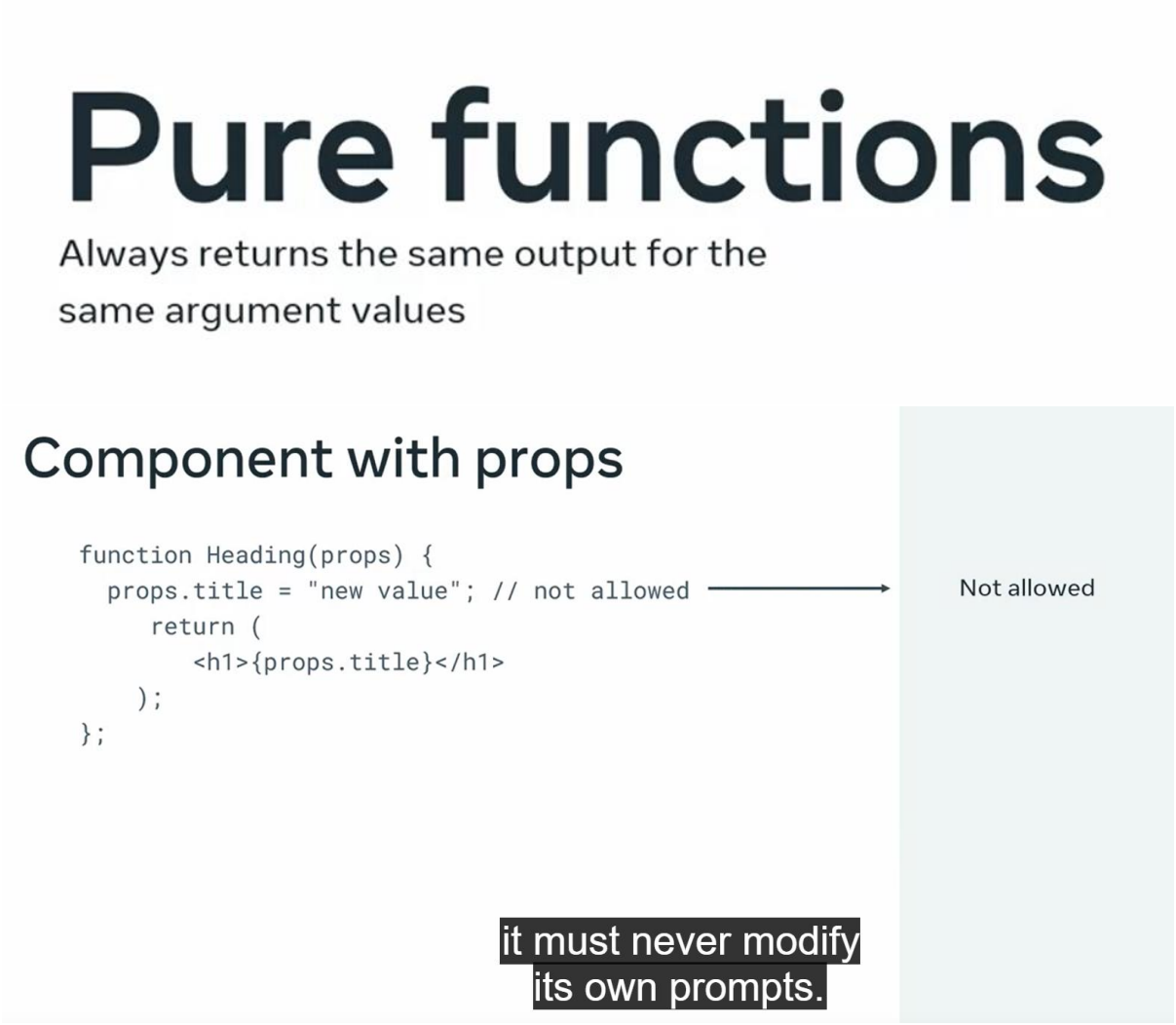
Send multiple data types

Flexible dynamic content



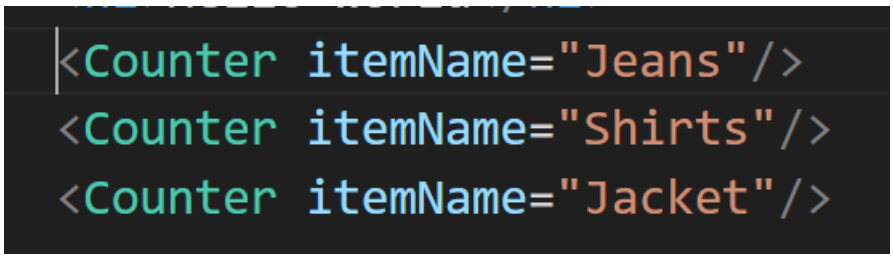
Uni directional data flow , data can flow from parent to child using props but its not possible to send data from child to parent using props there are other approaches for it but not this

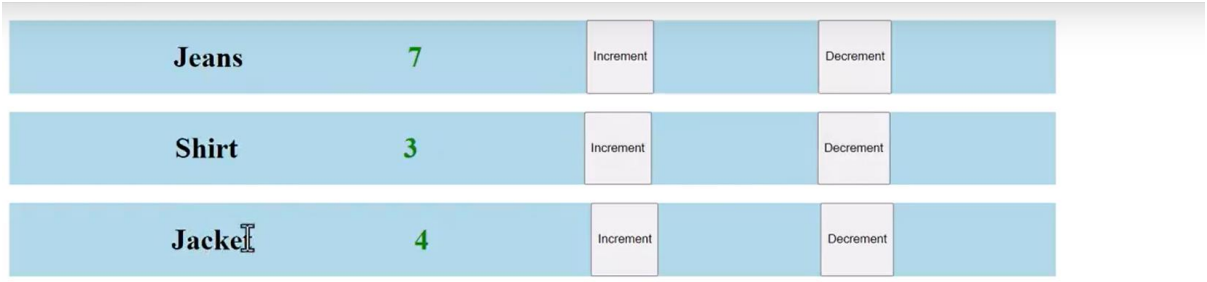
Pure functions:



Limitations

You also learned why developers use props in order to make their apps more dynamic and flexible. Finally, you examined some of the limitations about using props in that you cannot use them to send data back to a parent component, and the functions using props must never modify its own props.





State Vs Props

Wo variables jo component k annder defin krte hain uski internal working ko manipulate krne k lye usey state kehte hain jo hamare case me counterValue variable ha counter component me

Aise variables jo component k her occurence k upper differ krne hain wo props ya wo variables jo ma pass krta hun component ko call krte waqt.

Map Function:

Javascript me arrays k lye aik func use hota ha map. Map ka method kia krta ha k aik function accept krta ha aur us array k her element k lye us function ko run krta ha aur koi result produce krta ha. Generated result ji bhi map return krta ha wo aik array me store hojata ha

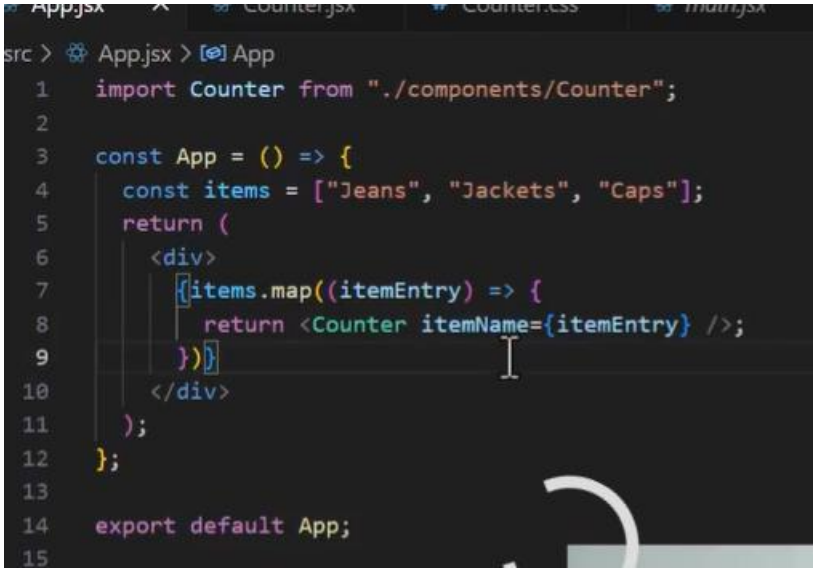
```
{items.map(()=>{})}
```

Map aik higher order function ha yani wo parameters me bhi aik function accept krta ha.

Ab is arrow function me bhi apne parameters jate hain

```
const App = () => {
  const items = ["Jeans", "Jackets", "Caps"];
  return <div>{items.map((itemEntry) => {})}</div>;
};

export default App;
```

Map function ka jo pehla parameter h usme jata ha array ka aik element at a time. Pehli dfa me itemEntry hogo jeans phir jacket etc etc..

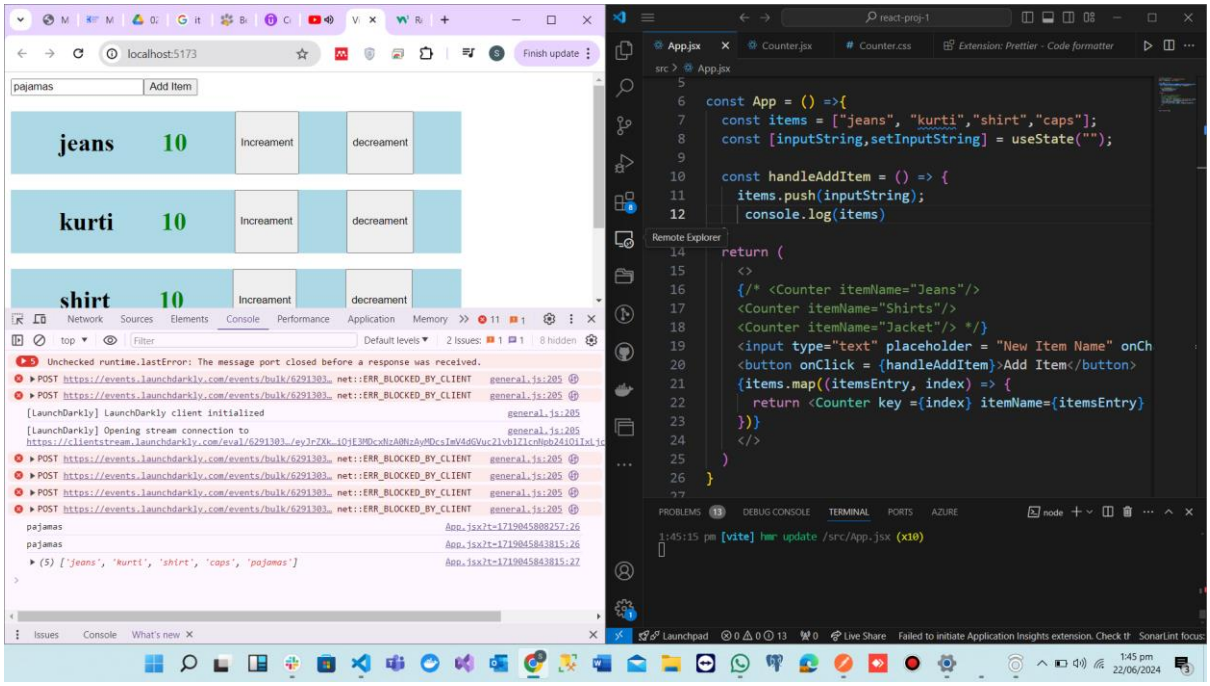


Map k function me return krwana zaroori h

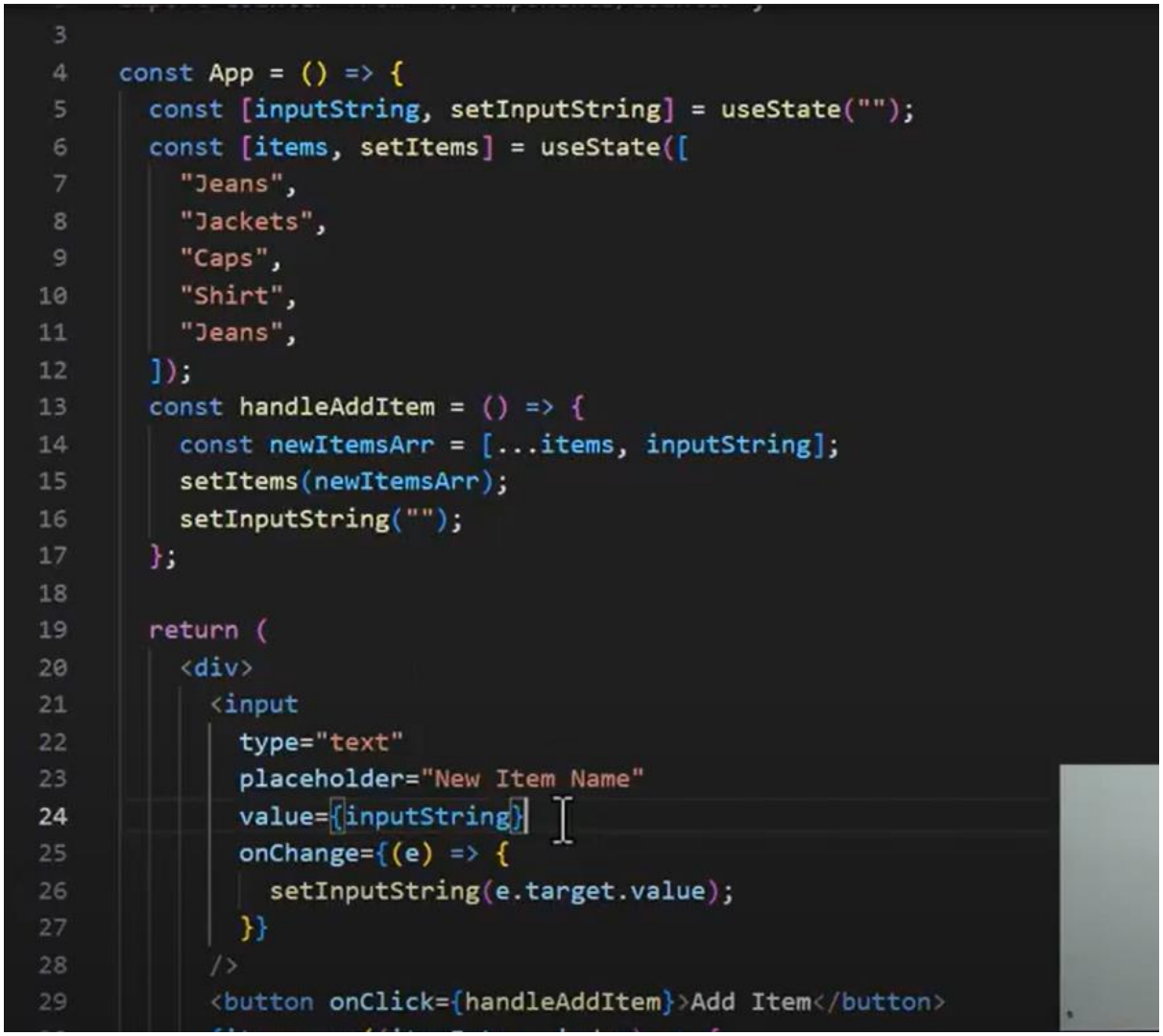
Key prop

Array ka size kuch bhi hosakta h 10, 100 , 1000 etc her component seperately render horaha ha screen pe but react ko apne pas aik unique id rakhni h her aik component ki taake unko aapas me differentiate krsake aur us unique value ko key kehte hain yahan pe hum key index ko hi use krke bana rahe hain but at some places it can be problamatic.

Adding New Items to the list



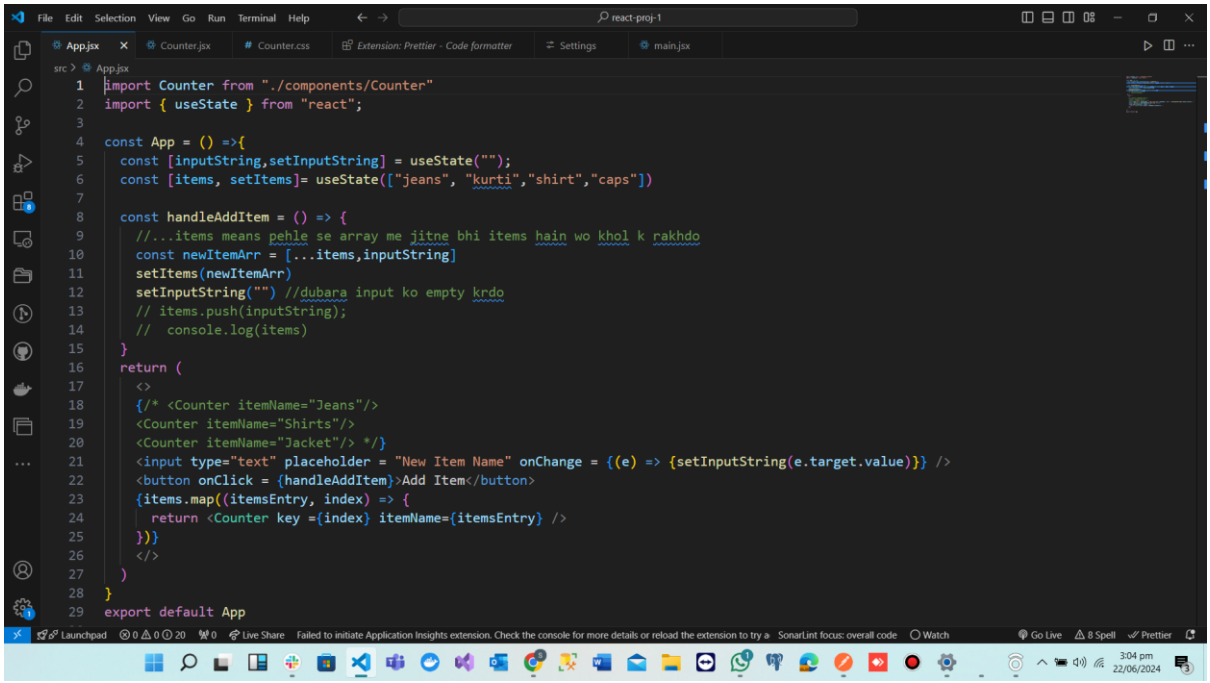
List tou update horahi ha console me but DOM update nhi horaha so it means again we need a state for items list.



```
3
4   const App = () => {
5     const [inputString, setInputString] = useState("");
6     const [items, setItems] = useState([
7       "Jeans",
8       "Jackets",
9       "Caps",
10      "Shirt",
11      "Jeans",
12    ]);
13    const handleAddItem = () => {
14      const newItemsArr = [...items, inputString];
15      setItems(newItemsArr);
16      setInputString("");
17    };
18
19    return (
20      <div>
21        <input
22          type="text"
23          placeholder="New Item Name"
24          value={inputString}
25          onChange={(e) => {
26            setInputString(e.target.value);
27          }}
28        />
29        <button onClick={handleAddItem}>Add Item</button>
```

value ={} --> controlled input

To dynamically add items in the list and display:

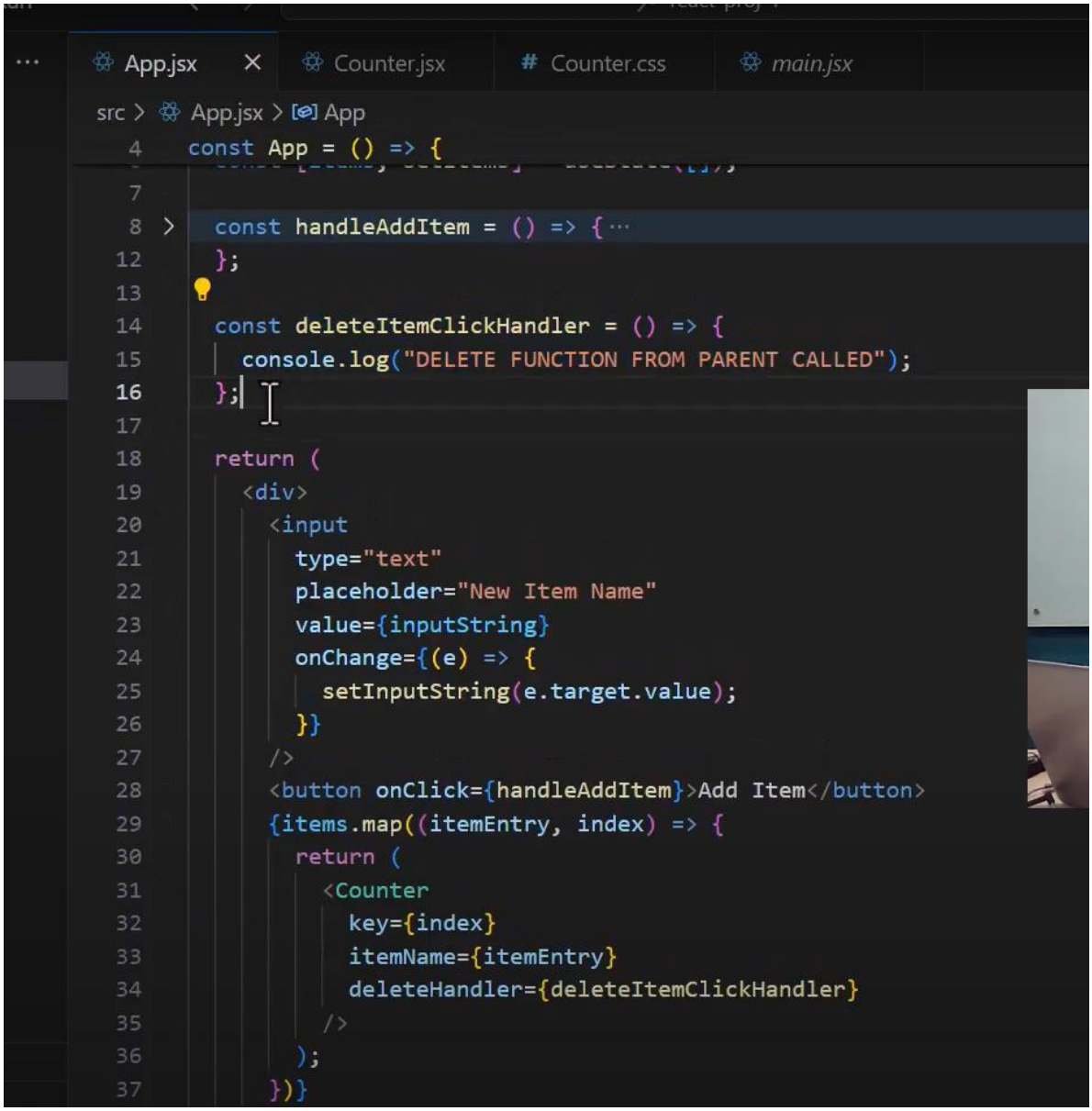


K.K.B

Props k ander koi string bhej sakte hain , obj , array , function and even poora component bhi bhej sakte hain

Delete Item from Array:

Delete ka jo button h wo mere counter component me ha aur jo state update krni ha item ko remove krne ki wo app.jsx me h how to acheive this?



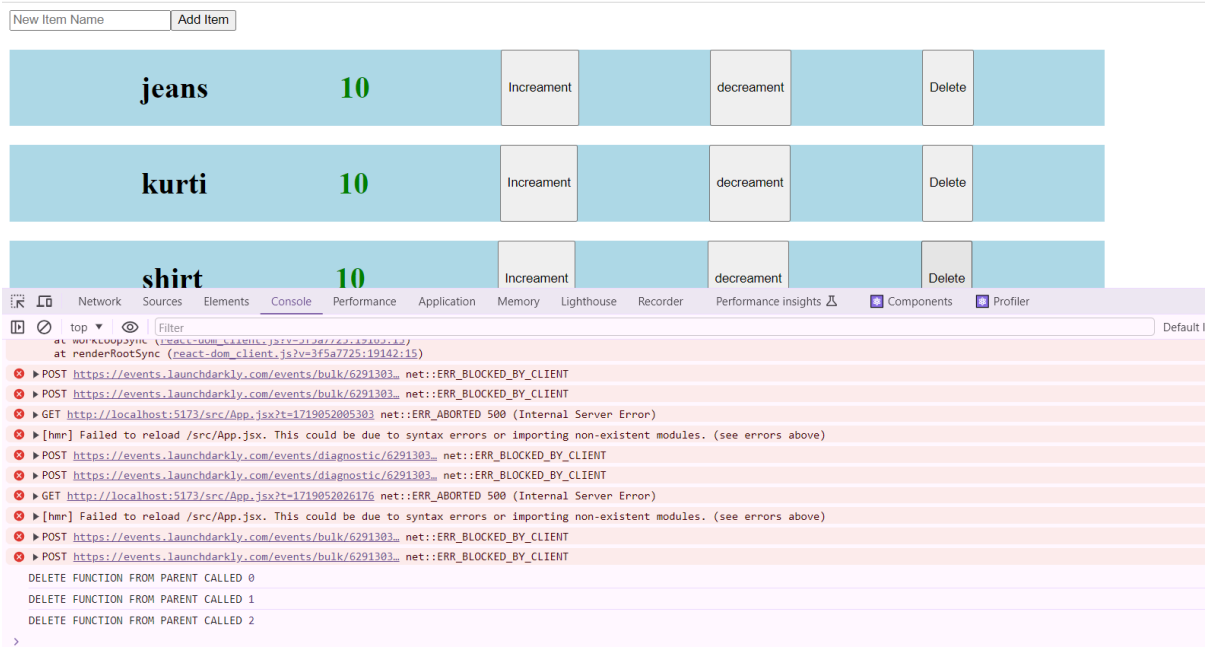
Function banaya maine parent me aur usey props me pass krdia child ko.

Ab jaise humne dekha tha agr func me param pass krna ho tou usey arrow function banake uske ander call krdo taake arrow fuc ka reference store ho onclick me aur wo sirf onclick pe hi call ho and then ye aik higher order function ha jb ye chalega tou ander wala function call hojayega

Ab ye kia q?

Hame ye differentiate krna tha k konse counter ka delete button click hua ha aur isko hum index se differentiate krsakte hain

```jsx
const deleteItemClickHandler = (index) => {
  console.log("DELETE FUNCTION FROM PARENT CALLED",index)
}

return (
  <>
  {/* <Counter itemName="Jeans"/>
  <Counter itemName="Shirts"/>
  <Counter itemName="Jacket"/> */}
  <input type="text" placeholder = "New Item Name" onChange = {(e) => {setInputString(e.target.value)}} />
  <button onClick = {handleAddItem}>Add Item</button>
  {items.map((itemsEntry, index) => {
    return <Counter key ={index} itemName={itemsEntry} deleteHandler = { () => deleteItemClickHandler(index)} />
  })}
  </>
```



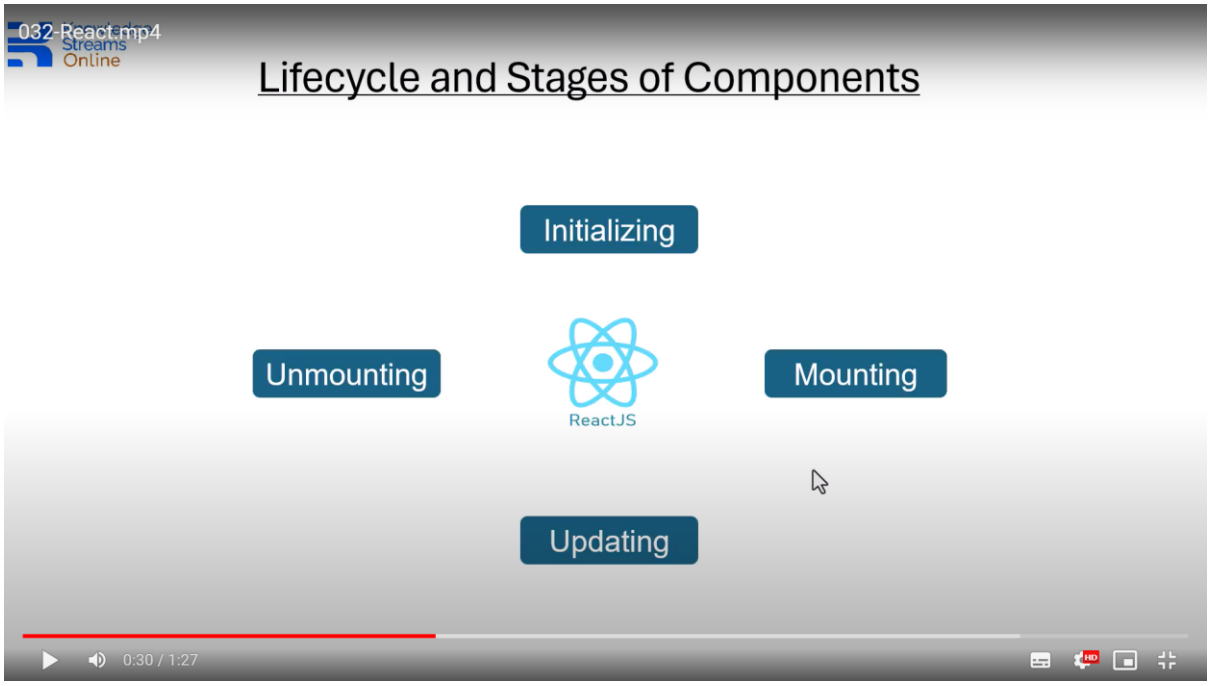
Filter method:

This is also higher order function like map , iske ander bhi aik function call hota ha.

How this func works?

Jab bhi aap kisi element k lye result True return krden wo element jake new resultant array me store hojata ah

Lifecycle of Components



Mounting: ye component build hogaya ab ye DOM k ander plugin hoga

Updating: means jaise hum state ko change krte hain tou updation hogi is phase me

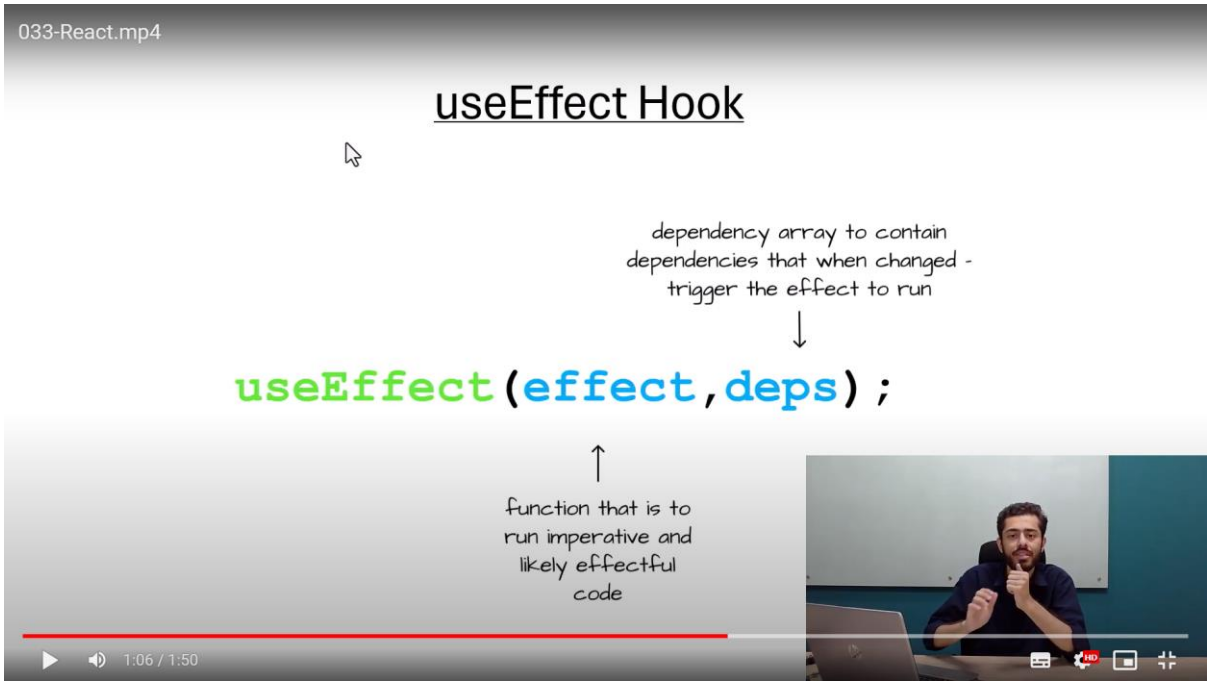
Unmount: jab hum us component se move krjate hain tou wo comp un mount hojata ha

Initialize : dubara jab us compnent pe aayenge tou wo dubara initialize hojayega

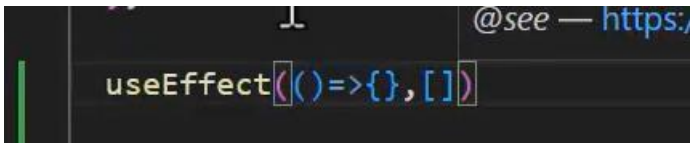
UseEffect

UseEffect hook aik side effect run krne k kam aati ha k maine kuch operation perform kia aur uske sath me ye wala kam bhi hogaya.

So useeffect is dependent on some operation k agr ye operation perform hua tou side me ya kam bhi hojayega ya ye side effect bhi render hojayega



Ab is dependency me hosakta ha ma aik variable rakhdoon x ya count aur jaise hi iski value change ho sath me effect jo k aik function h wo run hojaye

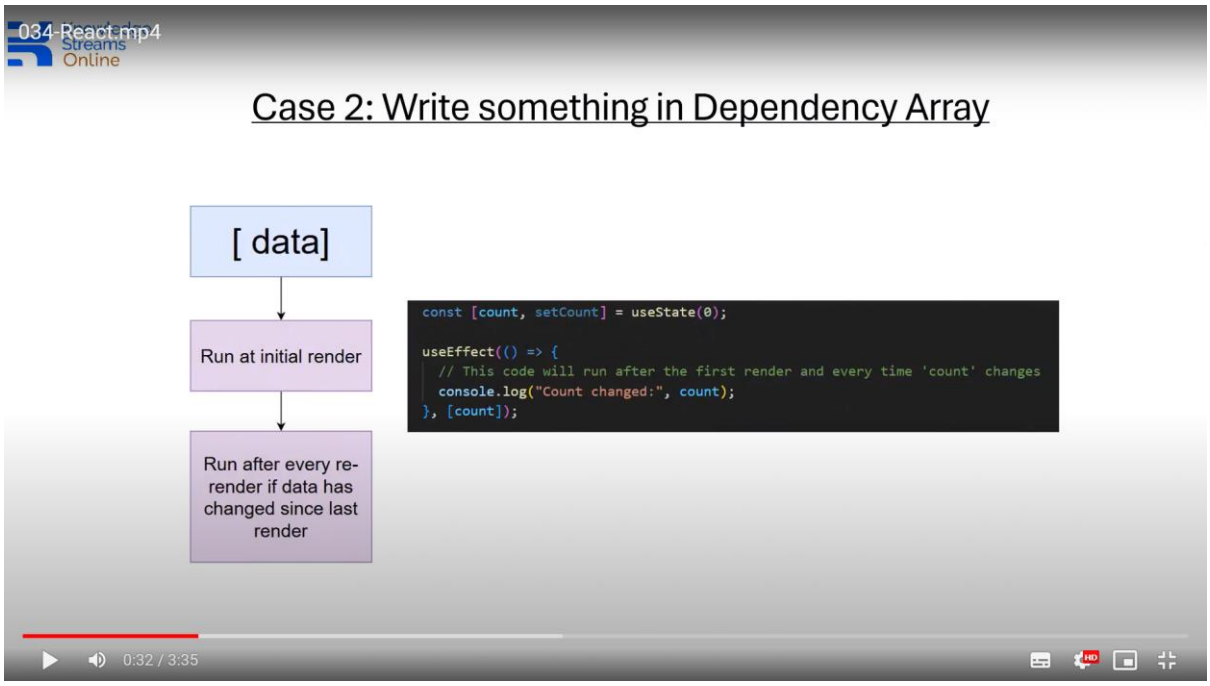


UseEffect me 2 cheezen pass krni thi pehla agaya function , doosra dependency array

Jaise hi meri application run hoti h useEffect start me 1 dafa tou khud chalt hi h means:

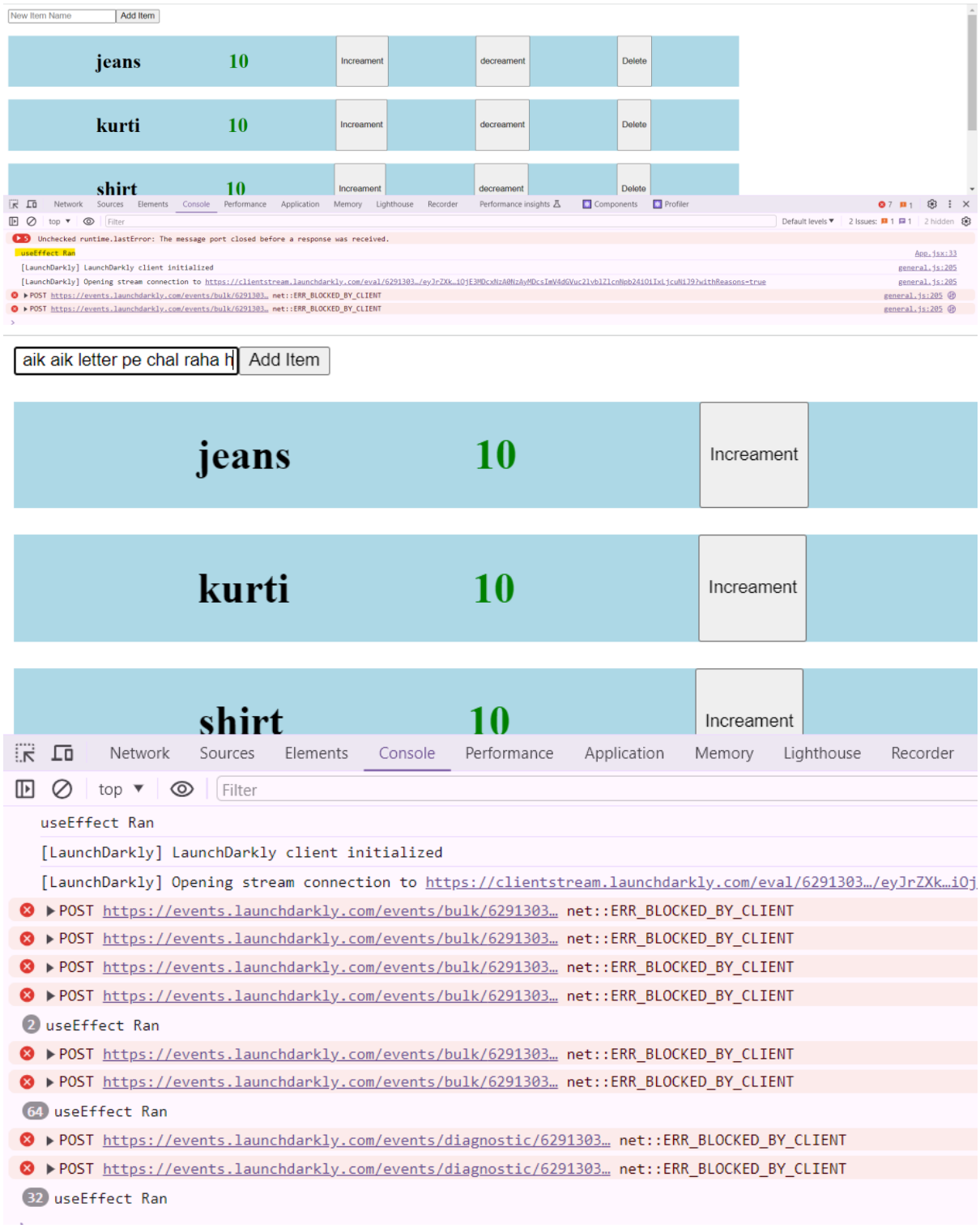
shuroo me jab mera component mount hota ha tab useEffect khud chal jata ha 1 dafa

Case 2



Jaise hi dependency array me jo var ha jab wo chage hoga useEffect chal jayega

```
const App = () => {
  const [inputString, setInputString] = useState("");
  const [items, setItems] = useState(["jeans", "kurti", "shirt

  const handleAddItem = () => {···
  };

  const deleteItemClickHandler = (indexToBeDeleted) => {···
  };

  // useEffect (() => {}, []) useeffect accepts two params 1st

  useEffect (()=> {
    console.log("useEffect Ran");
  },[inputString])
```



Case 1

```
26  useEffect(() => {
27    console.log("USE EFFECT RAN");
28  }, []);
```

UseEffect is dependent on some array but that does not exist for now tou ye aik dafa suroo me chal jayeg bs uske baad dubara isko trigger nhi krsakte

Case 3:

```
25
26    useEffect(() => {
27      console.log("USE EFFECT RAN");
28    });
29
```

Array ko hi khatam krdia means ab ye kisi bhi cheez pe dependent nhi h jab jab component me jahan bhi change aayega useEffect render hojayega

Case 4

```
useEffect(() => {
  console.log("USE EFFECT RAN");

  return () => {
    console.log("Clean Up Function Ran");
  };
}, [items]);
```

Cleanup function

Pehli dafa jab component render hoga tou useEffect khud chal jayega but cleanup function call nhi hoga

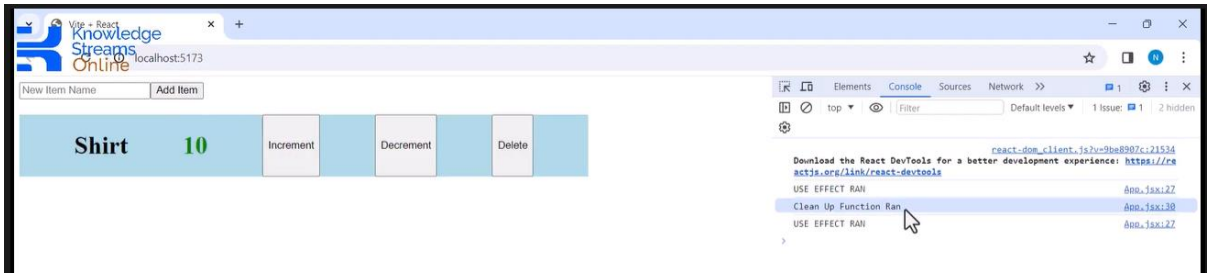
jb useEffect 2nd time onwards chalega tou pehle cleanup function chalega then useEffect ka apna function render hoga

Example:

```
25
26    useEffect(() => {
27      console.log("USE EFFECT RAN");
28
29      return () => {
30        console.log("Clean Up Function Ran");
31      };
32    }, [items]);
33
```

on first render:

then we added a shirt in item



Tou pehle cleanup func chala then useeffect

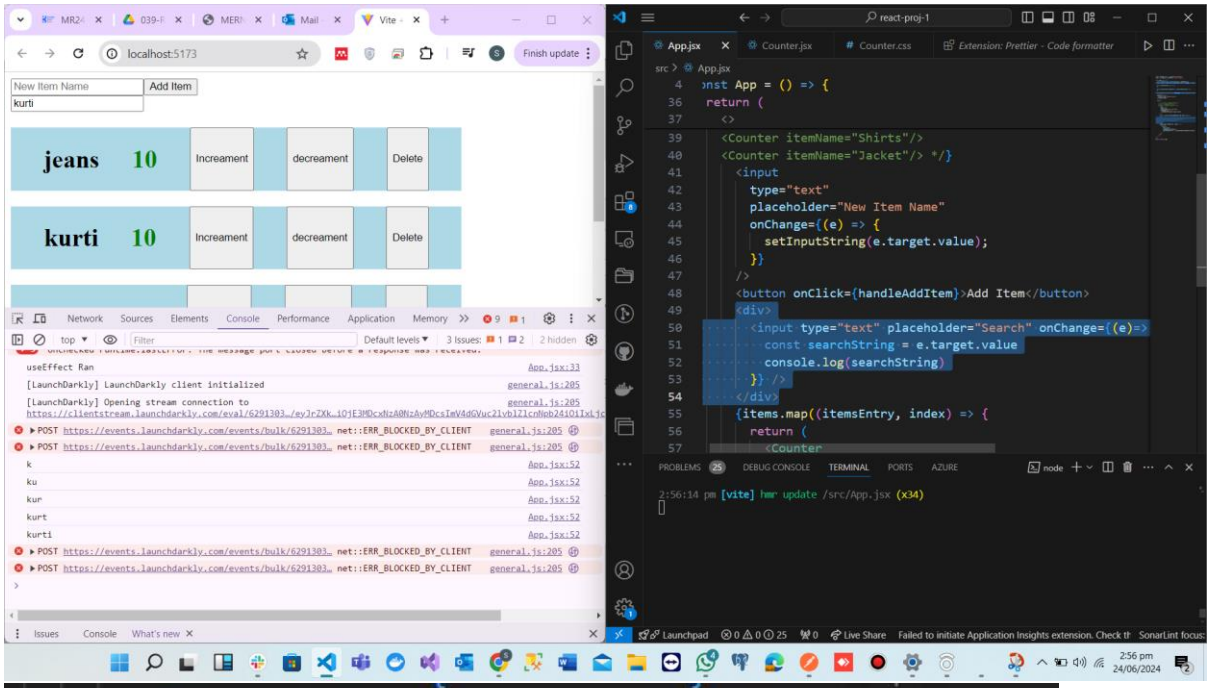
UseCase

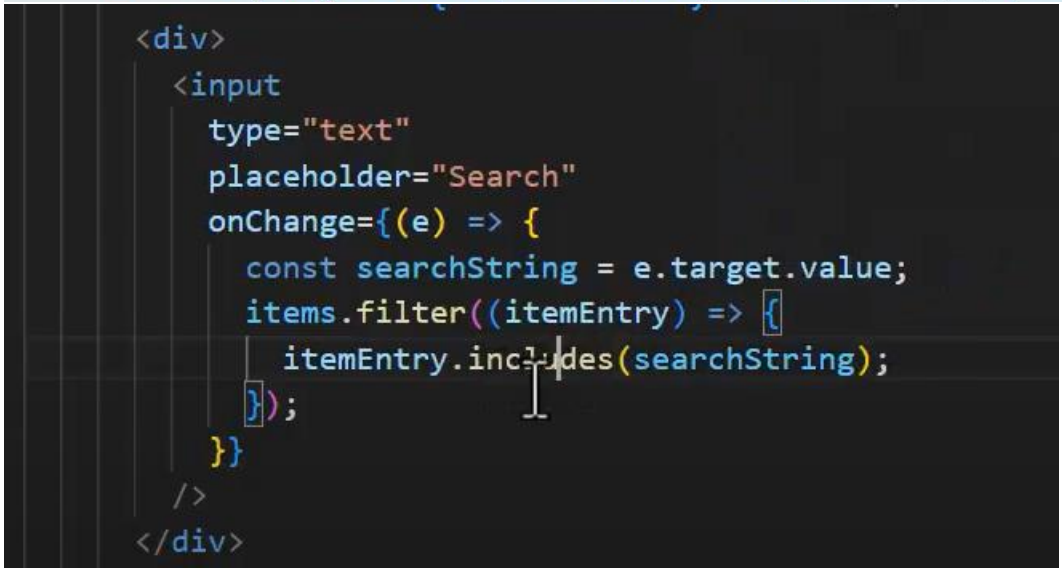
Jab hum setTimeOut ya setInterval ka function use krte hain tou aik pg se doosre pg pe jate waqt hame wo interval clear krna parta ha k hum tou is pg se chale jayenge lakin wo interval ya time out behind the scenens browser me run hota rahe

UseCases of UseEffect Hook

1. Data fetching: Jo cheez hame general rule dekha k useEffect pehli dafa tou render hota ha ha tou isko hum whan use krsakte jahan hum ye chhaen k jaise hi page pe aaye koi data jo api se lana h wo ajey , aur ak hi dafa aaye jab tk hum us pg pe hain bar bbar api call na ho wahan use hosakta ha useeffect ka hook
2. Jb hum setTimeOut ya setInterval use krte hain tou wo browser me register hojate hain phir browser control krta ha usey , ab ager hum comp se hi shift krjayen aur peechay wo func chal raha ho tou kia faida isilyecleanup func k through usey stop krna bhi zaroori ha

Search Functionality

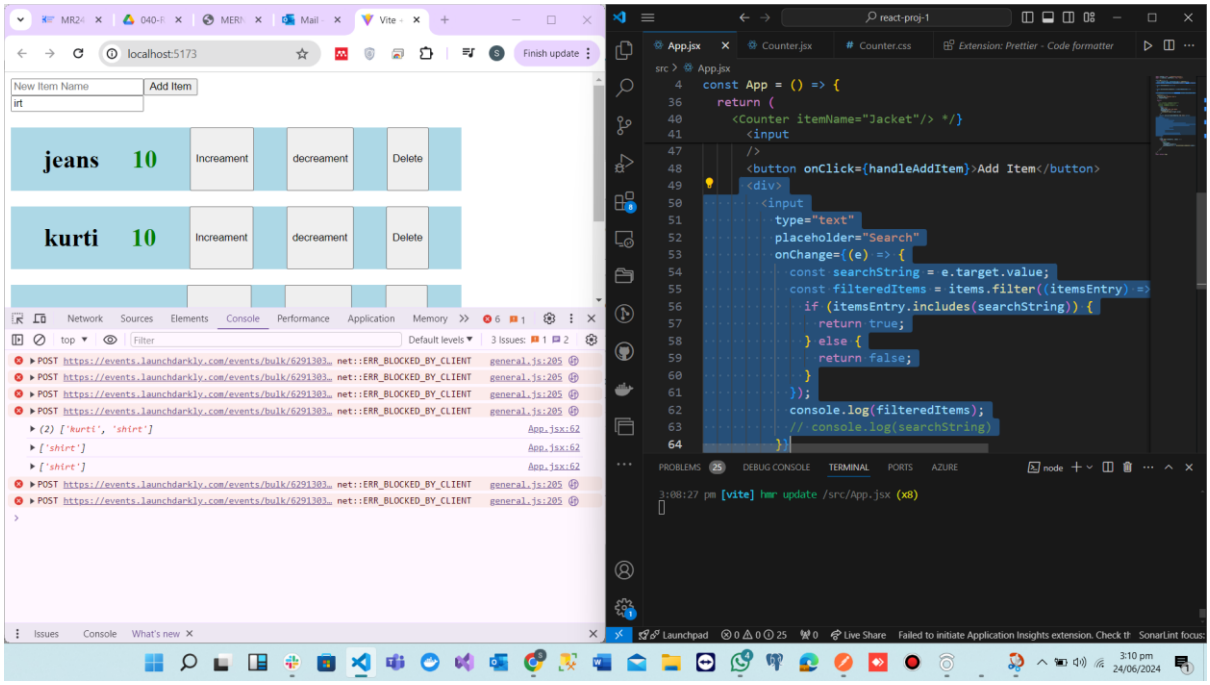




.includes function

Substring search krne k kam aata h

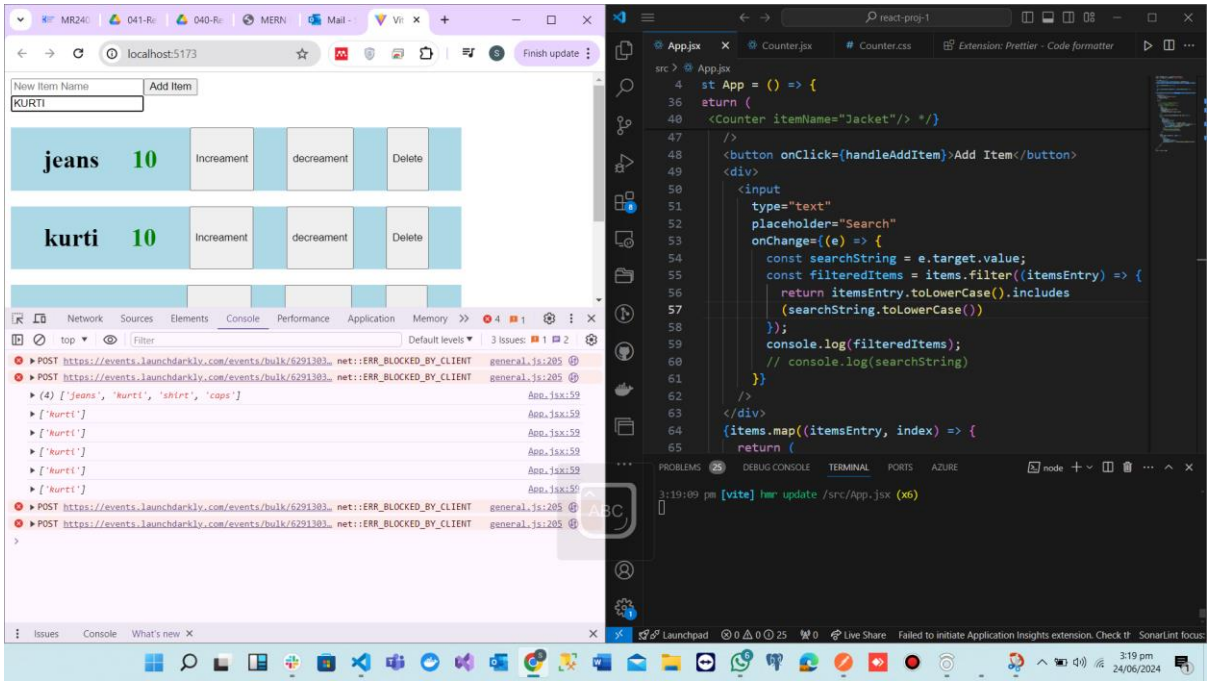
for eg meri itemEntry h **shirt** agr searchString k ander ma **irt** type krun tou ye **true return krdega** b/c irt as substring is shirt k ander aata ha



this function can be optimized

```
49    <div>
50      <input
51        type="text"
52        placeholder="Search"
53        onChange={(e) => {
54          const searchString = e.target.value;
55          const filteredItems = items.filter((itemsEntry) => {
56            return itemsEntry.includes(searchString)
57          });
58          console.log(filteredItems);
59          // console.log(searchString)
60        }}
61      />
62    </div>
```

Jahan true return hoga wo wala item array ka filtered items me store hojayega



Comparison k lye dono ko lowercase me convert krlia tou make search functionality case insensitive.

