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React - Module-3) React - Components, State, Props

• What is React Js?

➔ React is a JavaScript library for building user interfaces.React is used to build single-page applications.

React allows us to create reusable UI components.

• What is NPM in React Js?

➔ It stands for Node Package manager. It helps in Installing Packages in NodeJS.

• What is Role of Node Js in react Js?

➔ Node JS is known to be the most suitable platform for hosting and running web servers for applications built on React. The two primary reasons for this are; Node uses a node package manager or an NPM to install all new updates and packages.

• What is CLI command In React Js?

➔ React CLI is a ReactJS component that provides a simple way to present a command line interface to our user in your web app.

• What is Components in React Js?

➔ Components are independent and reusable bits of code. They serve the same purpose as JavaScript functions, but work in isolation and return HTML.Components come in two types, Class components and Function components, in this tutorial we will concentrate on Function components.

• How to install React Js on Windows, Linux Operating System? How to install NPM and How to check version of NPM?

➔ **Step 1**: Install Node.js installer for windows. install the LTS version (the one present on the left). Once downloaded open NodeJS without disturbing other settings, click on the Next button until it's completely installed.

➔ **Step 2**: Open command prompt to check whether it is completely installed or not type the command (`node-v`) If the installation went well it will give you the version you have installed

➔ **Step 3**: Now in the terminal run the below command: (`npm install -g create-react-app`)It will globally install react app for you.

• How to check version of React Js?

➔ To check everything went well run the command (`create-react-app –version`)If everything went well it will give you the installed version of react app

• How to change in components of React Js?

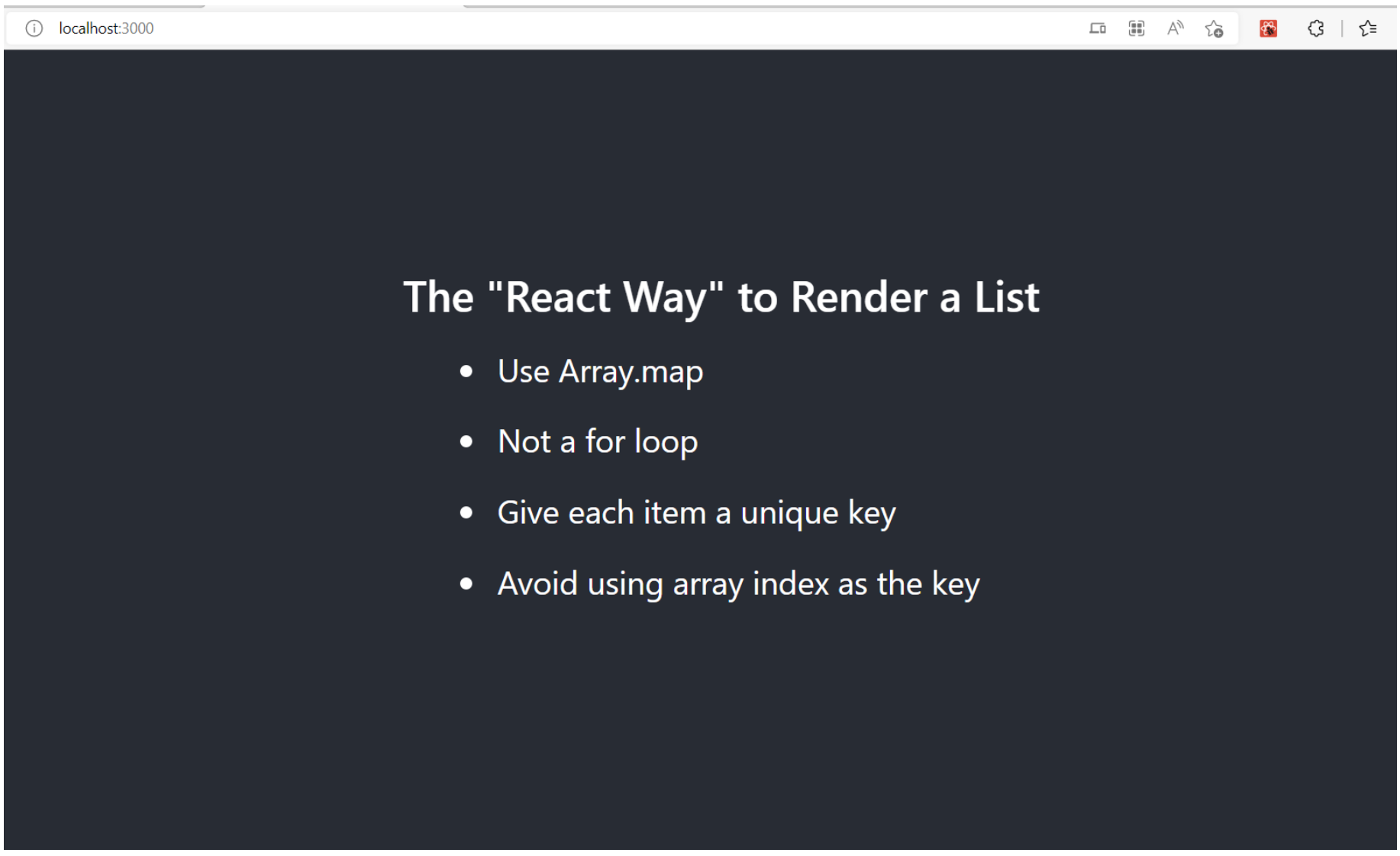
➔ Components are the building blocks of any React app. Components let you split the UI into independent, reusable pieces, and think about each piece in isolation. Components are like JavaScript functions. They accept arbitrary inputs (called "props") and return React elements describing what should appear on the screen. Always start component names with a capital letter.

• How to Create a List View in React Js?

```
import React from 'react'

export default function List_View() {
    const data =
        ['Use Array.map',
            'Not a for loop',
            'Give each item a unique key',
            'Avoid using array index as the key']
    // const listItems = data.map((value) =>
    //     <li>{value}</li>
    // );
    const listItems = data.map((value) =>
        <li key={value.toString()}>
            {value}
        </li>
    );
    return (
        <>

            <ul>{listItems}</ul>
        </>
    )
}
```



- **Create Increment decrement state change by button click?**

```jsx
import React, { useReducer, userState } from 'react'

const initialState = { count: 0 }
const reducer = (state, action) => {
    if (action.type === 'incr') {
        return { count: state.count + 1 }
    }
    if (action.type === 'decr') {
        return { count: state.count - 1 }
    }
    if (action.type === 'reset') {
        return { count: state.count = 0 }
    }

}

export default function UseReducer() {
    const [state, dispatch] = useReducer(reducer, initialState)
    return (
        <>
            <h1>{state.count}</h1>
            <div>
                <button onClick={() => dispatch({ 'type': 'incr' })}>Increament</button>
                <button onClick={() => dispatch({ 'type': 'decr' })}>Decreament</button>
            </div>
            <div>
                <button onClick={() => dispatch({ 'type': 'reset' })}>Reset</button>
            </div>
        </>
    )
}
```