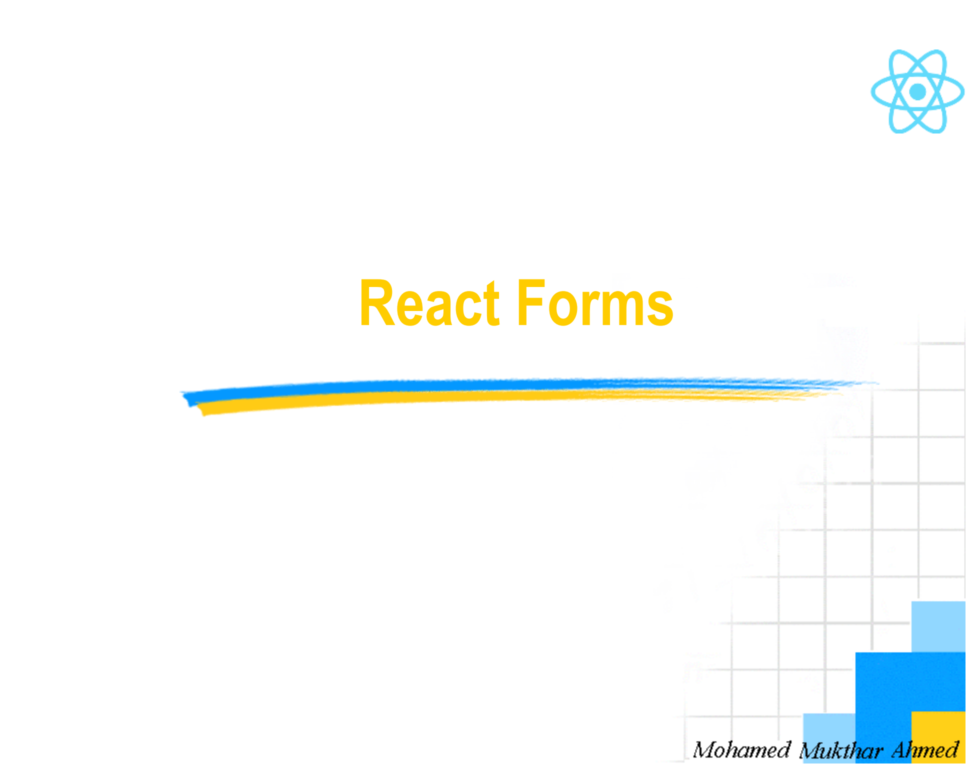

React Forms

Mohamed Mukthar Ahmed

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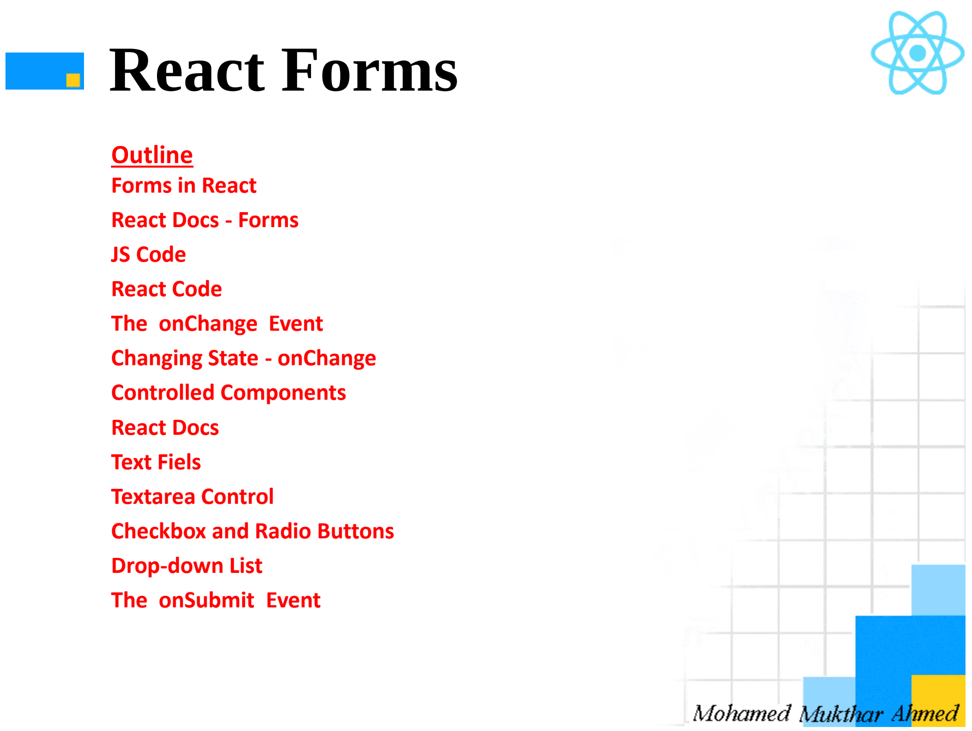