k.k.b

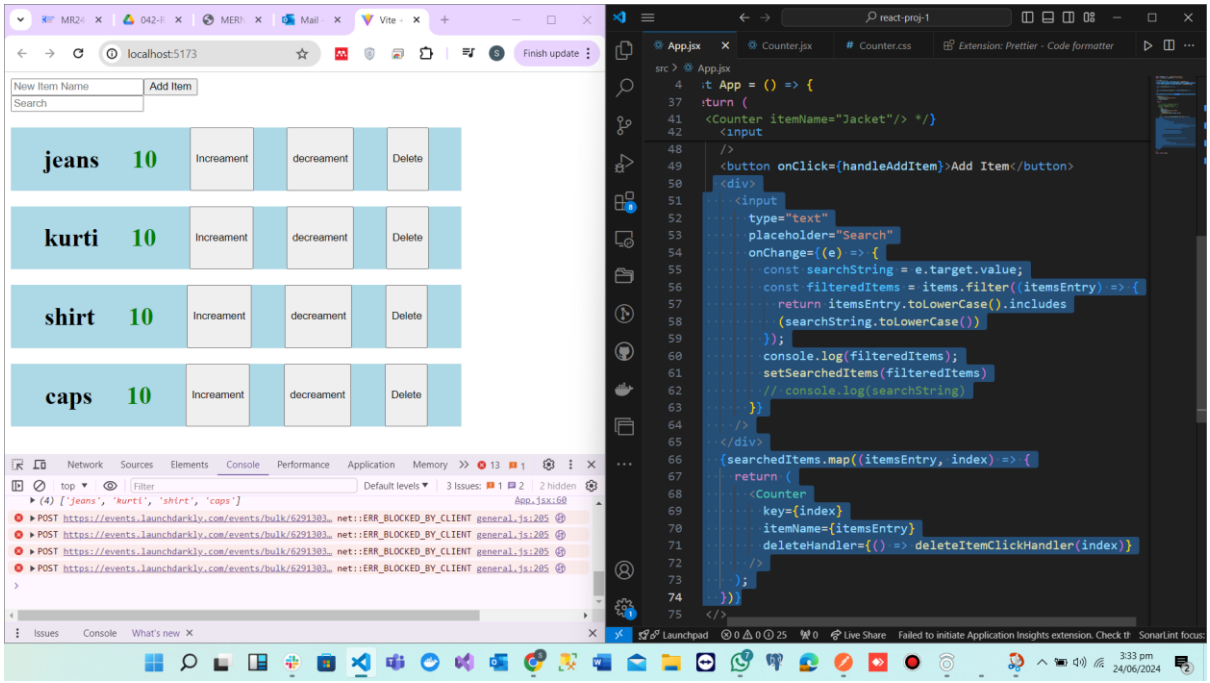
Agr ma apne items ki state ko hi update krwadun fiteredItems se jo user ne search kia ha tou meri items list wali state update hojayegi aur apna purana data lose krdegi and I don't want it

Aik seperate state banegi for searched items

Ab mapping searchedItems pe hogi

issue: pehle render k waqt to user ne kuch search hi nhi kia tou pg empty nazar aayega

solution initial state usestate me searchedItems me items rakhden agr tou initially original data show hoga jb tk user kuch search na krle

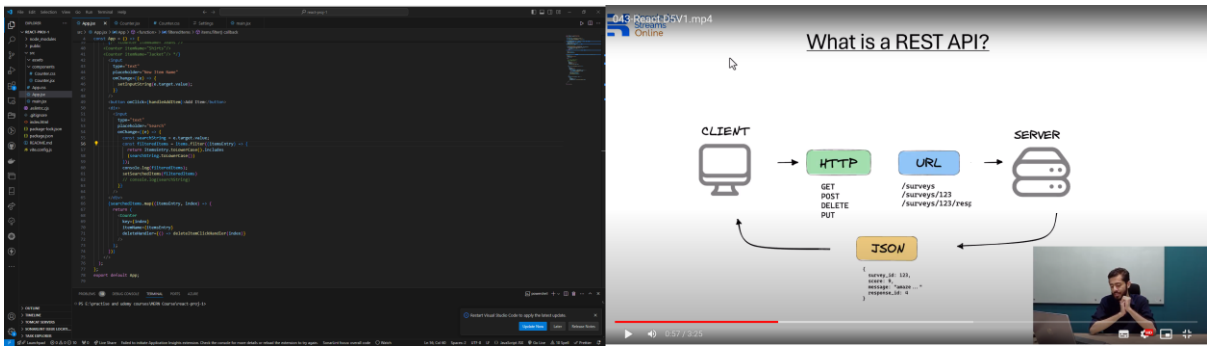


Initial state wala masla tou hal hogaya

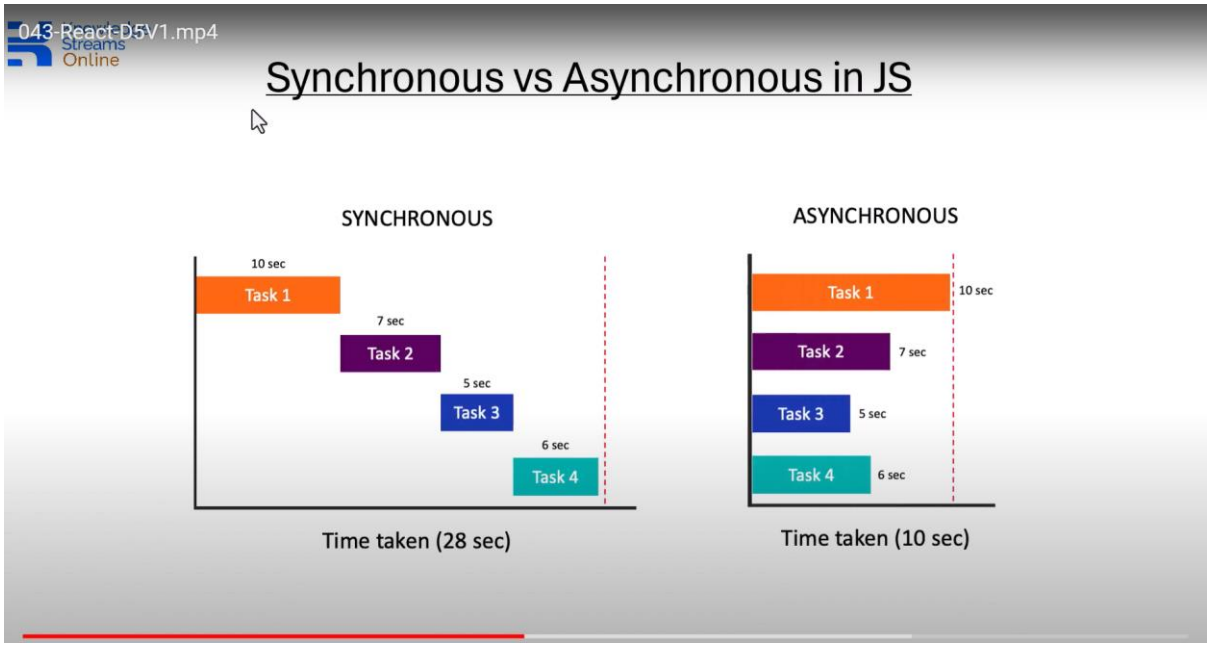
One more thing agr user koi empty string dede matlab kuch na likhe tou include ka function true return krta ha which means saare items k eleement true return honge aur original item ki array me jitne bhi elements the sab show hojayenge. This is how search functionality works

WEEK 5:

REST API:



ASYNCHRONOUS VS SYNCHRONUS in JS



SYNCHRONUS:

Normal javascript : pehle aik task hoga wo finish hoga phir doosra start hoga wo finish hoga

Asynchronus

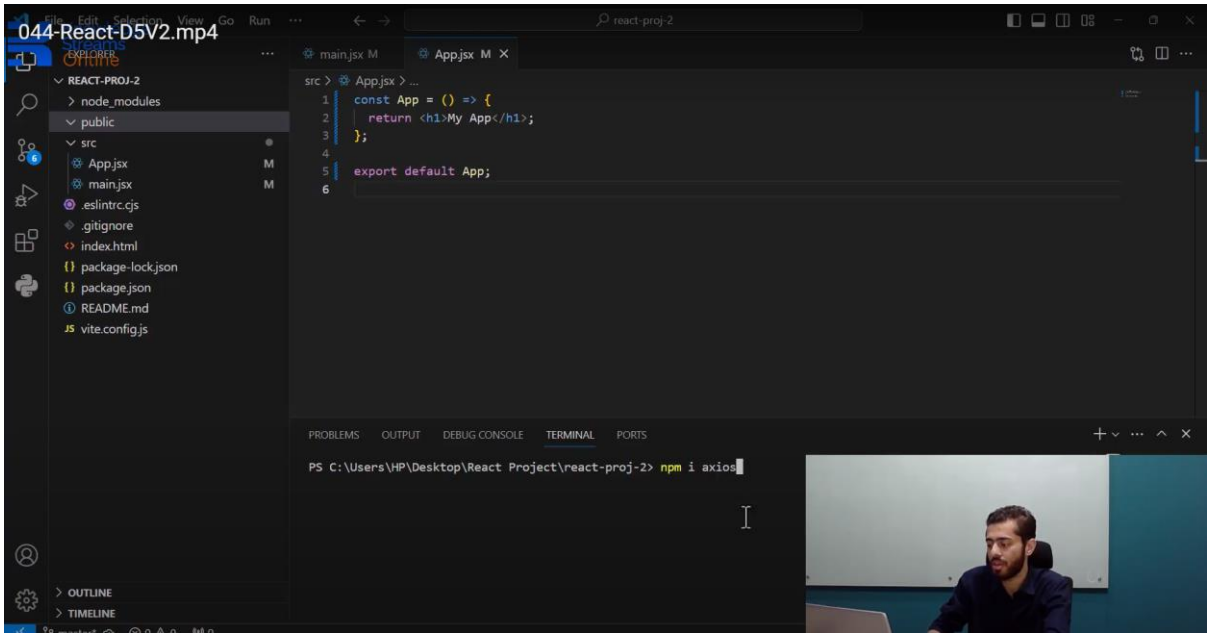
We can start multiple tasks/operations at the same time

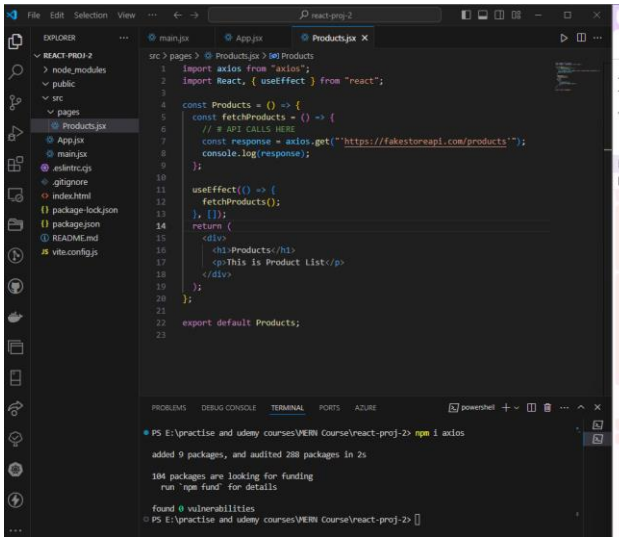
Javascript is single threaded language : means 1 time pe aik hi operation perform krsakti h

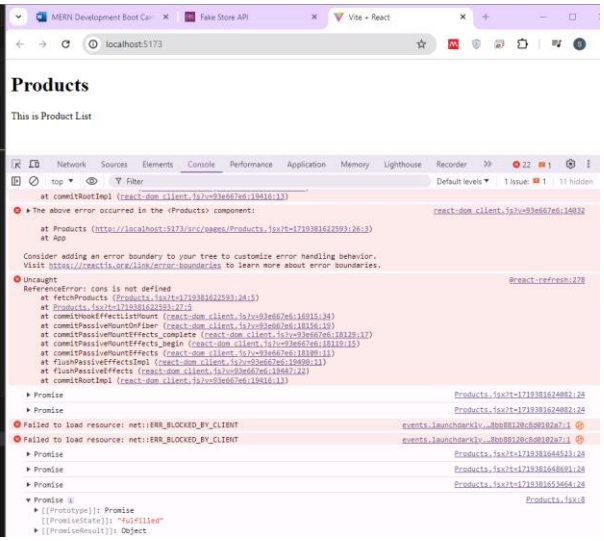
But javascriPT KUCH techniques ko use krti ha jisse wo ye illusion de sake k isne multiple operation at the same time perform kye hain

For example: insta page open krte hain tou front se request jati h server pe k data laake do jo latest post h wo user ko dikhani h , ab jb tk data nhi aarha aisa tou nhi h k app ruki wi ha chal nhi rahi , matlab request bhi gai wi ha user ko and simultaneouly aur kam bhi horahre hain this is asynchronous behavior(reuest server ko send bhi ho aur sath sath frontend bhi chalta rahe)

Axios







axios aik promise return kr raha ha

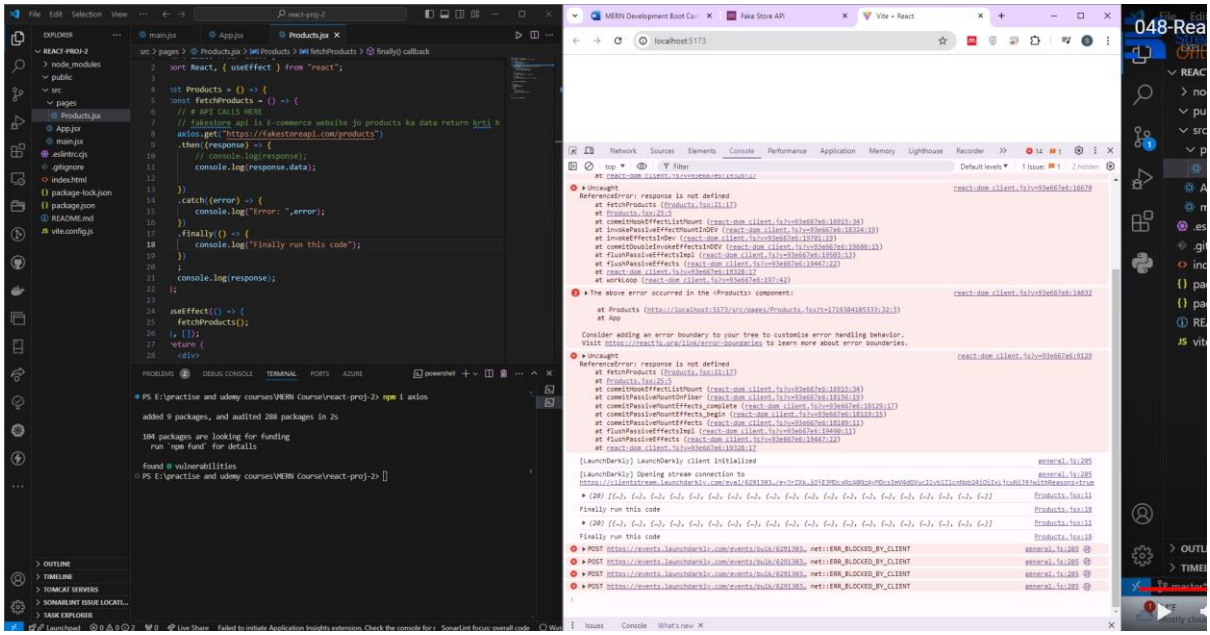
Promise

Kuch is tarh k functions hote hain jinka response laanee me kuch time lag sakta ha javascript ko jaise ye api call, ab iska reponse kitni der me aye ye pata depends on multiple factors including internet speed , backend issue etc

Tou javascript aik promise rerun krdta h

Problem is javascript does not know how much time api will take to bring results

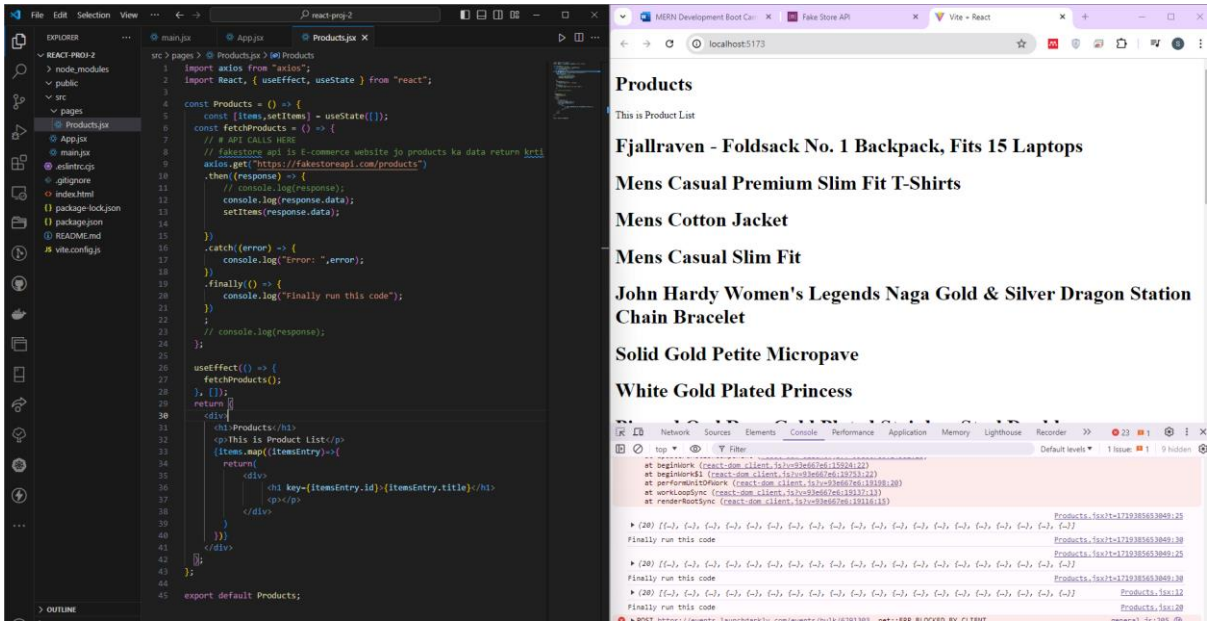
Promise is baat ka k response aajayega maybe positive or neg tou jab tk execution continue krlo ruko nhi



.then ya .catch me se koi aik chalega but finally tou her dafa chalega hi

Ab agr is data ko kisi state me ave karalen tou further manipulate krakte hain data kl

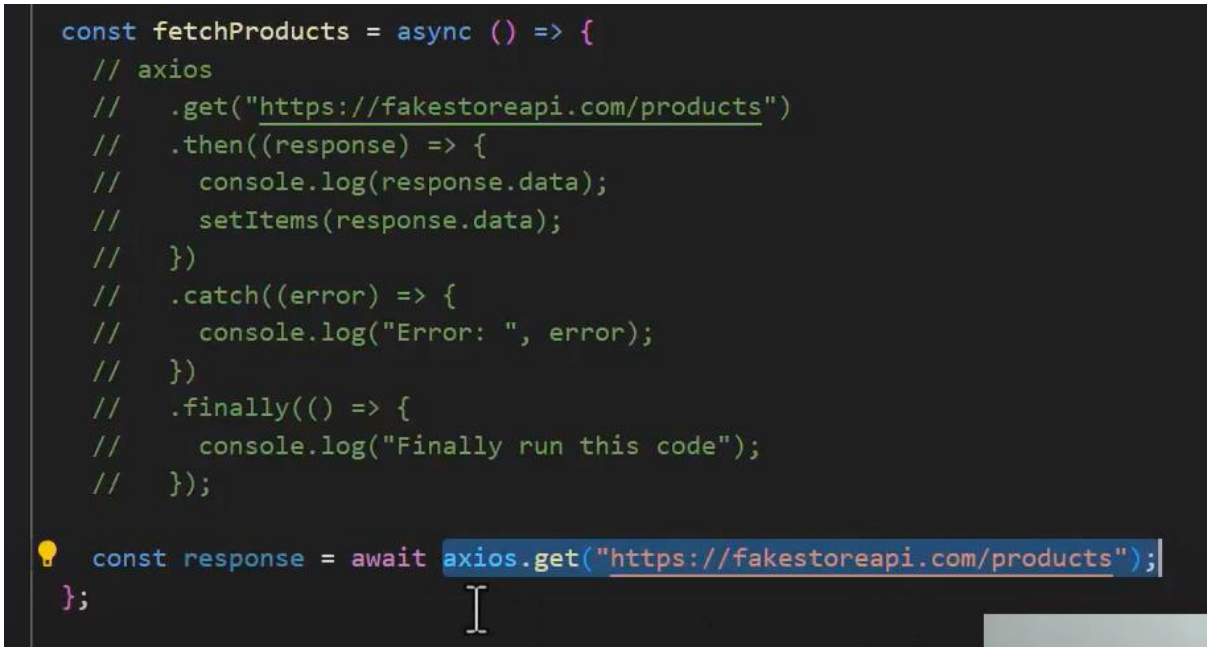
Implementation of an API Call:



Jab bhi aisa data ho hamare pas jiski unique ids exist krti hun wo id use krna preferable hota ha for key

Async await

While using await our func must be async



Func k call se pehle async likhna ha iska matlab ye h k ma apne func ko ye batarahi hun k await use hua wa ha

Axios.get jo aik promise return krta ha us promise k resolve hone ka wait kro uske baad response k ander apna data pull krna

Yahan pe response me wo aayega jo .then k response me aana tha ya jo .catch k error me aana tha

Fragment

<> </>

Return ka func aik main-container return krta h islye hame multiple div ko aik main div me wrap krna parta ha fragment hamari ye req poori krta ha

(browser pe jaake dekho ye show nhi hota as div)Laikin jb component DOMme jayega wahan pe fragments render nhi hote

This is adv of using fragments and its a good practise

Why can useEffect not be async

UseEffect ka jo hook ha uske upper mere component ka render hona depend krta

Jab bhi component render hota ha pehli dafa useEffect chalta ha and then state me jab change aata ha tab chlta ha

Ab component jab pehli dafa render hua ha tou pehle useEffect ka chalna zaroori ha phir mera component DOM k ander display hona shuroo hoga ab isi component k ander maine aik api call krdi ha jiska response kab aayega mujhe pata nhi tou component proceed hi nhi hopayega generation ki tarf hi nhi japayega q k useEffect ki execution tou abhi poori hi nhi hui

Tou ye limitation aati h useEffect ka jo function h jisey effect bolte hain wo async nhi hosakta

```
useEffect(async () => {
  try {
    const response = await axios.get("https://fakestoreapi.com/products");
    setItems(response.data);
  } catch (e) {
    console.log("Error: ", e);
  }
}, []);
```

Its not possible

Wayout: make a seperate func and call in useEffect

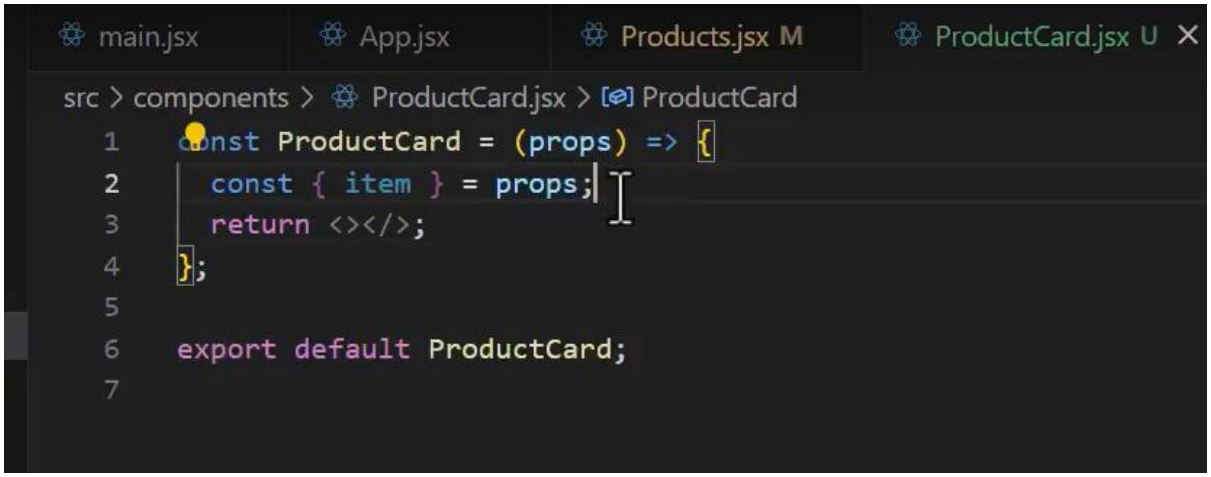
```
const fetchProducts = async () => {···
};

useEffect(() => {
  fetchProducts();
}, []);
```

Question in mind : fetchProducts() bhi tou async h jo useEffect me call hua ha answer is useEffect chalega uska kam sirf func ko call krna ha wo func call krega and then khud shut hojayega component aage chala jayega generation ki tarf behind the scenes wo fetchProduct chalta rahega

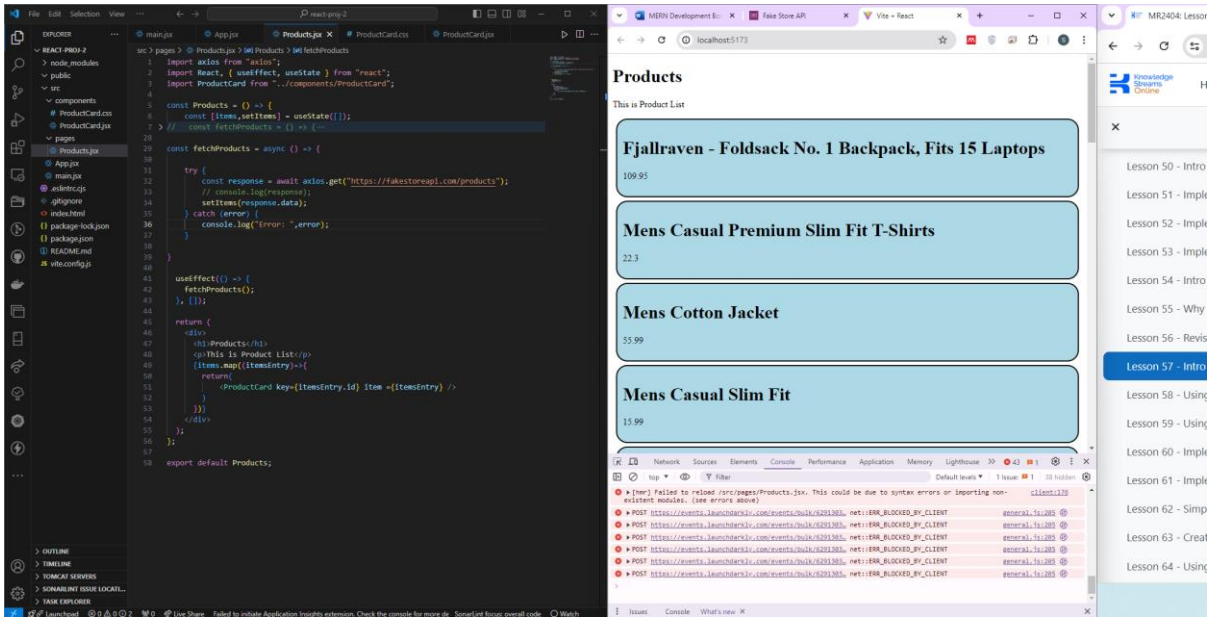
```
useEffect(() => {
  axios
    .get("https://fakestoreapi.com/products")
    .then((response) => {
      console.log(response.data);
      setItems(response.data);
    })
    .catch((error) => {
      console.log("Error: ", error);
    })
    .finally(() => {
      console.log("Finally run this code");
    });
}, []);
```

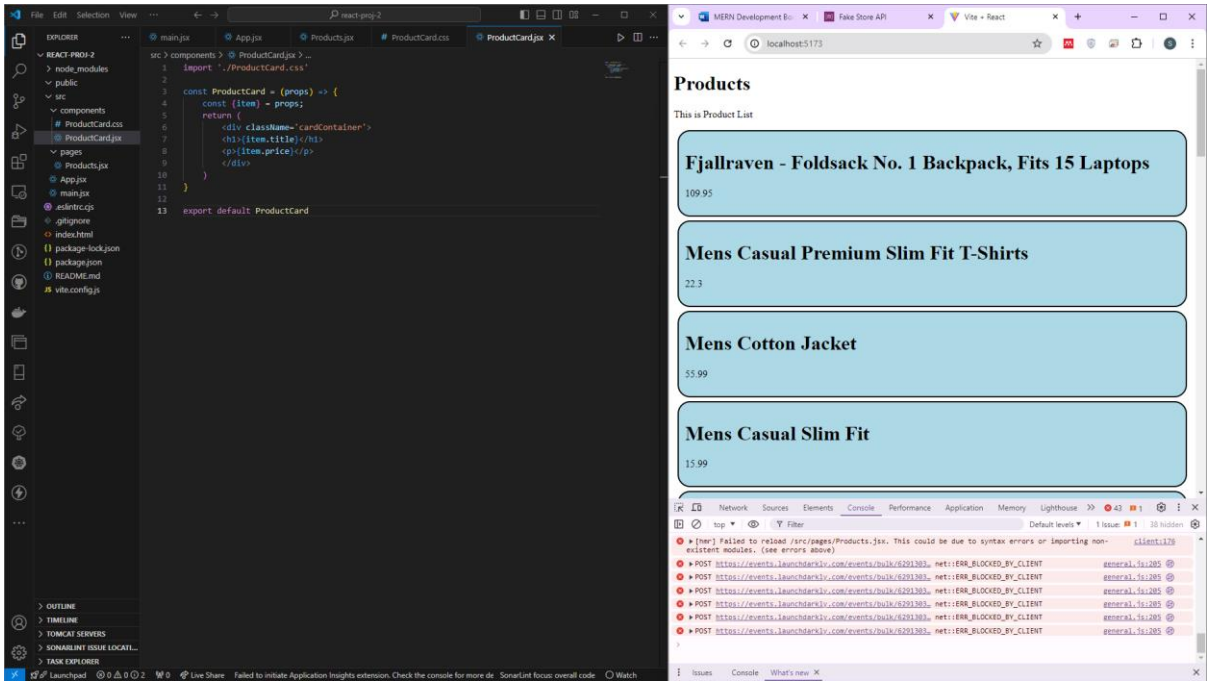
This can also be done .then and catch can be used in useEffect but async await k case mehame seperate func banake usko call krna hoga useeffect async nhi hosakta

Good practise: to use API Call in seperate function



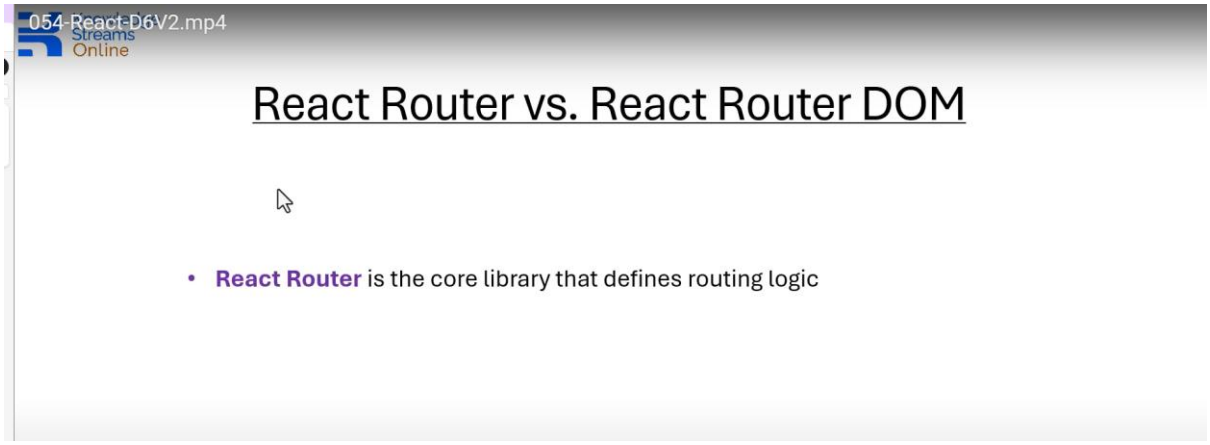
Props k ander jo item name ka abject aayega usko destructure kr rahe hain aur yahn pe aik constant bana rahe hain item naam ka hi jiske ander value store hojayegi props k ander jo item naam ka object h.





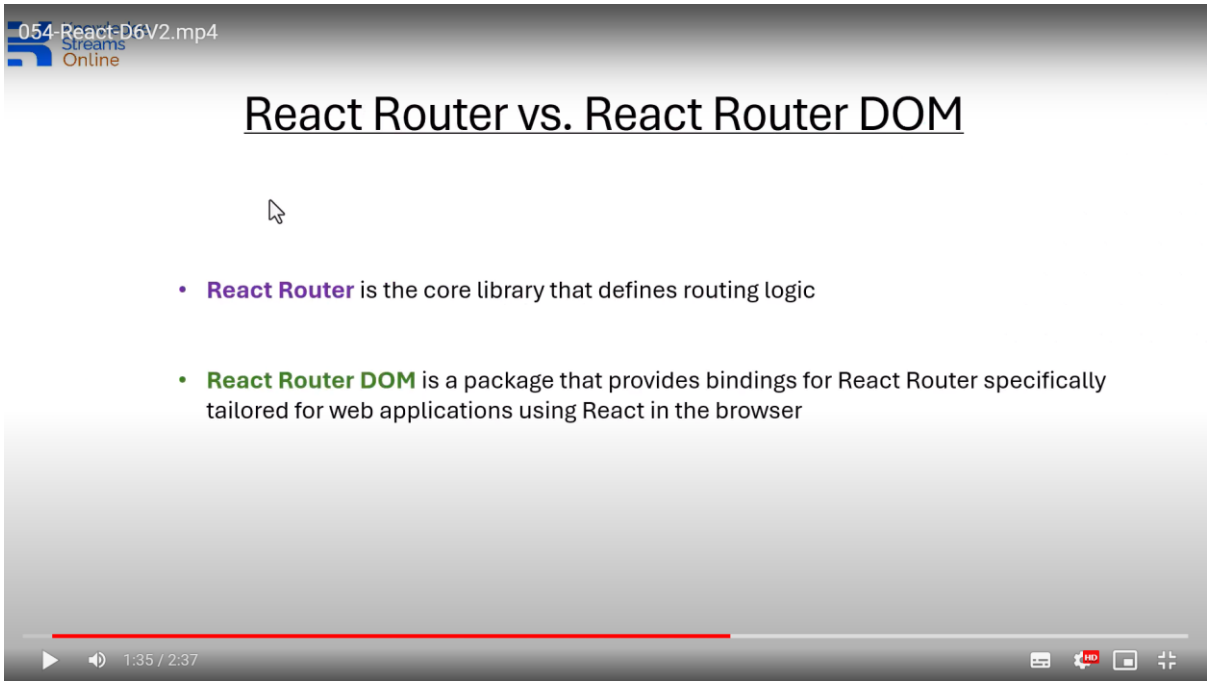
Routing

Switch from one pg to another is called routing

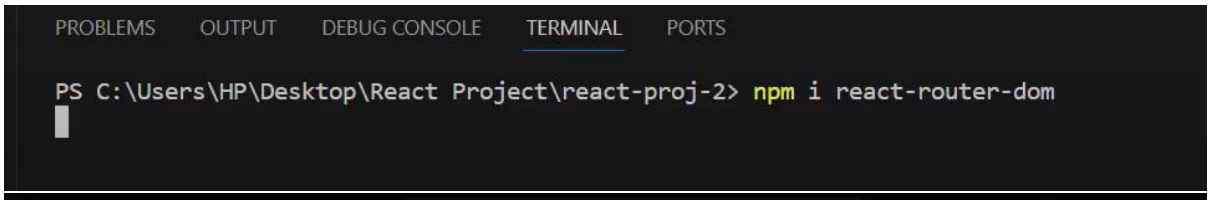


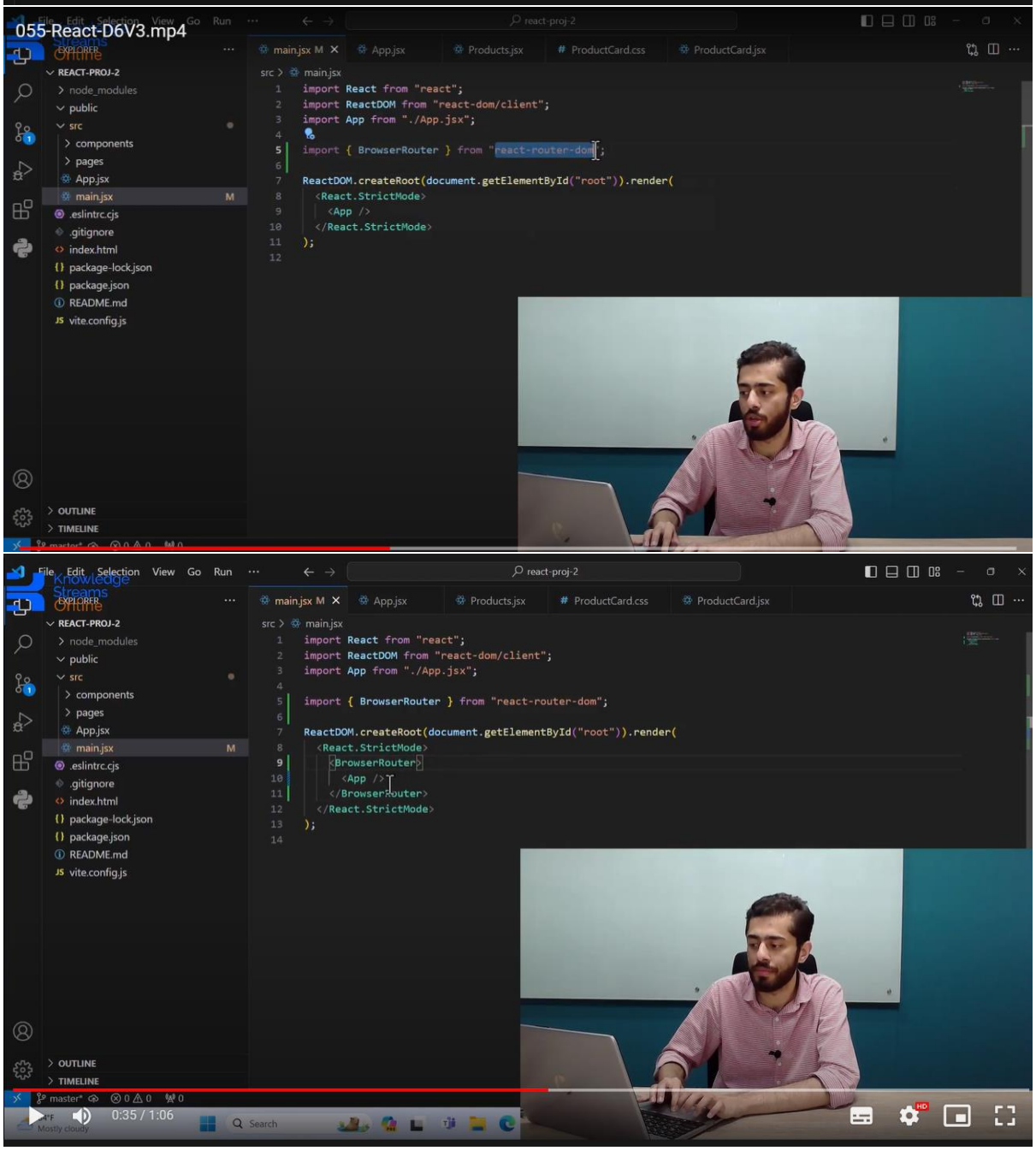
React Router DOM

Its extention of react-router


054-React-D6V2.mp4
Streams Online
React Router vs. React Router DOM
React Router is the core library that defines routing logic
React Router DOM is a package that provides bindings for React Router specifically tailored for web applications using React in the browser
1:35 / 2:37

Installation

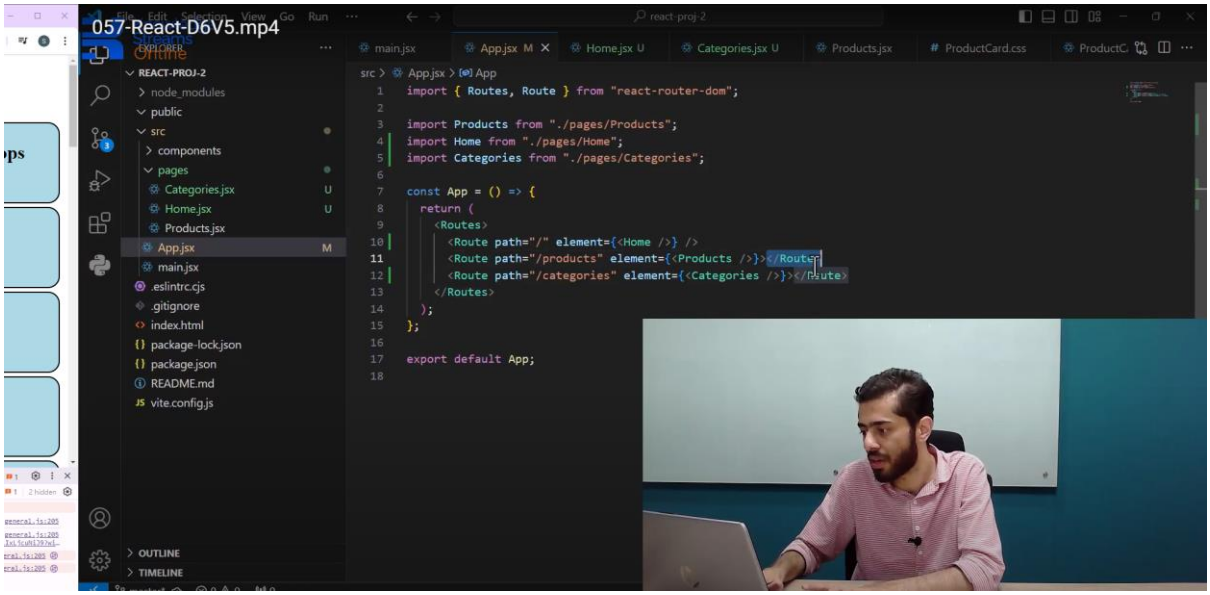




App ko BrowserRouter k ander wrap krdia isse adv ye hoga k mujhe apni poori app k ander browser router ki functionality ka access miljayega

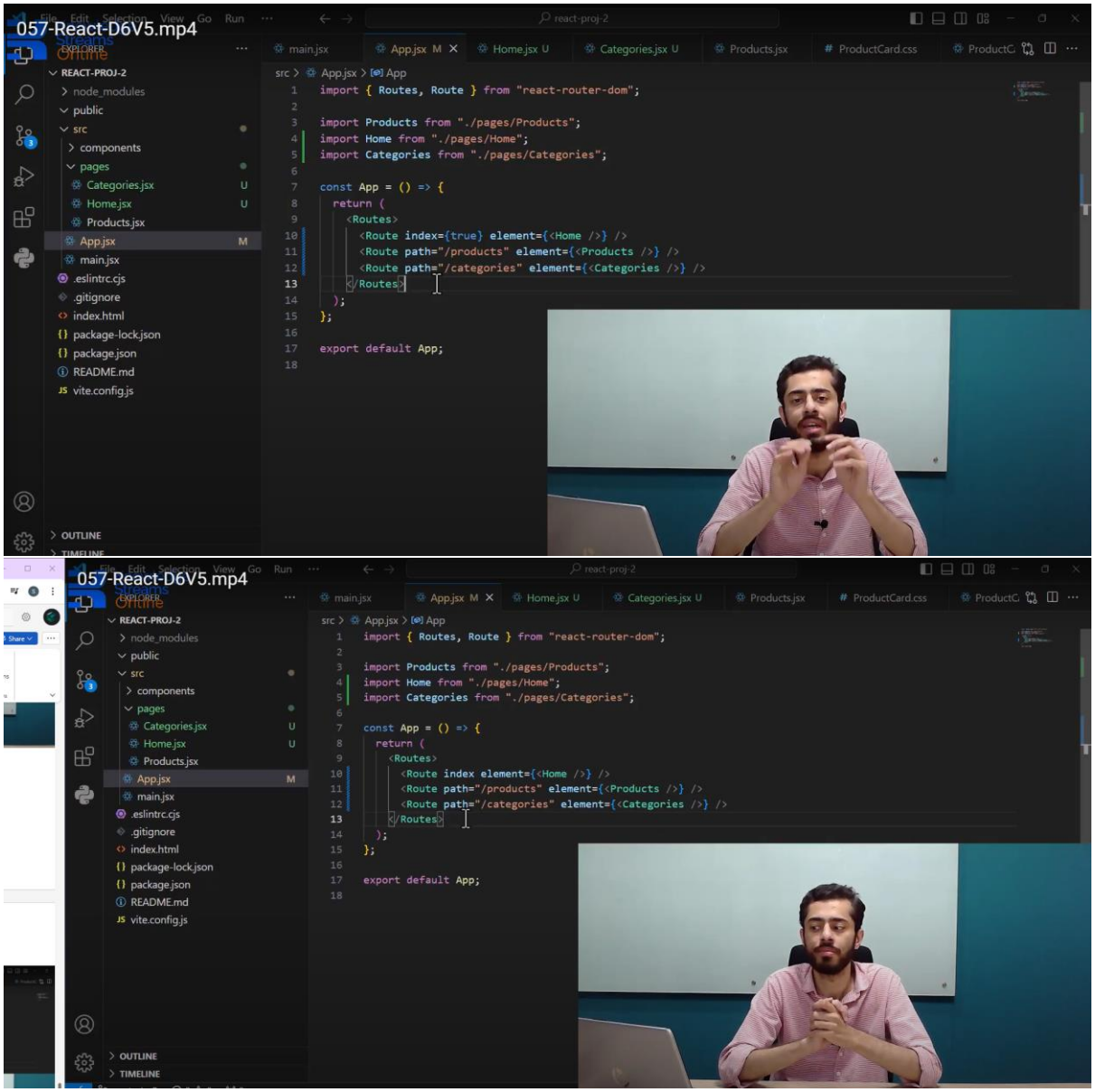
Good practise

Agr hame opening and closing tag k beech me kuch nhi likhna tou usey self closing tag bana dete hain

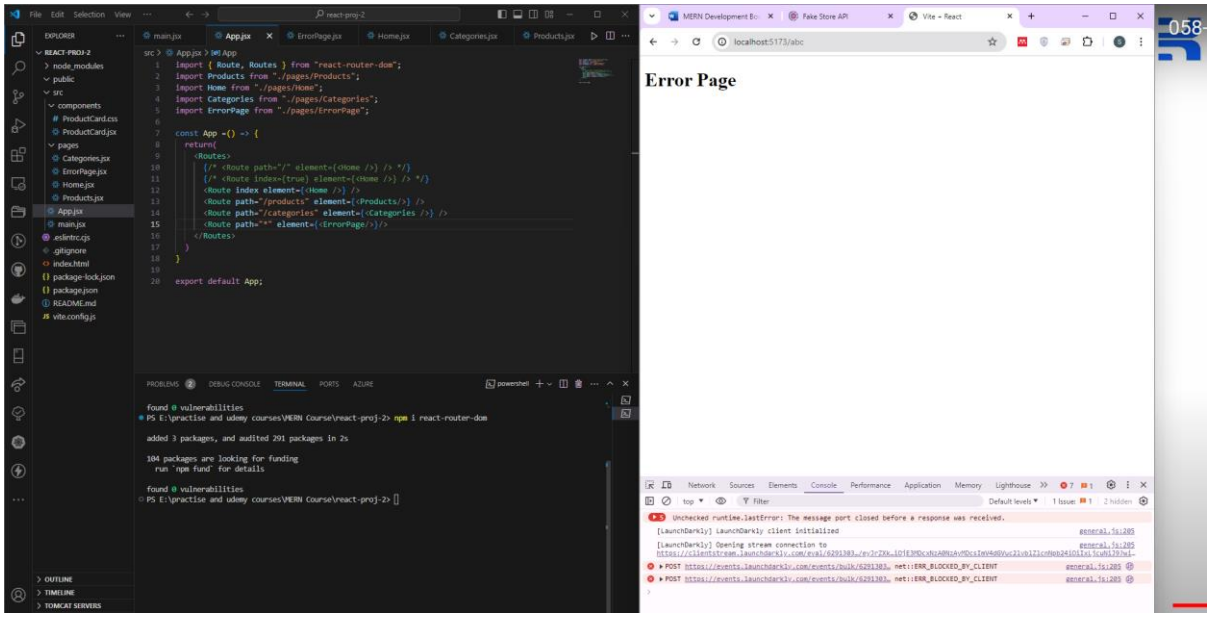


Jahan pe koi path na ho usey index=true krdena ha

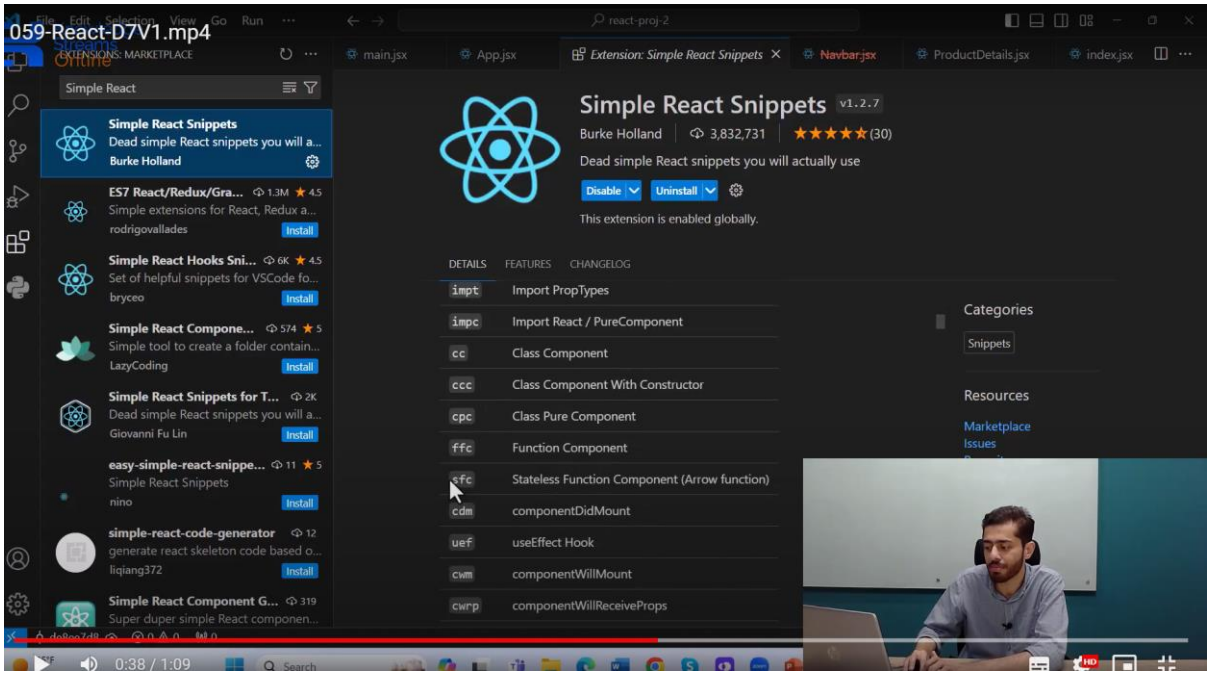
Further optimization:



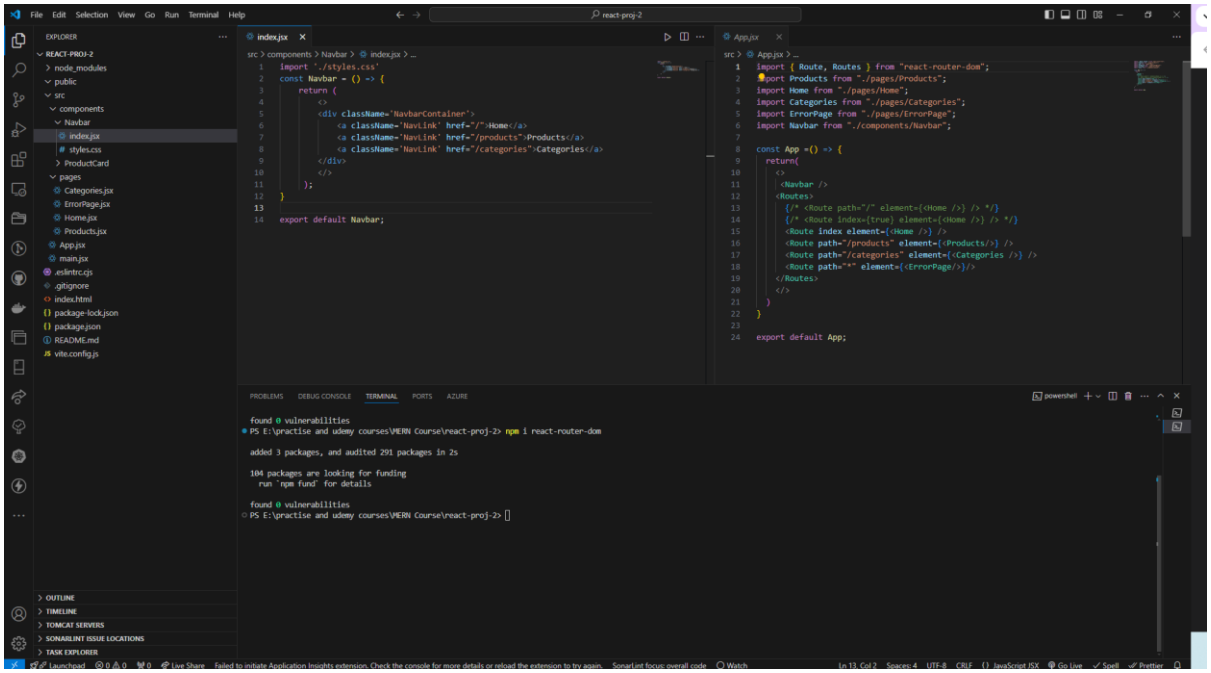
Implementing Route for Error Page



Simple React Snippets VS Code Extension



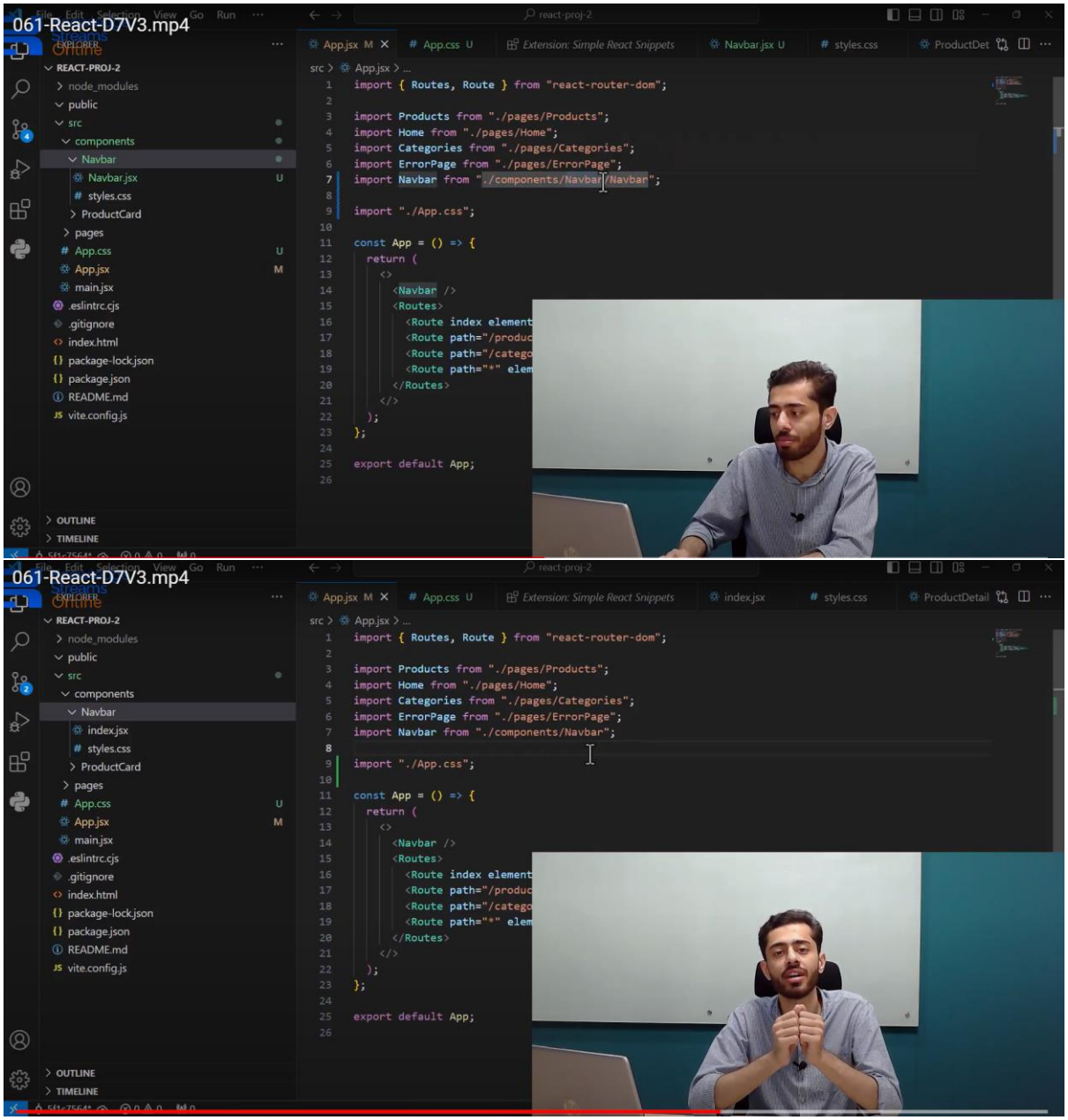
Navbar


File Edit Selection View Go Run Terminal Help
react-proj-2
EXPLORER
REACT-PROJ-2
node_modules
public
src
components
Navbar
index.jsx
styles.css
ProductCard
pages
Categories.jsx
ErrorPage.jsx
Home.jsx
Products.jsx
App.jsx
main.jsx
.eslintrc.cjs
.gitignore
index.html
package-lock.json
package.json
README.md
vite.config.js
index.jsx
src > components > Navbar > index.jsx > ...
import './styles.css'
const Navbar = () => {
return (
<>

<a className='NavLink' href="/">Home
<a className='NavLink' href="/products">Products
<a className='NavLink' href="/categories">Categories

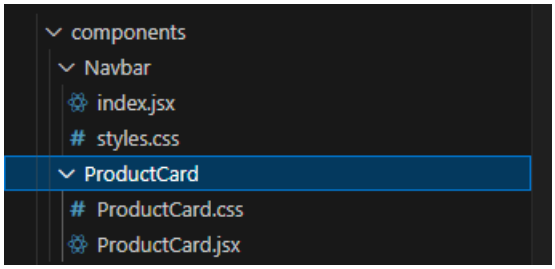
</>
);
}
export default Navbar;
App.jsx
src > App.jsx > ...
import { Route, Routes } from "react-router-dom";
import Products from "./pages/Products";
import Home from "./pages/Home";
import Categories from "./pages/Categories";
import ErrorPage from "./pages/ErrorPage";
import Navbar from "./components/Navbar";
const App =() => {
return(
<>
<Navbar />
<Routes>
{/* <Route path="/" element={<Home />} /> */}
{/* <Route index={true} element={<Home />} /> */}
<Route index element={<Home />} />
<Route path="/products" element={<Products/>} />
<Route path="/categories" element={<Categories />} />
<Route path="*" element={<ErrorPage/>}/>
</Routes>
</>
)
}
export default App;
PROBLEMS DEBUG CONSOLE TERMINAL PORTS AZURE
powershell
found 0 vulnerabilities
PS E:\practise and udemy courses\MERN Course\react-proj-2> npm i react-router-dom
added 3 packages, and audited 291 packages in 2s
104 packages are looking for funding
run `npm fund` for details
found 0 vulnerabilities
PS E:\practise and udemy courses\MERN Course\react-proj-2>
OUTLINE
TIMELINE
TOMCAT SERVERS
SONARLINT ISSUE LOCATIONS
TASK EXPLORER

K.K.B



Index aik aisa naam h jo by default hamara vscode pick krta ha folder me se, agr kisi folder k ander maine index naam ki fike banai wi ha tou import krte waqt sirf us folder ka naam likhna ha file wo khud pick krlega

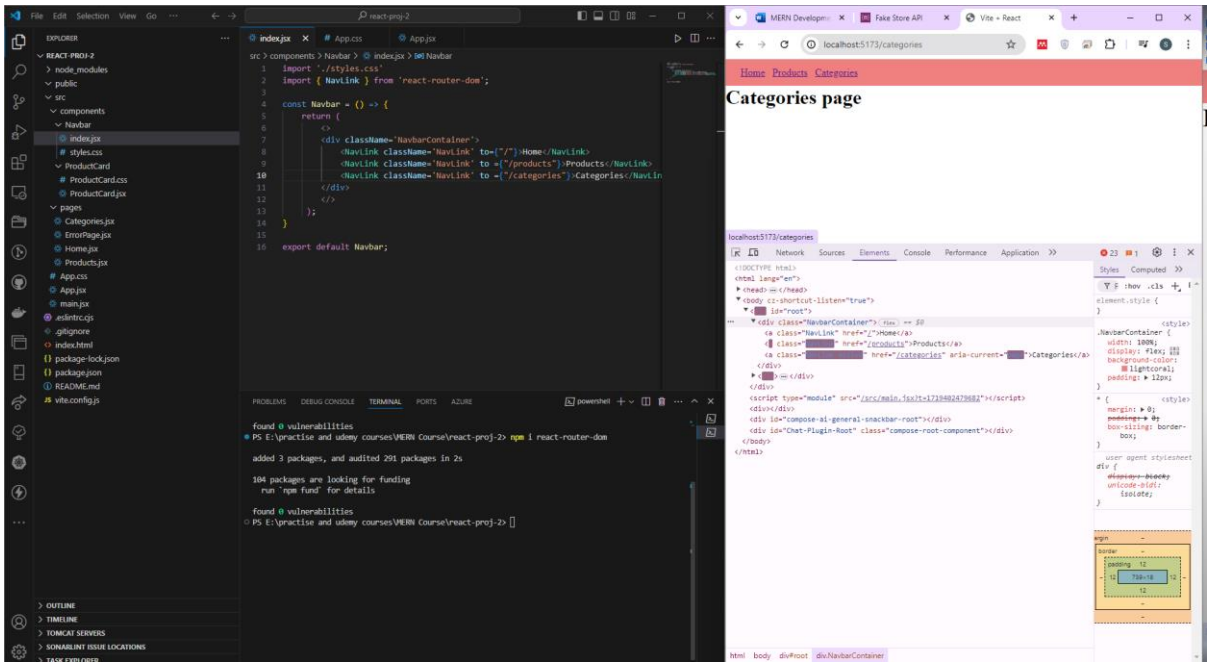
Different Structures of Project



Both are correct.

Using NavLink instead of Anchor Tags-

We want Aik pg se doosre pe move krte waqt DOM rebuild na ho, browser pe jaake dekha jab navbar me pages pe switch kia tou DOM rebuild horaha tha pg refresh horaha tha <a> use kye we the us time



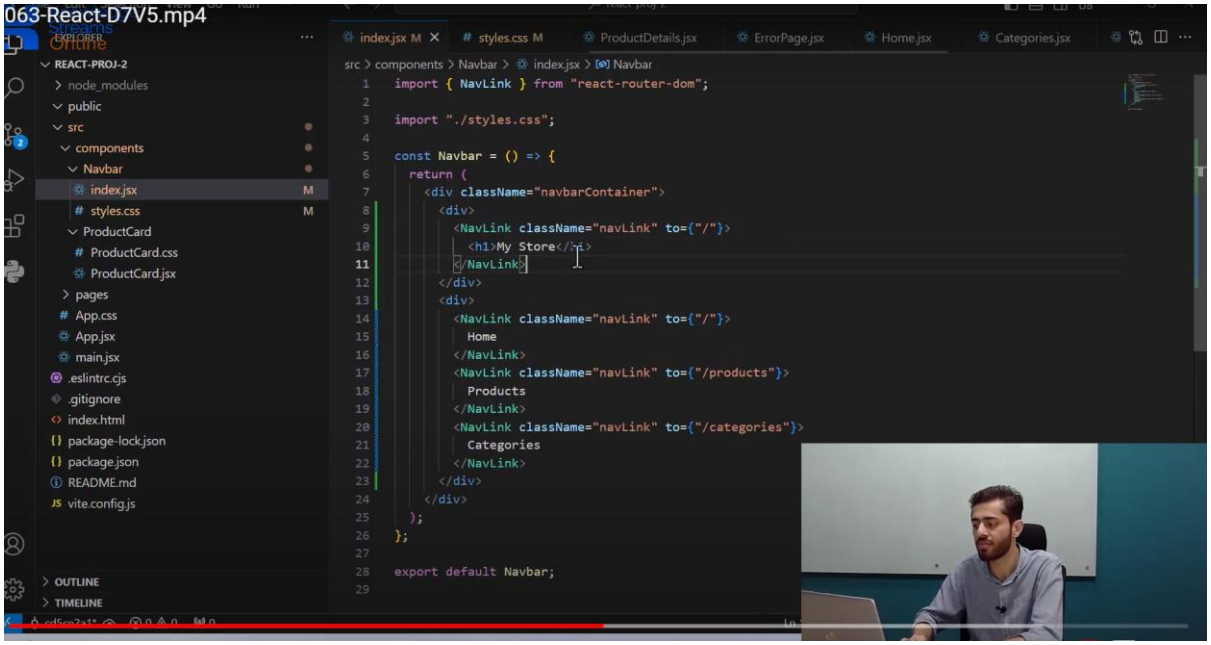
DOM Rebuild nhi horHA browser me dekha sirf jo highlighted ha sirf wo update hua pg switch krne pe

NavLink and Link difference figure out chellenge

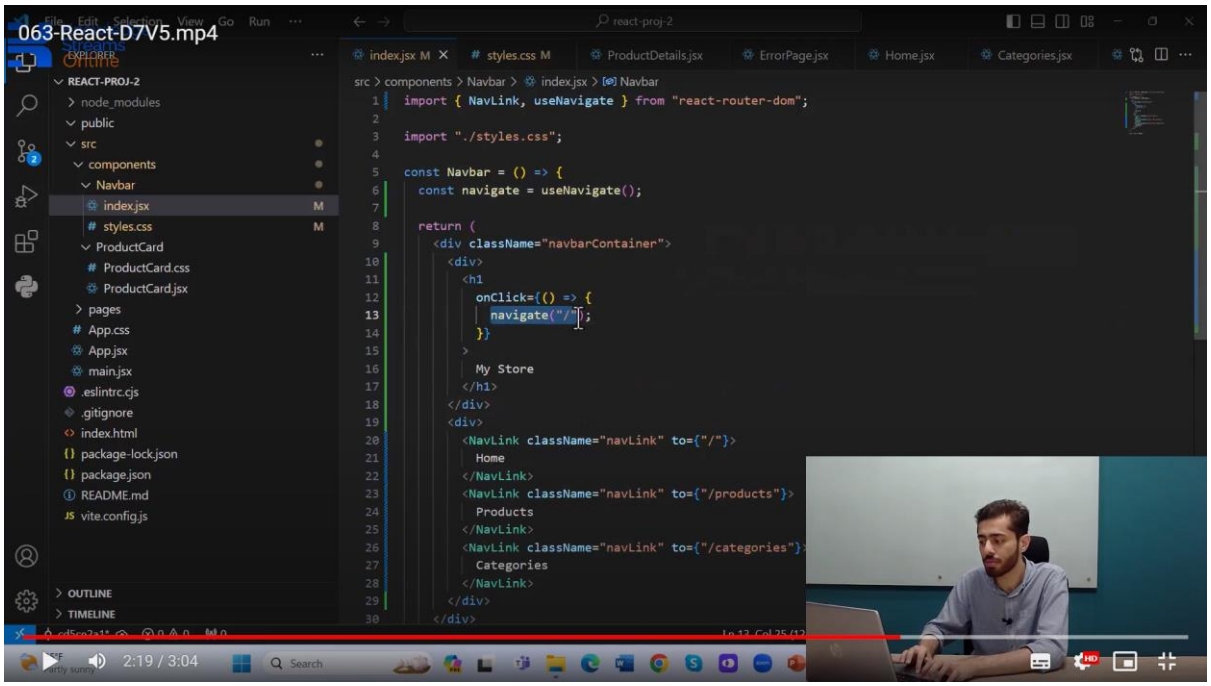
Logo pe click krne pe home pg pe aana ha

2 ways:

1st: NavLink



2nd: useNavigate



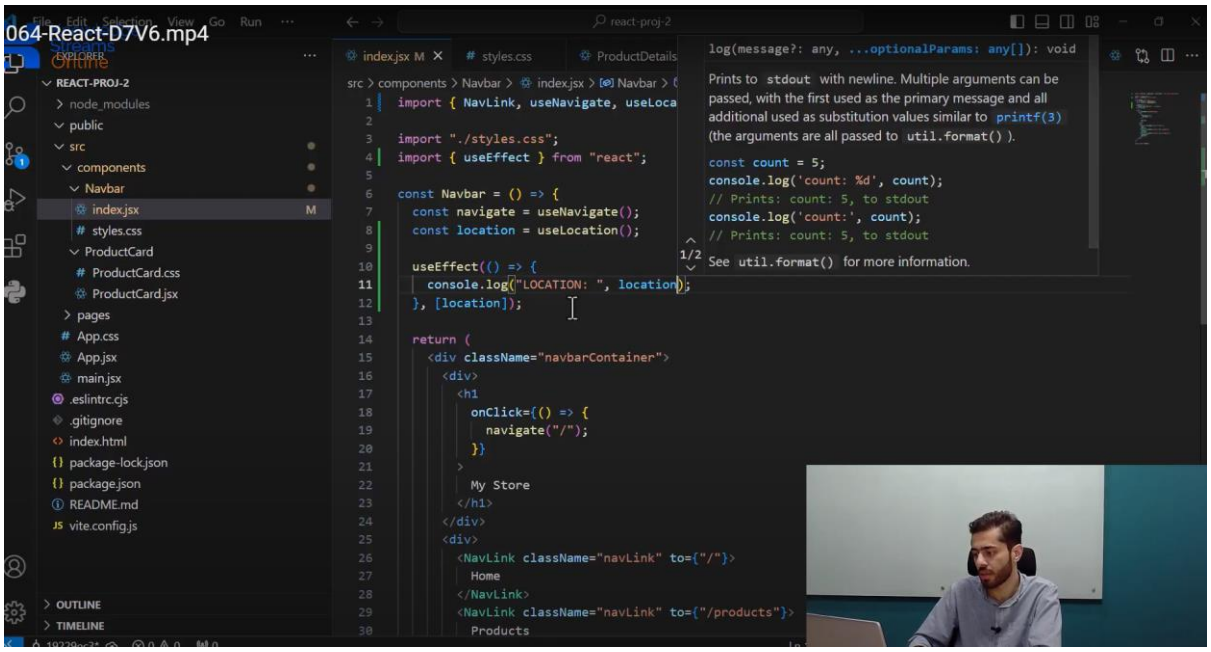
UseNavigate ki hook aik function return krti ha uska name usually hum navigate rakh dete hain. Then navigate ko onclick pe call krado aur url pass krdo jahan navigate krna h.

Aik pg se doore pg pe jane k lye 2 methods hain:

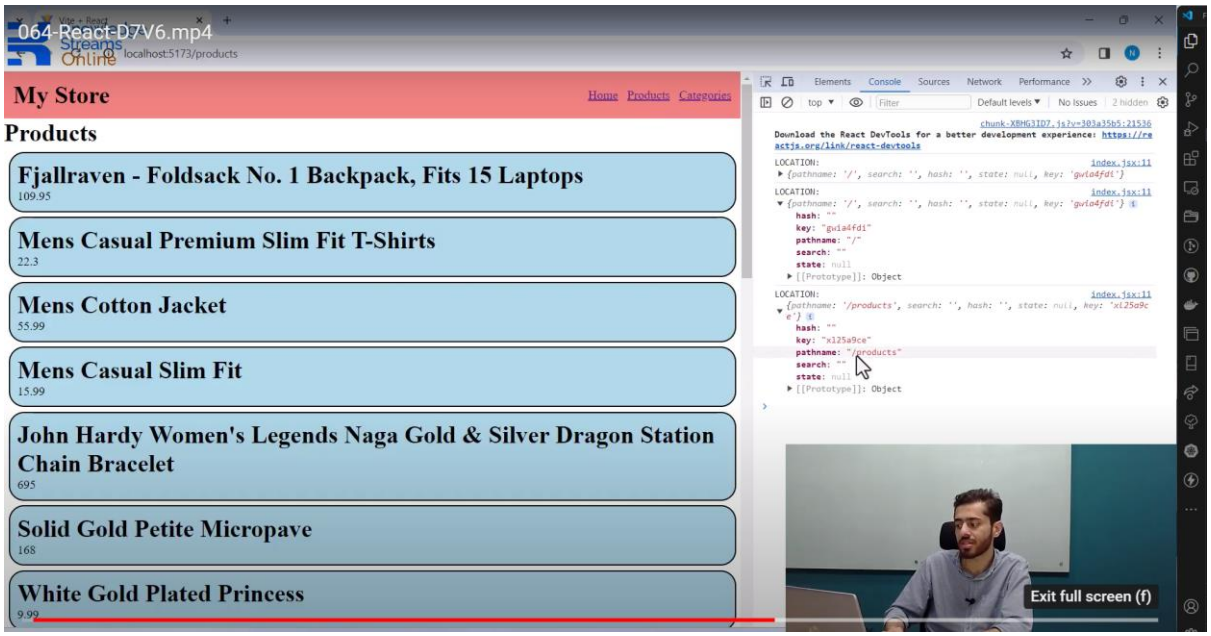
1 is navlink lakin agr ma kabhi hum aisa chahen k aik function k ander javascript ki execution se hum aik pg se doosre page k upper transition krjayen tou uske lye navigate ka function use krte hain jo milta ha react-router-dom k hook useNavigate se

UseLocation

UseLocation hame aik object return krti ha jiska name kuch bhi hosakta ha but hum by covention location rakhte hain

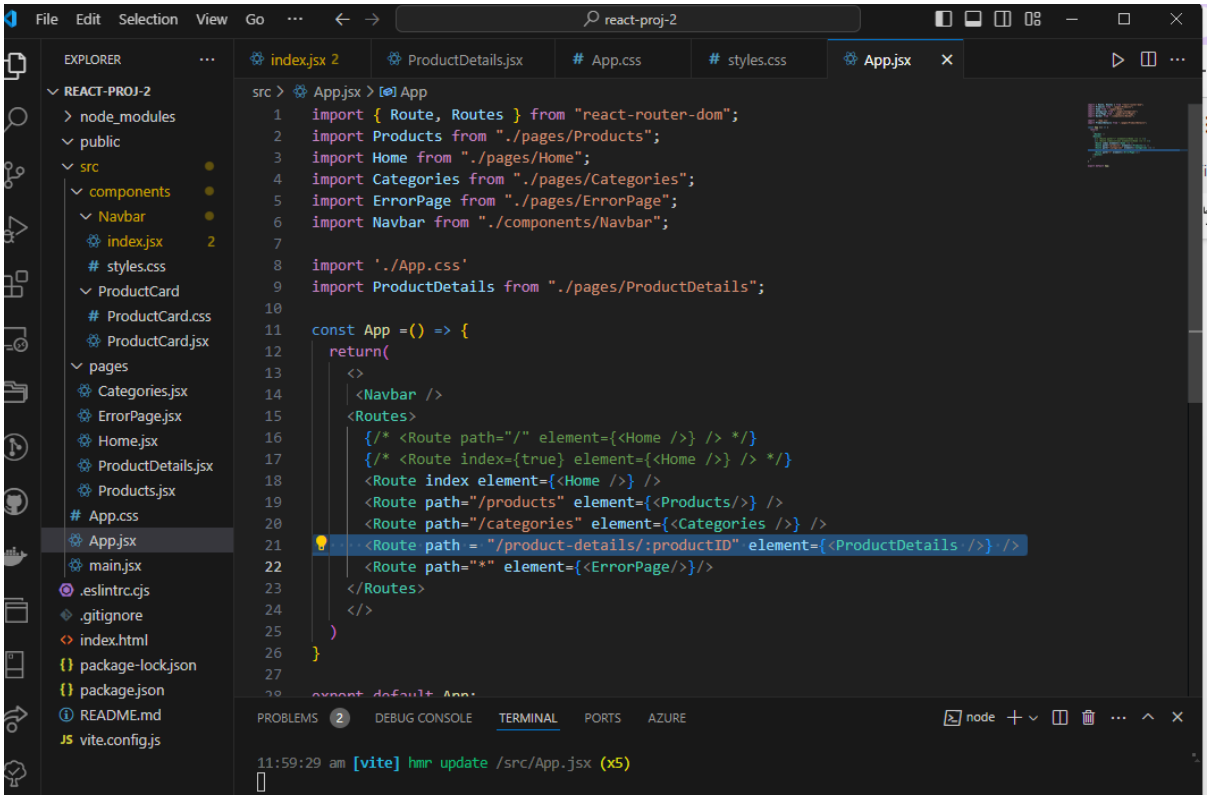


Uselocation tell us currently ham kis page hain application k



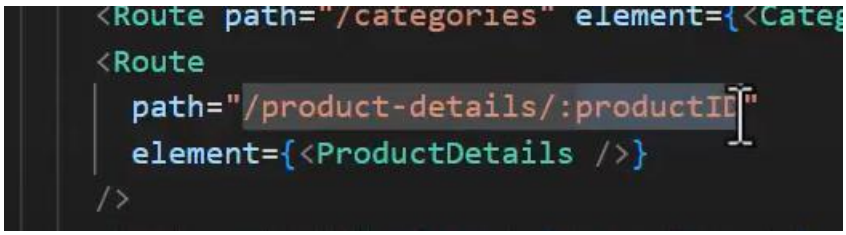
URL PARAMETERS

LINKEDiN pe linked.com tak url same then linkedin.com/Samara and linkedIn.com/Amna this is a dunamic url and here comes the concept of URL Parameters

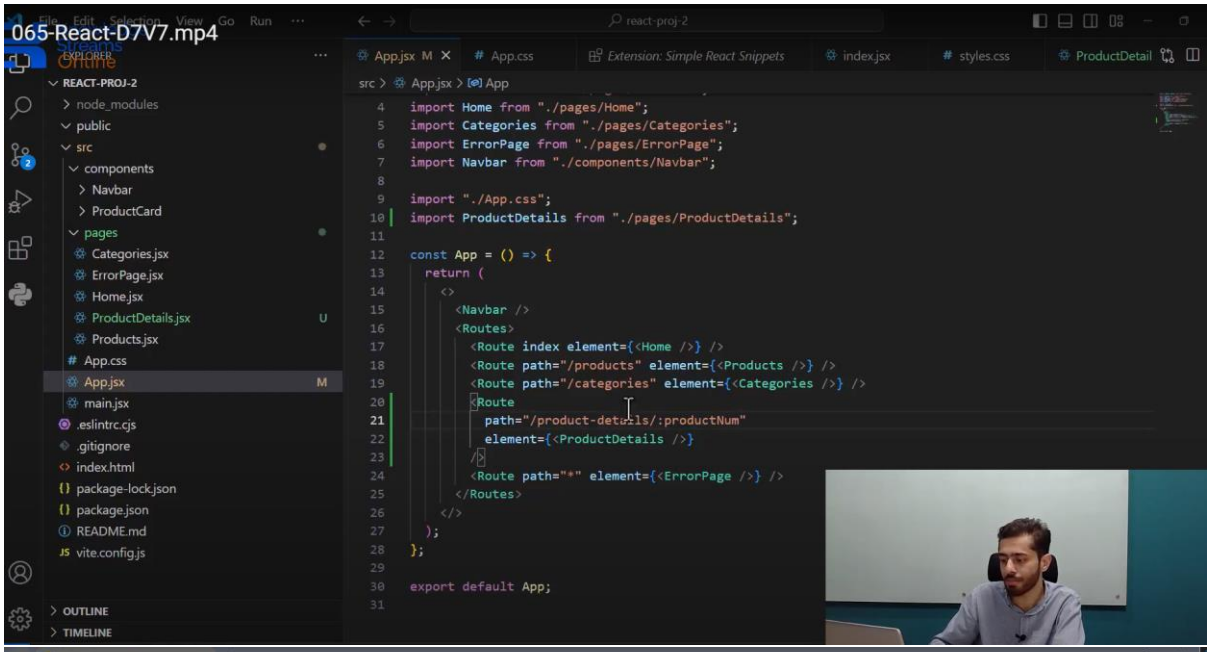


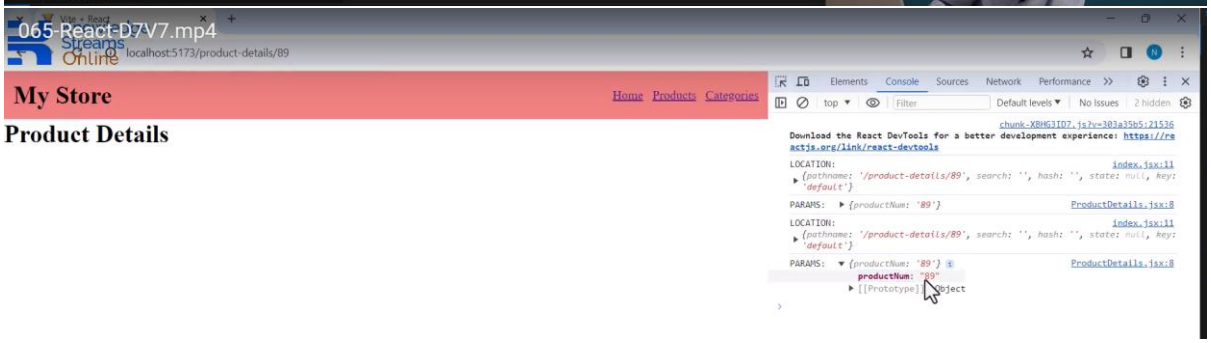
UseParams

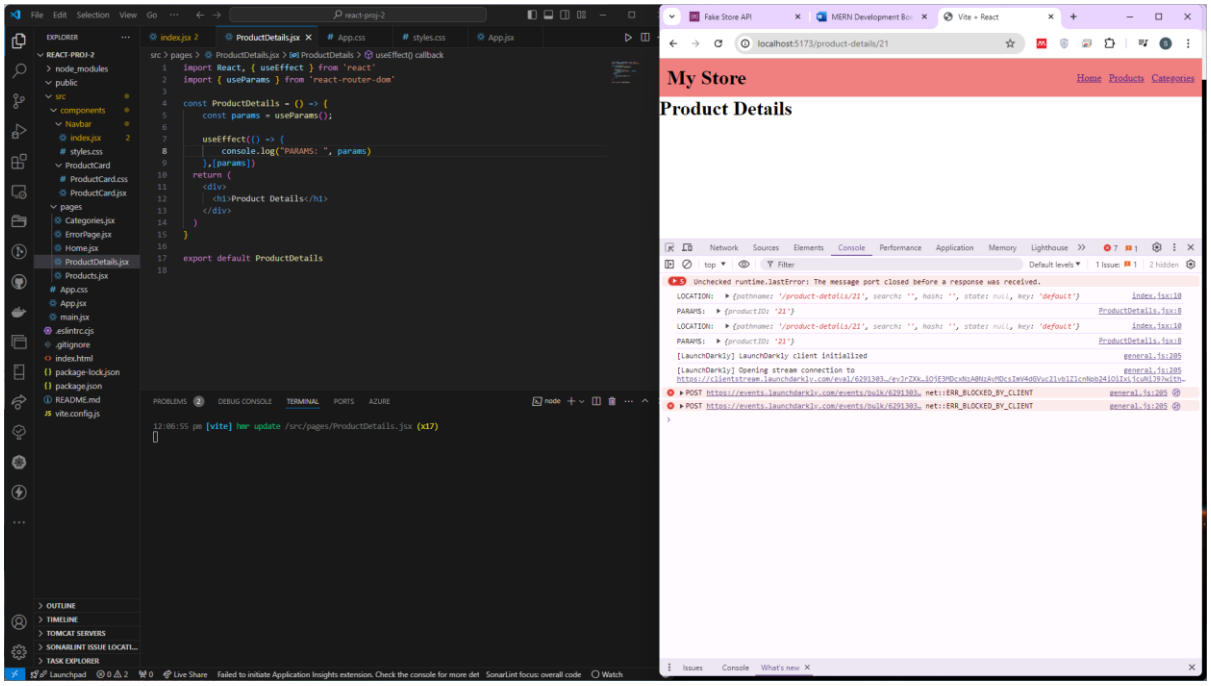
UseParam ki jo hook h wo url me se url parameter ko access krna allow krdeti ha



:/ k aage jo bhi likha ho wo aik object me daalke productID naam ki key banake us string ko value rakho aur useParams ko pass krdo

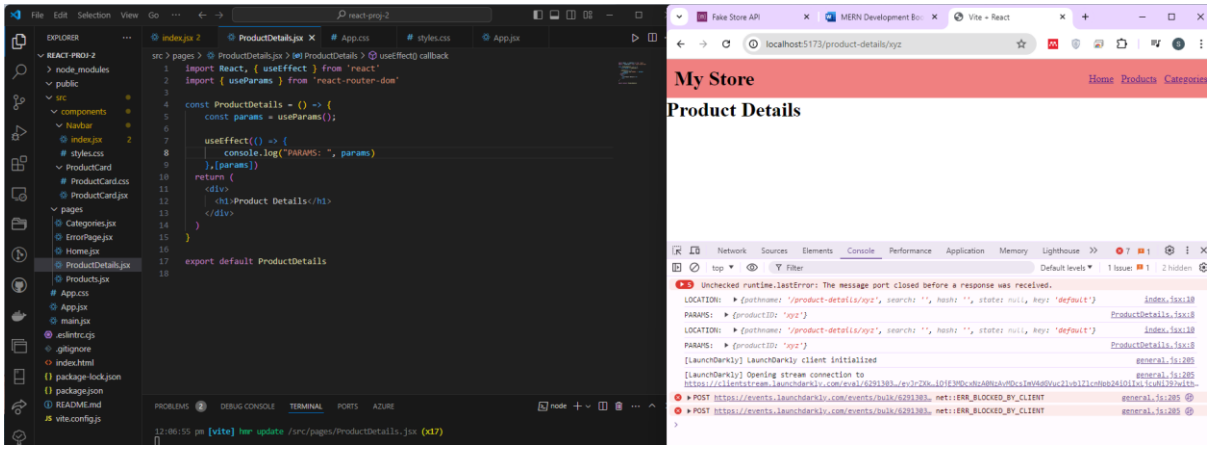

065-React-D7V7.mp4
App.jsx M
App.css
Extension: Simple React Snippets
index.jsx
styles.css
ProductDetail
REACT-PROJ-2
node_modules
public
src
components
Navbar
ProductCard
pages
Categories.jsx
ErrorPage.jsx
Home.jsx
ProductDetails.jsx
Products.jsx
App.css
App.jsx
main.jsx
.eslintrc.cjs
.gitignore
index.html
package-lock.json
package.json
README.md
vite.config.js
OUTLINE
TIMELINE
import Home from "./pages/Home";
import Categories from "./pages/Categories";
import ErrorPage from "./pages/ErrorPage";
import Navbar from "./components/Navbar";
import "./App.css";
import ProductDetails from "./pages/ProductDetails";
const App = () => {
return (
<Navbar />
<Routes>
<Route index element={<Home />} />
<Route path="/products" element={<Products />} />
<Route path="/categories" element={<Categories />} />
<Route
path="/product-details/:productNum"
element={<ProductDetails />}
/>
<Route path="*" element={<ErrorPage />} />
</Routes>
);
};
export default App;


065-React-D7V7.mp4
localhost:5173/product-details/89
My Store
Home
Products
Categories
Product Details
Elements
Console
Sources
Network
Performance
Download the React DevTools for a better development experience: https://reactjs.org/link/react-devtools
LOCATION:
PARAMS: {productNum: '89'}
productNum: "89"
[[Prototype]]: Object

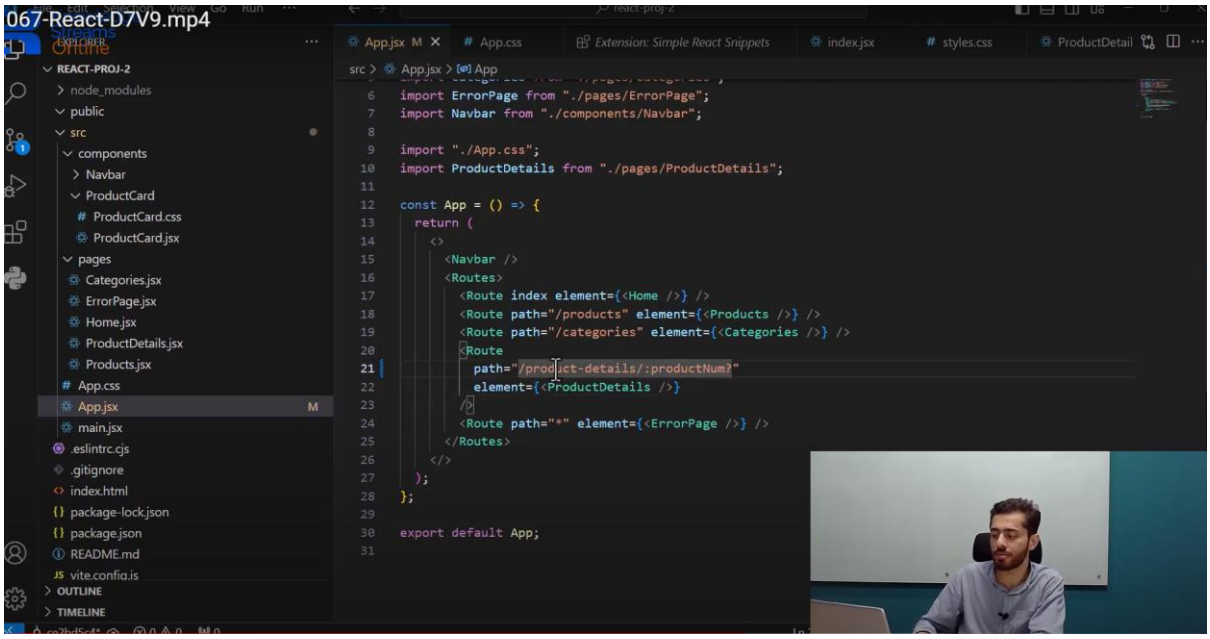

import React, { useEffect } from 'react'
import { useParams } from 'react-router-dom'
const ProductDetails = () => {
const params = useParams();
useEffect(() => {
console.log("PARAMS: ", params)
},[params])
return (

<h1>Product Details</h1>

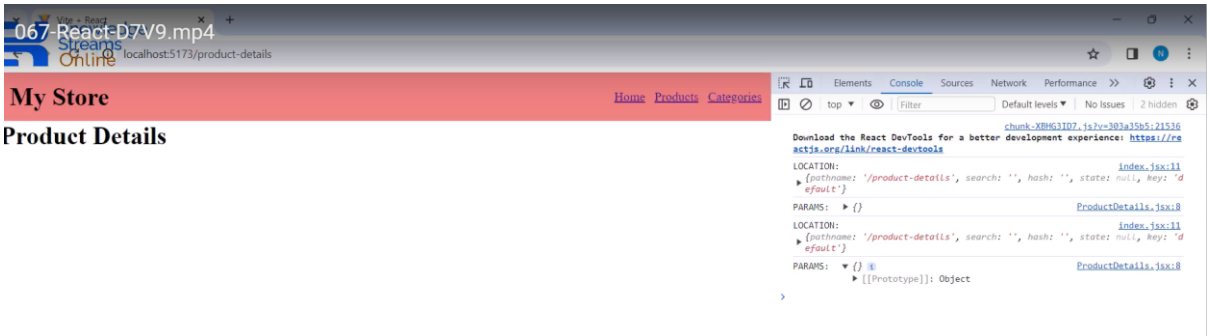
)
}
export default ProductDetails
localhost:5173/product-details/21
My Store
Home
Products
Categories
Product Details
Unchecked runtime.lastError: The message port closed before a response was received.



OPTIONAL PARAMETER



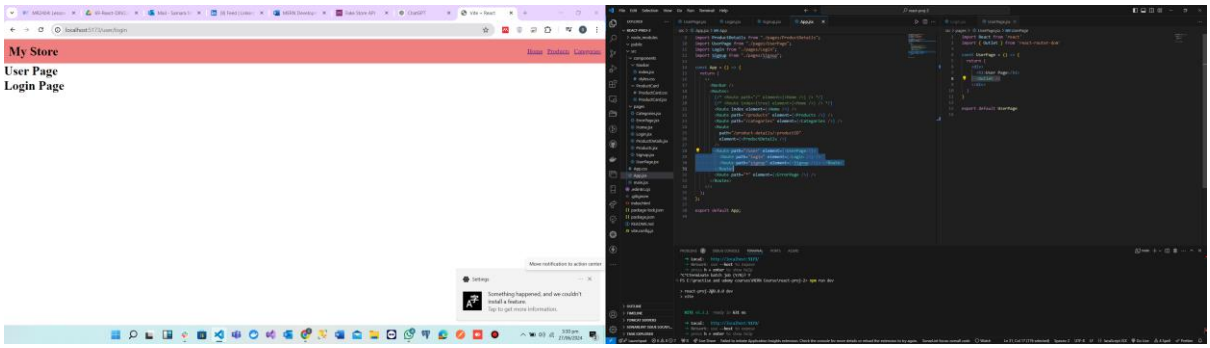
Agr product details k aage kuch nhi likha wa tou bhi productdetail ka hi pg khulega aur agr koi specific product hua tou uski detail in this case



Laikin params ka obj empty h usme kuch bhi nhi h

Nested Routing

Outlet



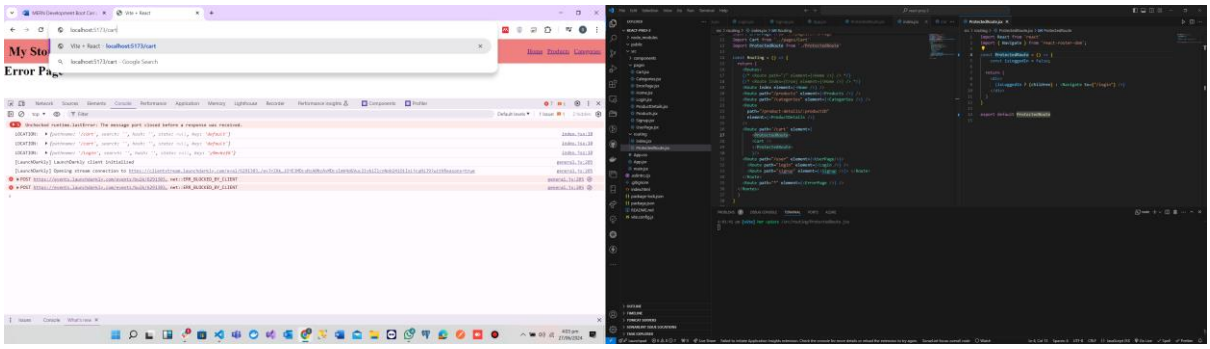
K.K.B: Nested routing me child route k path likhte waqt / nhi lagate

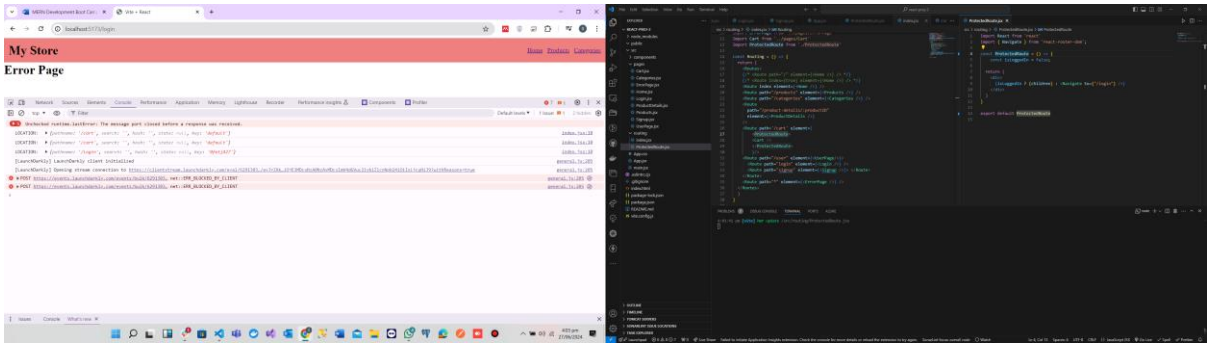
/outlet ki jaga nested route implement hojayega

Protected Route

</Navigate> is replace of useNavigate hook

Ye aik component provide krta ha to me jo path hoga ye uspe chala jayega





When I tried to access /cart page it redirected me to login

{children}

By default prop is children (kisi aik tag k ander itne bhi children hote hain wo sare automatically props me aate hain) , jo bhi child ha wo automatically render karado

ProtectedRoute.jsx M | index.jsx ...\routing M | Cart.jsx U | UserPage.jsx

src > routing > ProtectedRoute.jsx > ProtectedRoute

```jsx
import { Navigate } from "react-router-dom";

const ProtectedRoute = (props) => {
  const isLoggedIn = true;

  return <>{isLoggedIn ? props.children : <Navigate to={"/login"} />}</>;
};

export default ProtectedRoute;
```

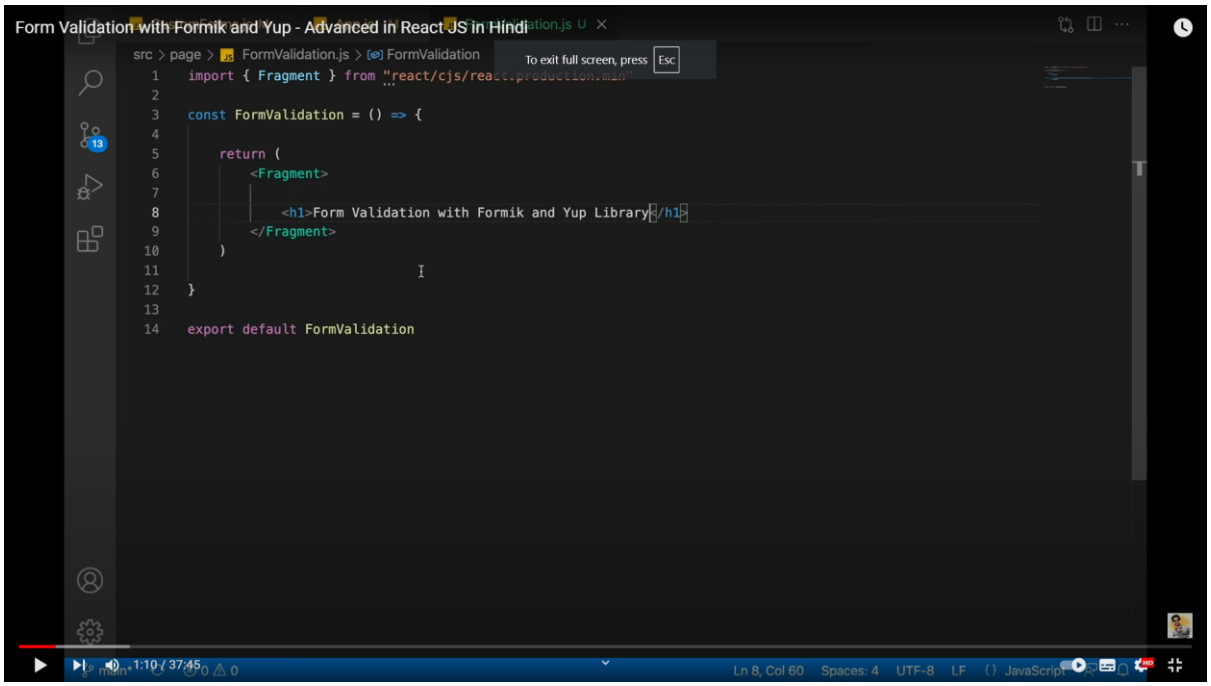
Agr tou user loged in ha tou protected route ka jo bhi child ha wo dikhado hamare case me

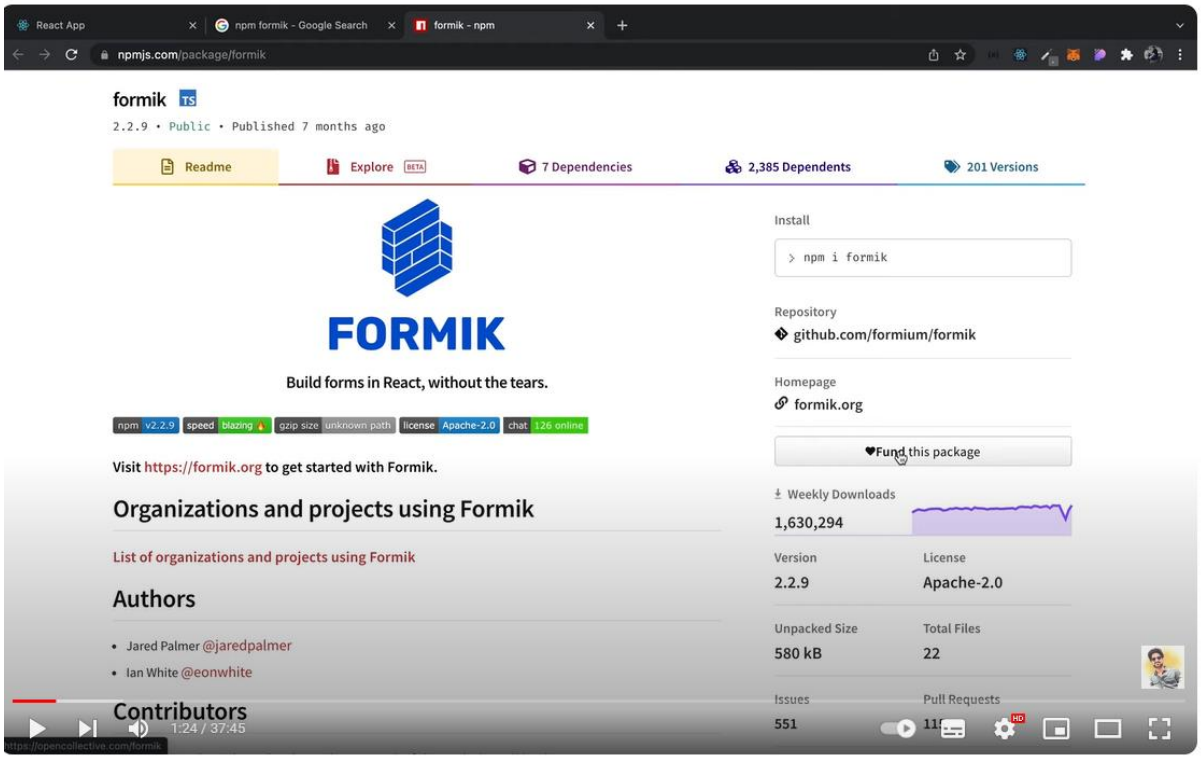
```jsx
/>
<Route
  path="/cart"
  element={
    <ProtectedRoute>
      <Cart />
    </ProtectedRoute>
  }
/>
```

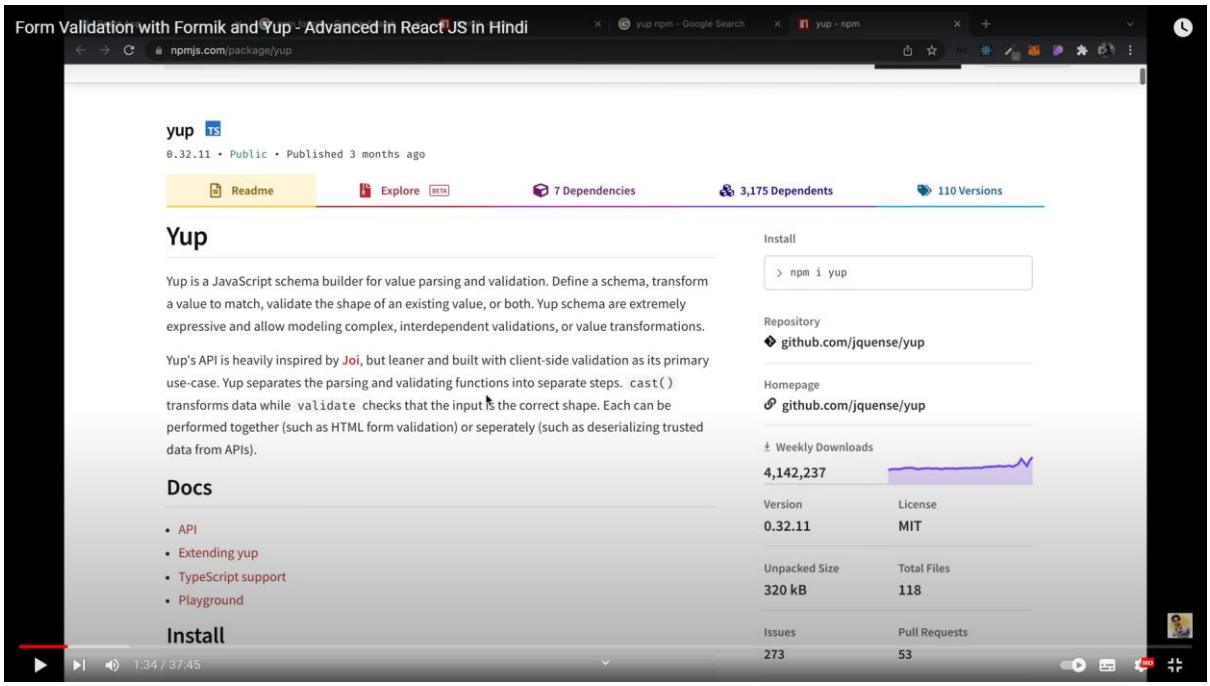
Cart is child of protected route tou cart ka pg dikhado otherwise login ka pg dikhado

Form Validation

Formik , Yup







Formik (3 things req)

1. Initial schema
2. Validation schema
3. .

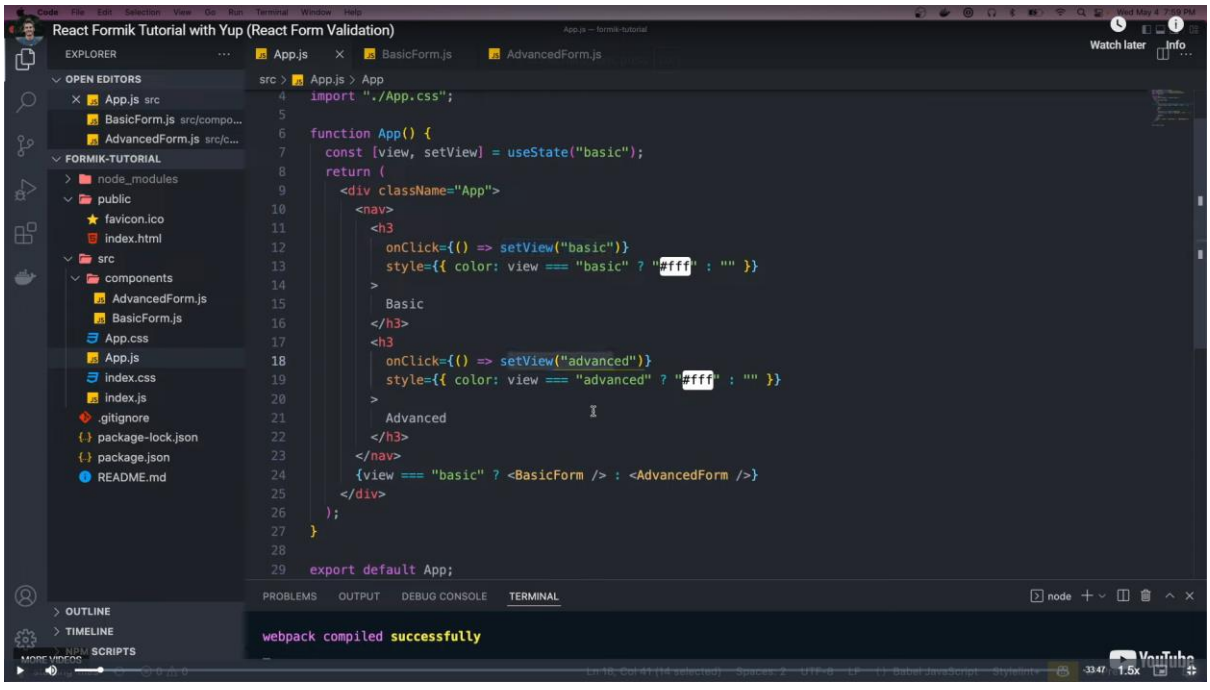
CustomForms.js M | App.js M | FormValidation.js U

