React Forms

Forms are an integral part of any modern web application. It allows the users to interact with the application as well as gather information from the users. Forms can perform many tasks that depend on the nature of your business requirements and logic such as authentication of the user, adding user, searching, filtering, booking, ordering, etc. A form can contain text fields, buttons, checkbox, radio button, etc.

In React, form data is usually handled by the components. When the data is handled by the components, all the data is stored in the component state. You can control changes by adding event handlers in the onChange attribute and that event handler will be used to update the state of the variable.

Adding Forms in React

You add a form with React like any other element:

```
function MyForm() {

  return (

    <form>

      <label>Enter your name:

        <input type="text" />

      </label>

    </form>

  )

}
```

Handling Forms

Handling forms is about how you handle the data when it changes value or gets submitted.

In React, form data is usually handled by the components.

When the data is handled by the components, all the data is stored in the component state.

You can control changes by adding event handlers in the `onChange` attribute.

We can use the `useState` Hook to keep track of each inputs.

```
import { useState } from 'react';
function MyForm() {
  const [name, setName] = useState("");

  return (
    <form>
      <label>Enter your name:
        <input
          type="text"
          value={name}
          onChange={(e) => setName(e.target.value)}
        />
      </label>
    </form>
  )
}
```

Submitting Forms

You can control the submit action by adding an event handler in the `onSubmit` attribute for the `<form>`:

```
import { useState } from 'react';
function MyForm() {
  const [name, setName] = useState("");

  const handleSubmit = (event) => {
    event.preventDefault();
    alert(`The name you entered was: ${name}`)
  }
  return (
    <form onSubmit={handleSubmit}>
      <label>Enter your name:
        <input
          type="text"
          value={name}
          onChange={(e) => setName(e.target.value)}
        />
      </label>
      <input type="submit" />
    </form>
  )
}
```

Textarea

The textarea element in React is slightly different from ordinary HTML.

In React the value of a textarea is placed in a value attribute. We'll use the `useState` Hook to mange the value of the textarea:

```
import { useState } from 'react';
function MyForm() {
  const [textarea, setTextarea] = useState(
    "The content of a textarea goes in the value attribute"
  );
  const handleChange = (event) => {
    setTextarea(event.target.value)
  }
  return (
    <form>
      <textarea value={textarea} onChange={handleChange} />
    </form>
  )
}
```

Select

A drop down list, or a select box, in React is also a bit different from HTML.

In React, the selected value is defined with a `value` attribute on the `select` tag:

```
function MyForm() {
  const [myCar, setMyCar] = useState("Volvo");
  const handleChange = (event) => {
    setMyCar(event.target.value)
  }
  return (
    <form>
      <select value={myCar} onChange={handleChange}>
        <option value="Ford">Ford</option>
        <option value="Volvo">Volvo</option>
        <option value="Fiat">Fiat</option>
      </select>
    </form>
  )
}
```

Radio Button

Program:- Create a React Form for select any of pizza size using radio button.

```
import React from 'react';
import { useState } from 'react';
function Myform() {
  const [topping, setTopping] = useState('Medium');
  const onOptionChange = e => {
    setTopping(e.target.value);
  };
  return (
    <div>
      <h3>Select Pizza Size</h3>
      <form>
        <input
          type='radio'
          name='topping'
          value='Regular'
          checked={topping === 'Regular'}
          onChange={onOptionChange}
        />
        <label>Regular</label>

        <input
          type='radio'
          name='topping'
          value='Medium'
          checked={topping === 'Medium'}
          onChange={onOptionChange}
        />
        <label>Medium</label>


        <input
          type='radio'
          name='topping'
          value='Large'
          checked={topping === 'Large'}
          onChange={onOptionChange}
        />
        <label>Large</label>
      </form>
      <p>
        Select topping <strong>{topping}</strong>
      </p>
    </div>
  );
}
export default Myform
```

Program:- Create a React Form for email and password validation.

```
import React ,{  useState} from 'react'

const Formapplication = () =>
{
     const[email,setEmail]= useState("");
     const[pass,setPass]= useState("");
      const handleEmailchange=((e)=>
           {
              setEmail(e.target.value);
            });
      const handlePasswordchange=((e)=>
         {
                 setPass(e.target.value);
          });
```

```
 const handleSubmit=((e)=>
  {
     e.preventDefault();
     const regexEmail=/^\w+([\.-]?\w+)*@\w+([\.-]?\w+)*(\.\w{2,3})+$/;
     const regexPass=/^[A-Za-z]\w{8,}$/;

     if(!regexEmail.test(email))
             {  alert("enter valid email address");}
     if(!regexPass.test(pass))
        {  alert("Password must have 8 characters which contain only
                characters,  numeric digits, underscore and first
                character must be a letter");
        }

               setEmail("");
               setPass("");
   } );

 return (

   <form onSubmit={handleSubmit}>
    <label>E-Mail:
   <input type="email" value={email} onChange={handleEmailchange}/>
   </label>     <br/>
   <label>Password:
   <input type="password"value={pass} onChange={handlePasswordchange}/>
   </label>      <br/>

    <button type="submit">submit</button>
    </form>

    )
}

export default Formapplication
```

Program:- Create a Sign-up form using React asking for username, age, email, password, and confirm password. When the user clicks on the 'submit' button, it will display an alert box with a username, age, and email details entered by the user.

```
import React, {useState} from 'react';

function App1() {

      const [name , setName] = useState('');

      const [age , setAge] = useState('');

      const [email , setEmail] = useState('');
```

```
    const [password , setPassword] = useState('');
    const [confPassword , setConfPassword] = useState('');
    const handleChange =(e)=>{
    setName(e.target.value);
    }
    const handleAgeChange =(e)=>{
    setAge(e.target.value);
    }
    const handleEmailChange =(e)=>{
    setEmail(e.target.value);
    }
    const handlePasswordChange =(e)=>{
    setPassword(e.target.value);
    }
    const handleConfPasswordChange =(e)=>{
    setConfPassword(e.target.value);
    }
    const handleSubmit=(e)=>{
    if(password!=confPassword)
    {       alert("password Not Match");
    }
    else{
        alert('A form was submitted with Name :"' + name +
        '" ,Age :"'+age +'" and Email :"' + email + '"');
    }
    e.preventDefault();
    }
return (
    <div >
    <form onSubmit={(e) => {handleSubmit(e)}}>
    <h3> Sign-up Form </h3>
```

```
              <label >
            Name:
            </label><br/>
            <input type="text" value={name} required onChange={(e)
                  => {handleChange(e)}} /><br/>
            <label >
            Age:
            </label><br/>
            <input type="text" value={age} required onChange={(e)
                  => {handleAgeChange(e)}} /><br/>
            <label>
            Email:
            </label><br/>
            <input type="email" value={email} required onChange={(e)=>
{handleEmailChange(e)}} /><br/>
            <label>
            Password:
            </label><br/>
            <input type="password" value={password} required
onChange={(e) => {handlePasswordChange(e)}} /><br/>
            <label>
            Confirm Password:
            </label><br/>
            <input type="password" value={confPassword} required
onChange={(e)=> {handleConfPasswordChange(e)}} /><br/>         <input
type="submit" value="Submit"/>
      </form>
      </div>
);
}
export default App1;
```