React Forms

Outline

Forms in React

React Docs - Forms

JS Code

React Code

The onChange Event

Changing State - onChange

Controlled Components

React Docs

Text Fiels

Textarea Control

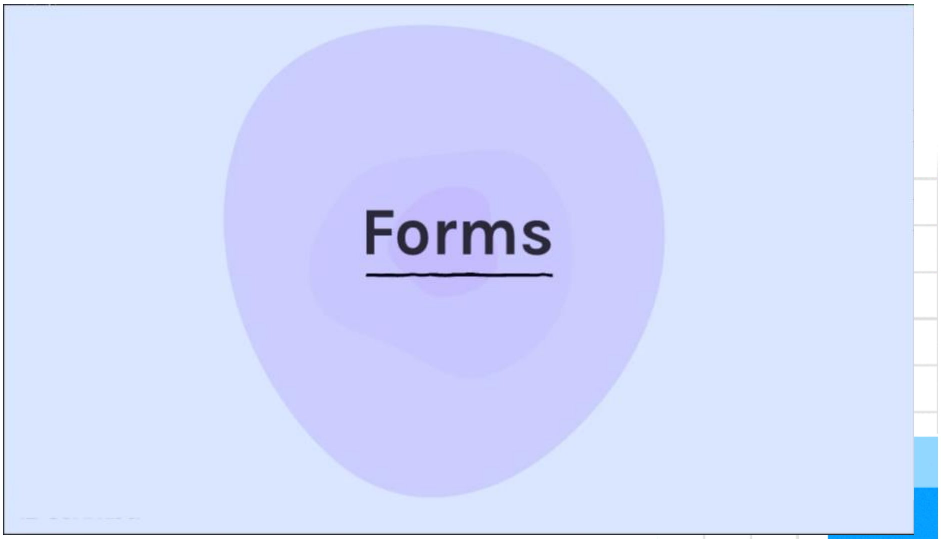
Checkbox and Radio Buttons

Drop-down List

The onSubmit Event

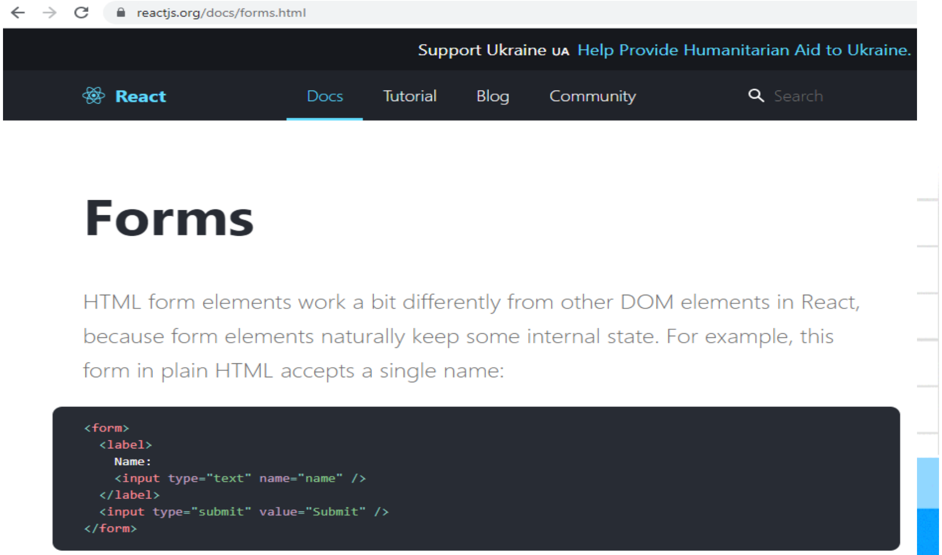
Mohamed Mukthar Ahmed

146



Mohamed Mukthar Ahmed

147


reactjs.org/docs/forms.html
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Forms

HTML form elements work a bit differently from other DOM elements in React, because form elements naturally keep some internal state. For example, this form in plain HTML accepts a single name:

```
<form>
  <label>
    Name:
    <input type="text" name="name" />
  </label>
  <input type="submit" value="Submit" />
</form>
```

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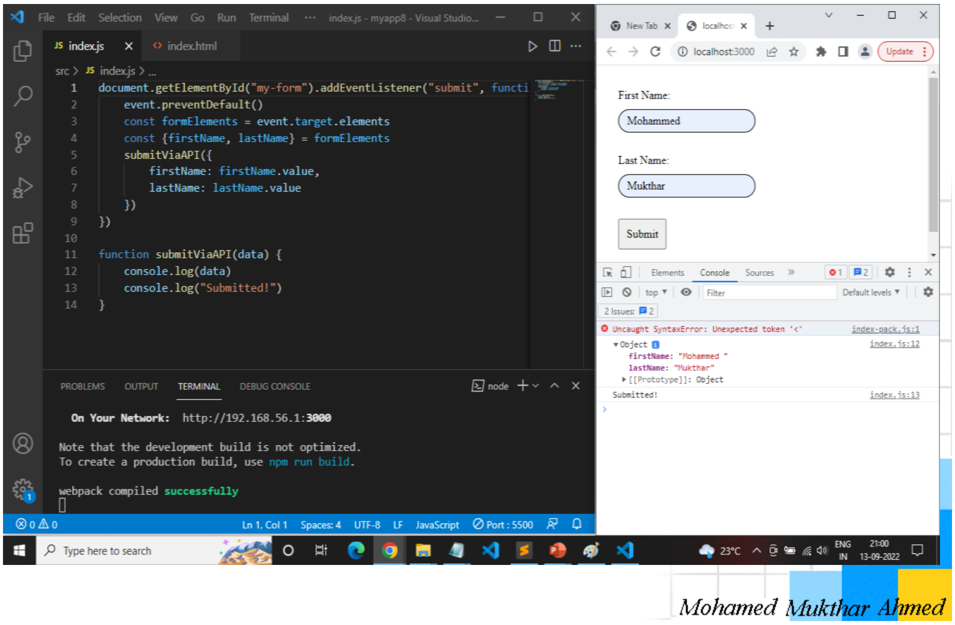
JS Code


File Edit Selection View Go Run Terminal
index.js - myapp8 - Visual Studio...
index.js
index.html
src > index.js > ...
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
Ln 1, Col 1 Spaces: 4 UTF-8 LF JavaScript Port : 5500
Type here to search
23°C ENG IN 21:00 13-09-2022
New Tab
localhost
localhost:3000
Update
Elements Console Sources
top
Filter
Default levels
2 Issues: 2

```javascript
document.getElementById("my-form").addEventListener("submit", functi
    event.preventDefault()
    const formElements = event.target.elements
    const {firstName, lastName} = formElements
    submitViaAPI({
        firstName: firstName.value,
        lastName: lastName.value
    })
})

function submitViaAPI(data) {
    console.log(data)
    console.log("Submitted!")
}
```

```
  On Your Network:  http://192.168.56.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```

First Name: Mohammed

Last Name: Mukthar

Submit