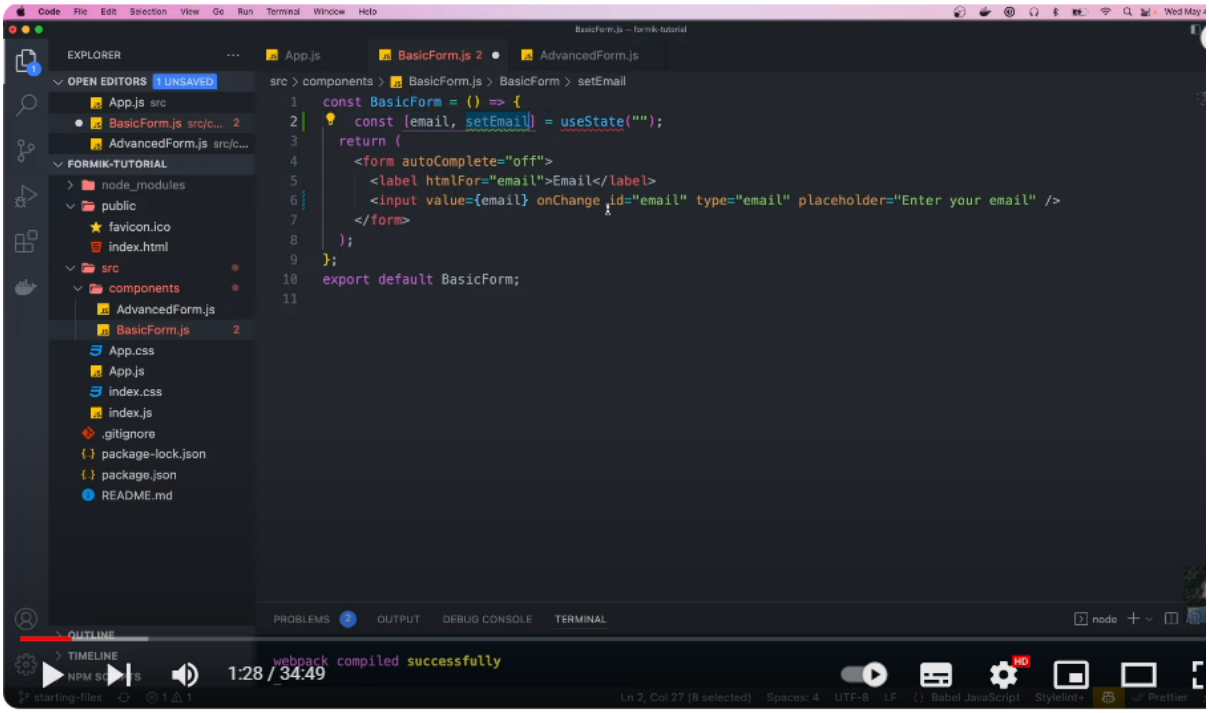
src > page > FormValidation.js > FormValidation

```
import { Formik, Form, Field } from "formik"
import { Fragment } from "react/cjs/react.production.min"

const FormValidation = () => {

    const defaultValue = {
        name: "",
        email1: "",
        password: ""
    }

    return (
        <Fragment>
            <h1>Form Validation with Formik and Yup Library</h1>

            <Formik>
                <Form>
                    <Field type="text" name="name" placeholder="Enter Your name" />
                    <Field type="text" name="email1" placeholder="Enter Your name" />
                    <Field type="text" name="password" placeholder="Enter Your name" />

                </Form>
            </Formik>
        </Fragment>
    )

}

export default FormValidation
```

Note : jo value key ki ha wohi name= “key” aayegi

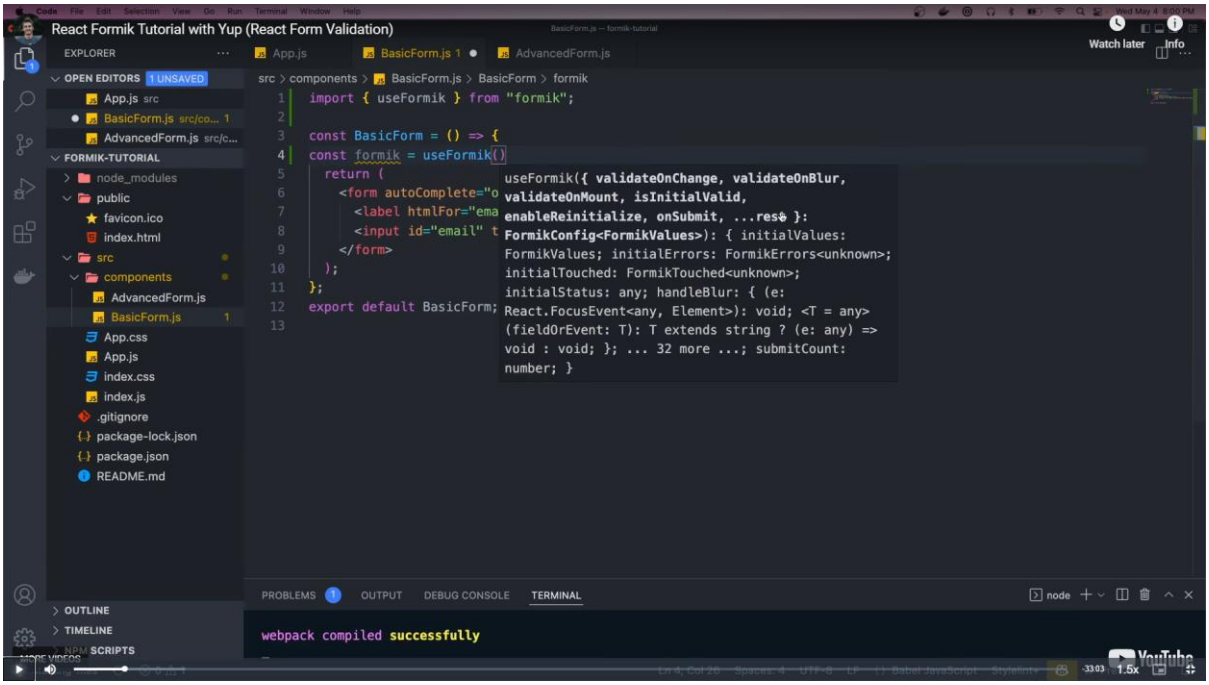
Another video tutorial for Formik





React Formik Tutorial with Yup (React Form Validation)

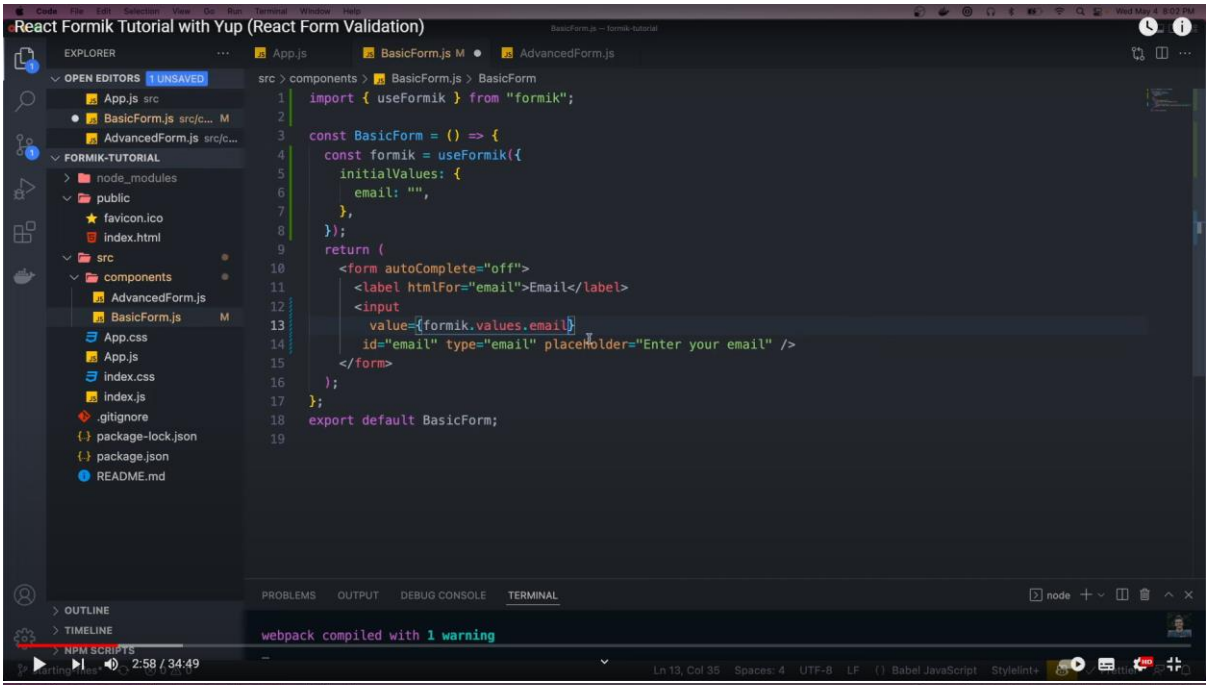
We don’t have to worry for state management in formik case . Formik handles it at its own

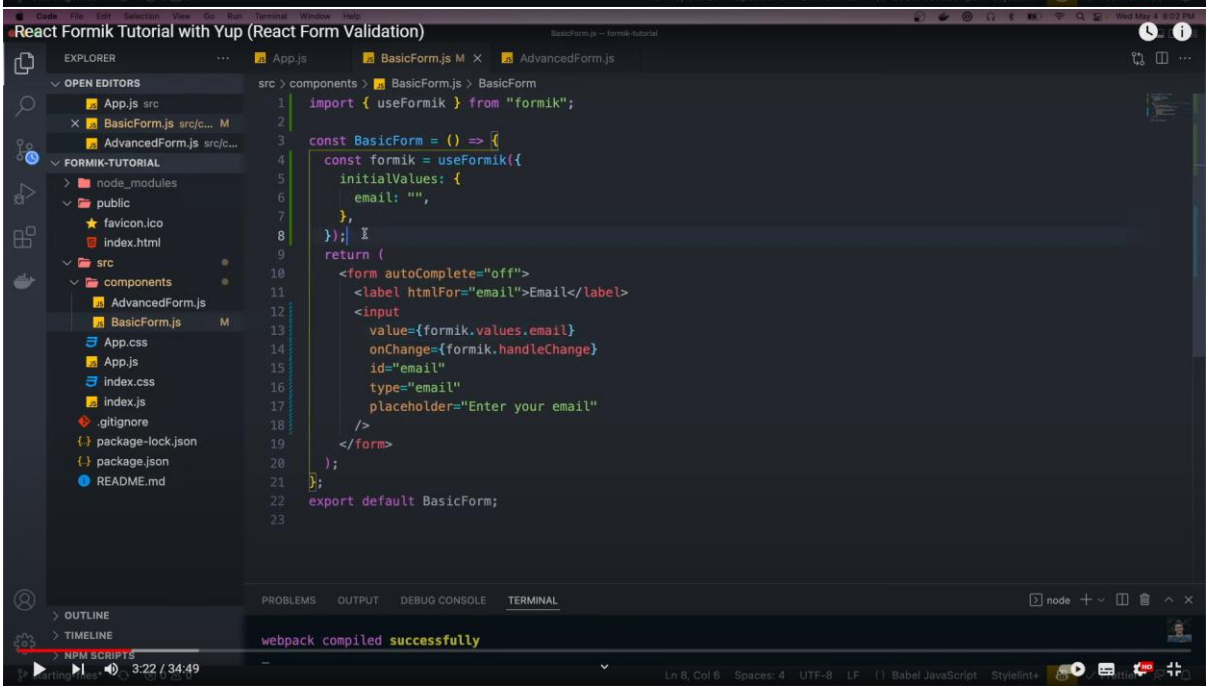


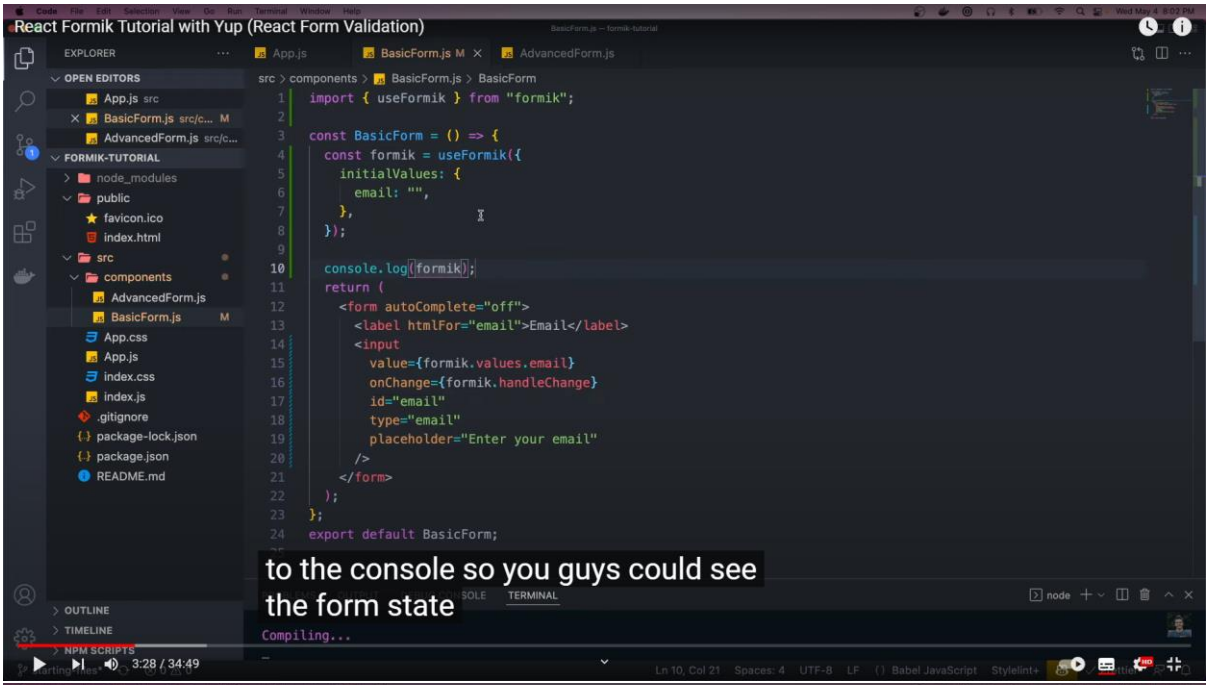
use formic hook is just a custom react hook that returns
all formic state and helpers and the helpers are basically just functions that help us to manage the form state

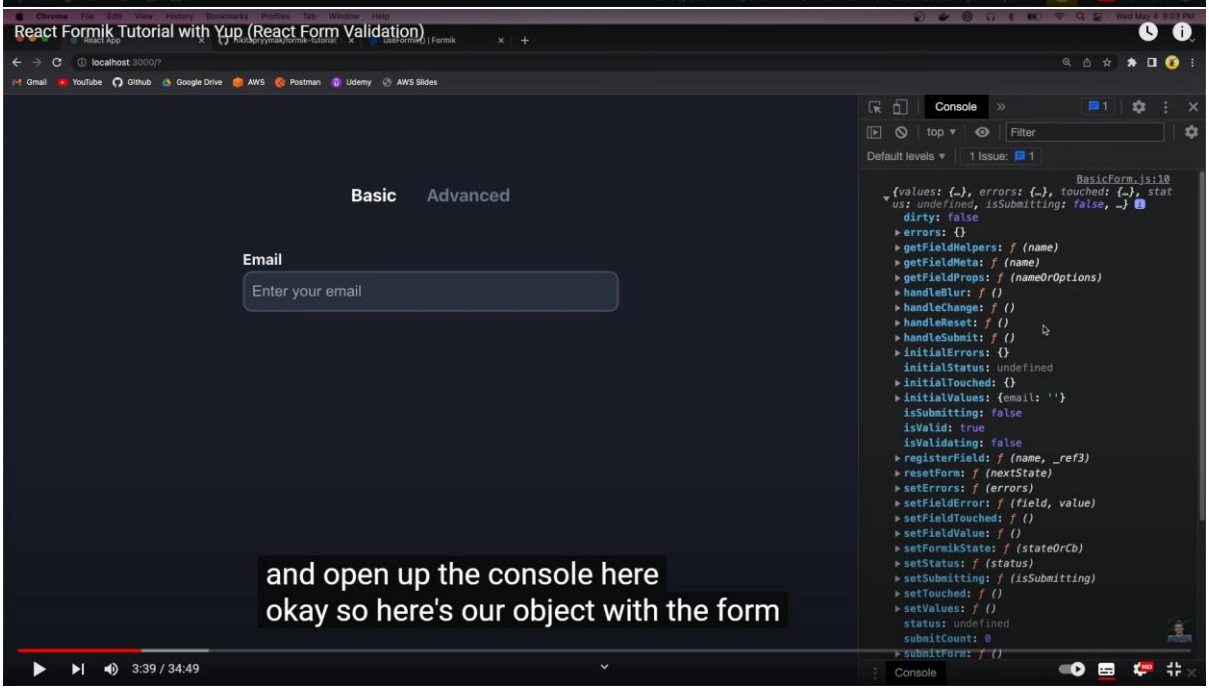
```jsx
const SignupForm = () => {
  const formik = useFormik({
    initialValues: {
      firstName: '',
      lastName: '',
      email: '',
    },
    onSubmit: values => {
      alert(JSON.stringify(values, null, 2));
    },
  });
```

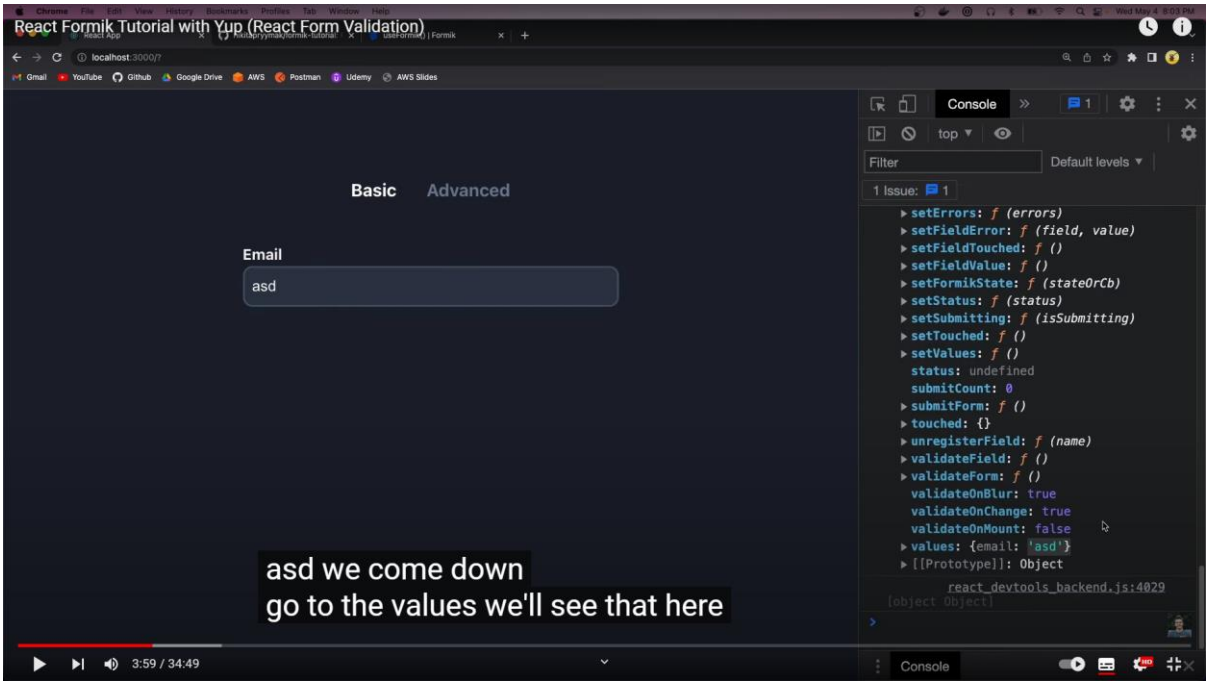
they call use formic and then pass in an object to configure it and one of those properties is initial values and this is what is going to handle our state and then the onsubmit handler and a bunch of other fields

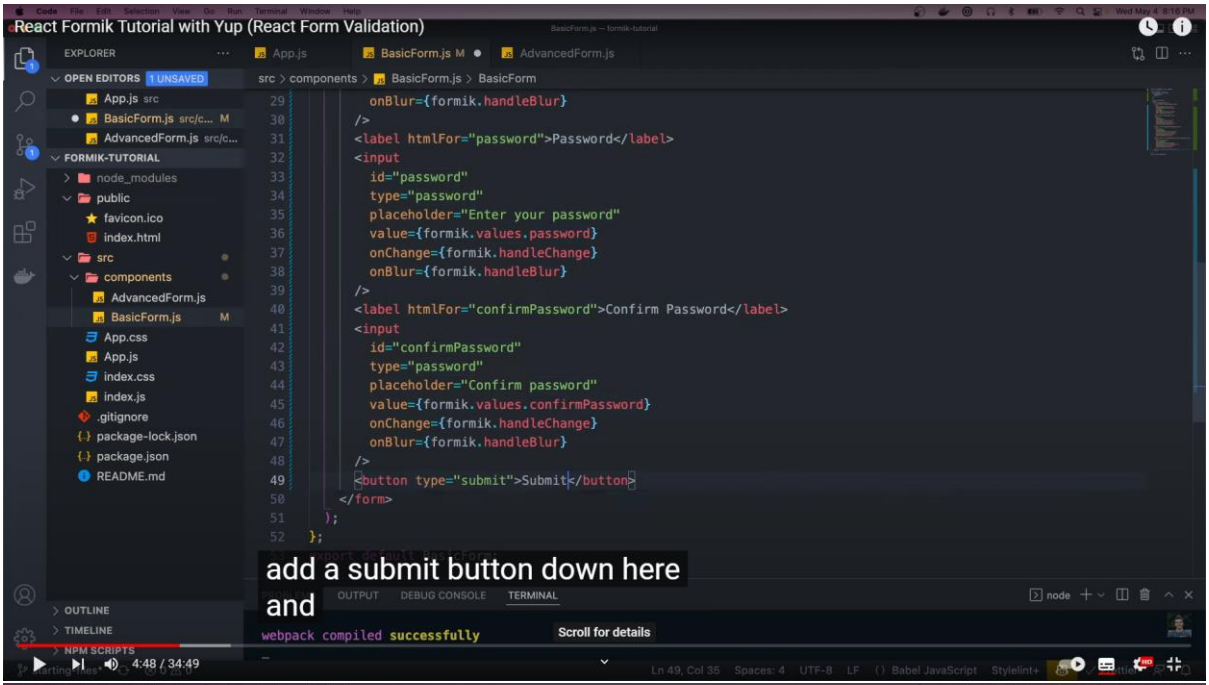


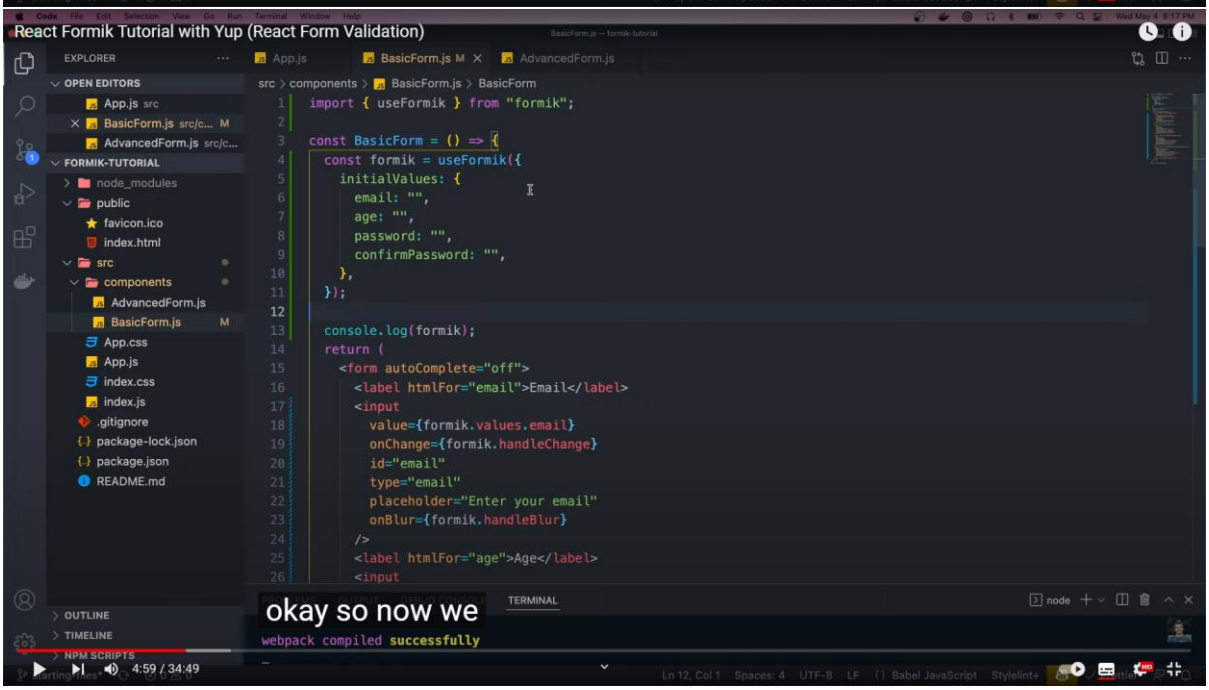


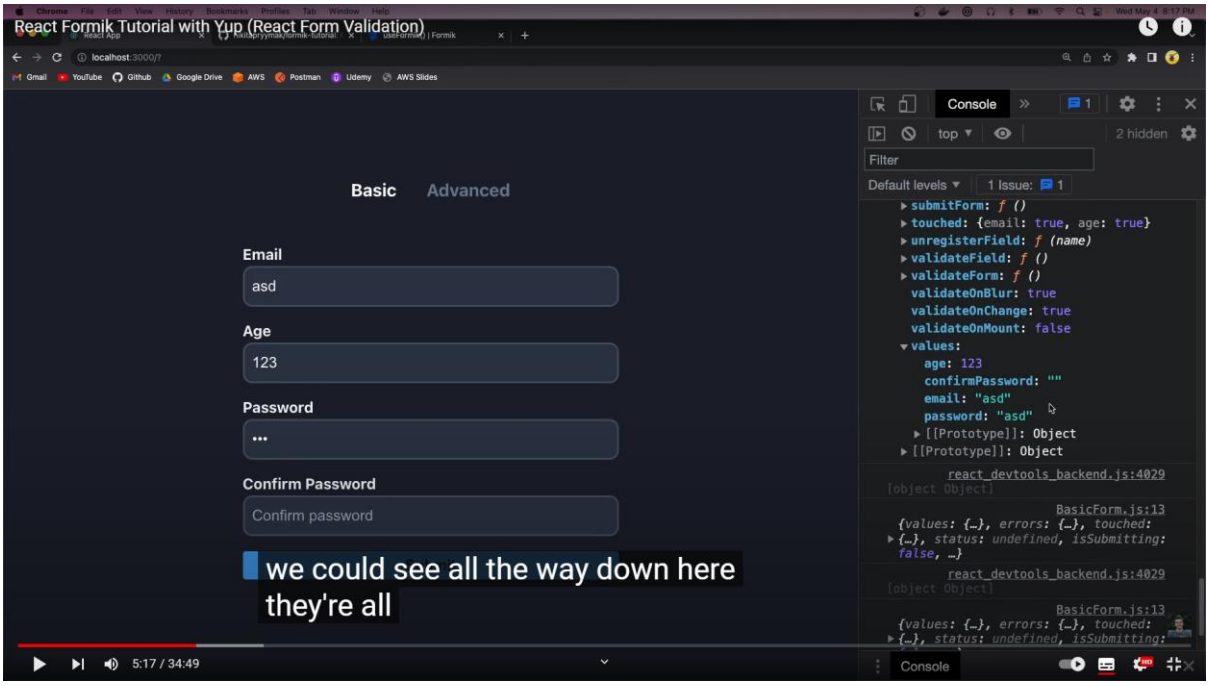

React Formik Tutorial with Yup (React Form Validation)
to the console so you guys could see
the form state
3:28 / 34:49


React Formik Tutorial with Yup (React Form Validation)
Basic
Advanced
Email
Enter your email
and open up the console here
okay so here's our object with the form
3:39 / 34:49


React Formik Tutorial with Yup (React Form Validation)
localhost:3000/?
Basic
Advanced
Email
asd
asd we come down
go to the values we'll see that here
3:59 / 34:49
Console
top
Filter
Default levels
1 Issue: 1
setErrors: ƒ (errors)
setFieldError: ƒ (field, value)
setFieldTouched: ƒ ()
setFieldValue: ƒ ()
setFormikState: ƒ (stateOrCb)
setStatus: ƒ (status)
setSubmitting: ƒ (isSubmitting)
setTouched: ƒ ()
setValues: ƒ ()
status: undefined
submitCount: 0
submitForm: ƒ ()
touched: {}
unregisterField: ƒ (name)
validateField: ƒ ()
validateForm: ƒ ()
validateOnBlur: true
validateOnChange: true
validateOnMount: false
values: {email: 'asd'}
[[Prototype]]: Object
react_devtools_backend.js:4029
[object Object]
Console


React Formik Tutorial with Yup (React Form Validation)
EXPLORER
OPEN EDITORS 1 UNSAVED
App.js src
BasicForm.js src/c... M
AdvancedForm.js src/c...
FORMIK-TUTORIAL
node_modules
public
favicon.ico
index.html
src
components
AdvancedForm.js
BasicForm.js M
App.css
App.js
index.css
index.js
.gitignore
package-lock.json
package.json
README.md
App.js
BasicForm.js M
AdvancedForm.js
src > components > BasicForm.js > BasicForm
onBlur={formik.handleBlur}
/>
<label htmlFor="password">Password</label>
<input
id="password"
type="password"
placeholder="Enter your password"
value={formik.values.password}
onChange={formik.handleChange}
onBlur={formik.handleBlur}
/>
<label htmlFor="confirmPassword">Confirm Password</label>
<input
id="confirmPassword"
type="password"
placeholder="Confirm password"
value={formik.values.confirmPassword}
onChange={formik.handleChange}
onBlur={formik.handleBlur}
/>
<button type="submit">Submit</button>
</form>
);
};
add a submit button down here
and
OUTLINE
TIMELINE
NPM SCRIPTS
OUTPUT
DEBUG CONSOLE
TERMINAL
node
webpack compiled successfully
Scroll for details
4:48 / 34:49
Ln 49, Col 35
Spaces: 4
UTF-8
LF
Babel JavaScript
Stylelint+

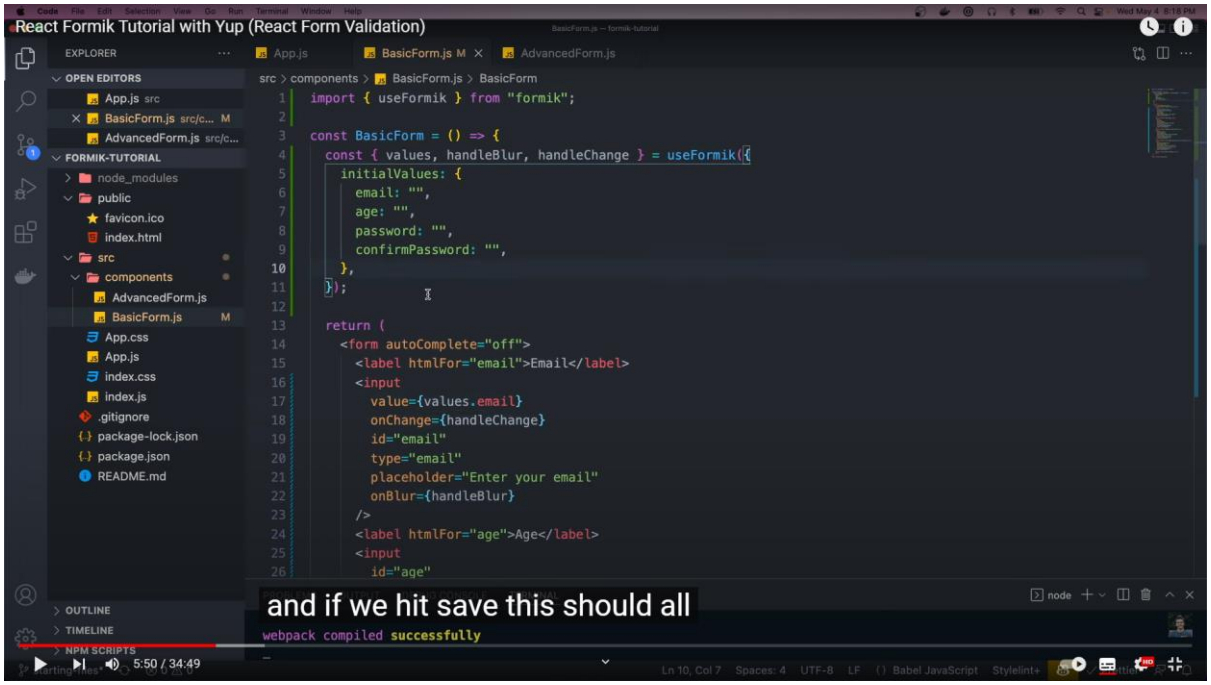

React Formik Tutorial with Yup (React Form Validation)
EXPLORER
OPEN EDITORS
App.js src
BasicForm.js src/c... M
AdvancedForm.js src/c...
FORMIK-TUTORIAL
node_modules
public
favicon.ico
index.html
src
components
AdvancedForm.js
BasicForm.js M
App.css
App.js
index.css
index.js
.gitignore
package-lock.json
package.json
README.md
App.js
BasicForm.js M
AdvancedForm.js
src > components > BasicForm.js > BasicForm
import { useFormik } from "formik";
const BasicForm = () => {
const formik = useFormik({
initialValues: {
email: "",
age: "",
password: "",
confirmPassword: "",
},
});
console.log(formik);
return (
<form autoComplete="off">
<label htmlFor="email">Email</label>
<input
value={formik.values.email}
onChange={formik.handleChange}
id="email"
type="email"
placeholder="Enter your email"
onBlur={formik.handleBlur}
/>
<label htmlFor="age">Age</label>
<input
okay so now we
OUTLINE
TIMELINE
NPM SCRIPTS
TERMINAL
node
webpack compiled successfully
4:59 / 34:49
Ln 12, Col 1
Spaces: 4
UTF-8
LF
Babel JavaScript
Stylelint+



Detructure

it's kind of annoying to constantly put formic dot and then whatever method or
5:27
or property that we need so instead of just capturing it here like this we're going to destructure
5:32
and we'll just destructure all the properties and methods we need

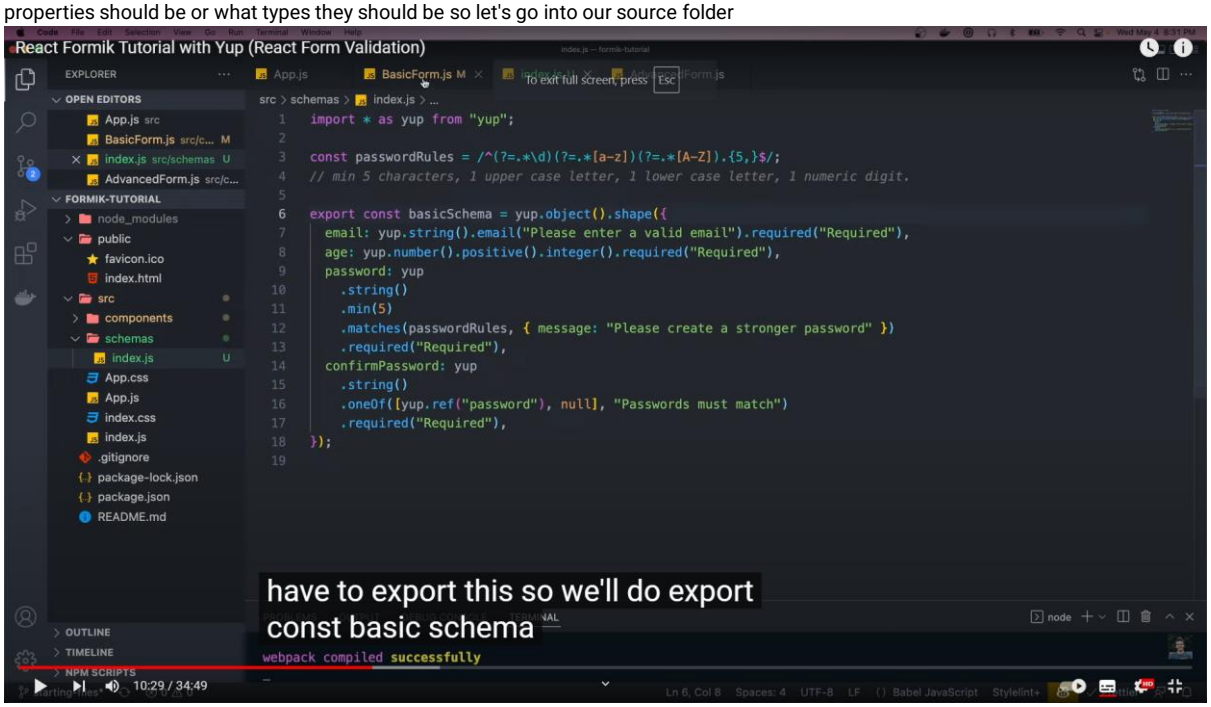
Remove fromik. From everwhere

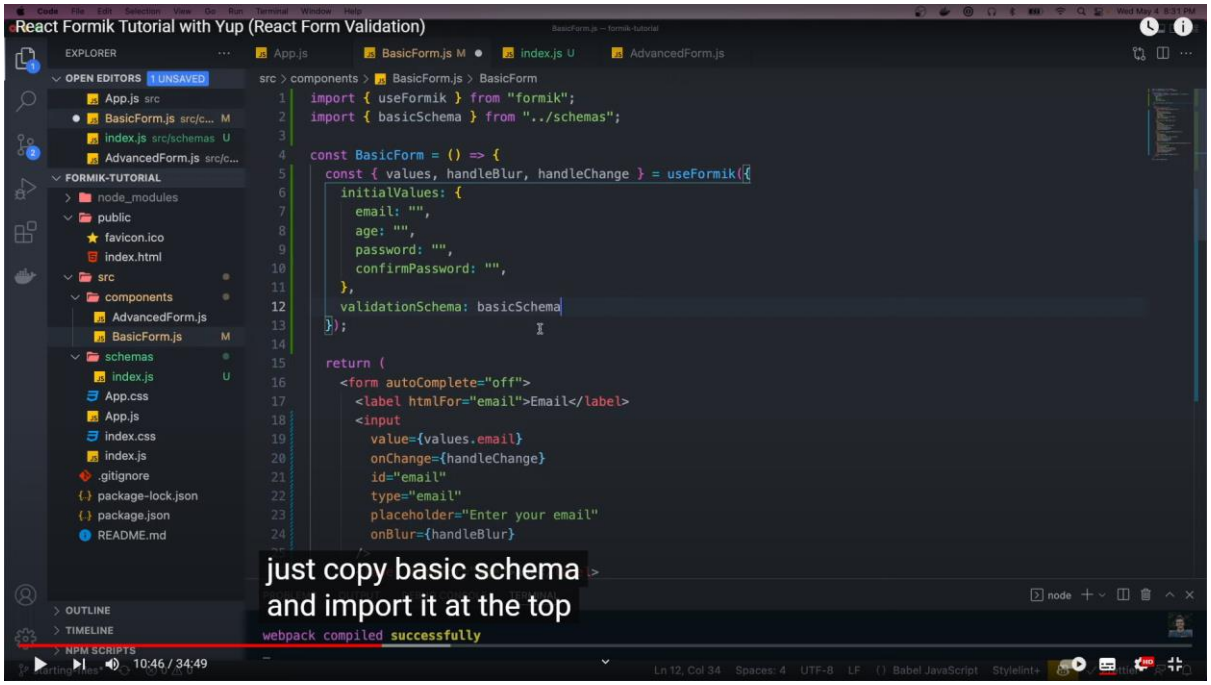


Schema

it just submits our form and it doesn't validate that we even set a password or our age or that it was a number or any of that so let's add some form validation for that we're going to be using the yup
library and that works really well with formic it's actually built in to formic
to use that library so in order to use it we first need to create a schema for
our form and our schema is basically gonna define these different properties and it's gonna basically say what those

properties should be or what types they should be so let's go into our source folder





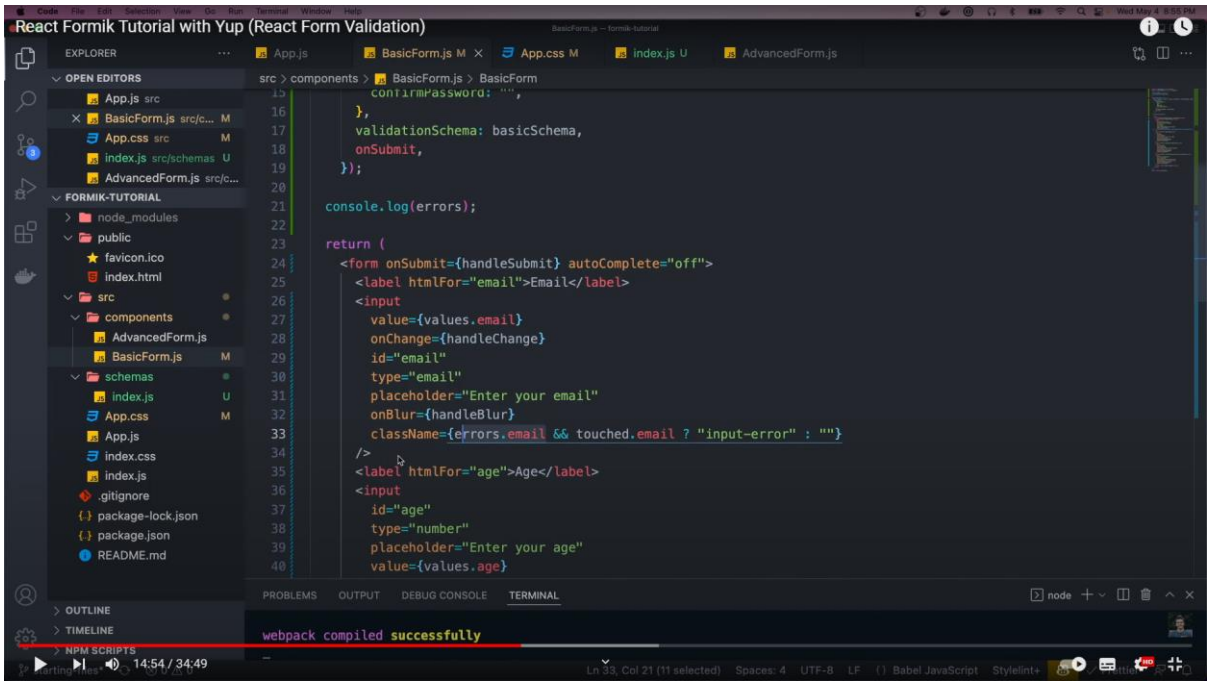
HandleChange

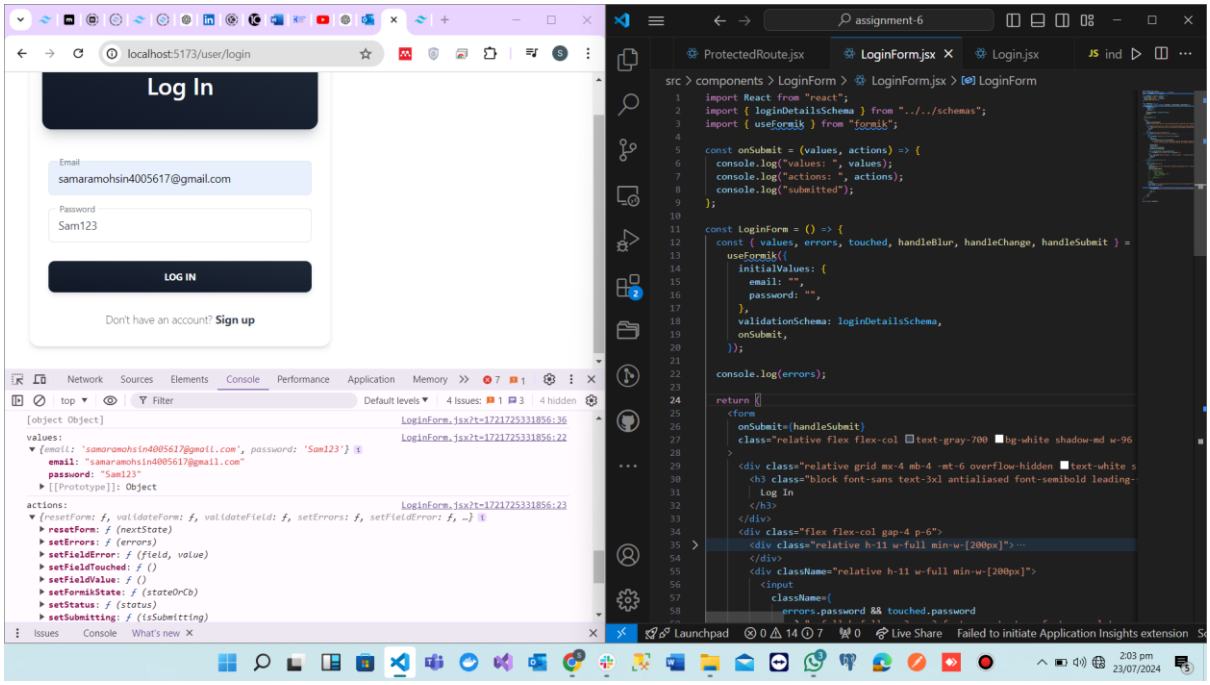
HandleBlur

Touched

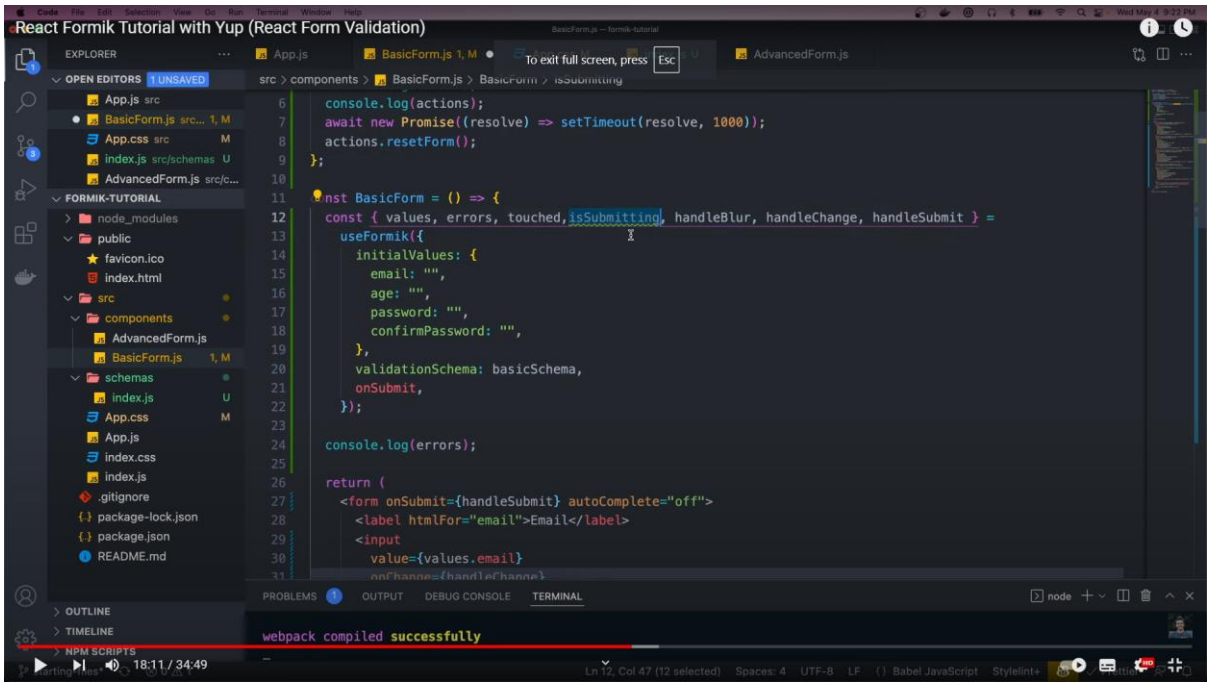
Error

handleSubmit



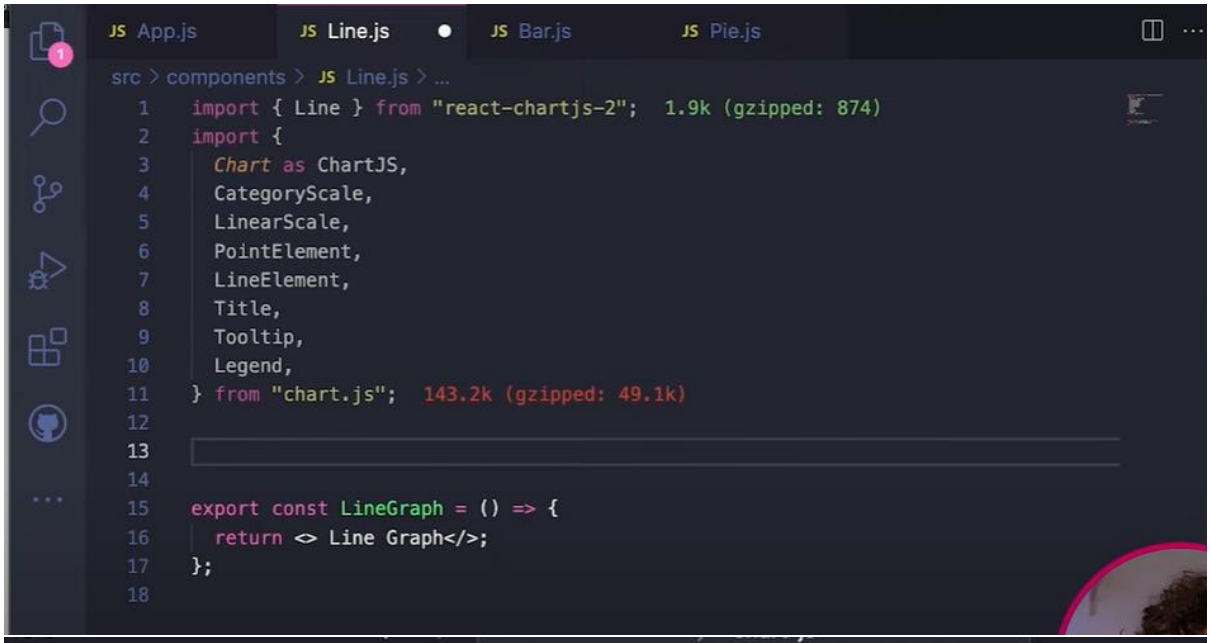


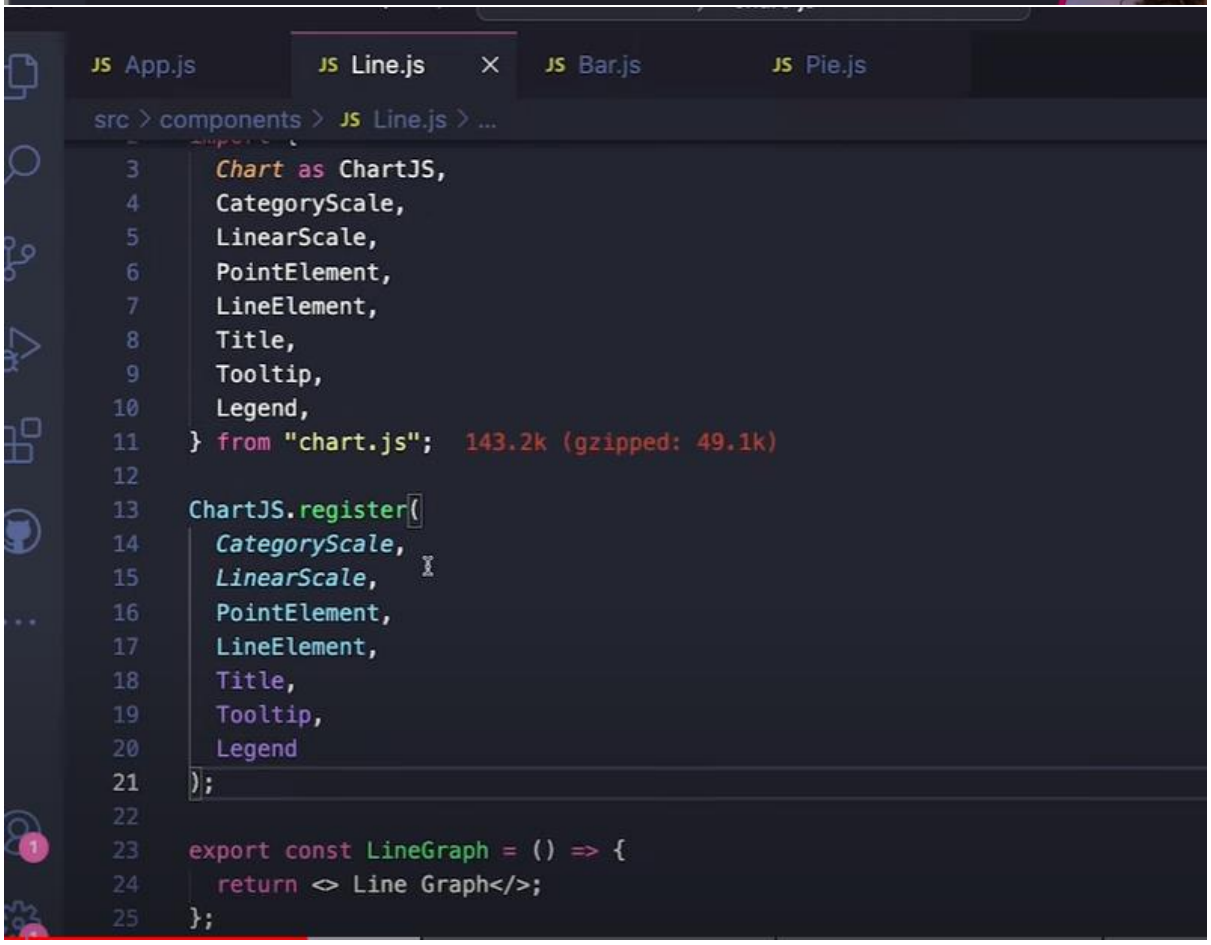
IsSubmitting



ChartJS-React Lib for graphs

https://www.youtube.com/watch?v=ZpfseYy5Hxg


JS App.js
JS Line.js
JS Bar.js
JS Pie.js
src > components > JS Line.js > ...
1 import { Line } from "react-chartjs-2"; 1.9k (gzipped: 874)
2 import {
3 Chart as ChartJS,
4 CategoryScale,
5 LinearScale,
6 PointElement,
7 LineElement,
8 Title,
9 Tooltip,
10 Legend,
11 } from "chart.js"; 143.2k (gzipped: 49.1k)
12
13
14
15 export const LineGraph = () => {
16 return <> Line Graph</>;
17 };
18


JS App.js
JS Line.js
JS Bar.js
JS Pie.js
src > components > JS Line.js > ...
3 Chart as ChartJS,
4 CategoryScale,
5 LinearScale,
6 PointElement,
7 LineElement,
8 Title,
9 Tooltip,
10 Legend,
11 } from "chart.js"; 143.2k (gzipped: 49.1k)
12
13 ChartJS.register(
14 CategoryScale,
15 LinearScale,
16 PointElement,
17 LineElement,
18 Title,
19 Tooltip,
20 Legend
21);
22
23 export const LineGraph = () => {
24 return <> Line Graph</>;
25 };

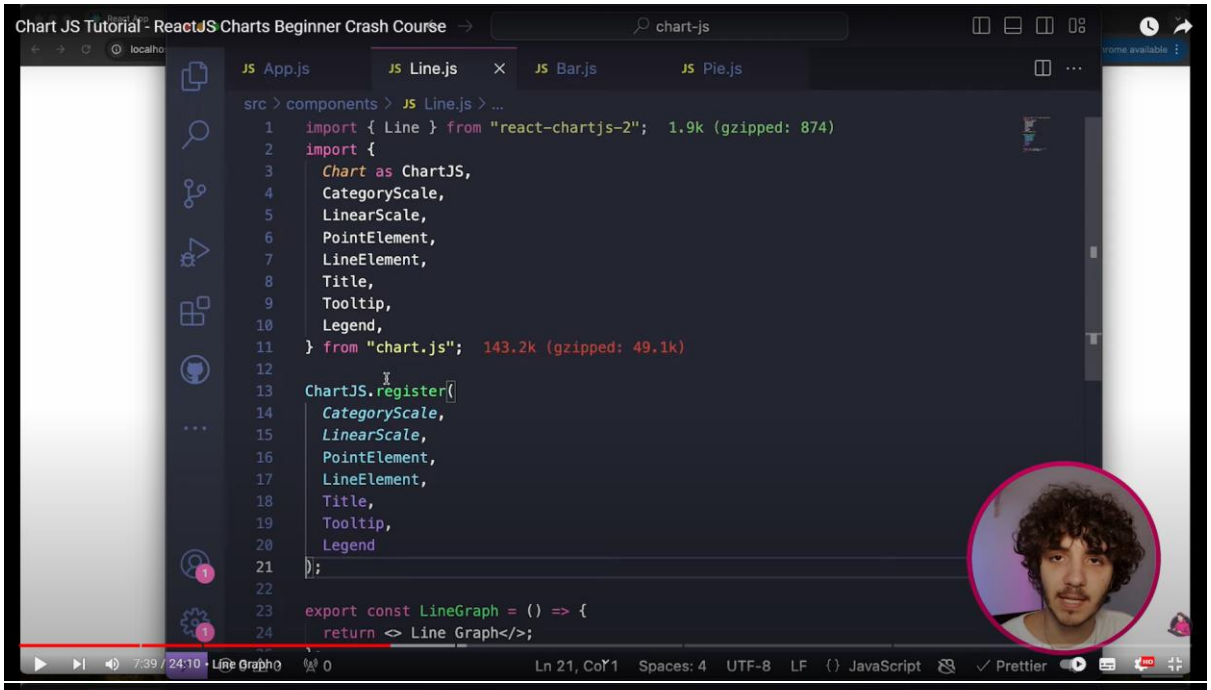


Chart JS Tutorial - ReactJS Charts Beginner Crash Course
chart-js
App.js
Line.js
Bar.js
Pie.js
src > components > Line.js > ...
import { Line } from "react-chartjs-2";
1.9k (gzipped: 874)
import {
Chart as ChartJS,
CategoryScale,
LinearScale,
PointElement,
LineElement,
Title,
Tooltip,
Legend,
} from "chart.js";
143.2k (gzipped: 49.1k)
ChartJS.register(
CategoryScale,
LinearScale,
PointElement,
LineElement,
Title,
Tooltip,
Legend
);
export const LineGraph = () => {
return <> Line Graph</>;
7:39 / 24:10 • Line Graph
Ln 21, Col 1
Spaces: 4
UTF-8
LF
JavaScript
Prettier

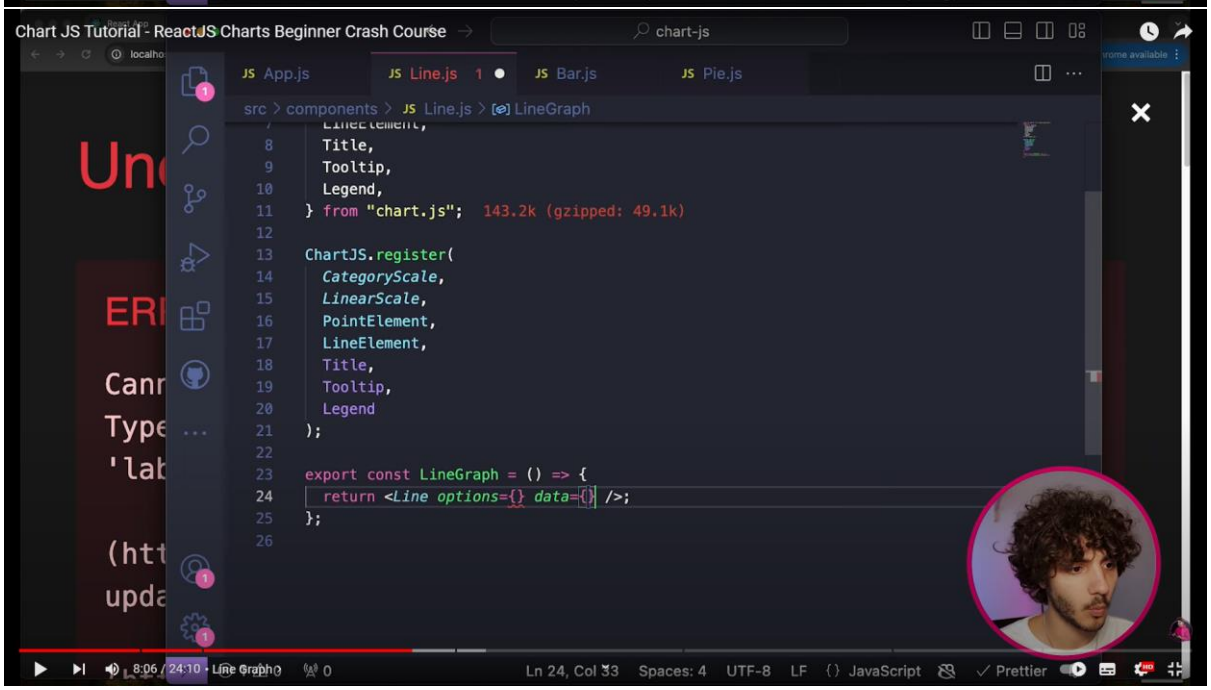


Chart JS Tutorial - ReactJS Charts Beginner Crash Course
chart-js
App.js
Line.js 1
Bar.js
Pie.js
src > components > Line.js > LineGraph
Title,
Tooltip,
Legend,
} from "chart.js";
143.2k (gzipped: 49.1k)
ChartJS.register(
CategoryScale,
LinearScale,
PointElement,
LineElement,
Title,
Tooltip,
Legend
);
export const LineGraph = () => {
return <Line options={{}} data={{}} />;
};
8:06 / 24:10 • Line Graph
Ln 24, Col 33
Spaces: 4
UTF-8
LF
JavaScript
Prettier

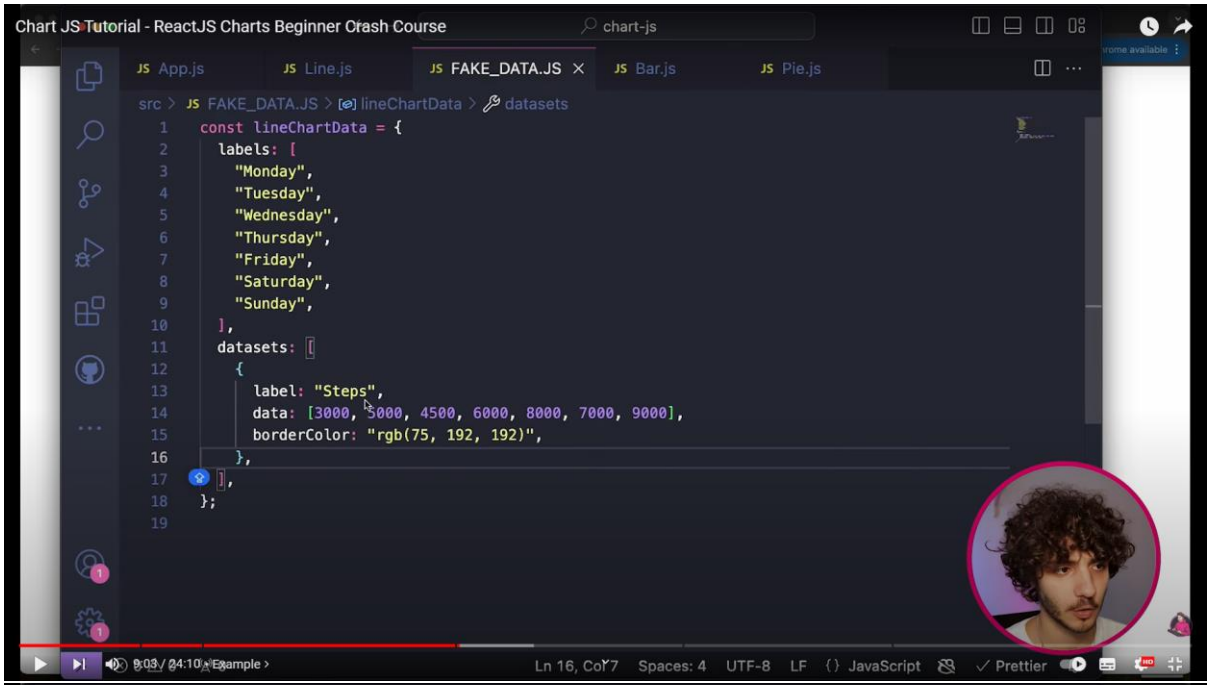


Chart JS Tutorial - ReactJS Charts Beginner Crash Course
chart-js
App.js
Line.js
FAKE_DATA.JS
Bar.js
Pie.js
src > FAKE_DATA.JS > lineChartData > datasets
const lineChartData = {
labels: [
"Monday",
"Tuesday",
"Wednesday",
"Thursday",
"Friday",
"Saturday",
"Sunday",
],
datasets: [
{
label: "Steps",
data: [3000, 5000, 4500, 6000, 8000, 7000, 9000],
borderColor: "rgb(75, 192, 192)",
},
];
};
Ln 16, Col 7
Spaces: 4
UTF-8
LF
JavaScript
Prettier

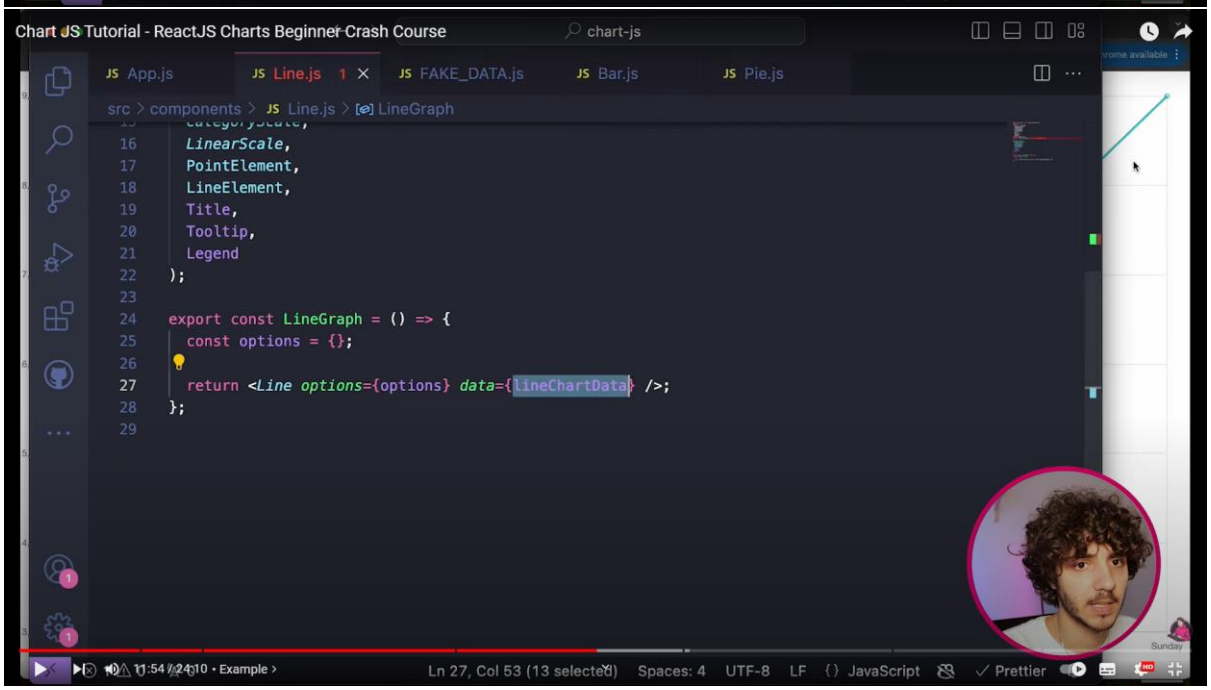


Chart JS Tutorial - ReactJS Charts Beginner Crash Course
chart-js
App.js
Line.js
FAKE_DATA.js
Bar.js
Pie.js
src > components > Line.js > LineGraph
LinearScale,
PointElement,
LineElement,
Title,
Tooltip,
Legend
);
export const LineGraph = () => {
const options = {};
return <Line options={options} data={lineChartData} />;
};
Ln 27, Col 53 (13 selected)
Spaces: 4
UTF-8
LF
JavaScript
Prettier

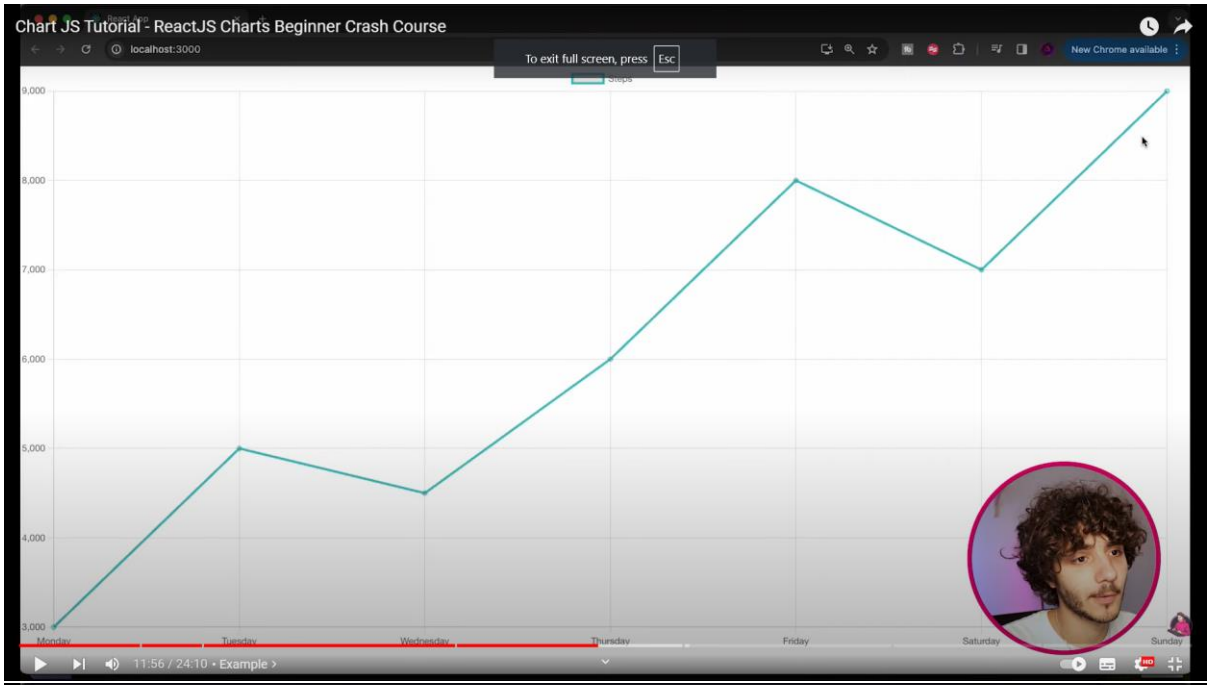


Chart JS Tutorial - ReactJS Charts Beginner Crash Course
localhost:3000
To exit full screen, press Esc
New Chrome available
9,000
8,000
7,000
6,000
5,000
4,000
3,000
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
11:56 / 24:10 • Example ›

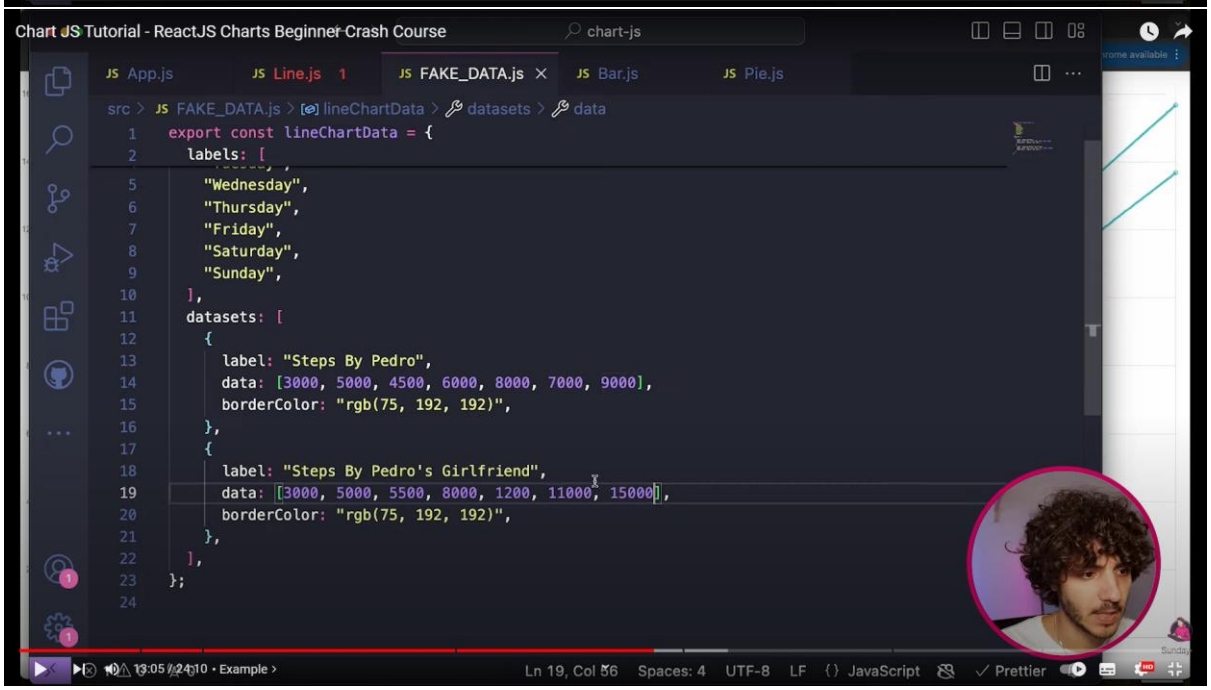
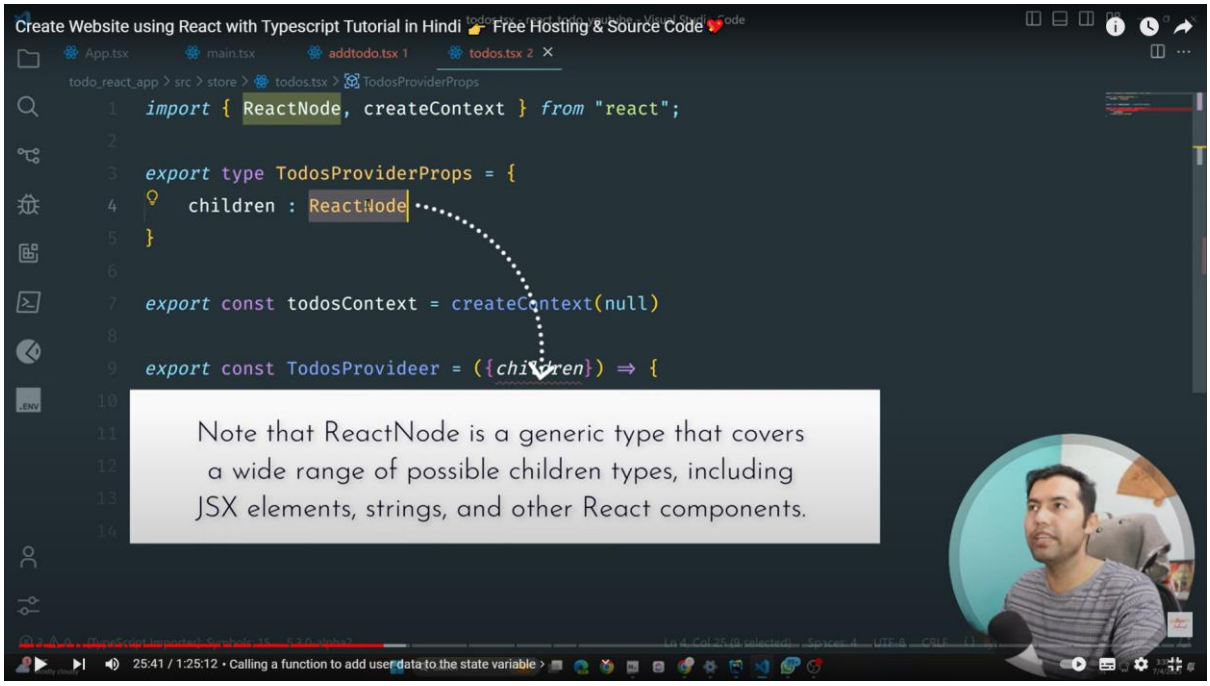


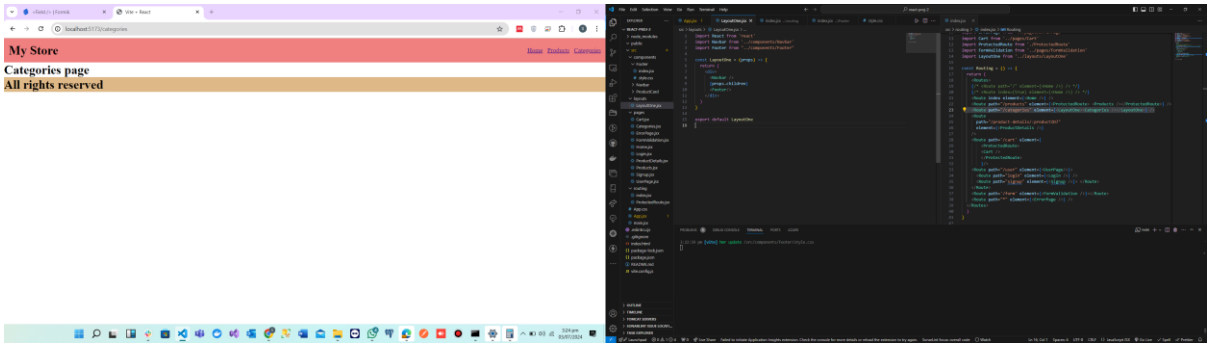
Chart JS Tutorial - ReactJS Charts Beginner Crash Course
chart-js
App.js
Line.js 1
FAKE_DATA.js
Bar.js
Pie.js
src > FAKE_DATA.js > lineChartData > datasets > data
export const lineChartData = {
labels: [
"Wednesday",
"Thursday",
"Friday",
"Saturday",
"Sunday",
],
datasets: [
{
label: "Steps By Pedro",
data: [3000, 5000, 4500, 6000, 8000, 7000, 9000],
borderColor: "rgb(75, 192, 192)",
},
{
label: "Steps By Pedro's Girlfriend",
data: [3000, 5000, 5500, 8000, 1200, 11000, 15000],
borderColor: "rgb(75, 192, 192)",
},
],
};
13:05 / 24:10 • Example ›
Ln 19, Col 56
Spaces: 4
UTF-8
LF
{} JavaScript
Prettier

React with TypeScript:

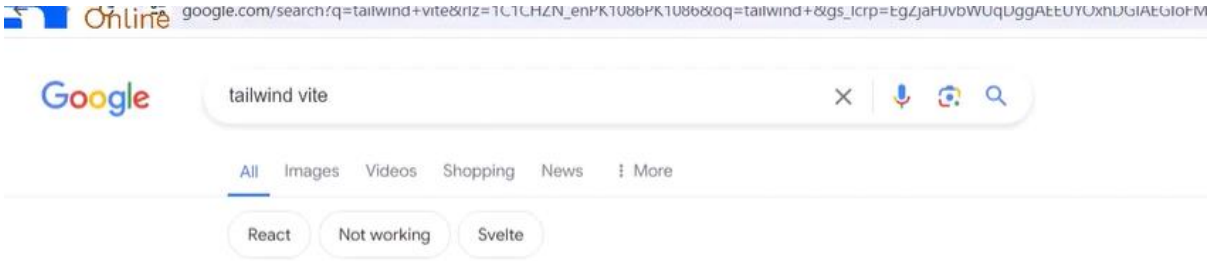


Implementation of Layout

Navbar and footer remains static on every pg where we want like this



Tailwind vite



Tailwind CSS

Terminal

```
> npm install -D tailwindcss postcss autoprefixer
> npx tailwindcss init -p
```

3 **Configure your template paths**

Add the paths to all of your template files in your `tailwind.config.js` file.

tailwind.config.js

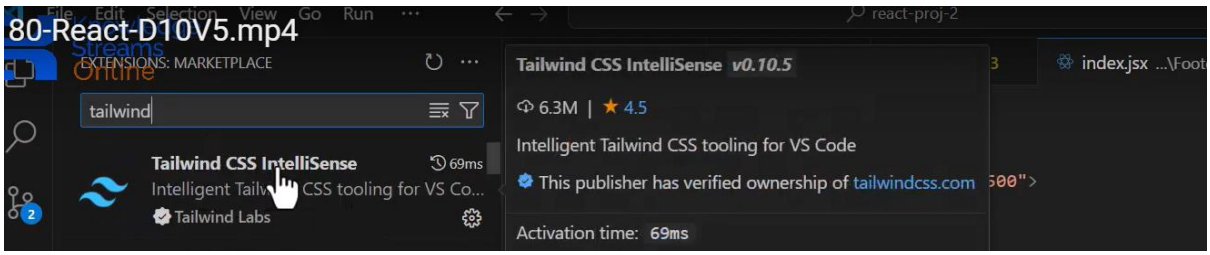
```
/** @type {import('tailwindcss').Config} */
export default {
  content: [
    "./index.html",
    "./src/**/*.{js,ts,jsx,tsx}",
  ],
  theme: {
    extend: {},
  },
  plugins: [],
}
```

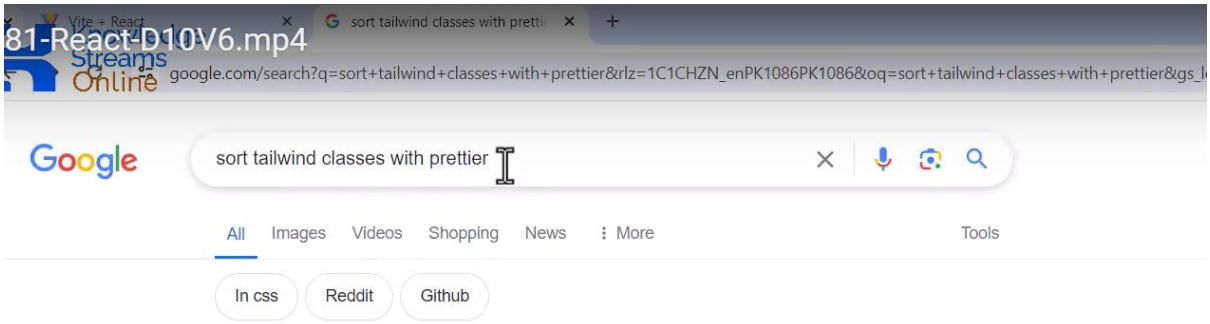
4 **Add the Tailwind directives to your CSS**

Add the `@tailwind` directives for each of Tailwind's layers to your `./src/index.css` file.

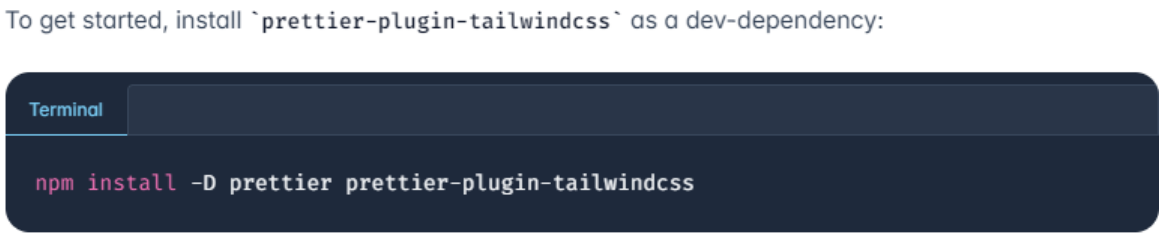
index.css

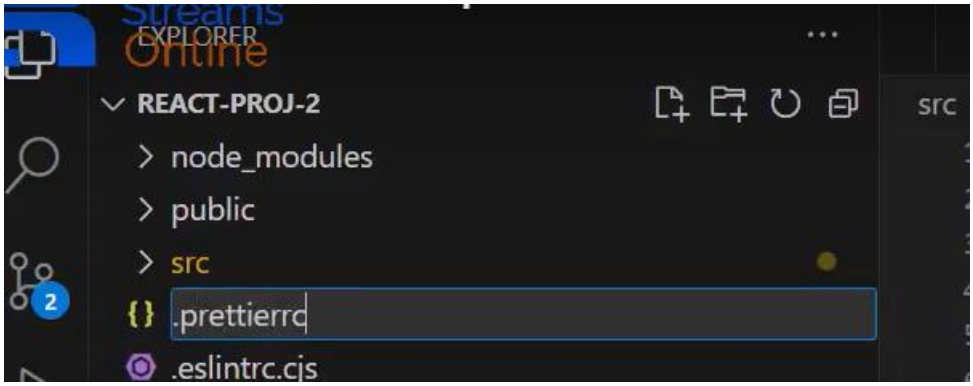
```
@tailwind base;
@tailwind components;
@tailwind utilities;
```

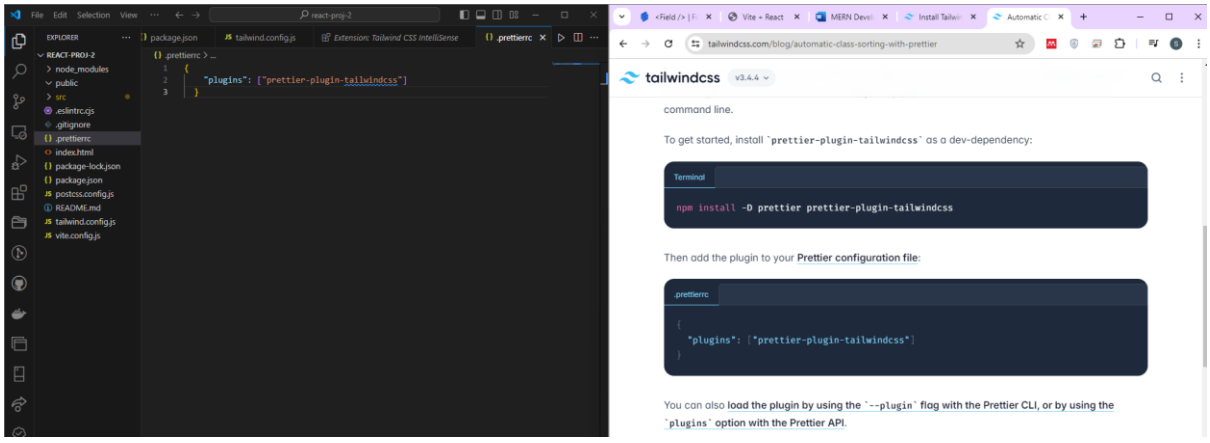




https://tailwindcss.com/blog/automatic-class-sorting-with-prettier







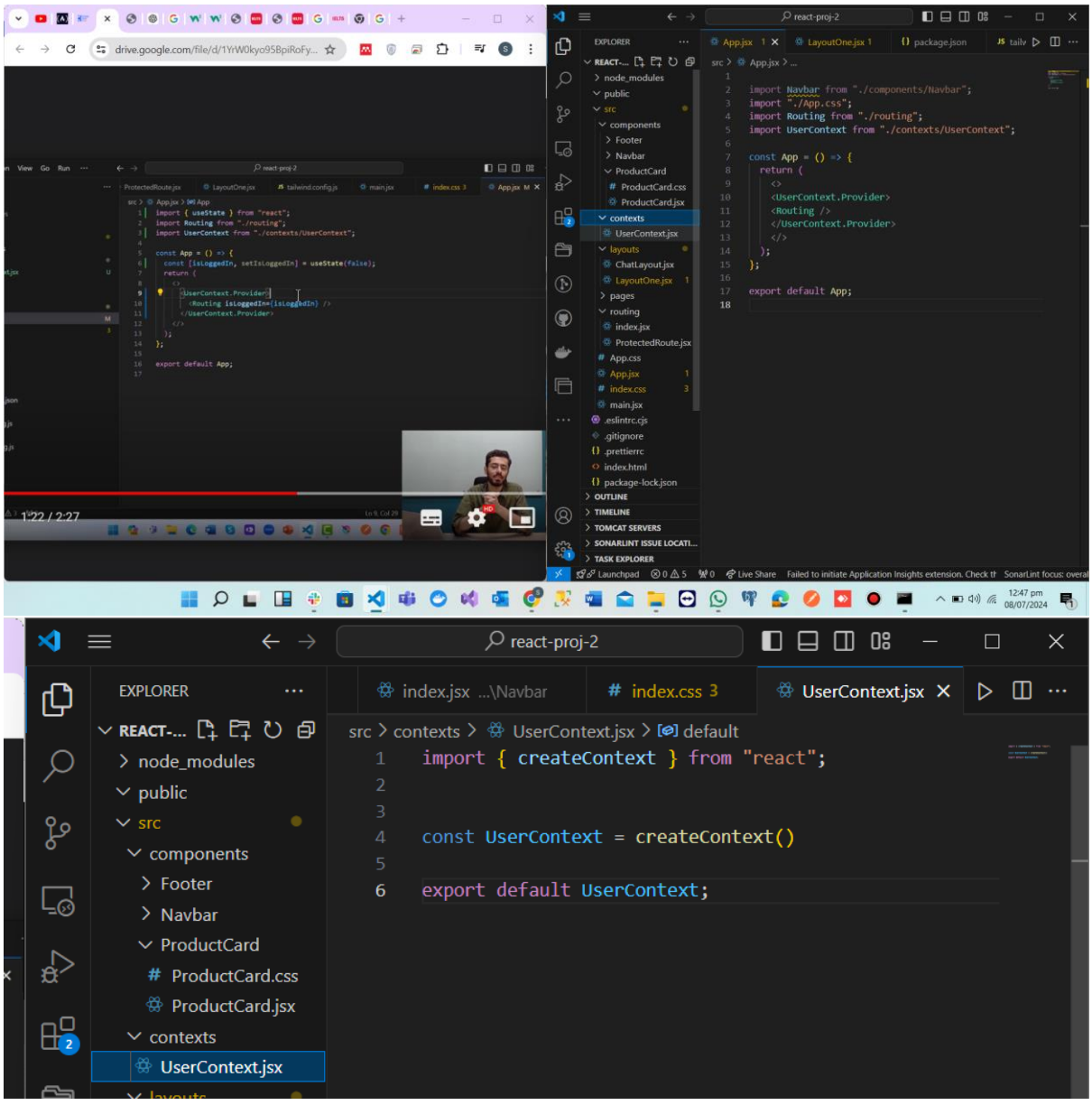
Classes ko khudi sort krdega

Context

Aik state multiple components me needed ha tou wahan context kam aata ha.
State k lye hamne ye prha tha k state aik component ki her existance k lye memory mnagement krti ha.
productCard ka component aik hi dafa banaya us component ko agr 10 times call kia tou 10 times

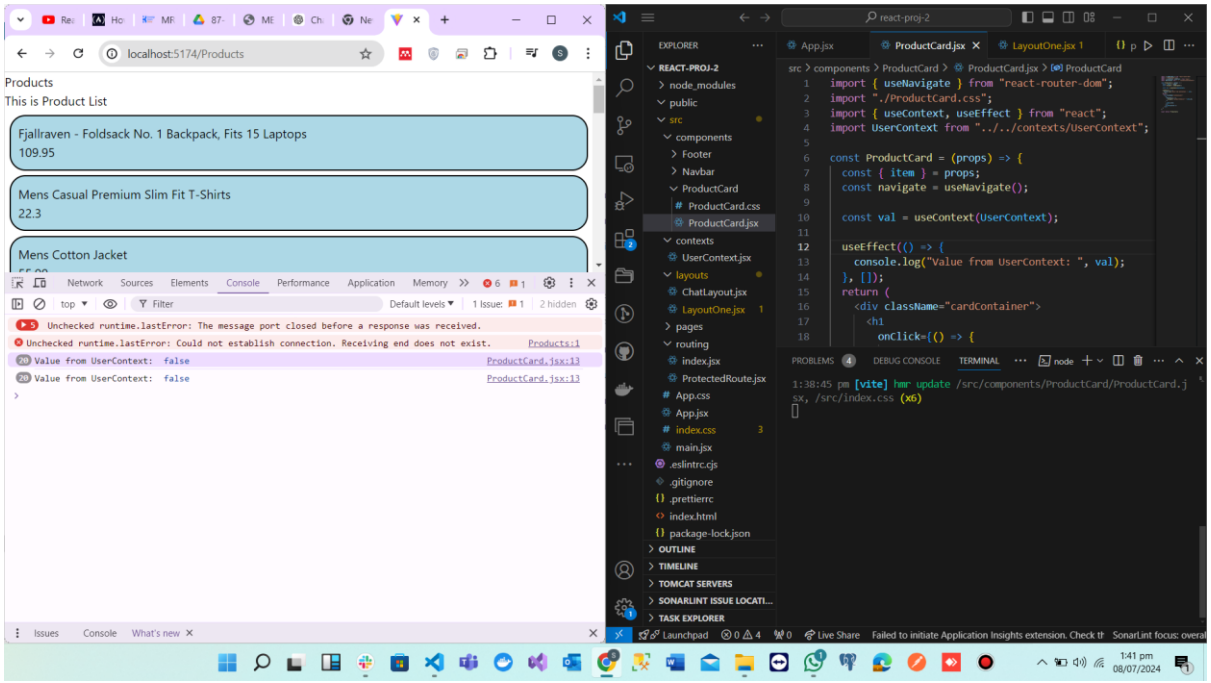
uski state alg alg banegi aur alg memory store horahi hogi
ham ye krsakte the k app.jsx me banalete aik variable aur ussko jahana access krna ha us component me lelete but age hamare nested components hain lets say 10 aik k ander aik phir uske ander 2nd , 2nd k ander 3rd upto so on.... tou her jaga props k through us var ko pass krna parega bhale uski need na bhi ho component me q yhan se aage child component ko send krna ha this is called prop drilling
prop drilling se hamare components heavy hojate hain
we need a global state jahan se ham ksii bhi component me wo variable use krsaken

Lets see contetxt api ko use krte we global state kaise banai jati ha

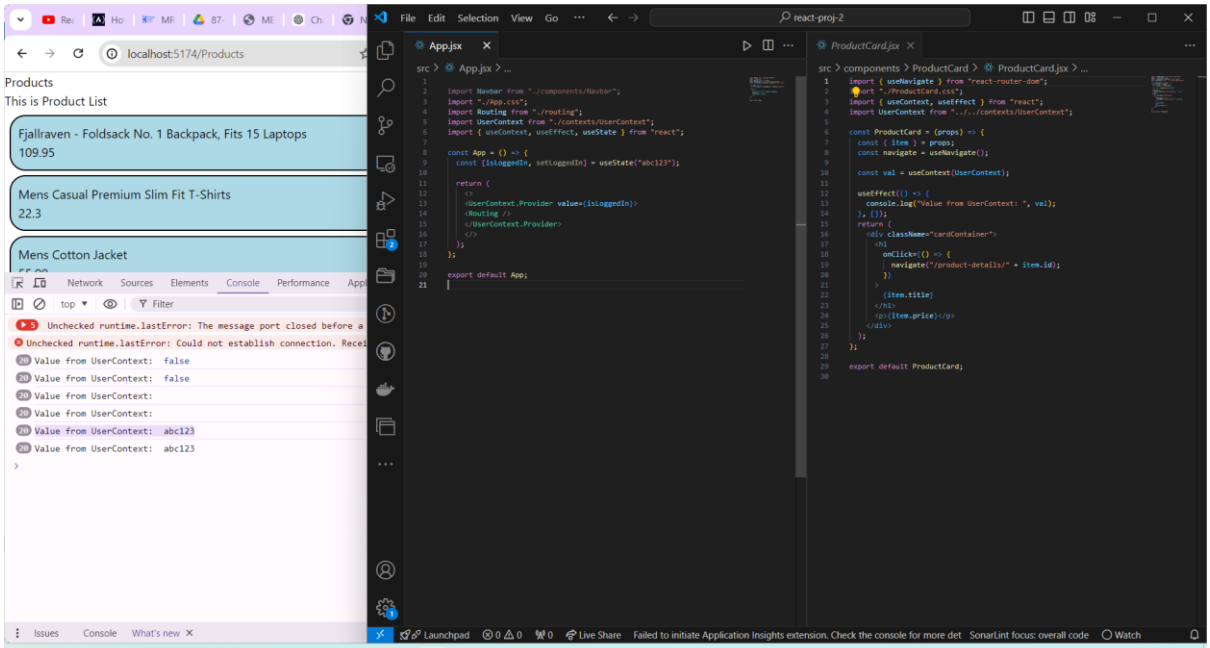


Poori app ko userContext me wrap krdia app.jsx me jaake

CreateContext ka func context banane k kam aata ha
useContext usko read krne k kam aata ha


localhost:5174/Products
Products
This is Product List
Fjallraven - Foldsack No. 1 Backpack, Fits 15 Laptops
109.95
Mens Casual Premium Slim Fit T-Shirts
22.3
Mens Cotton Jacket
Network Sources Elements Console Performance Application Memory
Unchecked runtime.lastError: The message port closed before a response was received.
Unchecked runtime.lastError: Could not establish connection. Receiving end does not exist.
Products:1
Value from UserContext: false
ProductCard.jsx:13
Value from UserContext: false
ProductCard.jsx:13
Issues Console What's new
EXPLORER
REACT-PROJ-2
node_modules
public
src
components
Footer
Navbar
ProductCard
ProductCard.css
ProductCard.jsx
contexts
UserContext.jsx
layouts
ChatLayout.jsx
LayoutOne.jsx
pages
routing
index.jsx
ProtectedRoute.jsx
App.css
App.jsx
index.css
main.jsx
.eslintrc.cjs
.gitignore
.prettierrc
index.html
package-lock.json
OUTLINE
TIMELINE
TOMCAT SERVERS
SONARLINT ISSUE LOCATI...
TASK EXPLORER
App.jsx
ProductCard.jsx
LayoutOne.jsx 1
src > components > ProductCard > ProductCard.jsx > ProductCard
import { useNavigate } from "react-router-dom";
import "./ProductCard.css";
import { useContext, useEffect } from "react";
import UserContext from "../../contexts/UserContext";
const ProductCard = (props) => {
const { item } = props;
const navigate = useNavigate();
const val = useContext(UserContext);
useEffect(() => {
console.log("Value from UserContext: ", val);
}, []);
return (

<h1
onClick={() => {
PROBLEMS 4 DEBUG CONSOLE TERMINAL
1:38:45 pm [vite] hmr update /src/components/ProductCard/ProductCard.jsx, /src/index.css (x6)
Launchpad
Live Share
Failed to initiate Application Insights extension. Check th
SonarLint focus: overal
1:41 pm
08/07/2024


localhost:5174/Products
Products
This is Product List
Fjallraven - Foldsack No. 1 Backpack, Fits 15 Laptops
109.95
Mens Casual Premium Slim Fit T-Shirts
22.3
Mens Cotton Jacket
Network
Sources
Elements
Console
Performance
Unchecked runtime.lastError: The message port closed before a
Unchecked runtime.lastError: Could not establish connection. Recei
Value from UserContext: false
Value from UserContext: false
Value from UserContext:
Value from UserContext:
Value from UserContext: abc123
Value from UserContext: abc123
App.jsx
ProductCard.jsx
react-proj-2
Launchpad
Live Share
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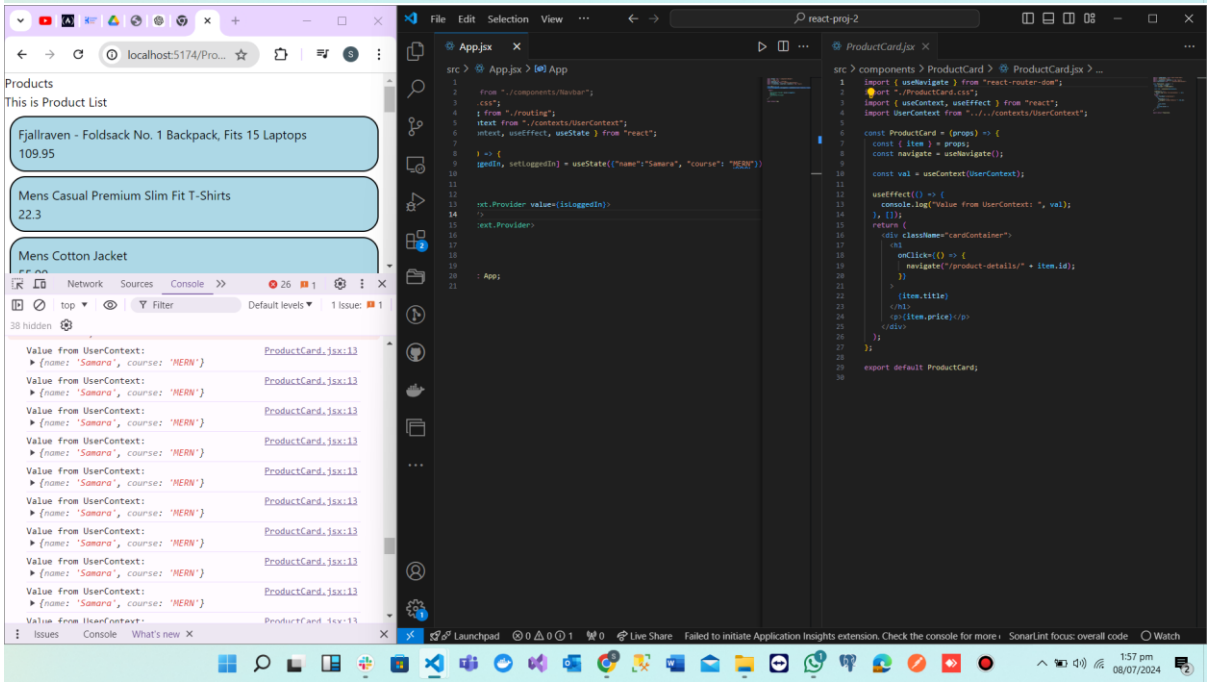
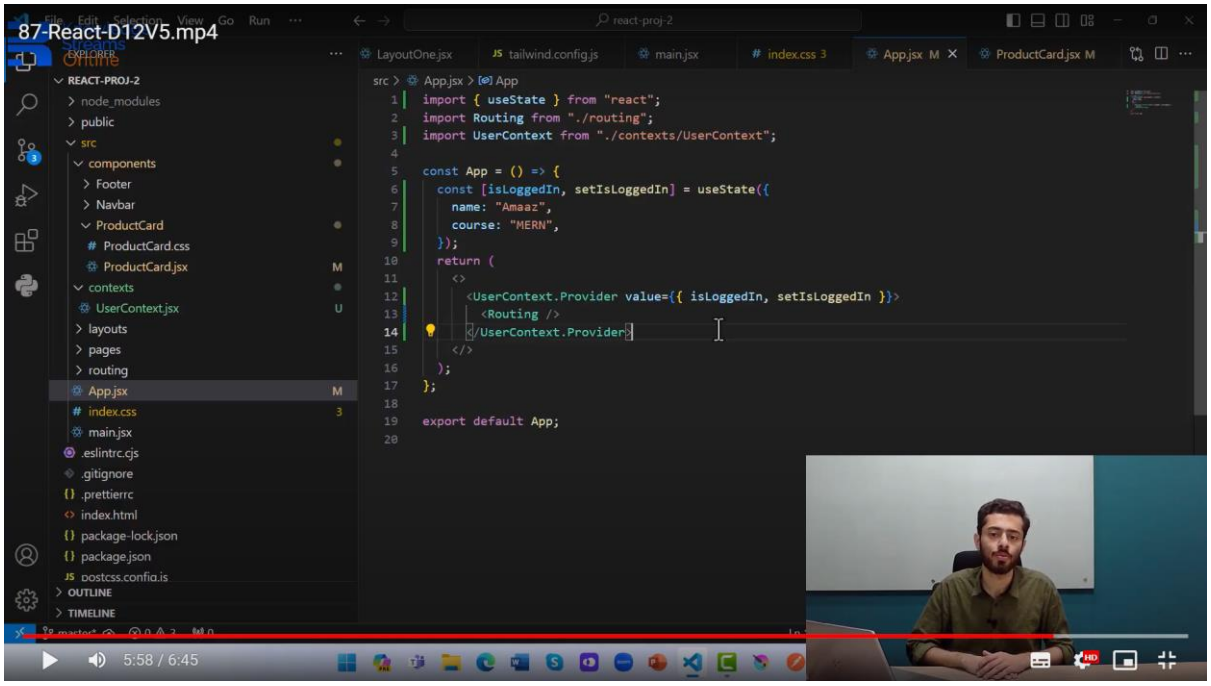
SonarLint focus: overall code
Watch
1:54 pm
08/07/2024


localhost:5174/Pro...
Products
This is Product List
Fjallraven - Foldsack No. 1 Backpack, Fits 15 Laptops
109.95
Mens Casual Premium Slim Fit T-Shirts
22.3
Mens Cotton Jacket
Network
Sources
Console
Value from UserContext:
{name: 'Samara', course: 'MERN'}
ProductCard.jsx:13
App.jsx
ProductCard.jsx
react-proj-2
Launchpad
Live Share
Failed to initiate Application Insights extension. Check the console for more
SonarLint focus: overall code
Watch
1:57 pm
08/07/2024

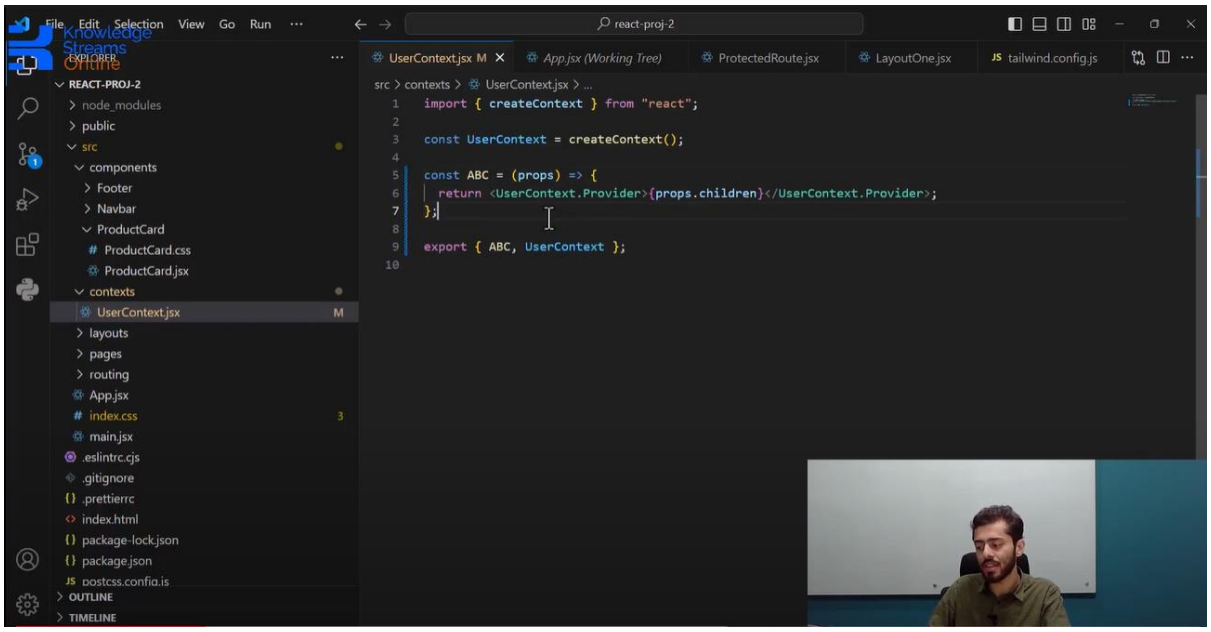


Ham na sirf read krsakte hain throughout the application jo global state me ha balke right bhi krwaskate hain aur wo jo prop drilling krni prh rahi thi bhtt ziada wo issue bhi resolved.