```
Uncaught SyntaxError: Unexpected token '<'          index-pack.js:1
▾Object                                             index.js:12
   firstName: "Mohammed "
   lastName: "Mukthar"
  ▸[[Prototype]]: Object
Submitted!                                          index.js:13
```

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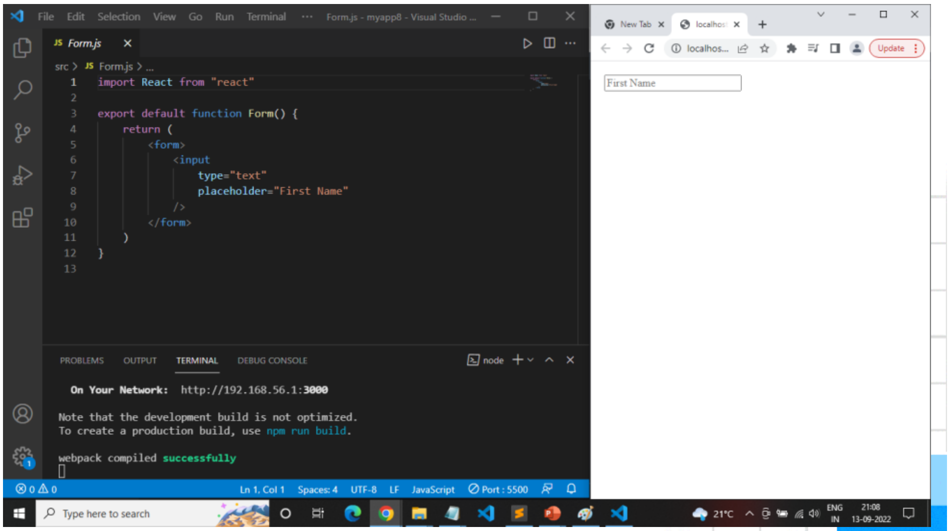
React Code


File Edit Selection View Go Run Terminal
Form.js - myapp8 - Visual Studio ...
Form.js
src > Form.js > ...
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
Ln 1, Col 1 Spaces: 4 UTF-8 LF JavaScript Port : 5500
Type here to search
21°C ENG IN 21:08 13-09-2022
New Tab
localhost
localhos...
Update

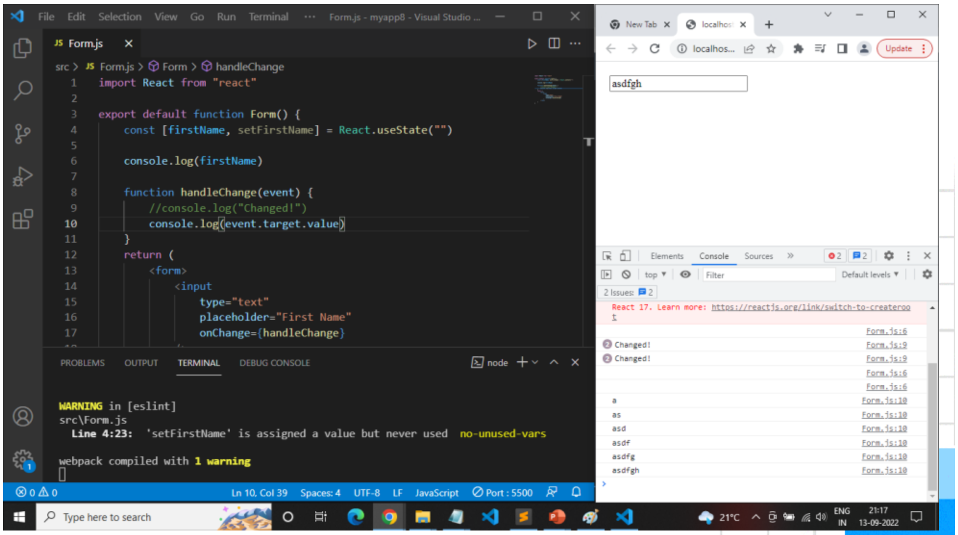
```javascript
import React from "react"

export default function Form() {
    return (
        <form>
            <input
                type="text"
                placeholder="First Name"
            />
        </form>
    )
}
```