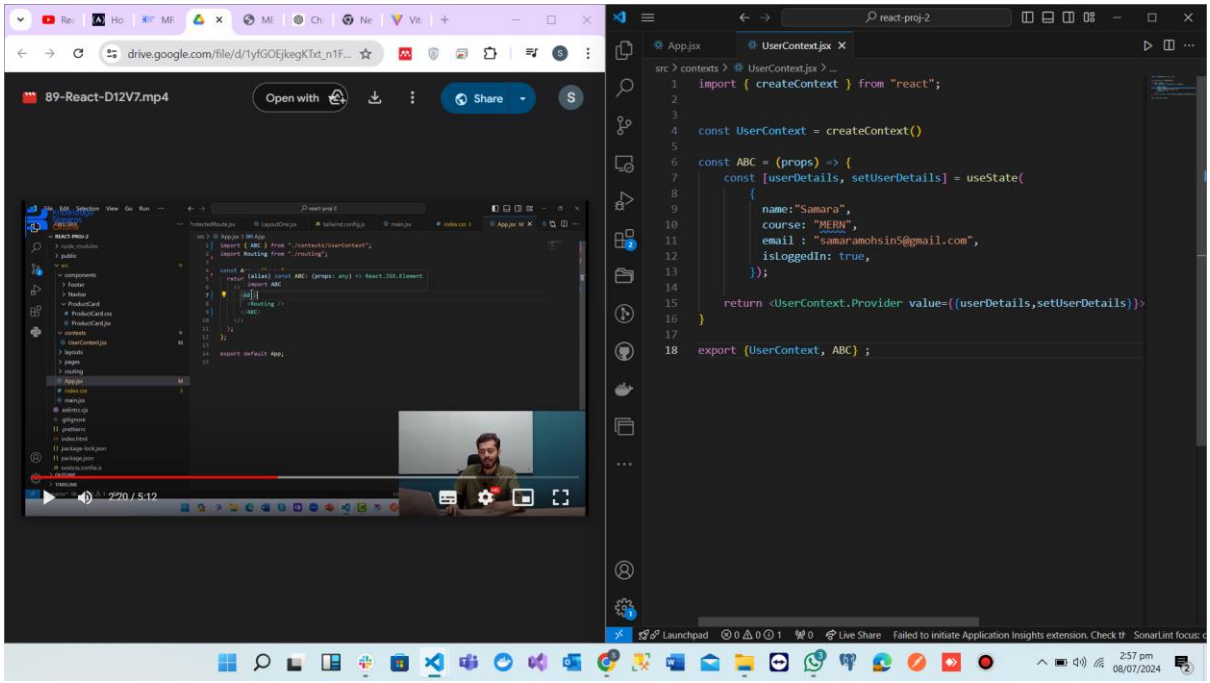
Note: jo components wrap hue we hain provider me sirf unhi ko access hoga value ka

Creating a Component for Provider

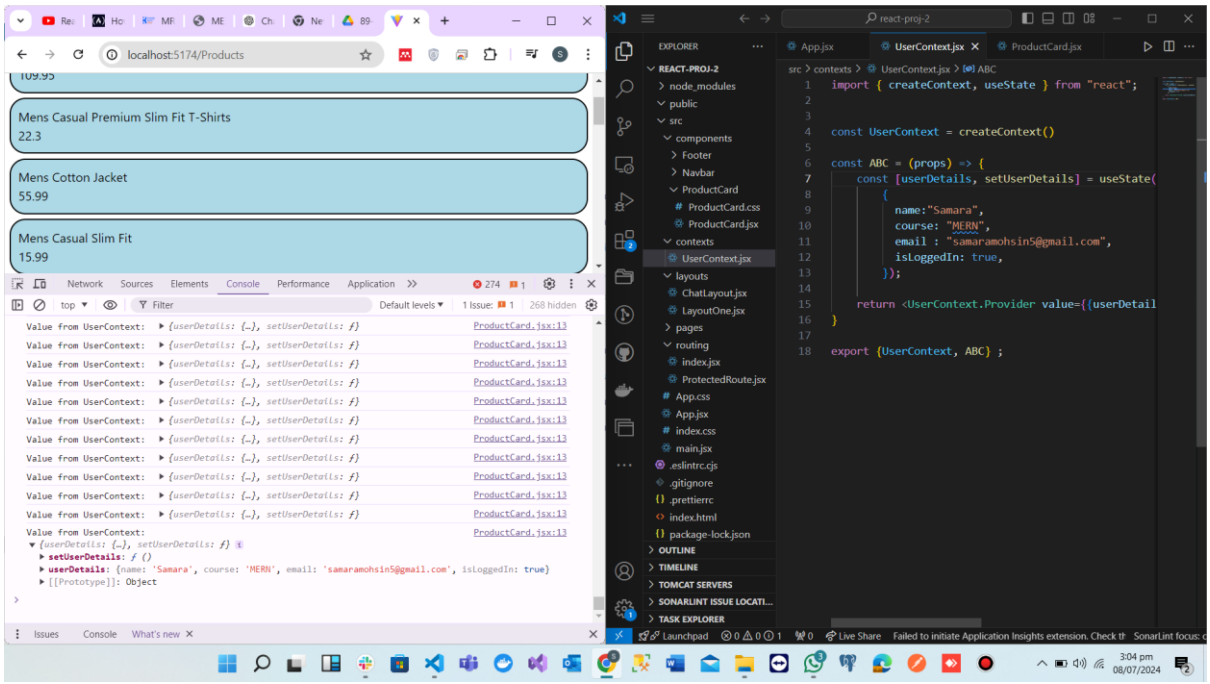
Agr hamare pas multiple context provider hain for eg user details seperate state me store krni hain cart details alg state me store krni hain tou kia kren?



ABC component k jitne bhi children honge wo automatically wrap hojayenge usercontext k provider k ander, yani user context ki value ko ye saare children access krsakte hain



Routing ABC k lye child ha, aur ABC me ye kam hua wa ha k jo bhi child aayen unhe provider k ander wrap krdena aur provider ko value bhi ABC component me hi pass krdi ha taake hamari app.jsx file ka code clean rahe aur ziada clutter na ho
jitni bhi states req hain userContext k lye wo user Component ki file me hi aik component k ander bani wi ha aur us component ko use krke apni main application ko wrap krdenge.



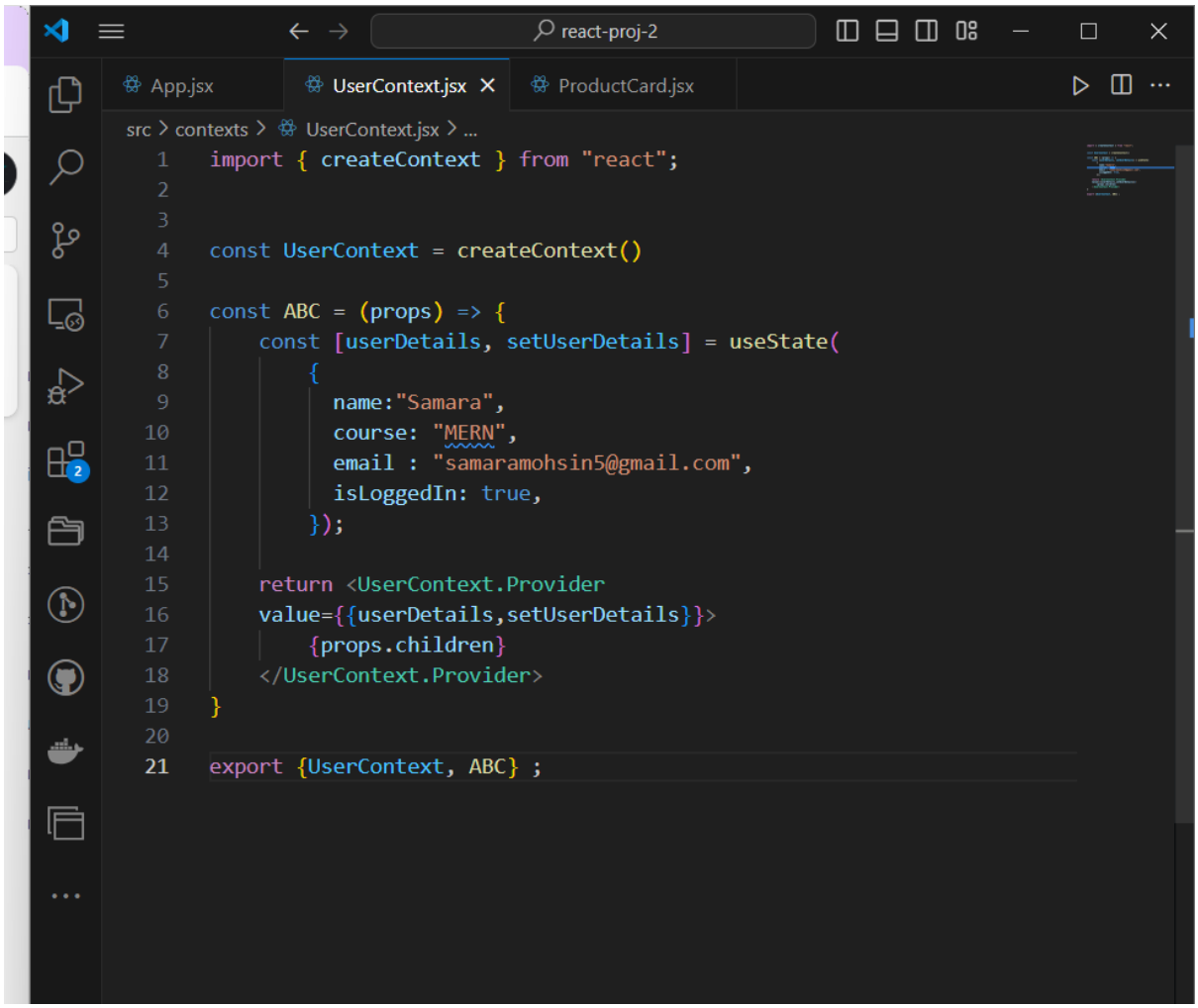
Summary:
aik UserContext create kia

1 component banaya ABC userContext ki file me is component ka maqsad ye h iske jo bhi children hon wo sare children pakr k contexProvider me lagadena

&

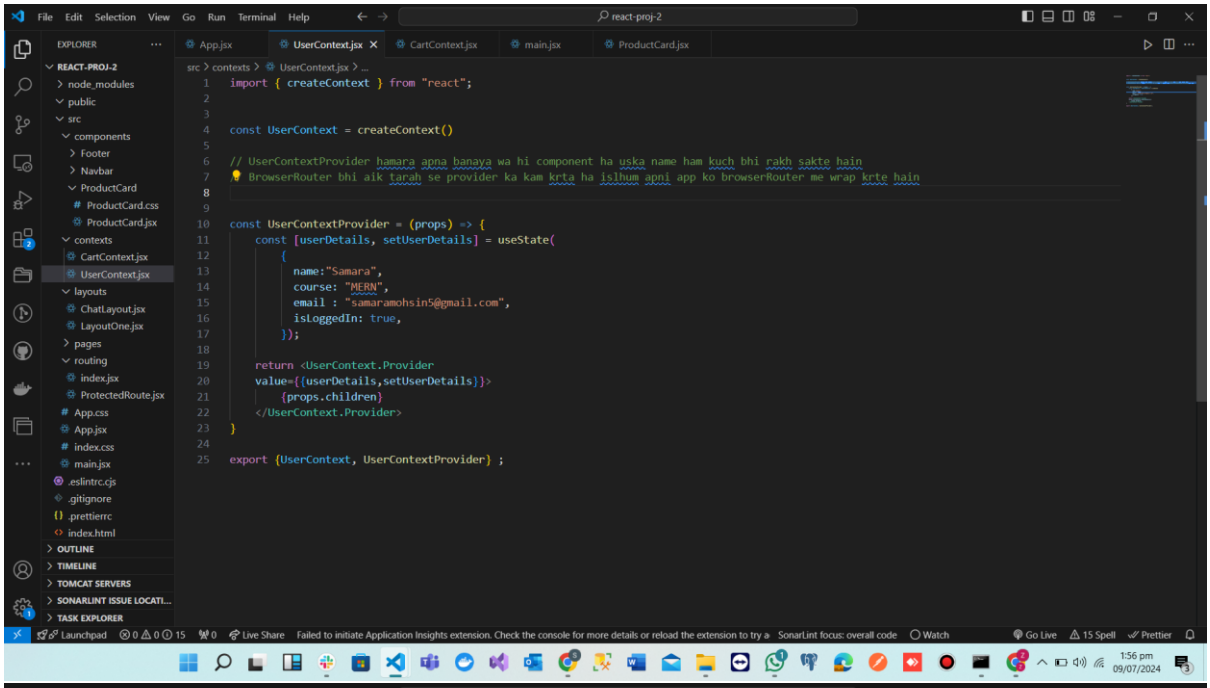
Provider ko jo value bhejni ha wo bhi yahin define krdi

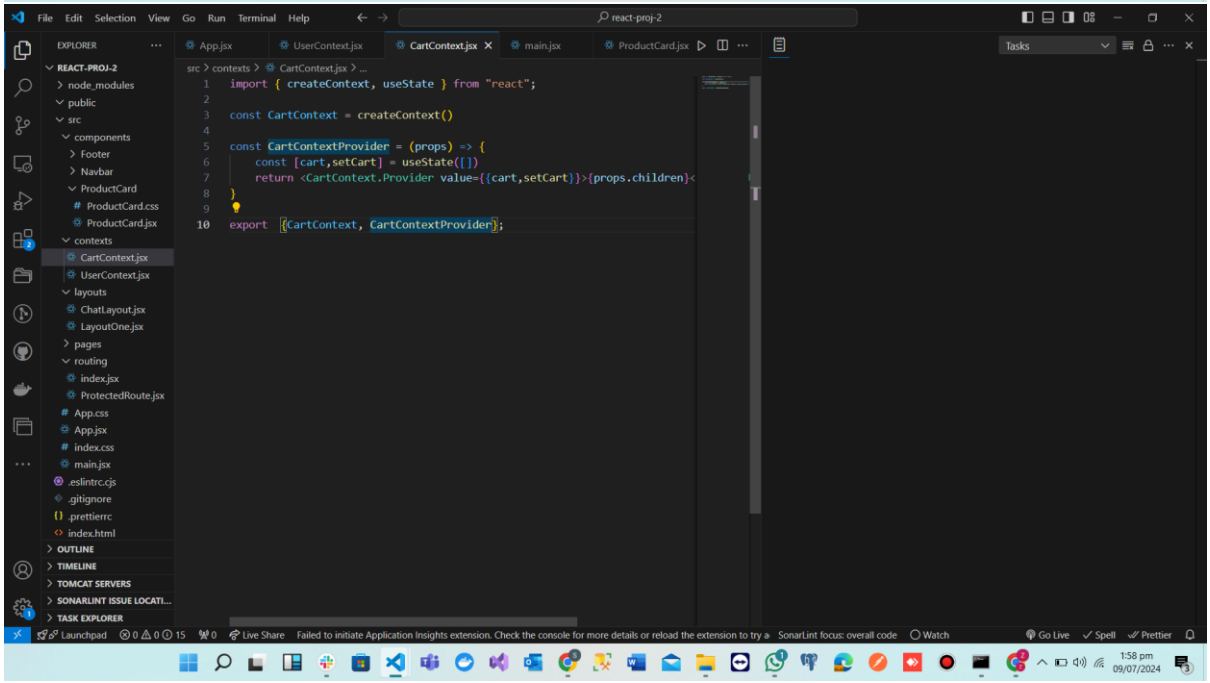
Ab simple sa ye kam krna ha k jin components me in context provider ki values chahyen jaake unko ABC component me wrap krdo

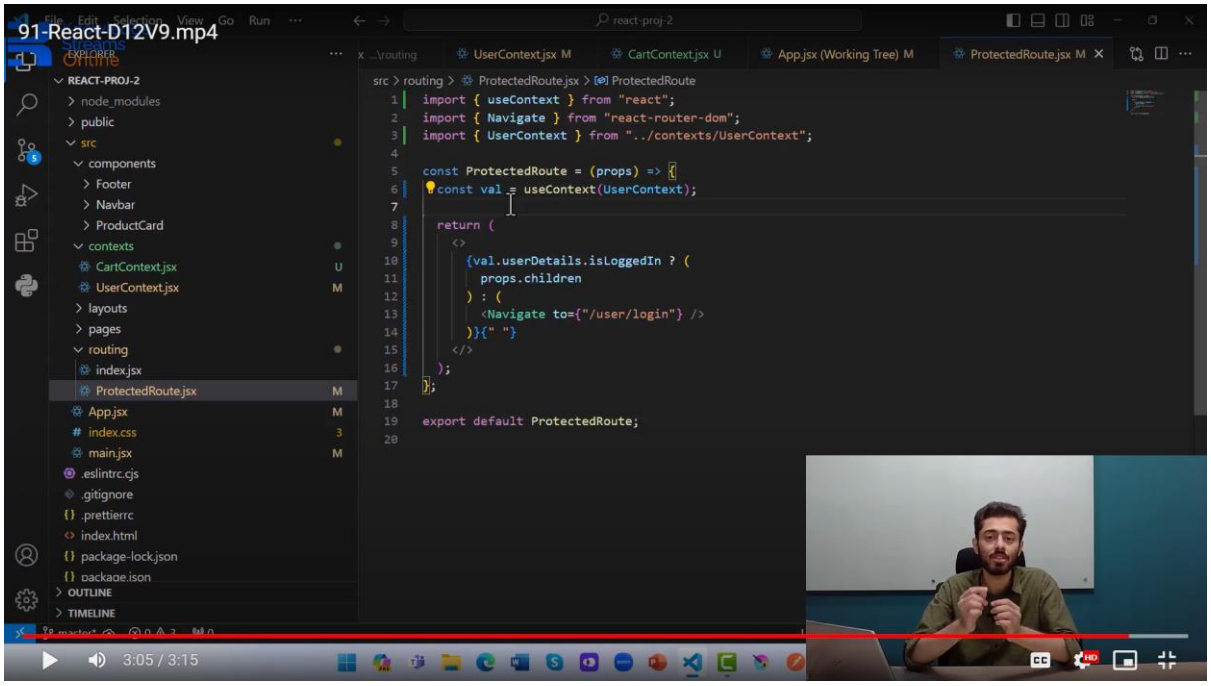


UseContext ko use krne ka method ye ha k useContext k ander context ka naam likhna ha


src > App.jsx > App
import { ABC } from "./contexts/UserContext";
import Routing from "./routing";
const App = () => {
return (
<>
<ABC>
<Routing />
</ABC>
</>
);
};
export default App;


File Edit Selection View Go Run Terminal Help
react-proj-2
EXPLORER
REACT-PROJ-2
App.jsx
UserContext.jsx
CartContext.jsx
main.jsx
ProductCard.jsx
src > contexts > UserContext.jsx > ...
import { createContext } from "react";
const UserContext = createContext()
// UserContextProvider hamara apna banaya wa hi component ha uska name ham kuch bhi rakh sakte hain
BrowserRouter bhi aik tarah se provider ka kam krta ha islhum apni app ko browserRouter me wrap krte hain
const UserContextProvider = (props) => {
const [userDetails, setUserDetails] = useState(
{
name:"Samara",
course: "MERN",
email : "samaramohsin5@gmail.com",
isLoggedIn: true,
});
return <UserContext.Provider
value={{userDetails,setUserDetails}}>
{props.children}
</UserContext.Provider>
}
export {UserContext, UserContextProvider} ;
Launchpad
Live Share
Failed to initiate Application Insights extension. Check the console for more details or reload the extension to try a
SonarLint focus: overall code
Watch
Go Live
15 Spell
Prettier
1:56 pm
09/07/2024


File Edit Selection View Go Run Terminal Help
react-proj-2
EXPLORER
REACT-PROJ-2
App.jsx
UserContext.jsx
CartContext.jsx
main.jsx
ProductCard.jsx
Tasks
src > contexts > CartContext.jsx > ...
import { createContext, useState } from "react";
const CartContext = createContext()
const CartContextProvider = (props) => {
const [cart,setCart] = useState([])
return <CartContext.Provider value={{cart,setCart}}>{props.children}<
}
export {CartContext, CartContextProvider};
Launchpad
Live Share
Failed to initiate Application Insights extension. Check the console for more details or reload the extension to try a
SonarLint focus: overall code
Watch
Go Live
Spell
Prettier
1:58 pm
09/07/2024



Ab yehi userContextProvider hum login k pg pe use krenge wahan se set krenge loggedIn ko aur same time pe vo value is pg bhi update hojayegi this is the beauty of Context Provider(global sttae ka

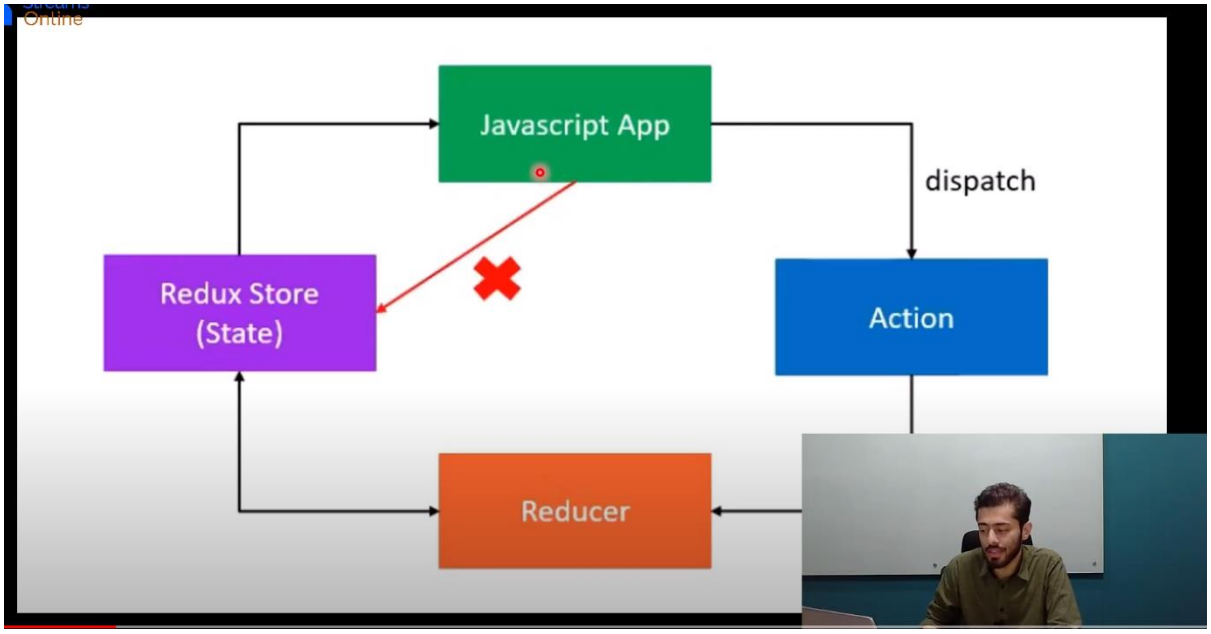
Redux

Globbal state ka kam context k through hojata h wo wo solution h jo React ka apna ha
redux is not part of react k javascript ki library h

Difference b/w Redux and context:

- Context is solution provided by React while Redux is javascript libraray not react's lib.
- For large scle applications redux is preferable
- Redux ka initial code ziada hota h
- Redux works as middleware b/w
- Redux and context dono aik code m use hoskte hain possibility h

Three basic concepts of Redux



Redux Store/state : is the place where our all global states are kept

Aap kabhi bhi diret apni react app se is store ko change nhi krsakte

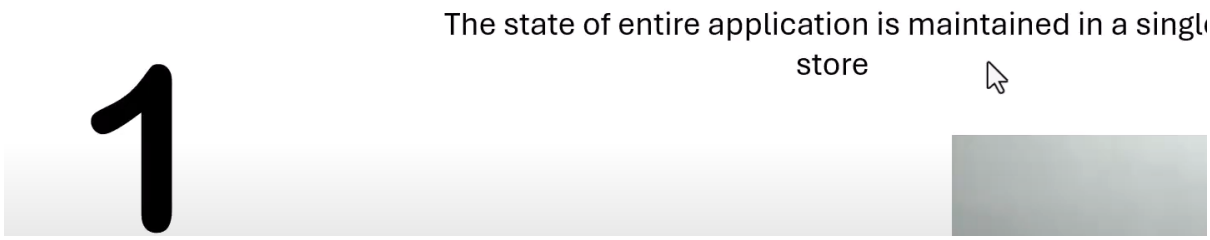
Apni javascript app se aik action ko dispatch krenge --> ye action aage jaake reducer chalayega --> reducer jaake state ko update krega aur phir ye updated state wapis aayegj aapki react app m

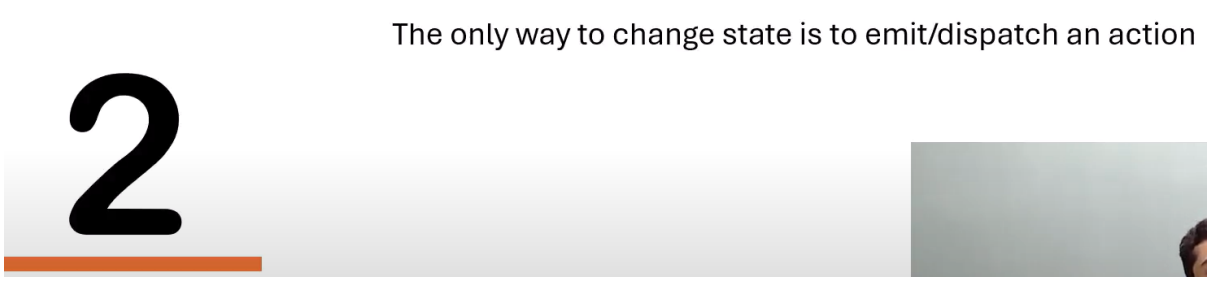
Action: aik javascript ka object h jiske ander type naam ki property hoti h

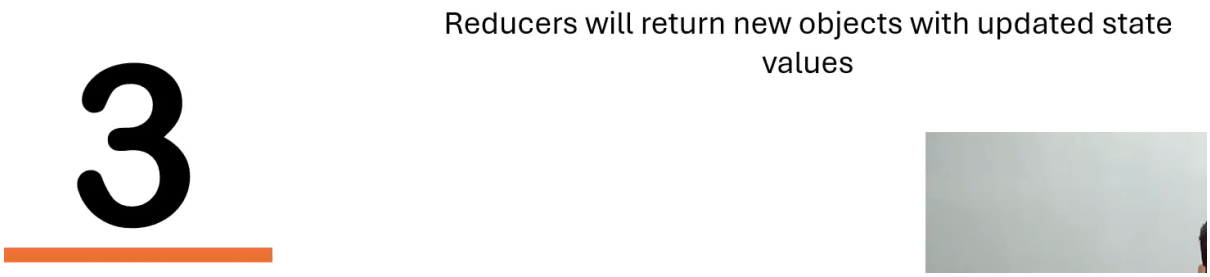
Reducer : aik function h jiske ander multiple if else ki conditions hoti hain

reducers are pure reducers means agr reducer ko X input den aur y output aaye, agr dubara x input dene pe y hi output aayega nge nhi hosakta k reducer ka behavior input ko waja se change hojaye

e.g store k ander no.of shirts 10 hain aur buy shirt ka aik func chalaya tou 10-1 no.of shirts 9 rehgain store me agr dubara yehi func chlayenge tou 8-1 7 shirts rehjayenigi







Packages to install for Redux

```
sktop Data shifted here\React Project\react-proj-3> npm i redux react-redux
```

Provider

Context me aik hota ha provider aik hota ah consumer , consumer ka akm ab khatam hogaya ha wo hum useContext k through value read krlete hain
provider ka basically kam hota ye h k provider k ander jo bhi children wrap honge unhe access miljayega un cheezon ka jo provider provide kr raha h, one of e.g is BrowserRouter

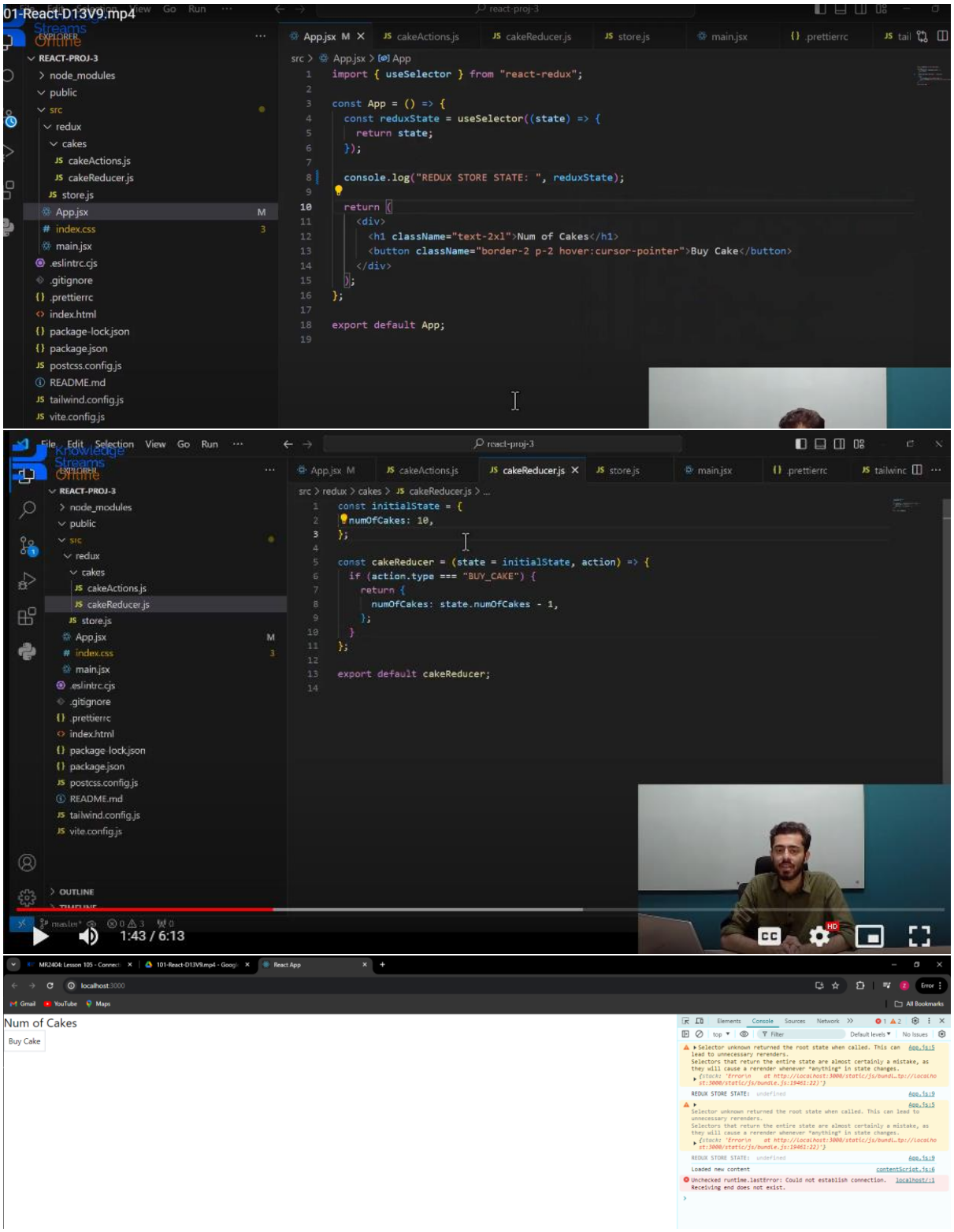
React redux jo library ha wo bhi internaly aik provider ka use krti h redux ki functionality ko implement krne k lye

UseSelector

Ye hook milta ha react redux se

UseSelector hook redux store me se value utha rahi h aur application ko de rahi h

Hen useselector ki hook uthake value de rahi ha application koSabse pehle redux ka reducer chalta ha jo initial state ko rakhwa raha ha store me

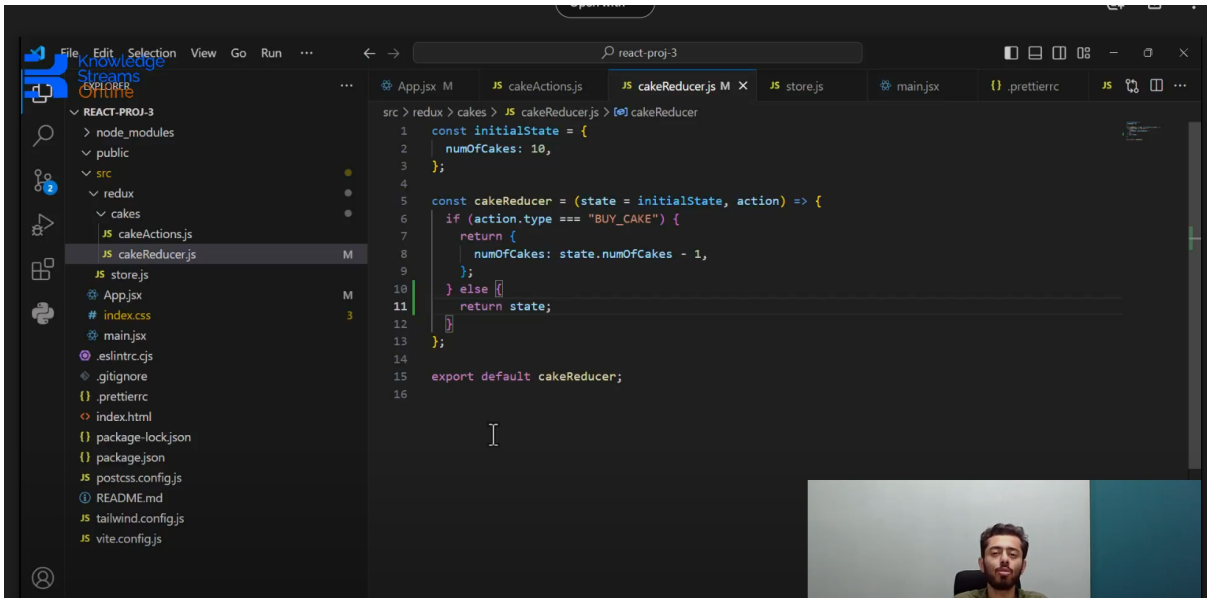


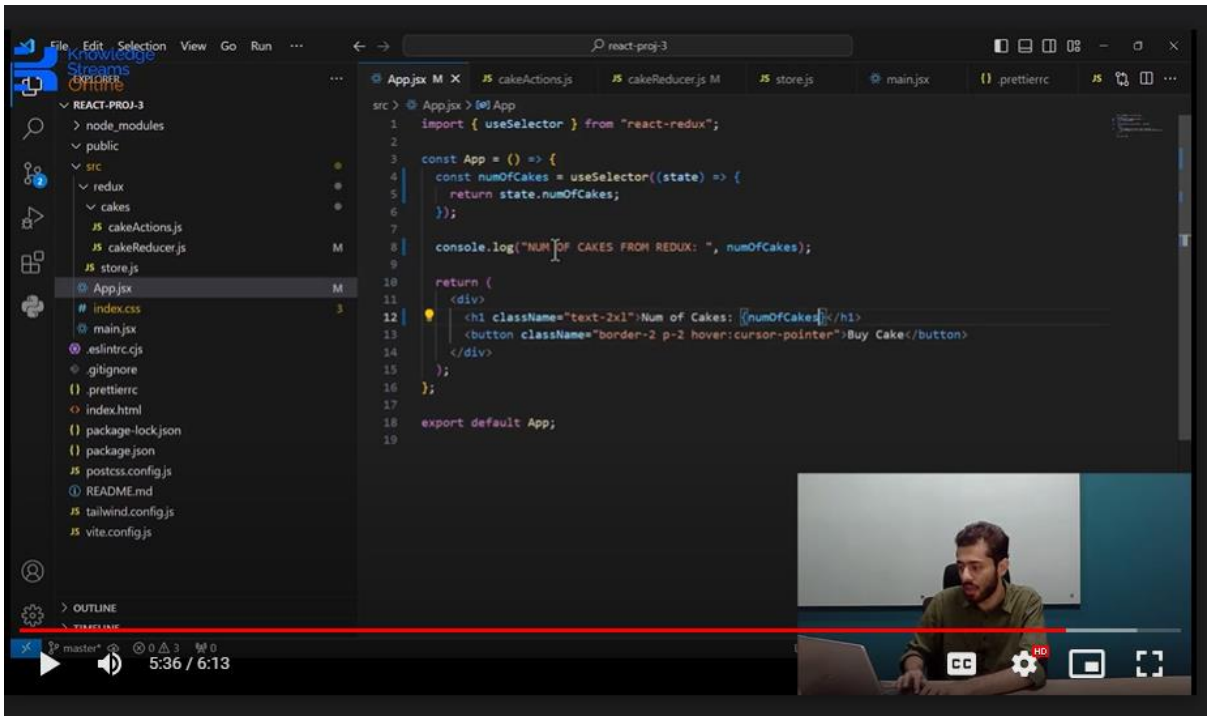
Agr application pehli dafa run hui h tou store tou exist hi nhi krta tou initial value state ye Reducer se pick krle.

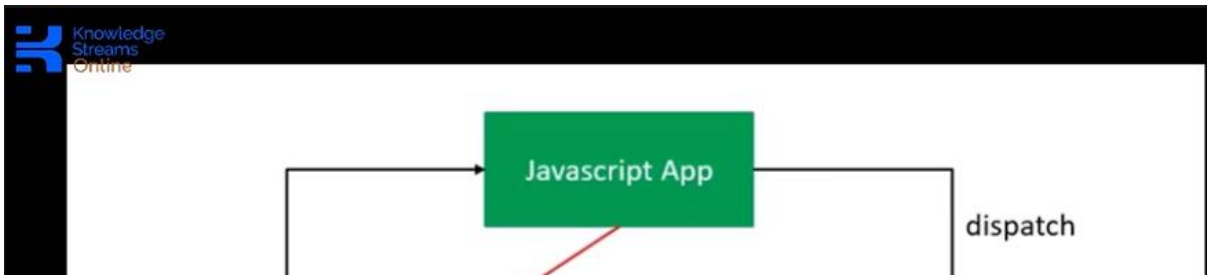
Applicatio abhi shuroo hui ha tou user ne abhi koi action dispatch hi nhi kia hoga tou reducer aik aisa function h jo khudi chalta ha

Tou ab hum usey ye bata rahe hain k agr tumhe ye store se na mile tou initial state ko use krlena ab agr koi action aaya wa ha tou if cond chaladena , agr action aaya hi nhi h aur reducer sabse pehli dafa me chal rha ha tou reducer kia return krega jo store me save hoga? Hame ye pata ha k jo kuch reducer return krega wo jake store me save hojayega tou iske lye else me cond dena zaroori h jo hamara boundary case bhi hoga.

K agr maine k agr reducer kisi aise case k lye chal gaya jiska action maine create nhi kia tou wahan bhi state return krdo







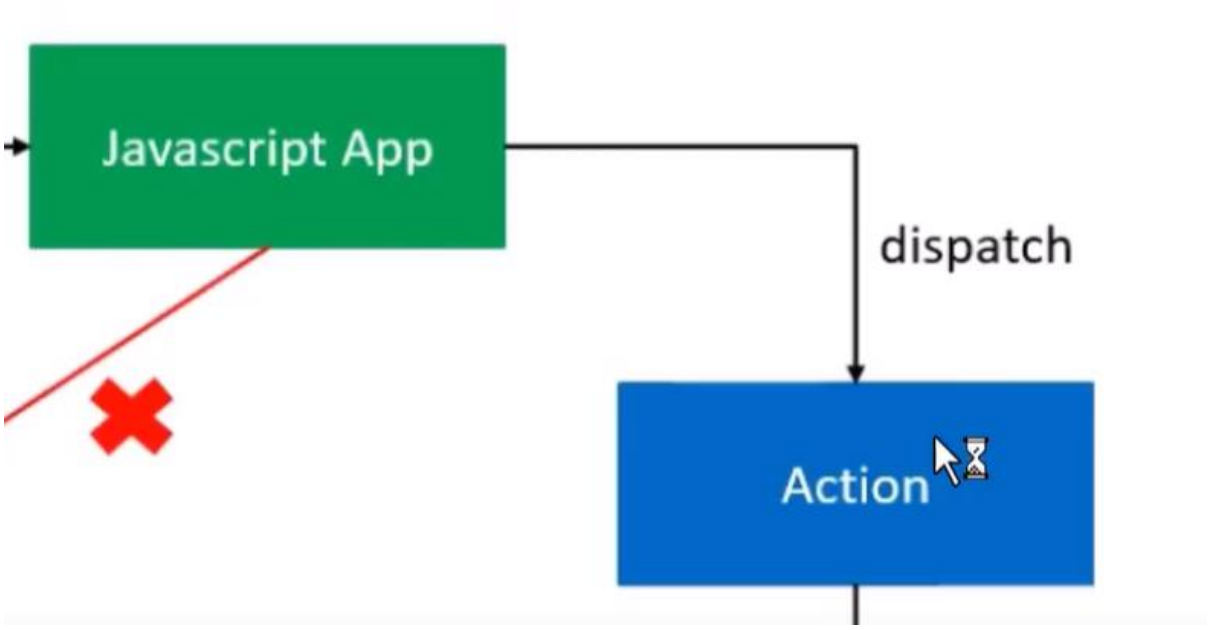
ss

S

Step 1: reducer chalega aur wo as it is state ko return krdega()reducer state ko update kr raha ha

Step 2: And redux store & app k between jo connection h ye stablish hota ha useSelector ki hook se

Next connection is:



Javascript app se action ka connection useDispatch k hook se hota ha

Action and reducer ka connection automatic h

Reducer aur store ka connection createStor ke func pe bantaha

Flow of Redux

1 action dispatch krti hun ma button pe click krke
jab aik action dispatch hota ha tou reducer chalta ha automatically
jo bhi action dispatch hota ha uski behalf pe reducer pe wo wala case chalega

Aap reducer se jo kuch bhi return krwayenge wo as it is jaake hamare store k ander save hojayega previous saari values over write hojayengin therefore keep in mind property ki spelling her jaga same ho jo bhi naaam h property ka. Ab jb reducer ne store update krdia

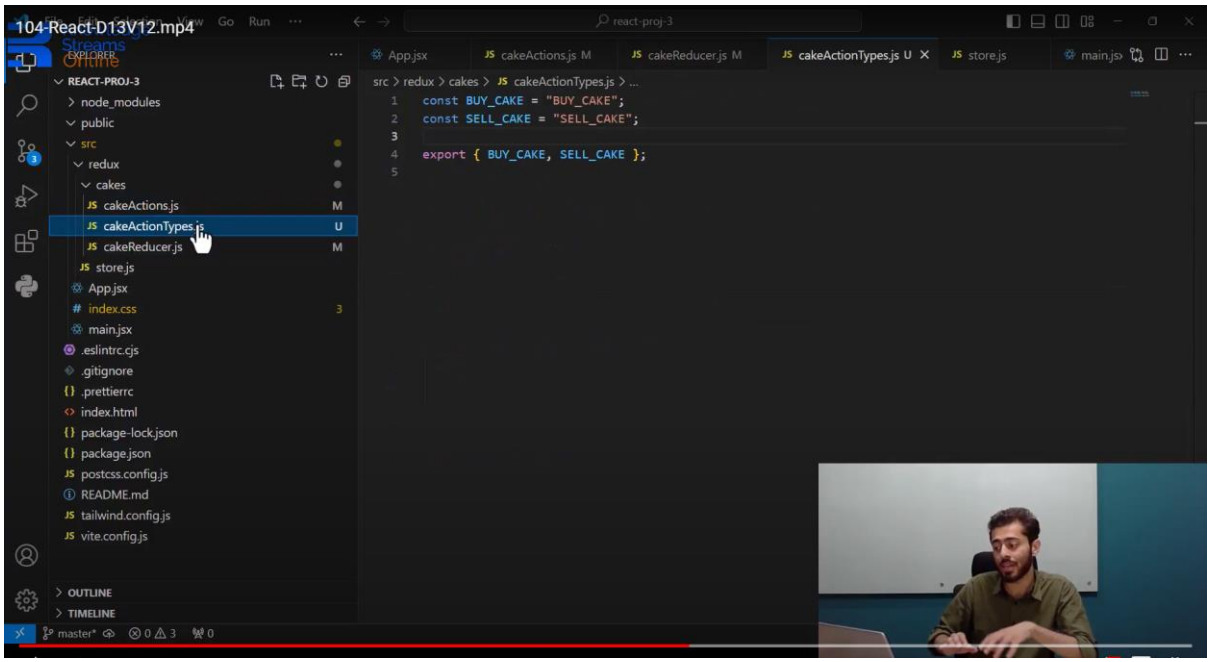
App.jsx me useSelector se hamne vo value read ki wi ha tou hamare frontend pe bhi wo value update hojayegi,

(useDispatch)Action dispatch --> reducer run --> update the state/ redux store(overwritten prev.) --- (useSelector)--> frontend update

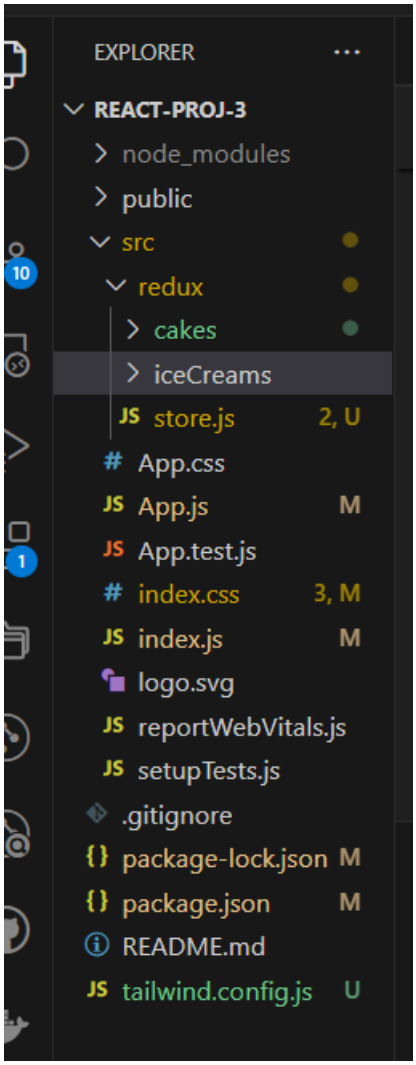
When action does not dispatch:

Reducer automatically run --> initial value set in state --> frontend

ActionTypes



Multiple Reducers



Store 1 hi ha global for multiple reducers

NODE JS:

APIS

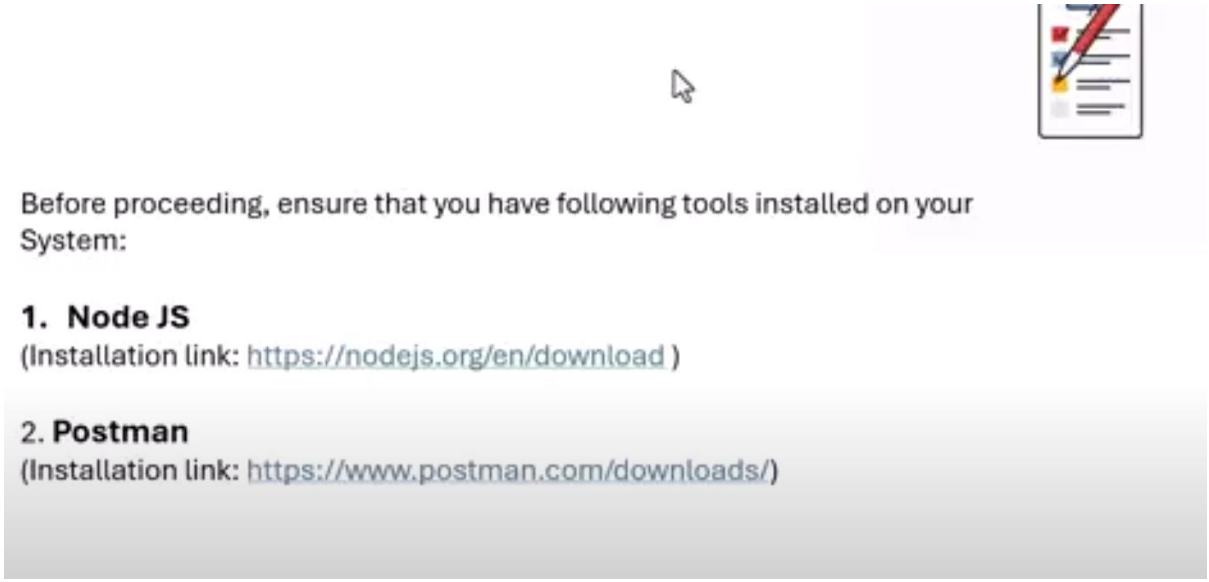
Backend pe ham aise functions define krte hain jo frontend se request accept krte hain amd response return krte hain frontend ko, they are called APIS

Express JS

Express is a full stack framework jisme backend k sath sath frontend bhi create krsakte hain but we will use it for backend only

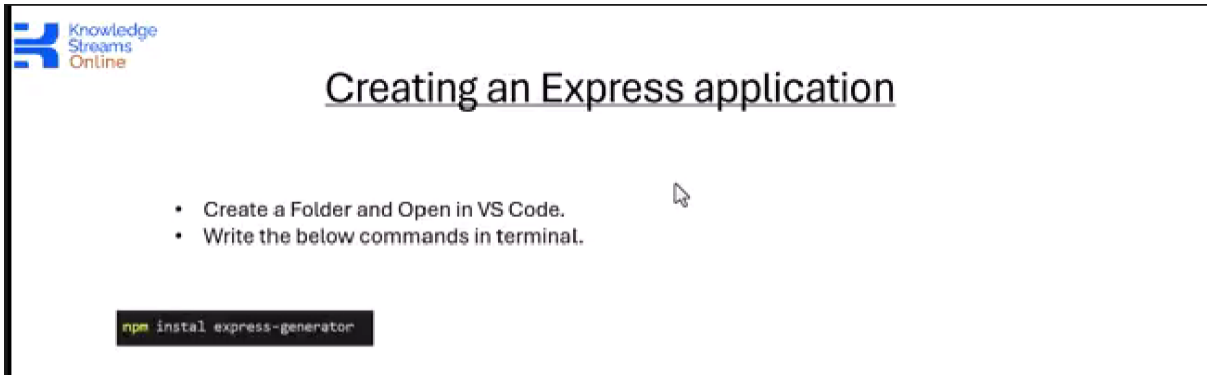
Express JS me jo apps cretae hui ei hoti hain unhe run krne k lye jo run time required hota ha wo NodeJS provide krta ha

So NodeJS should be installed

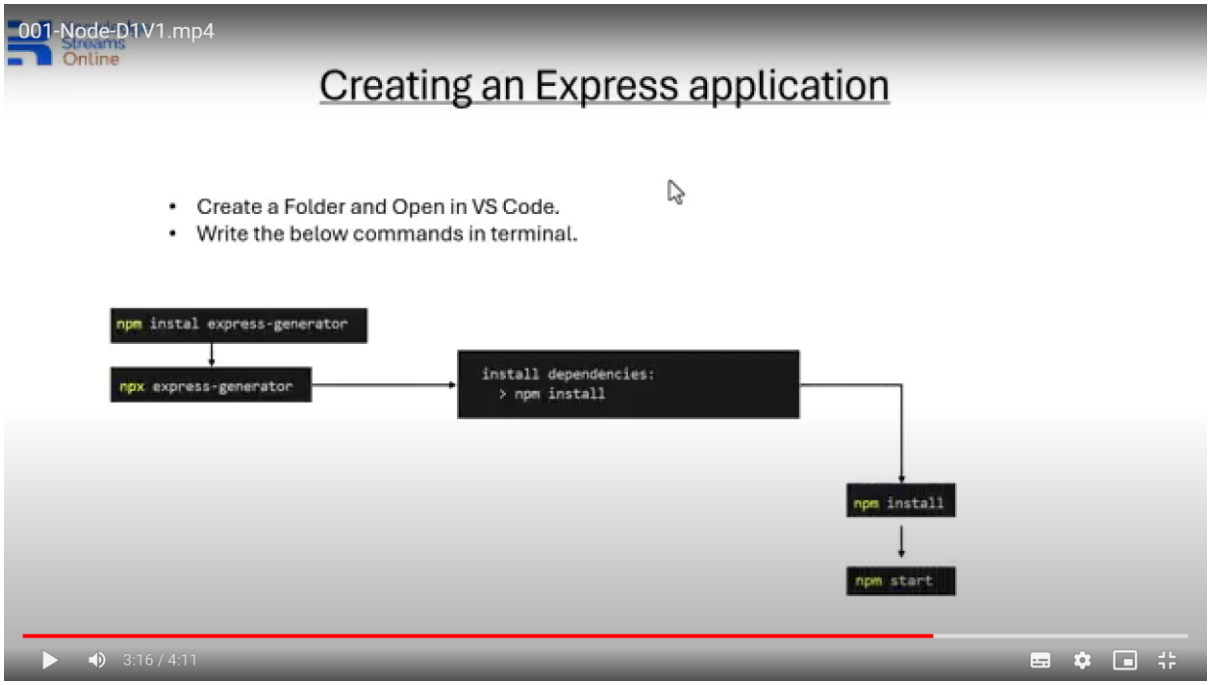


Postmsn is API tester

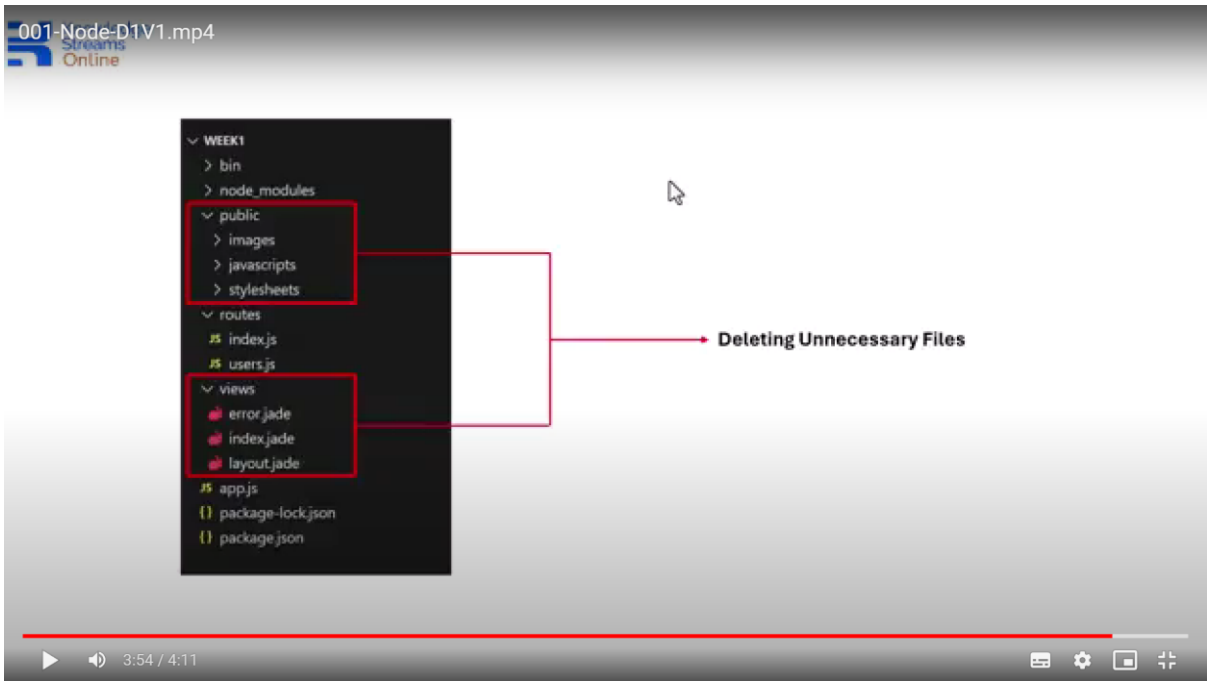
CreateExpress Application

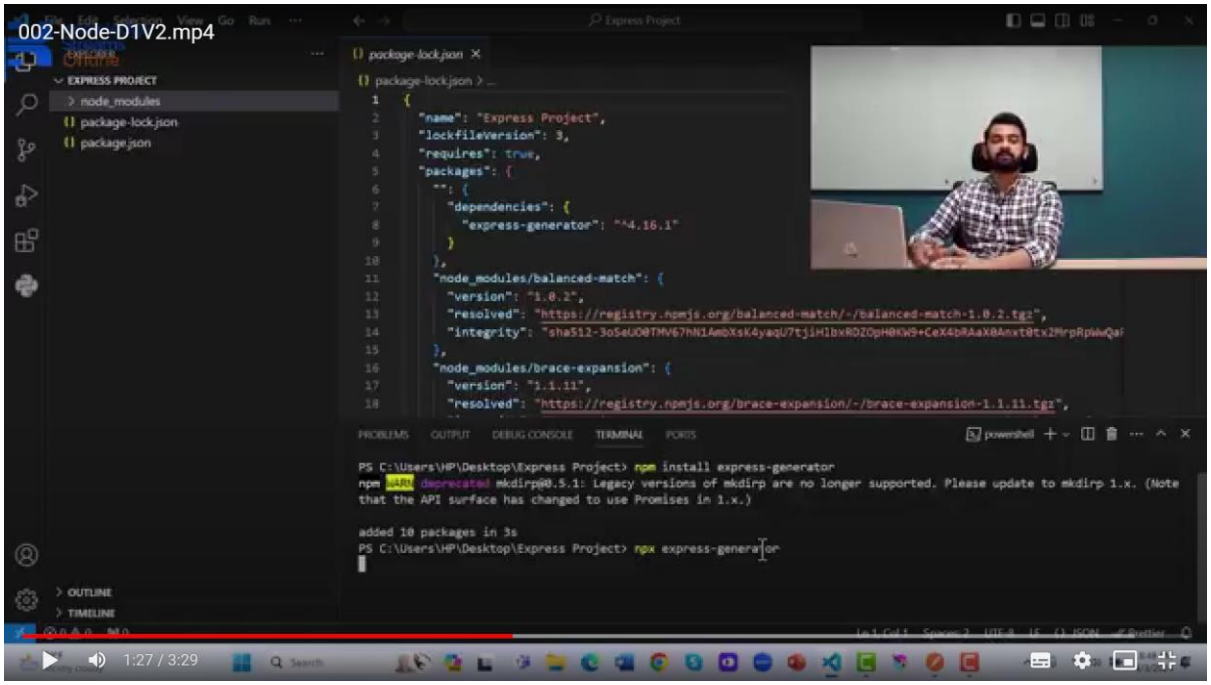


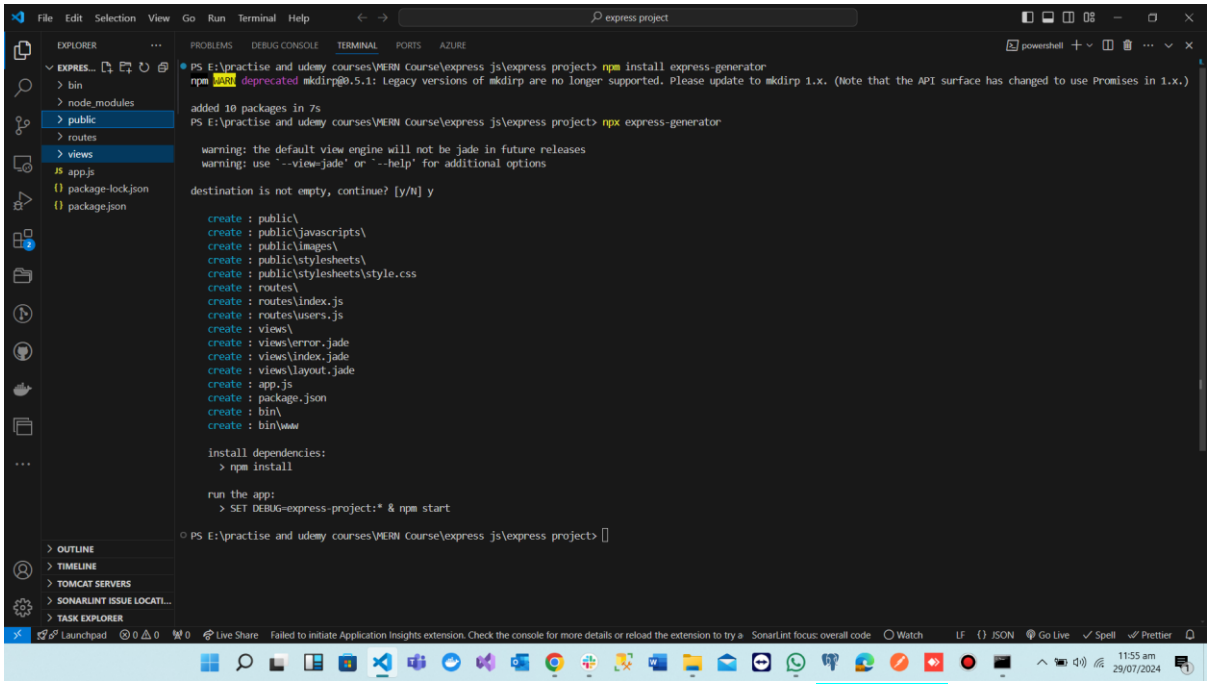
To execute application:



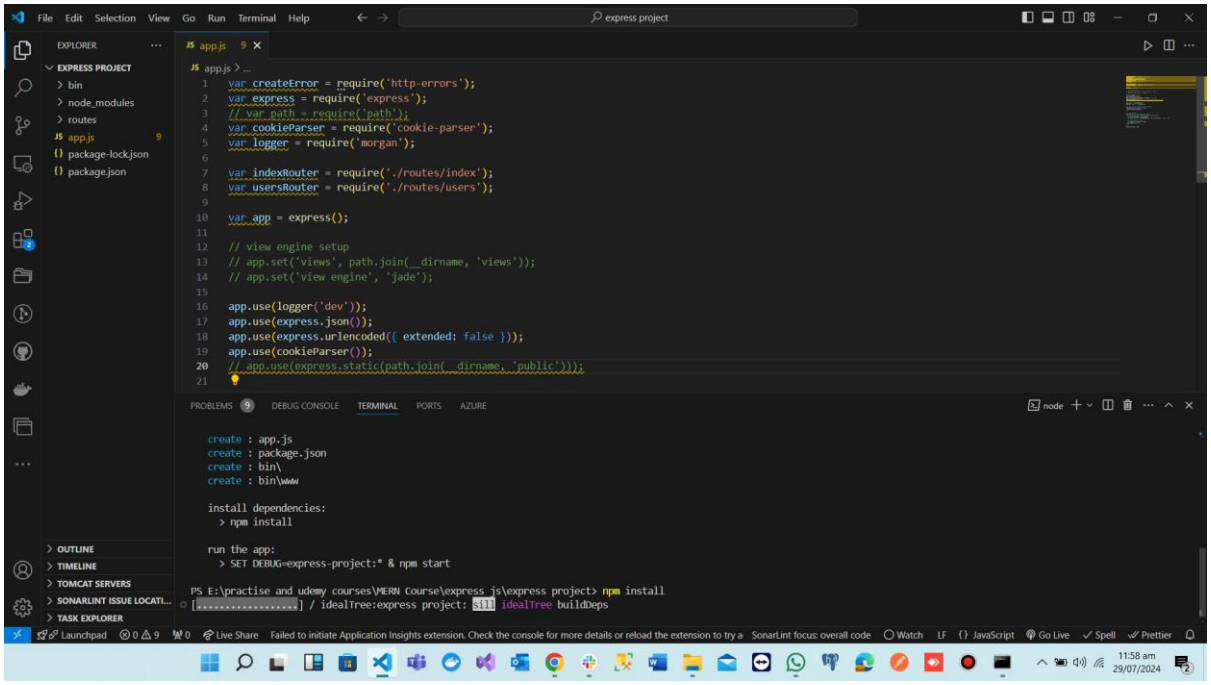
Delete unnecessary file related to frontend







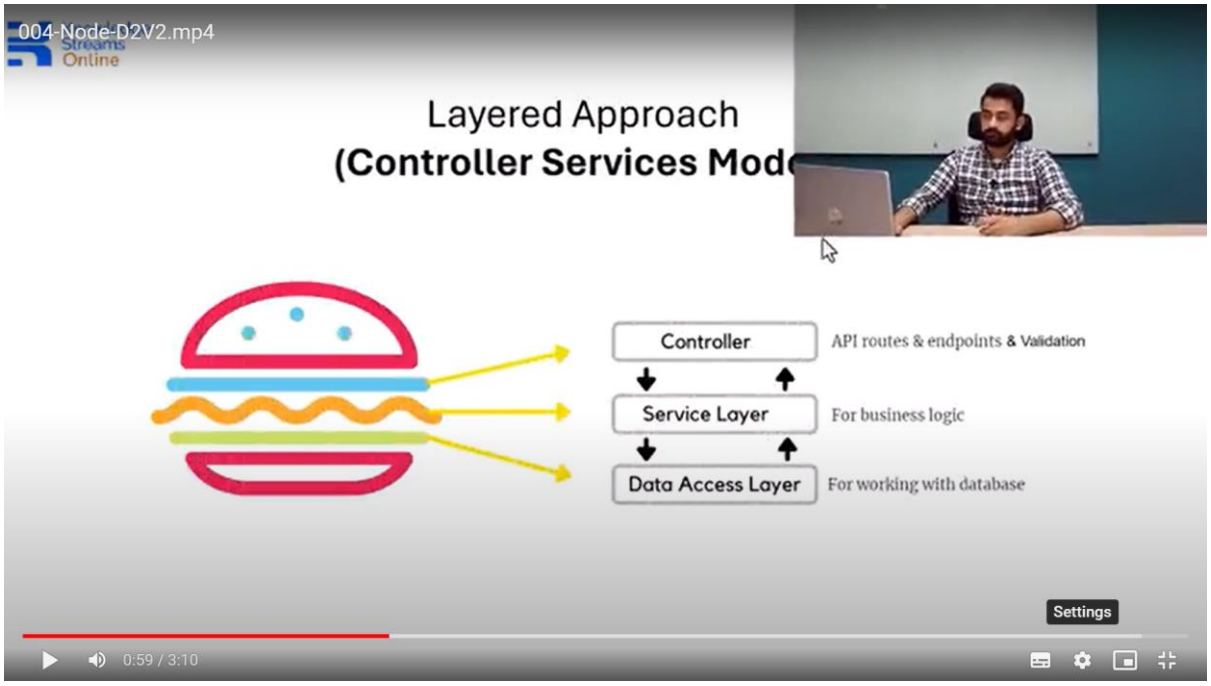
comment out these lines from App.js after deleting folders then run npm install



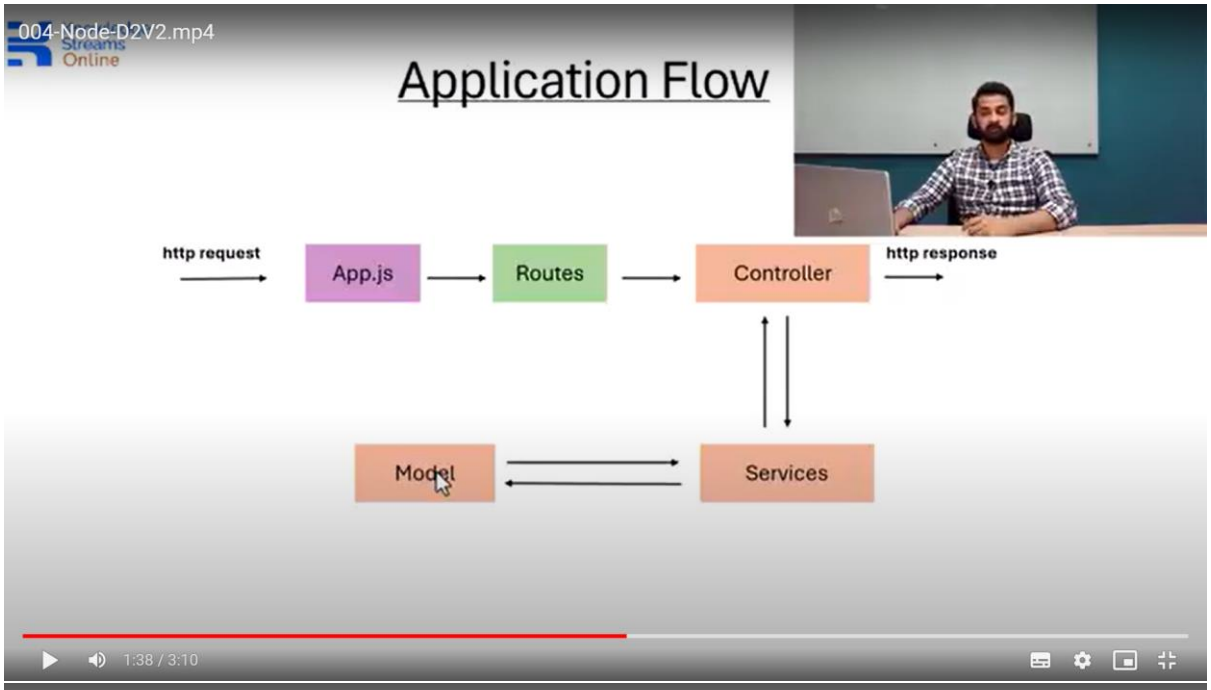
Folder Structure

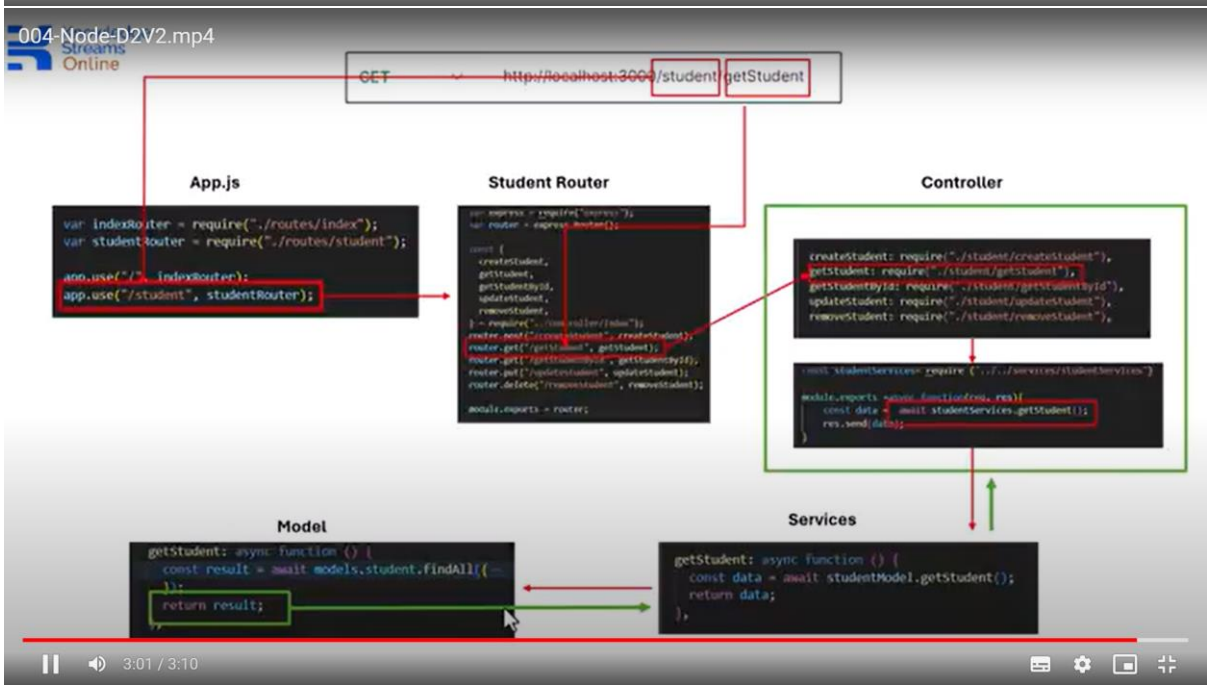
Controller Service Model

Controller k ander hum router se request accept krte hain aur us router se aane wali request me agr koi data exist krta ha tou usko validate krte hain usko validate krne k baad hum 2nd layer service k ander bhej dete hain jahan pe koi bhi business logic implement ki jati ha then hum usko send krdete hain data layer pe jahan pe database operation perform hota ha, database operation hone k baad wo service ko wapis return hota ha aur check krta ha k database se jo data receive hua ha wo validate ha ya nhi, wo authenticate ha ya nhi aur wo proper format me h ya nhi uske baad hum is request ko wapis controller ko return krdete hain aur controller isko wapis frontend ko return krdeta ha


004-Node-D2V2.mp4
Streams Online
Layered Approach
(Controller Services Mode
Controller
API routes & endpoints & Validation
Service Layer
For business logic
Data Access Layer
For working with database
Settings
0:59 / 3:10

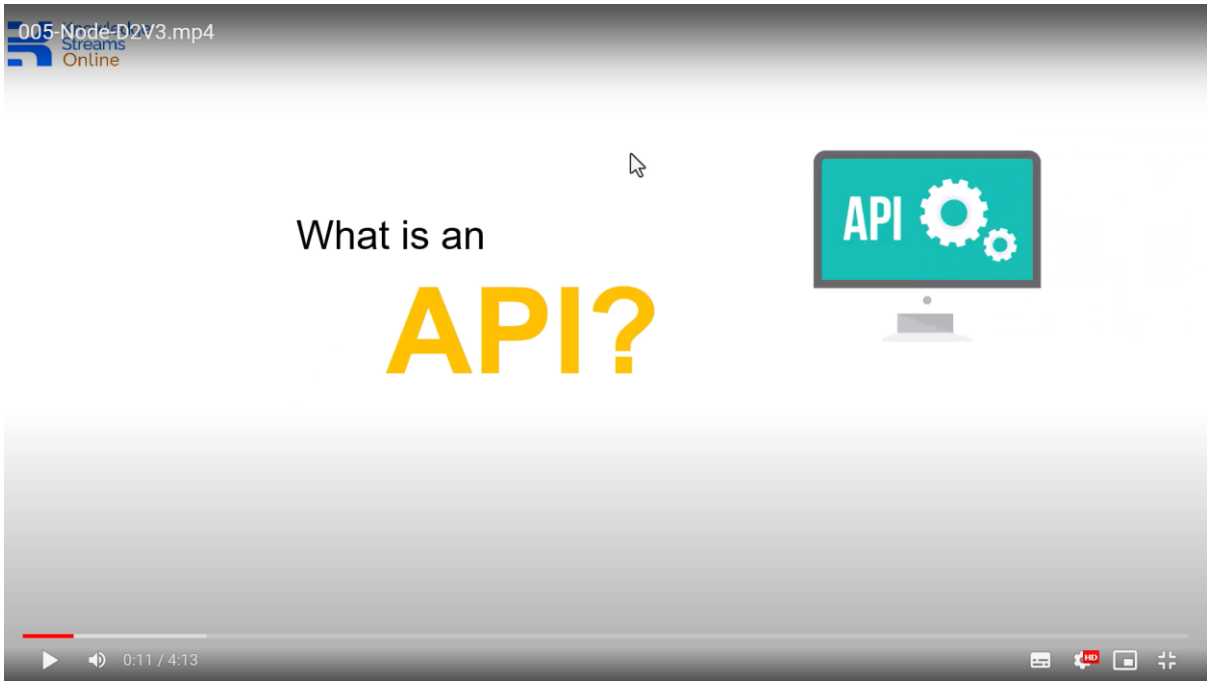
Application Flow:





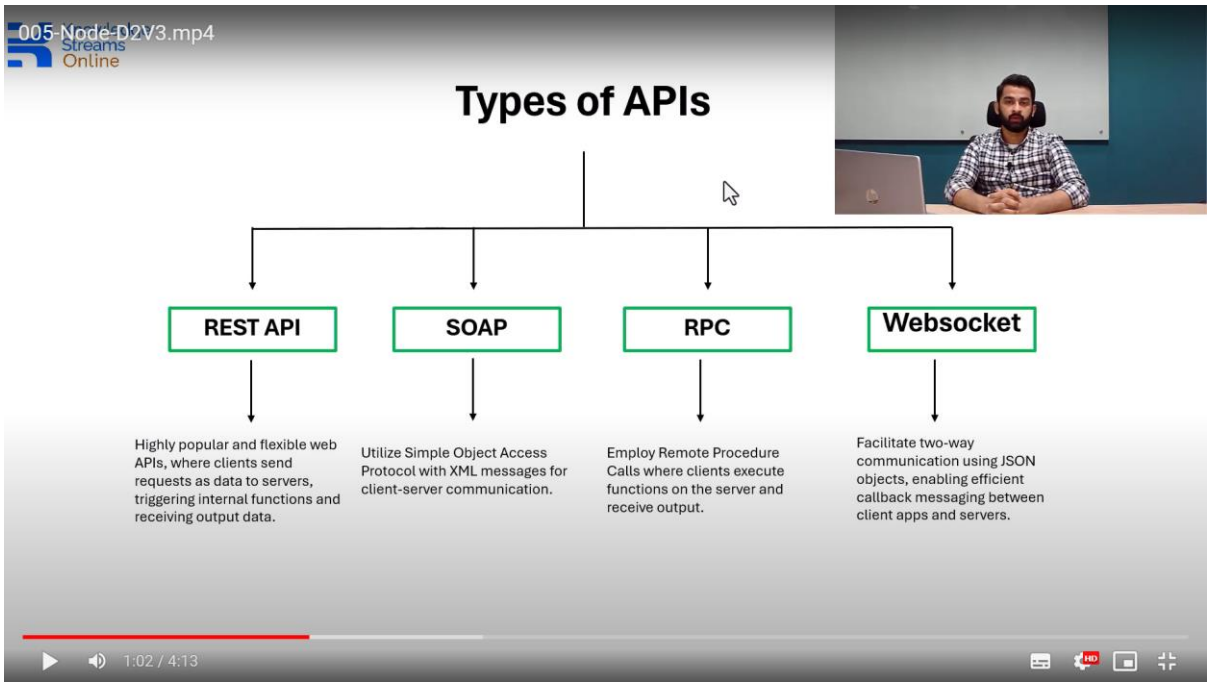
localhost which is host deployed locally then port then base path, base path k sath relevant router likha wa ha jahan se wo relevent router call hoga relevant router pe wo exact path ha jo hum hum /basepath/exactpath likhte hain /student/getstudent is the end point for e.g so ye students ka data return krega uske baad , then ye student k controller function pe jata ha aur usko validate krne k baad ye uski service ko jata ha then ye service k jane k baad dekhta ha k hame uska kosa relevant model call krn ha yani k relevant database table call krna ha, table call krne k baad hum uska sara ka sara data extract krenge aur extract krne k baad service ko bhejenge service se wo wapis controller pe return hoga aur controller se wo return hojayega httpResponse wapis service me

API

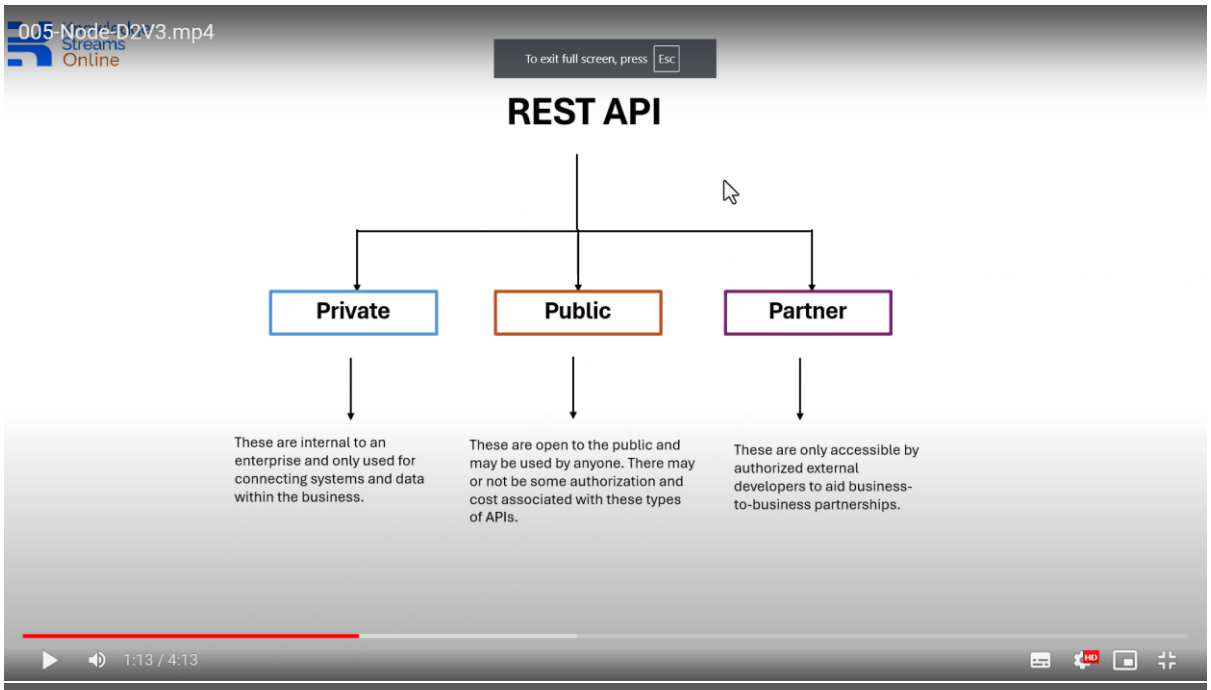


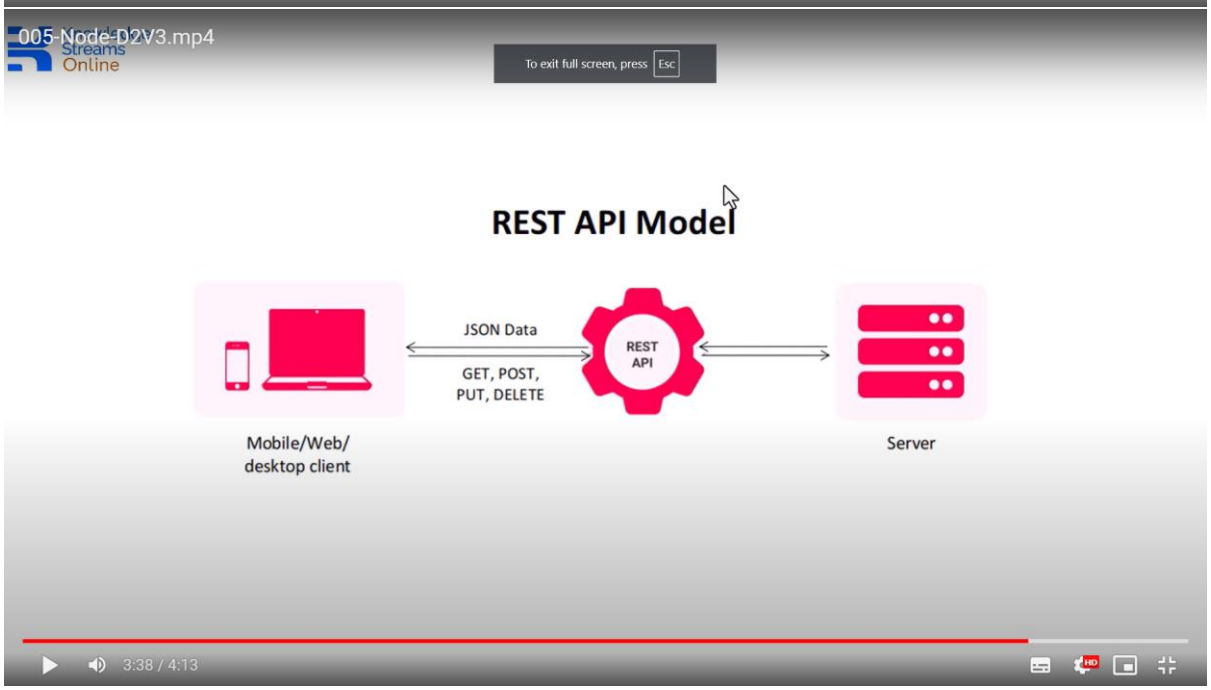
Ye aise function hote hain jo frontend se rquest accept krte hain aur us request ko execute krne k baad response return krte hain

Types of APIS:



Rest API Categories

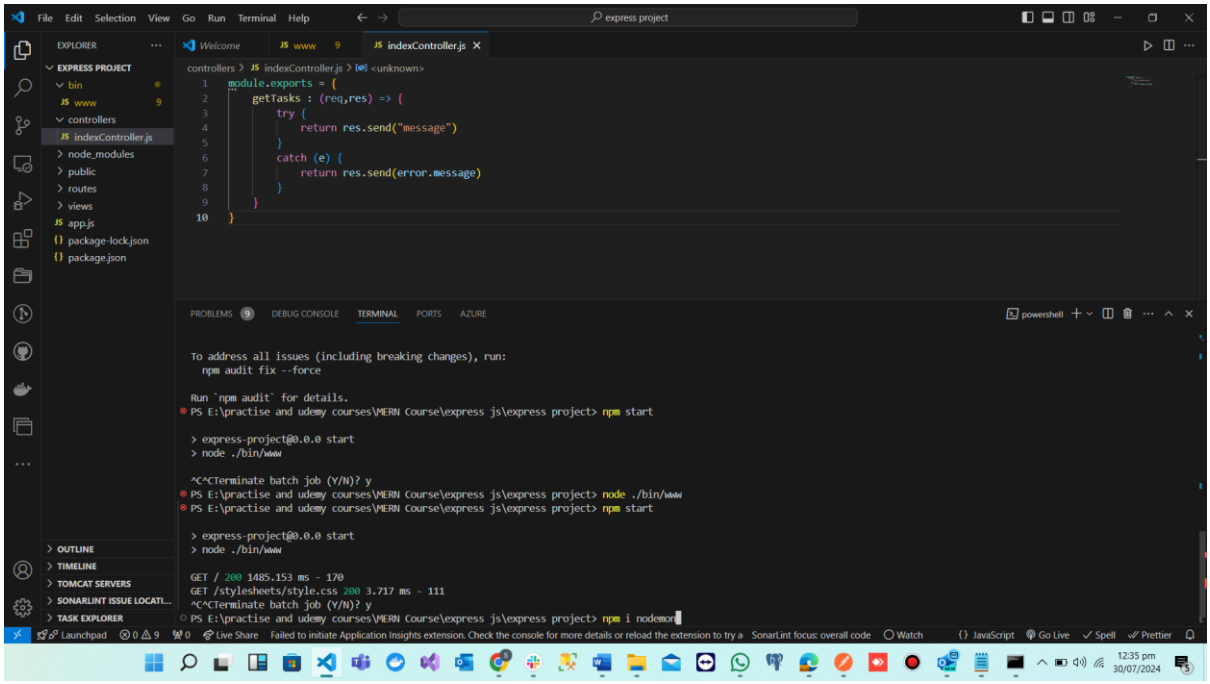




API Methods:

get post push delete

Nodemon

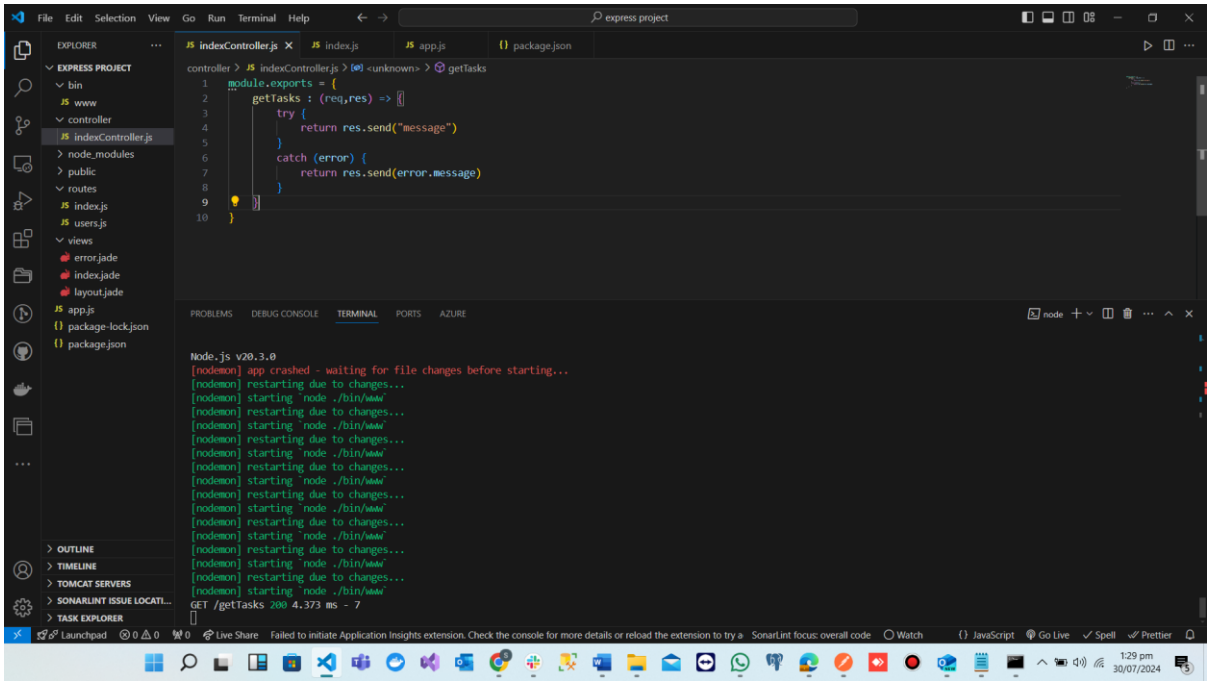


Jab bhi hum backend k code me kuch bhi change krenge tou ye package automatically app ko refresh krdeta ha

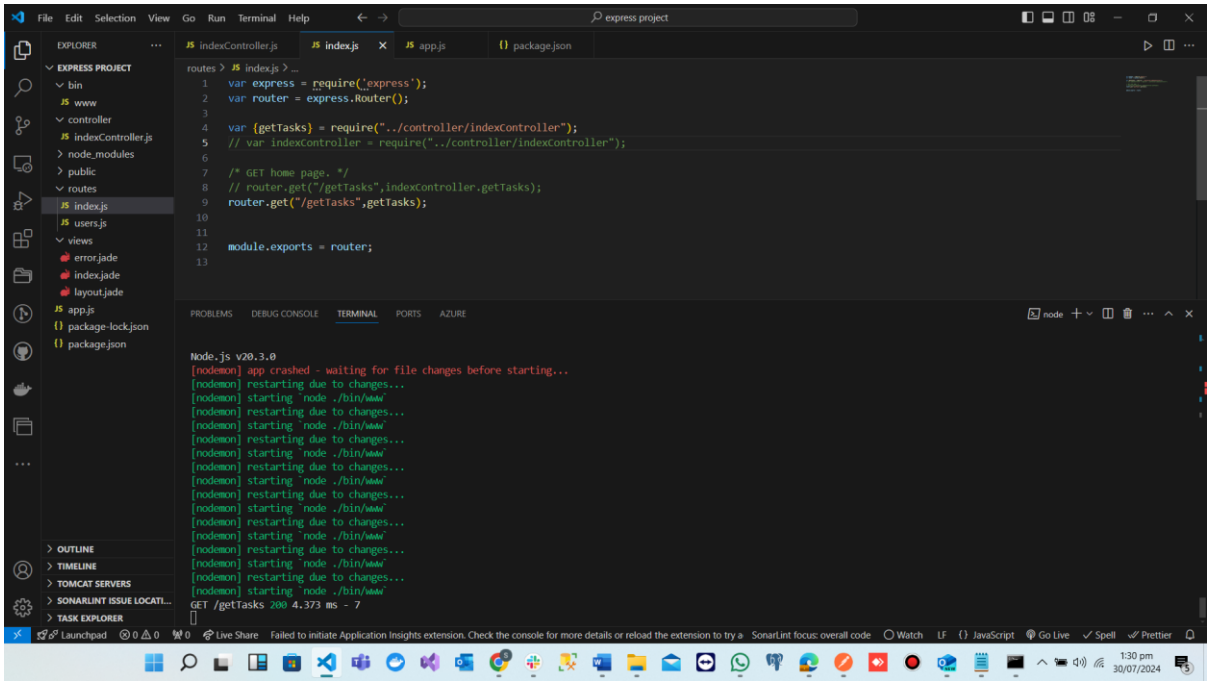
First API

Folder in root direcory: controller

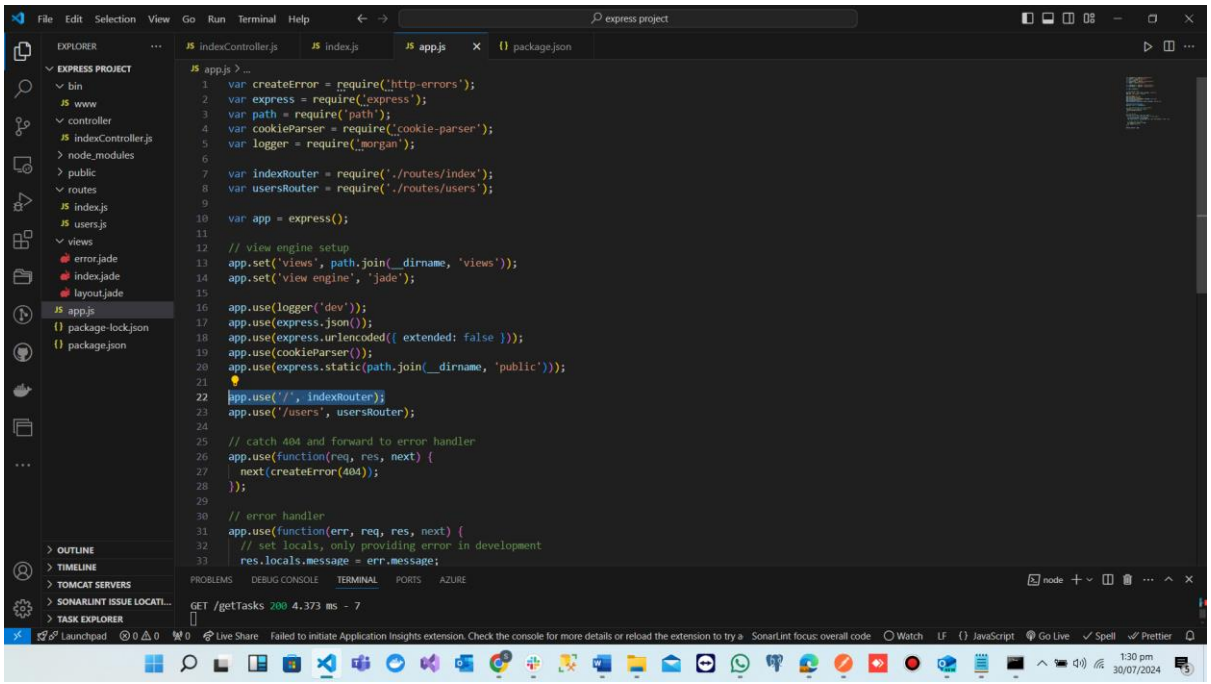
IndexController.js

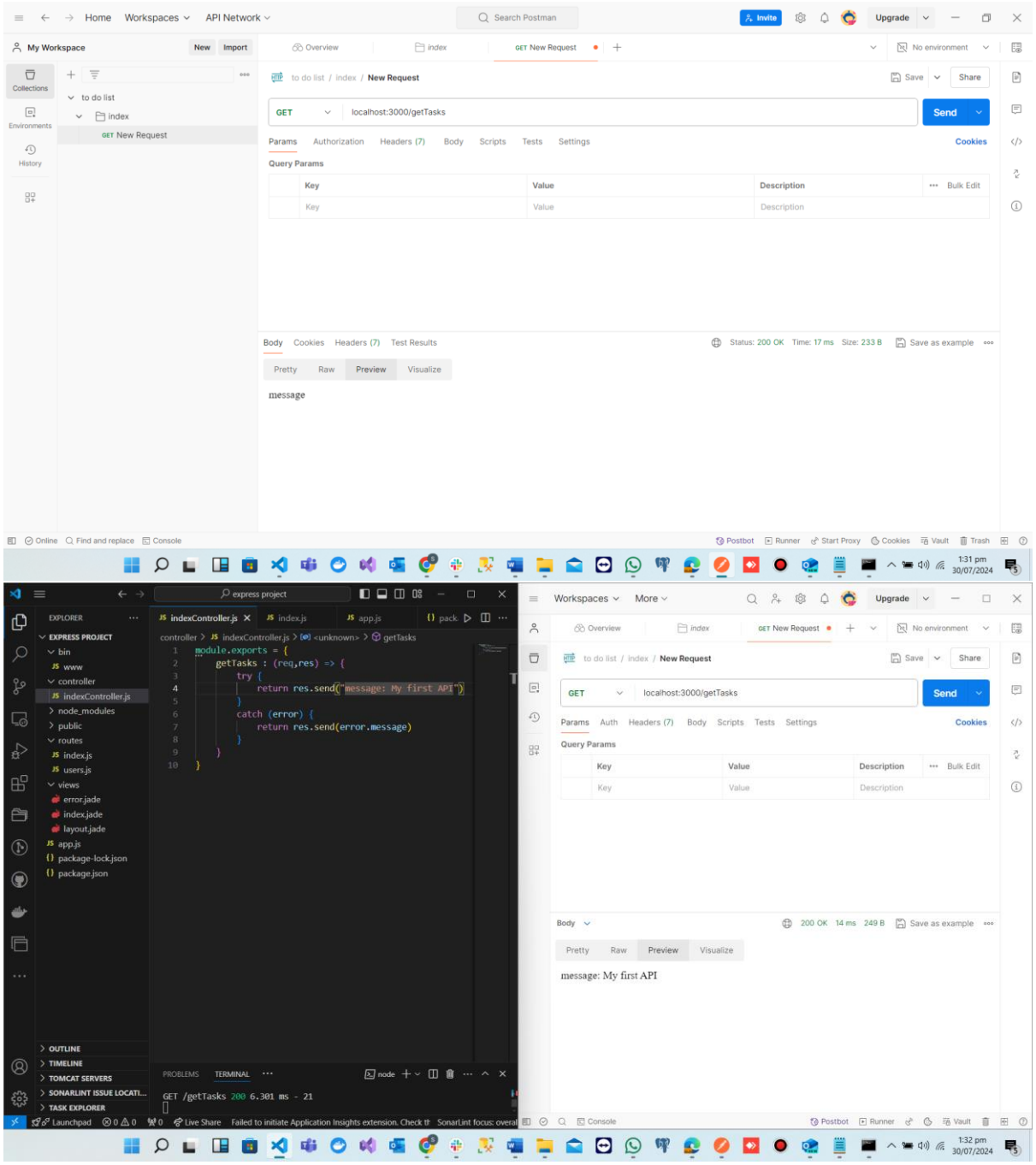


Add path in index.js:



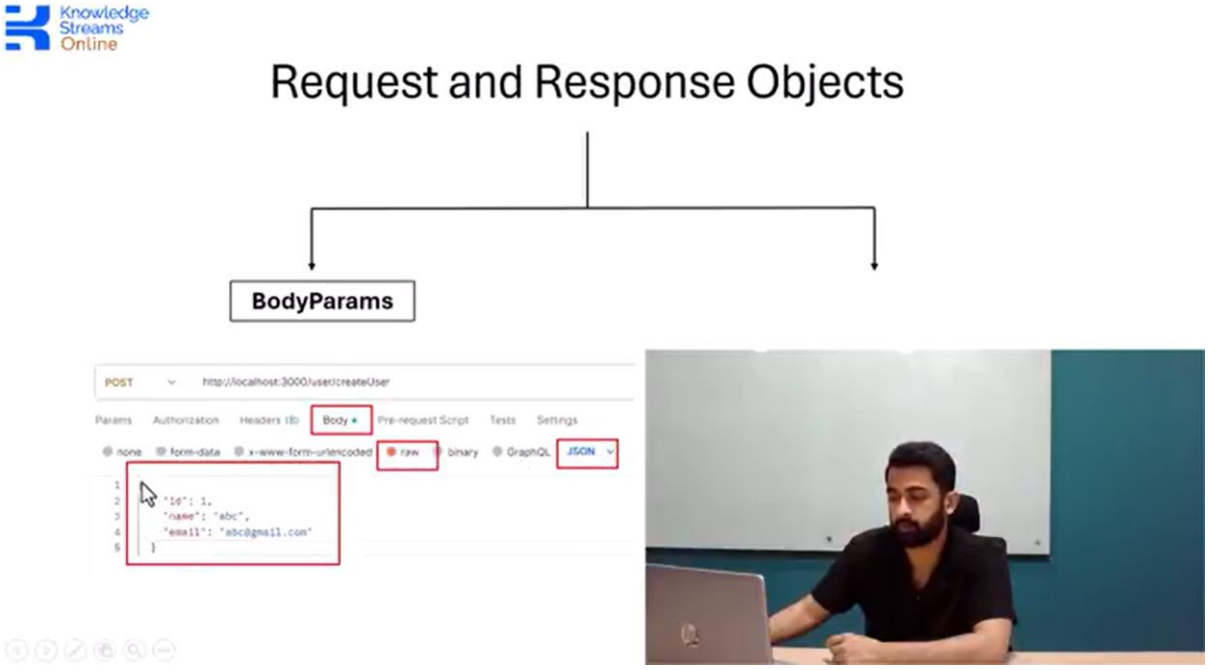
App.js remains default:




Home
Workspaces
API Network
Search Postman
Invite
Upgrade
My Workspace
New
Import
Overview
index
GET New Request
No environment
Collections
Environments
History
to do list
index
GET New Request
to do list / index / New Request
Save
Share
GET
localhost:3000/getTasks
Send
Params
Authorization
Headers (7)
Body
Scripts
Tests
Settings
Cookies
Query Params
Key
Value
Description
Bulk Edit
Body
Cookies
Headers (7)
Test Results
Status: 200 OK
Time: 17 ms
Size: 233 B
Save as example
Pretty
Raw
Preview
Visualize
message
Online
Find and replace
Console
Postbot
Runner
Start Proxy
Cookies
Vault
Trash
1:31 pm
30/07/2024

express project
EXPLORER
EXPRESS PROJECT
bin
www
controller
indexController.js
node_modules
public
routes
index.js
users.js
views
error.jade
index.jade
layout.jade
app.js
package-lock.json
package.json
indexController.js
index.js
app.js
controller > indexController.js > <unknown> > getTasks
module.exports = {
getTasks : (req,res) => {
try {
return res.send("message: My first API")
}
catch (error) {
return res.send(error.message)
}
}
}
OUTLINE
TIMELINE
TOMCAT SERVERS
SONARLINT ISSUE LOCATI...
TASK EXPLORER
PROBLEMS
TERMINAL
node
GET /getTasks 200 6.301 ms - 21
Launchpad
Live Share
Failed to initiate Application Insights extension. Check th
SonarLint focus: overal
Workspaces
More
Upgrade
Overview
index
GET New Request
No environment
to do list / index / New Request
Save
Share
GET
localhost:3000/getTasks
Send
Params
Auth
Headers (7)
Body
Scripts
Tests
Settings
Cookies
Query Params
Key
Value
Description
Bulk Edit
Body
200 OK
14 ms
249 B
Save as example
Pretty
Raw
Preview
Visualize
message: My first API
Console
Postbot
Runner
Vault
1:32 pm
30/07/2024

Body Parameters ; POST / PUT



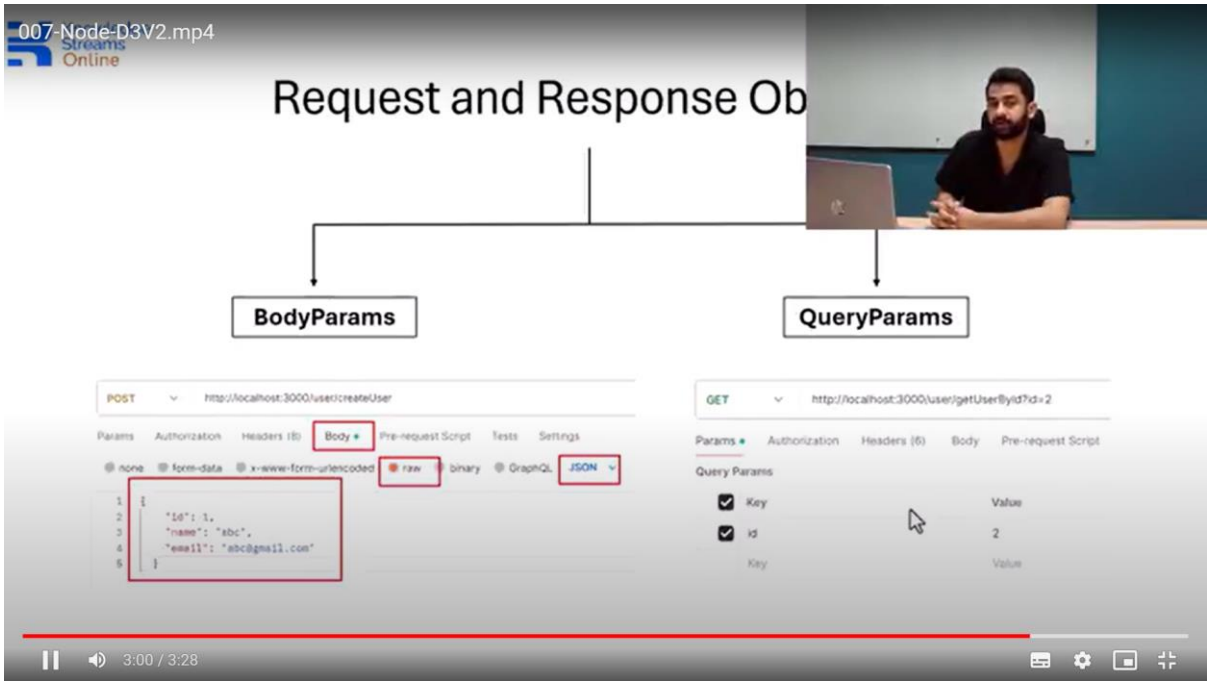
AIK JSON Obj create krlia ab ye request k sath as payload backend ko send hojayega.

Put and Post dono cases me wo reuest k sath bind hoke backend ko rev=ceive hojayega , hum request k obj me se usko get krsakte hain by using **reuqest.body**

Query Parameters ; GET/ DELETE

Query parameters me ham elimited data send krna hota kabhi hame saara data get krna hota ha kabhi koi specific data

aur delete k case me ya tou saare records delete krne hote hain jike lye koi data send krne ki zaroorat nhi ya specifically koi record delete krna hota ha. Ya tou id send krenge ya array of ids to be deleted not all



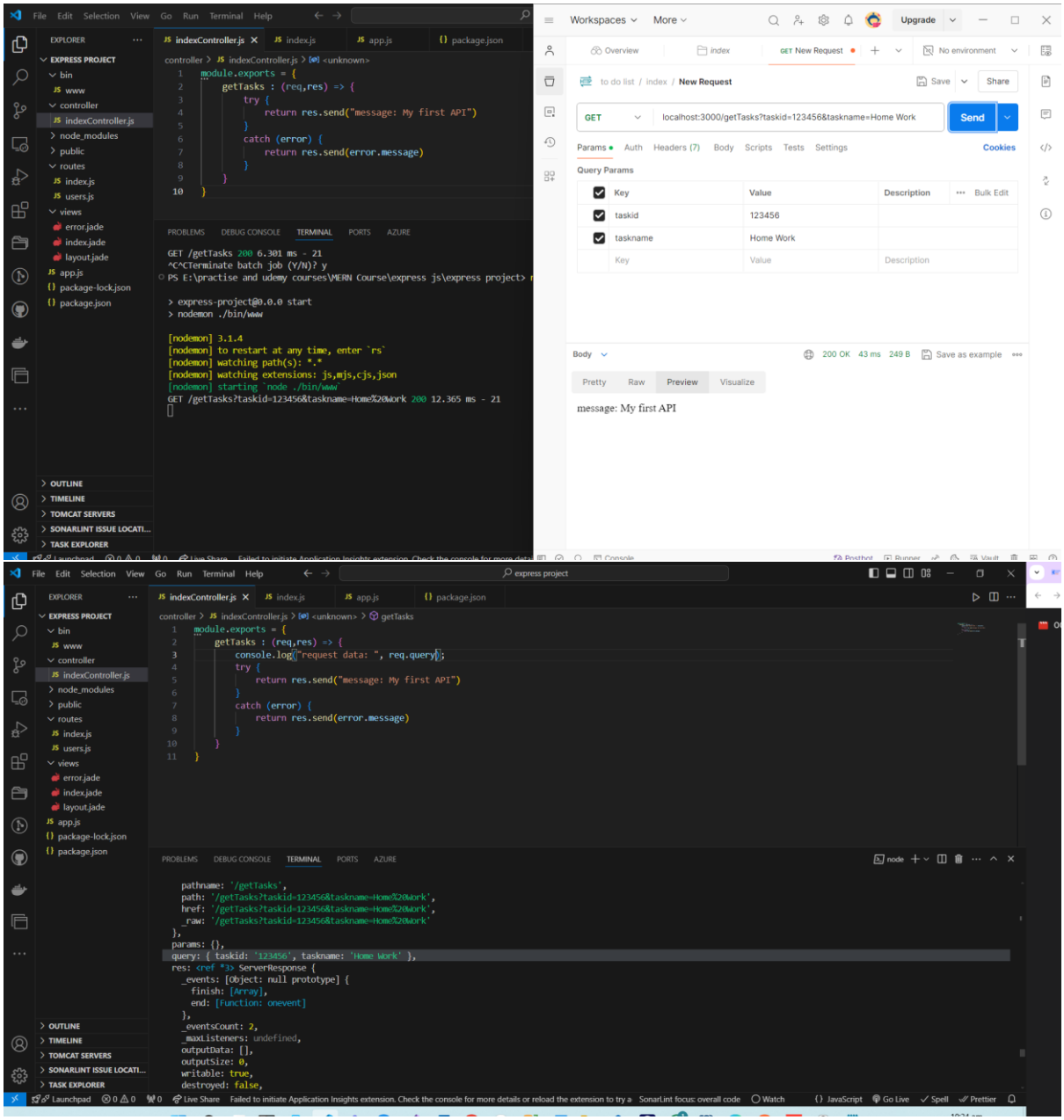
both query paremeters and body parameters are json objects i.e key value pairs aur hum in request.body ya request.query krke get krsakte hain

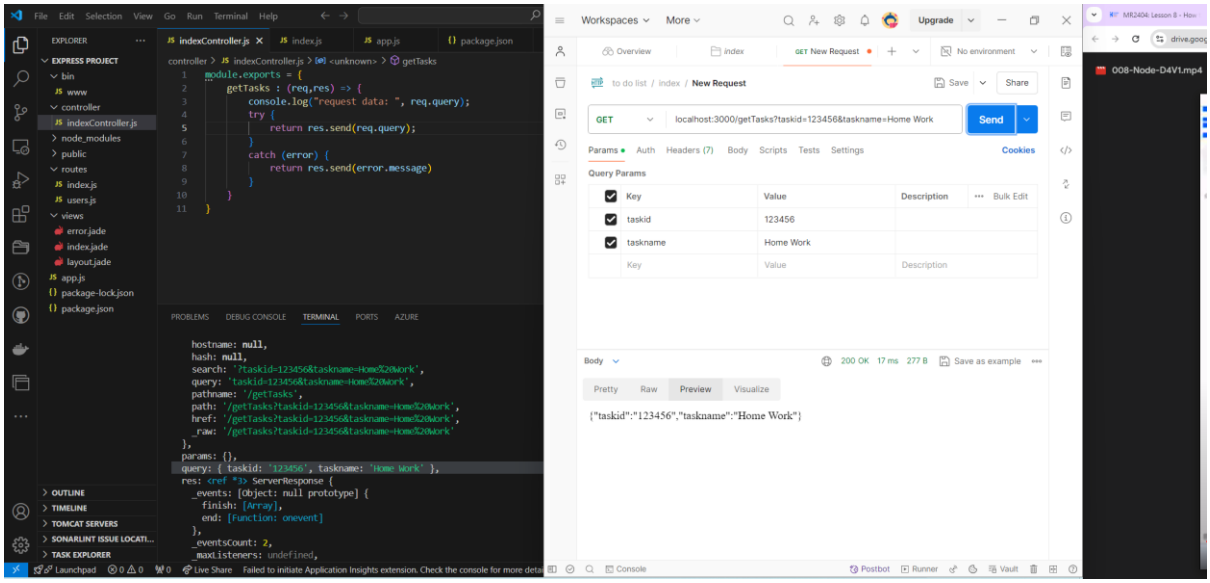
Query params:

Postman me jake query parameter add kia wo automatically url me add hogaye

Phir usko send krke dekha tou terminal pe poora ulr show horaha ha along with parameters

GET Request with QUERY PARAMETERS





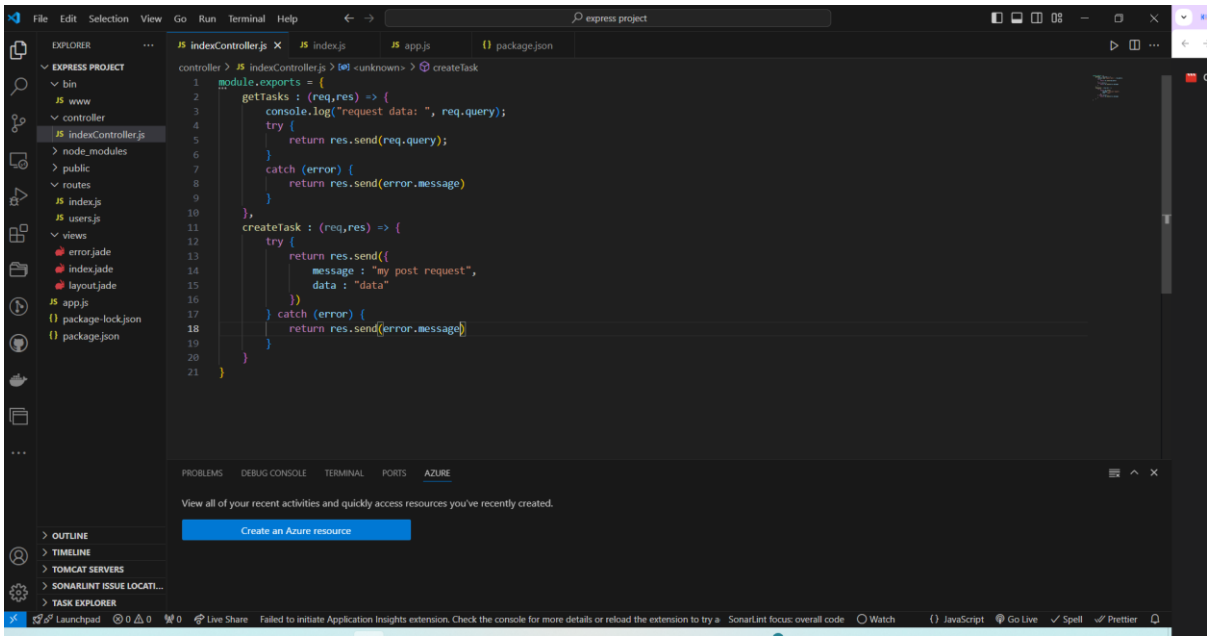
Hamare pas jitni requests hongi unke utne hi controller banengy

Res.send hame single line return krta ha multiple lines agr send krni hain tou object banate hain

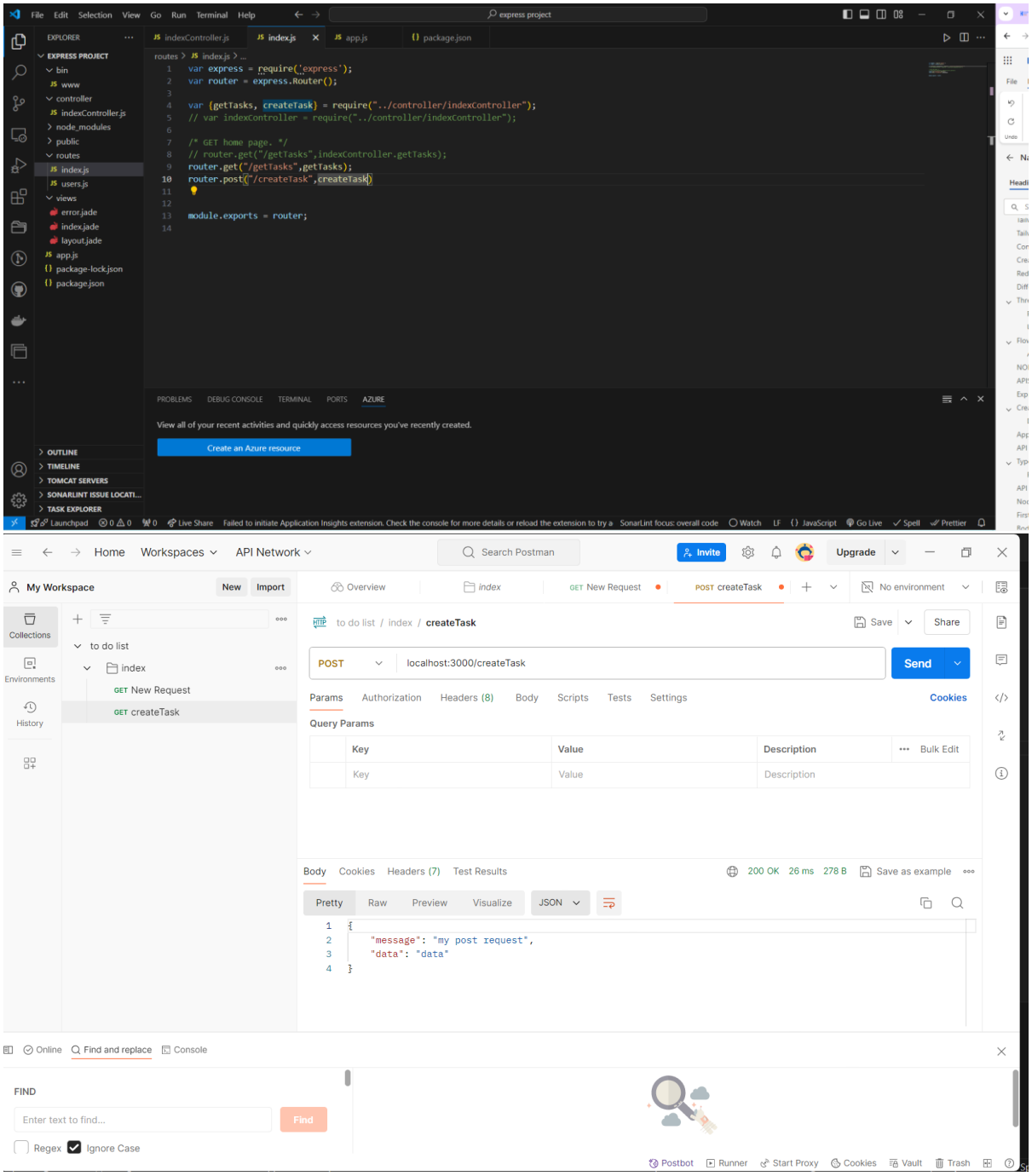
Jaise her request k lye alg controller hoga isi tarah her request k lye different router func bhi hoga

POST Request

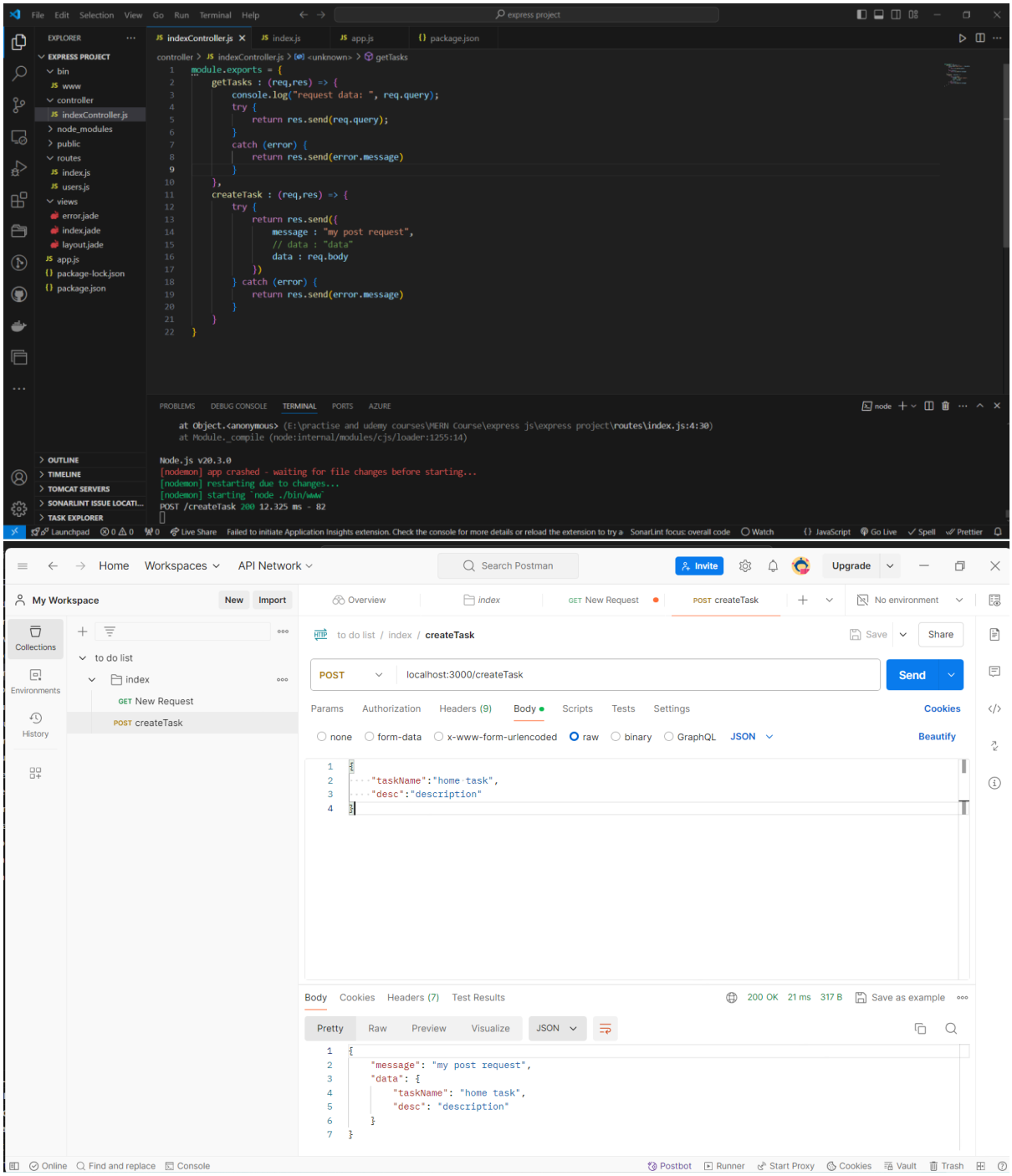
Contoller for post req



Route for post request:

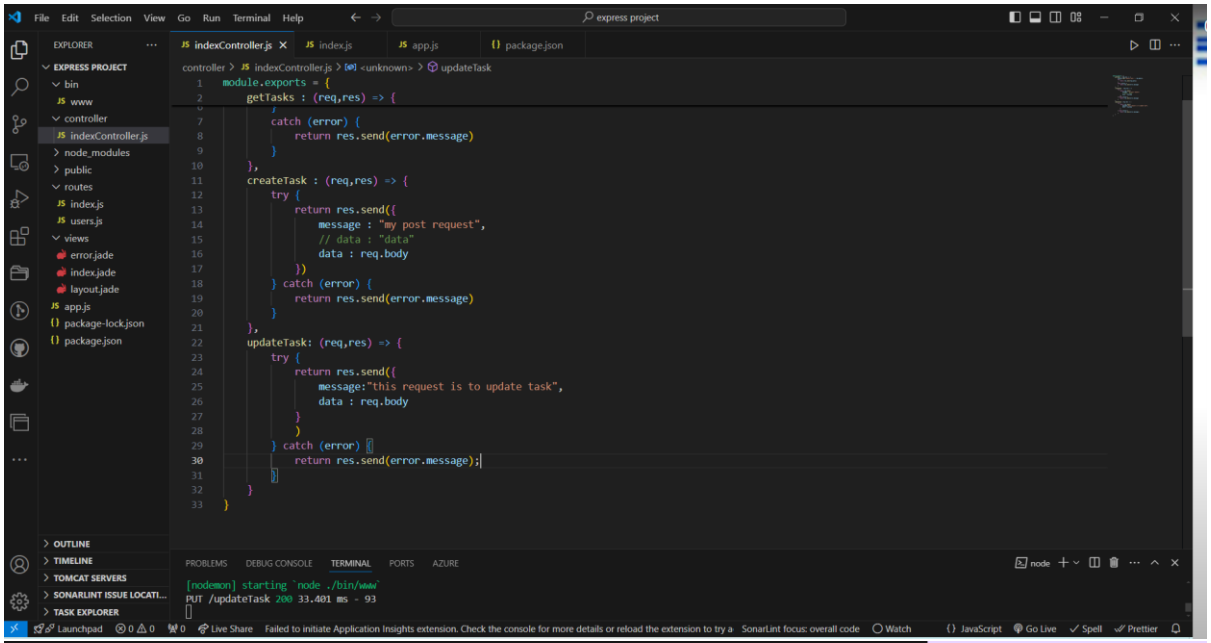


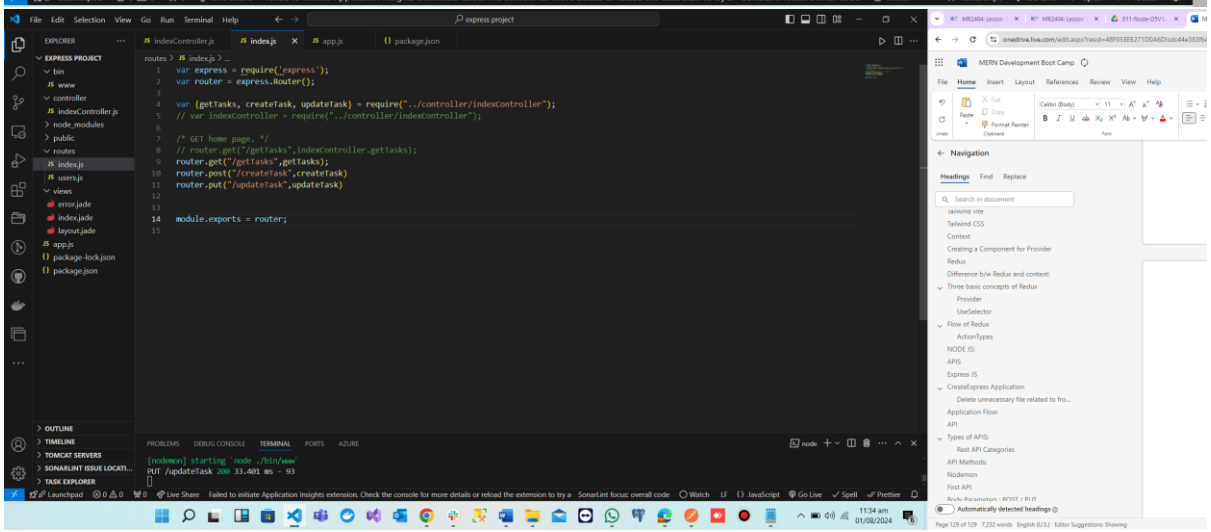
POST method API using body-params

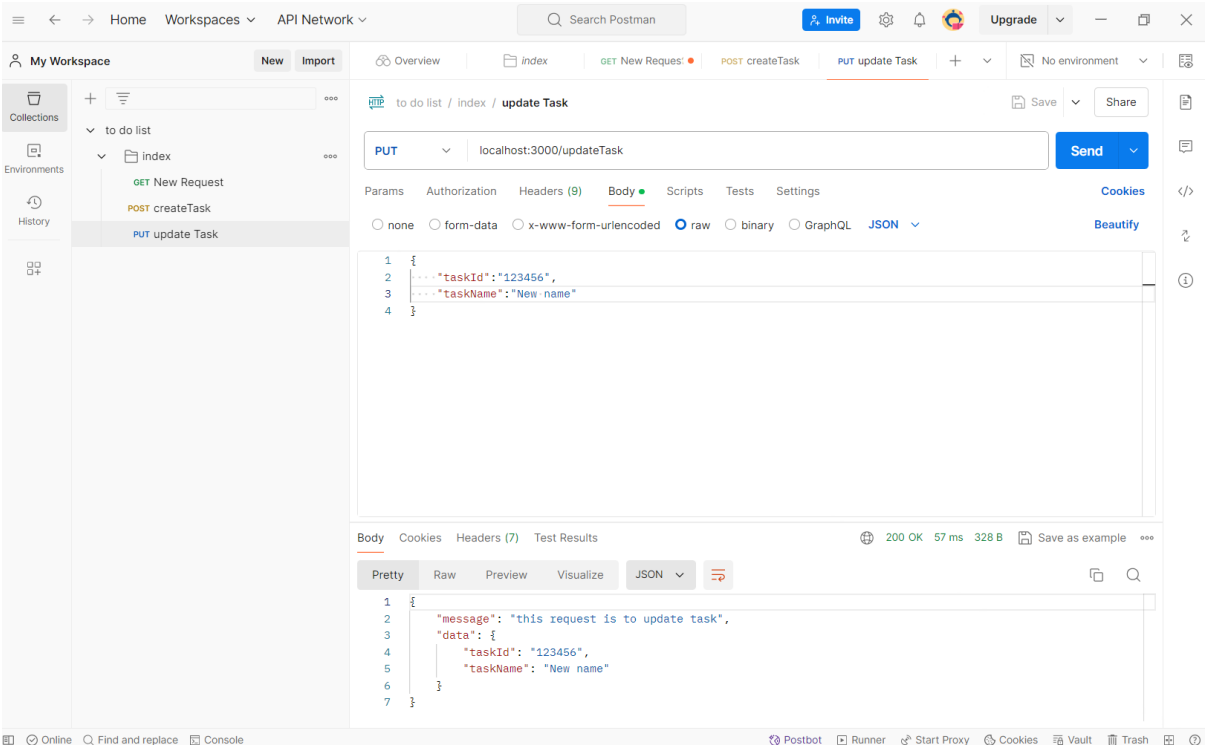


PUT Request:

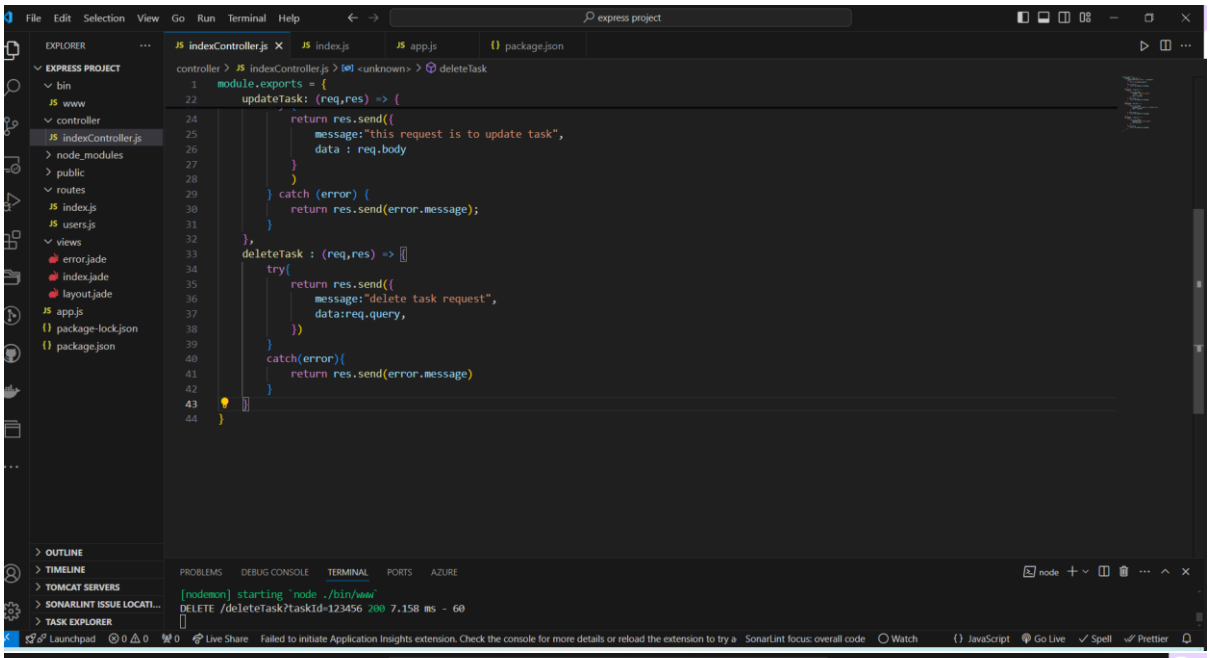
You must have a unique parameter of record jisse aap us particular record ko target krsaken aur update krsaken

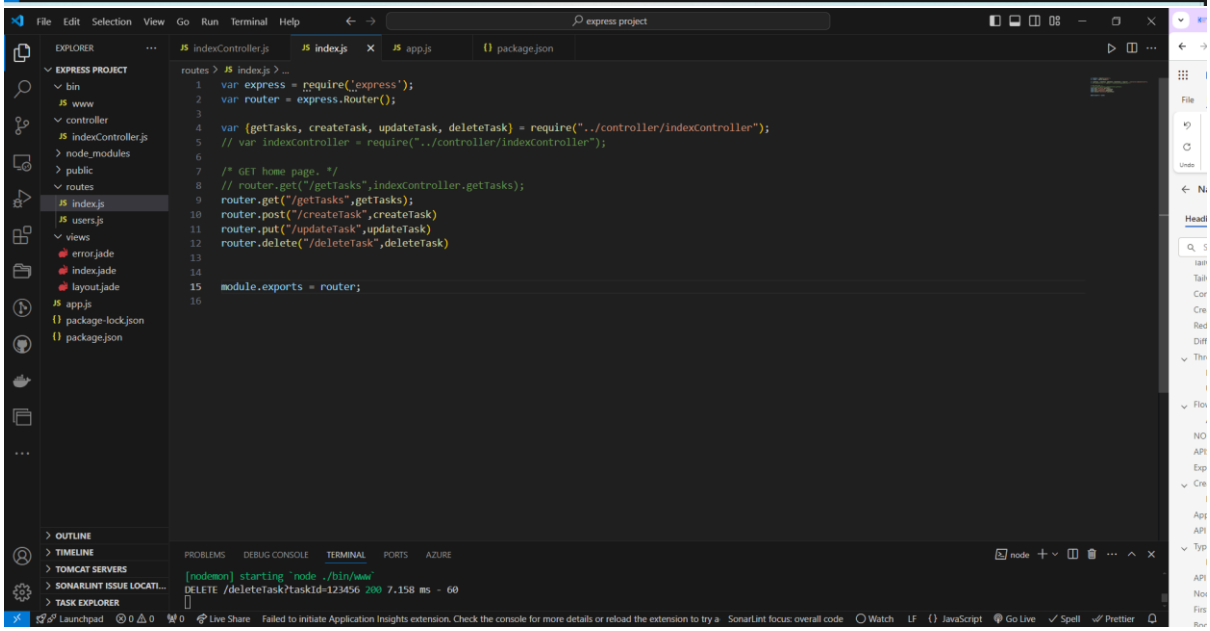

File Edit Selection View Go Run Terminal Help
express project
EXPLORER
EXPRESS PROJECT
bin
www
controller
indexController.js
node_modules
public
routes
index.js
users.js
views
error.jade
index.jade
layout.jade
app.js
package-lock.json
package.json
indexController.js
index.js
app.js
package.json
controller > indexController.js > <unknown> > updateTask
module.exports = {
getTasks : (req,res) => {
catch (error) {
return res.send(error.message)
},
createTask : (req,res) => {
try {
return res.send({
message : "my post request",
// data : "data"
data : req.body
})
} catch (error) {
return res.send(error.message)
},
updateTask: (req,res) => {
try {
return res.send({
message:"this request is to update task",
data : req.body
} catch (error) {
return res.send(error.message);
}
OUTLINE
TIMELINE
TOMCAT SERVERS
SONARLINT ISSUE LOCATI...
TASK EXPLORER
PROBLEMS
DEBUG CONSOLE
TERMINAL
PORTS
AZURE
node
[nodemon] starting `node ./bin/www`
PUT /updateTask 200 33.401 ms - 93
Launchpad
Live Share
Failed to initiate Application Insights extension. Check the console for more details or reload the extension to try a
SonarLint focus: overall code
Watch
JavaScript
Go Live
Spell
Prettier


File Edit Selection View Go Run Terminal Help
express project
indexController.js
index.js
app.js
package.json
routes > index.js > ...
var express = require('express');
var router = express.Router();
var {getTasks, createTask, updateTask} = require("../controller/indexController");
// var indexController = require("../controller/indexController");
/* GET home page. */
// router.get("/getTasks",indexController.getTasks);
router.get("/getTasks",getTasks);
router.post("/createTask",createTask)
router.put("/updateTask",updateTask)
module.exports = router;
[nodemon] starting `node ./bin/www`
PUT /updateTask 200 33.401 ms - 93
MERN Development Boot Camp
Navigation
Headings
Find
Replace
11:34 am
01/08/2024


Home
Workspaces
API Network
Search Postman
Invite
Upgrade
My Workspace
New
Import
Overview
index
GET New Reques
POST createTask
PUT update Task
No environment
Collections
Environments
History
to do list
index
GET New Request
POST createTask
PUT update Task
to do list / index / update Task
Save
Share
PUT
localhost:3000/updateTask
Send
Params
Authorization
Headers (9)
Body
Scripts
Tests
Settings
Cookies
none
form-data
x-www-form-urlencoded
raw
binary
GraphQL
JSON
Beautify
{
"taskId":"123456",
"taskName":"New name"
}
Body
Cookies
Headers (7)
Test Results
200 OK
57 ms
328 B
Save as example
Pretty
Raw
Preview
Visualize
JSON
{
"message": "this request is to update task",
"data": {
"taskId": "123456",
"taskName": "New name"
}
}
Online
Find and replace
Console
Postbot
Runner
Start Proxy
Cookies
Vault
Trash

DeleteTask:


File Edit Selection View Go Run Terminal Help
express project
EXPLORER
EXPRESS PROJECT
bin
www
controller
indexController.js
node_modules
public
routes
index.js
users.js
views
error.jade
index.jade
layout.jade
app.js
package-lock.json
package.json
indexController.js
index.js
app.js
package.json
controller > indexController.js > [ø] <unknown> > deleteTask
module.exports = {
updateTask: (req,res) => {
return res.send({
message:"this request is to update task",
data : req.body
}
)
} catch (error) {
return res.send(error.message);
}
},
deleteTask : (req,res) => {
try{
return res.send({
message:"delete task request",
data:req.query,
})
}
catch(error){
return res.send(error.message)
}
}
}
OUTLINE
TIMELINE
TOMCAT SERVERS
SONARLINT ISSUE LOCATI...
TASK EXPLORER
PROBLEMS
DEBUG CONSOLE
TERMINAL
PORTS
AZURE
node
[nodemon] starting `node ./bin/www`
DELETE /deleteTask?taskId=123456 200 7.158 ms - 60
Launchpad
Live Share
Failed to initiate Application Insights extension. Check the console for more details or reload the extension to try a
SonarLint focus: overall code
Watch
JavaScript
Go Live
Spell
Prettier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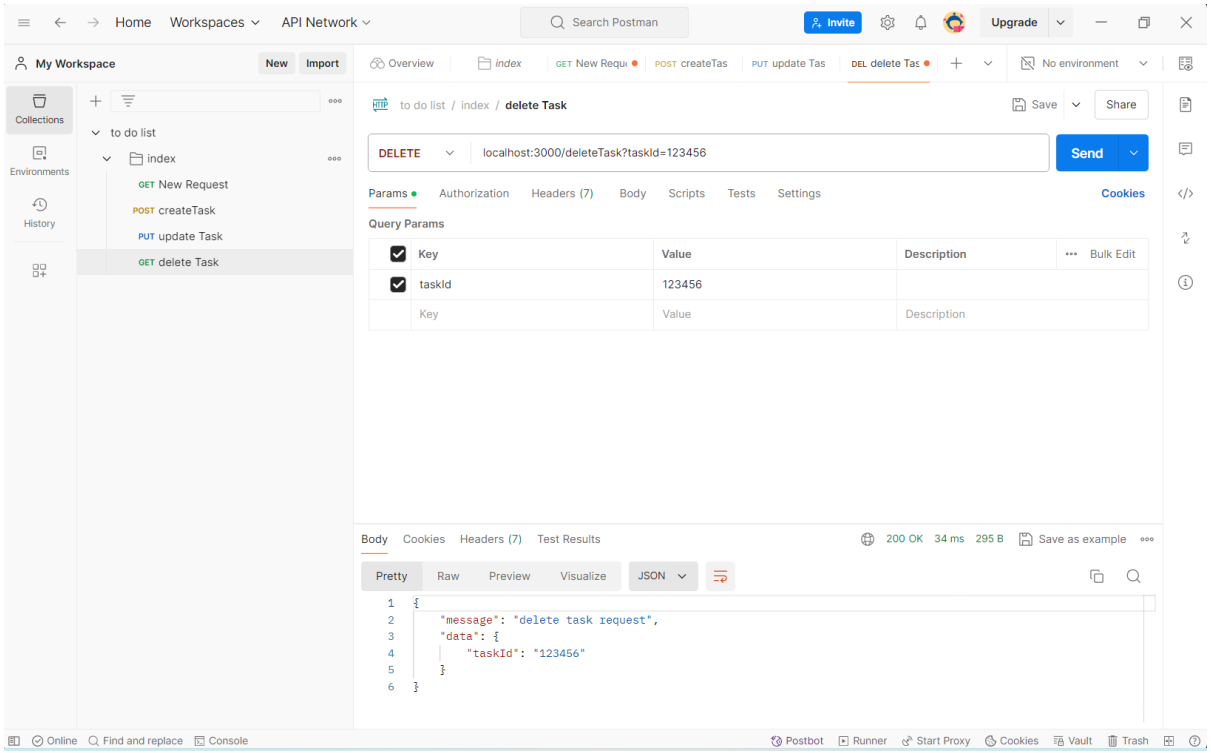
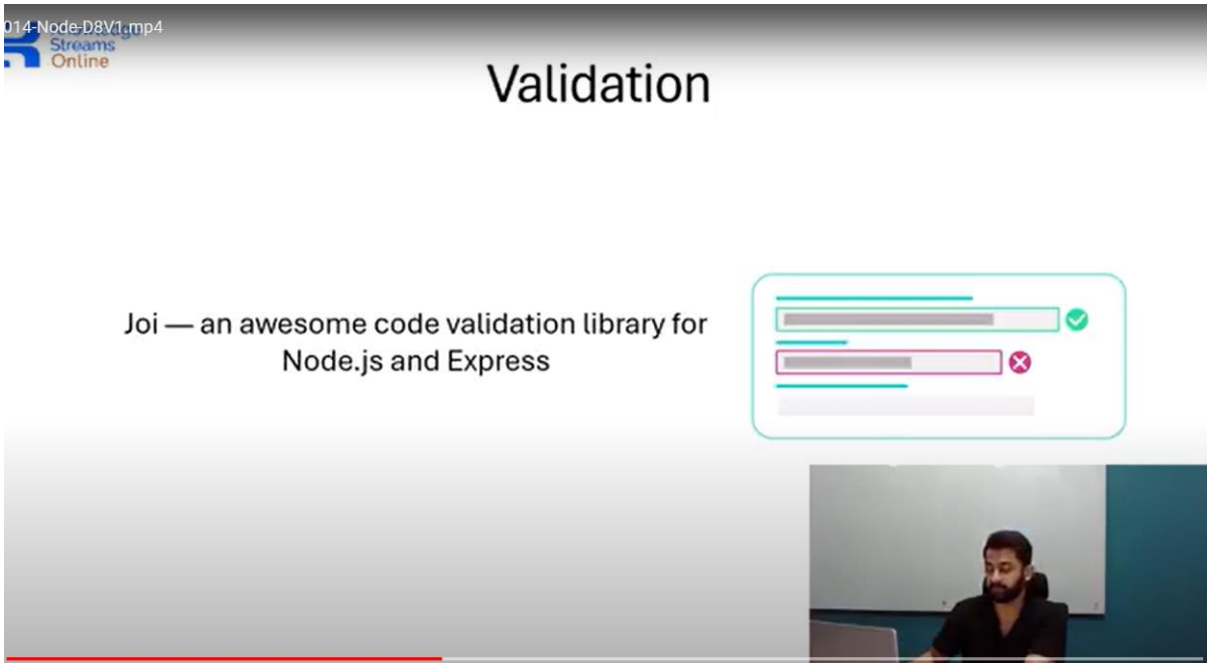
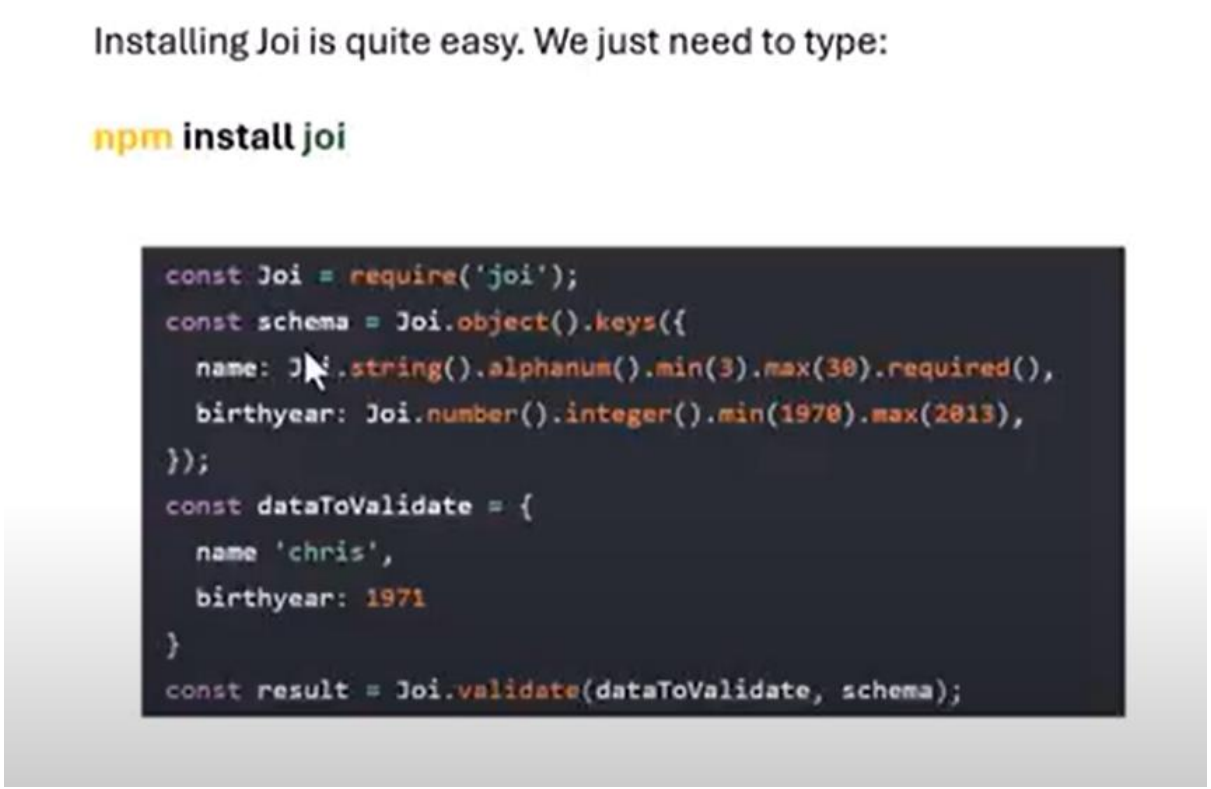


Validation- JOI

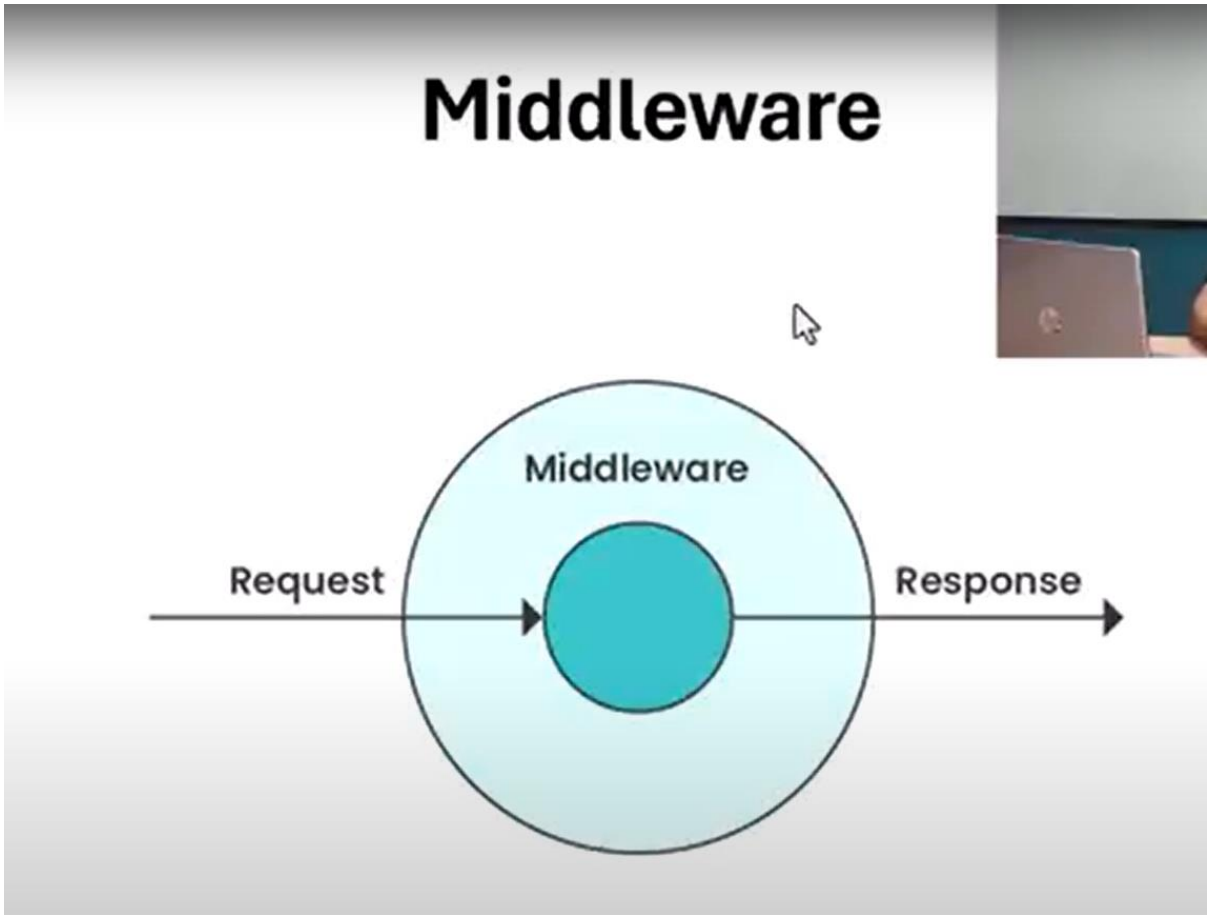
Both frontend and backend validations are necessary





1. Pkg ko import kia ha aik variable k ander
2. Create schema
    a. What is schema?
    b. Q k JOI aik json object ko validate kr raha ha q k hamara input data ya tou body parameters hote hain ya query parameters in both the cases aik json obj ha then obj.keys ka matlab ha k wo un keys ko in eys k upper map krega jo aapne yhaan define ki hain pehle key match hogi agr wo key exit kregi tou wo validate krega aur wo key hi nhi hogi tou error generate hojayega

Middleware

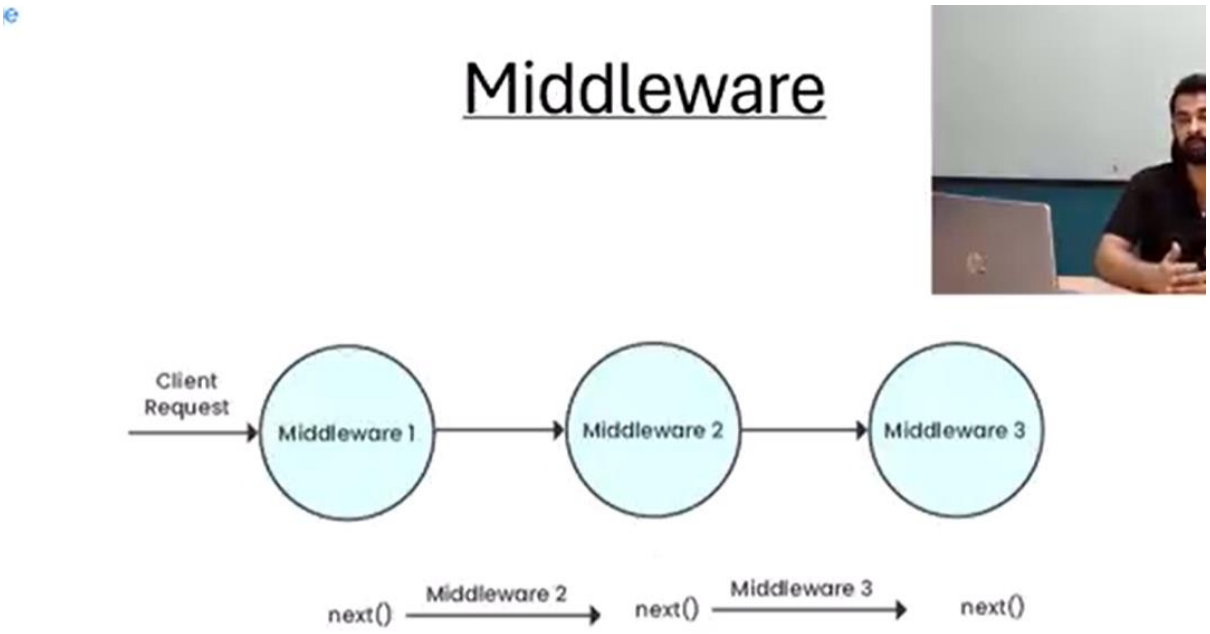


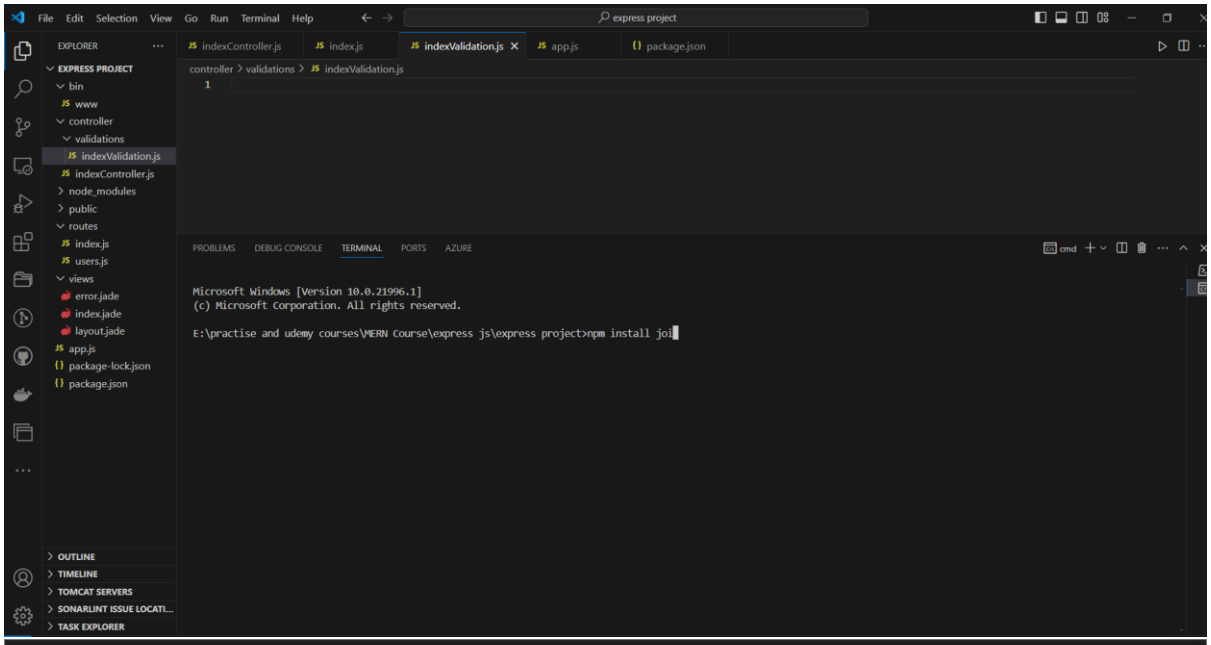
Request jb client se accept krte hain tou pehle usko aik function me pas krke validate krte hain phir backend ko send krte hain un functions ko middleware kehte hain

Request aur controller k dermian me aik middle function hota ha -->middleware

Middleware if validate --> controller otherwise sent response back to client

Next function





File Edit Selection ··· express project

EXPLORER

EXPRESS PROJECT

- bin
  - www
- controller
  - validations
    - indexValidation.js
  - indexController.js
- node_modules
- public
- routes
  - index.js
  - users.js
- views
  - error.jade
  - index.jade
  - layout.jade
- app.js
- package-lock.json
- package.json

OUTLINE
TIMELINE
TOMCAT SERVERS
SONARLINT ISSUE LOCATI...
TASK EXPLORER

indexController.js | index.js | indexValidation.js | app.js

controller > validations > indexValidation.js > <unknown> > createTaskSchema

```
1  const joi = require("joi")
2
3  module.exports = {
4      createTaskSchema : (req,res, next) => {
5          try {
6              const Schema = joi.object().keys({
7                  taskName : joi.string().required().min(3).max(30),
8                  taskDescription: joi.string().required(),
9              })
10
11             const validate = Schema.validateAsync()
12         } catch (error) {
13             return res.send(error.message);
14         }
15     }
16 }
```

PROBLEMS DEBUG CONSOLE TERMINAL PORTS AZURE node

```
[nodemon] starting `node ./bin/www`
[nodemon] restarting due to changes...
[nodemon] starting `node ./bin/www`
[nodemon] restarting due to changes...
[nodemon] starting `node ./bin/www`
[nodemon] restarting due to changes...
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[nodemon] restarting due to changes...
[nodemon] starting `node ./bin/www`
[nodemon] restarting due to changes...
[nodemon] starting `node ./bin/www`
```
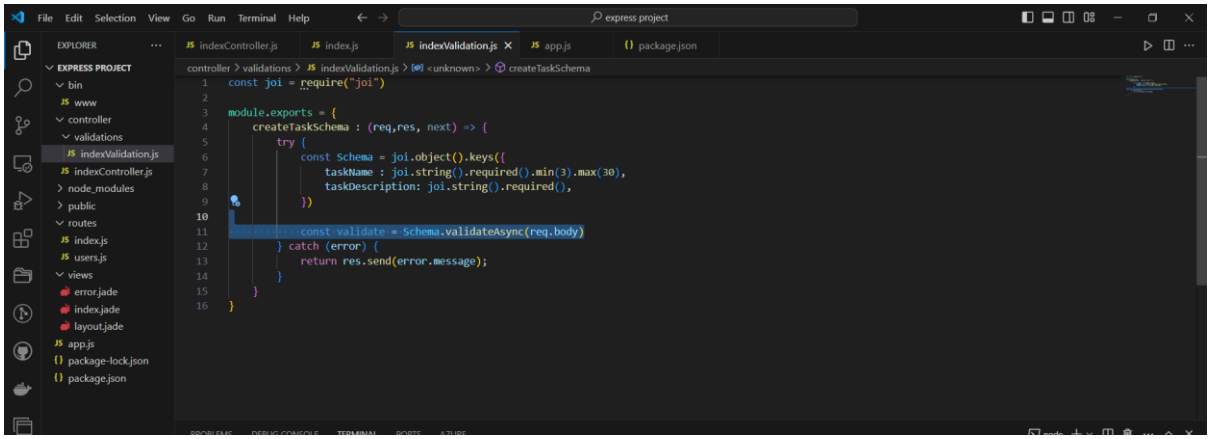

Launchpad ⊗ 0 ⚠ 0 0 Live Share Failed to initiate Application Insights extension. Check the console SonarLint focus: overall code

ValidateAsync():

We are using validateAsync and not validate because validate promise nhi h , we want jab tk validation complete na hojaye request aage na brhe. Therefore we are using validateAsync jo k 1 promise h jo make sure krega k wo kuch return hoga tou uska hum wait krsakte hain



Q k ye aik post req ha aur post req front end se request aur body accept krti h tou ham yahan req.body add krenge, req

.body k ander jitni keys ha wo un keys ko schema ki keys k sath compare krega aur unko validate krega, in that case agr kahin pe bhi comparison equal nhi hota tou wo usko return krdega aur error generate krdega

Promise k lye zaroorat hoti h k hum await add kren

Await hamesha async func k sath aata ha