```
  On Your Network:  http://192.168.56.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```

First Name

Mohamed Mukthar Ahmed

The onChange Event



```javascript
import React from "react"

export default function Form() {
    const [firstName, setFirstName] = React.useState("")

    console.log(firstName)

    function handleChange(event) {
        //console.log("Changed!")
        console.log(event.target.value)
    }
    return (
        <form>
            <input
                type="text"
                placeholder="First Name"
                onChange={handleChange}
```

```
WARNING in [eslint]
src\Form.js
  Line 4:23:  'setFirstName' is assigned a value but never used  no-unused-vars

webpack compiled with 1 warning
```

asdfgh

```
React 17. Learn more: https://reactjs.org/link/switch-to-createroo
t
                                                      Form.js:6
② Changed!                                            Form.js:9
② Changed!                                            Form.js:9
                                                      Form.js:6
                                                      Form.js:6
a                                                     Form.js:10
as                                                    Form.js:10
asd                                                   Form.js:10
asdf                                                  Form.js:10
asdfg                                                 Form.js:10
asdfgh                                                Form.js:10
```

Mohamed Mukthar Ahmed

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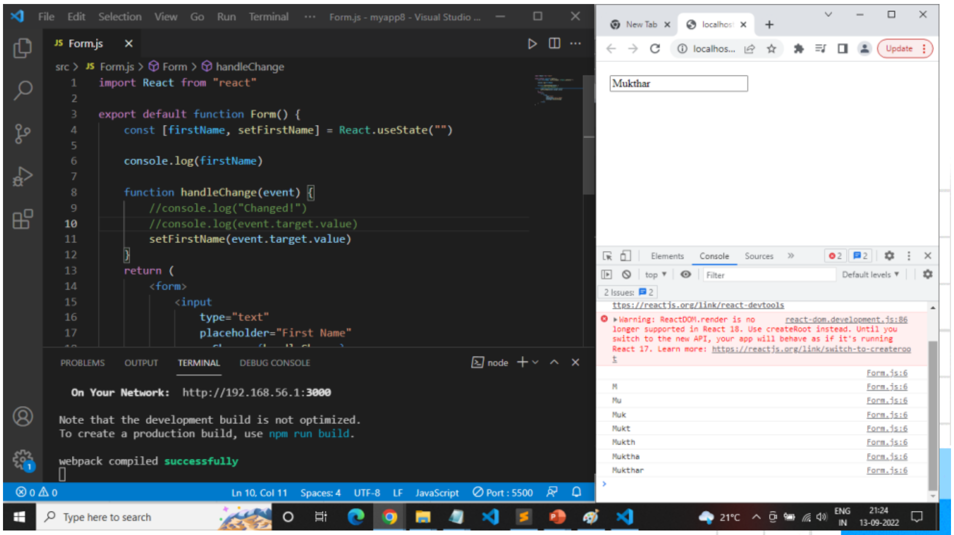
Changing State - onChange



```javascript
import React from "react"

export default function Form() {
    const [firstName, setFirstName] = React.useState("")

    console.log(firstName)

    function handleChange(event) {
        //console.log("Changed!")
        //console.log(event.target.value)
        setFirstName(event.target.value)
    }
    return (
        <form>
            <input
                type="text"
                placeholder="First Name"
```

```
  On Your Network:  http://192.168.56.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```

Mukthar

```
ttps://reactjs.org/link/react-devtools
▶Warning: ReactDOM.render is no      react-dom.development.js:86
longer supported in React 18. Use createRoot instead. Until you
switch to the new API, your app will behave as if it's running
React 17. Learn more: https://reactjs.org/link/switch-to-createroo
t
                                                      Form.js:6
M                                                     Form.js:6
Mu                                                    Form.js:6
Muk                                                   Form.js:6
Mukt                                                  Form.js:6
Mukth                                                 Form.js:6
Muktha                                                Form.js:6
Mukthar                                               Form.js:6
```

Mohamed Mukthar Ahmed

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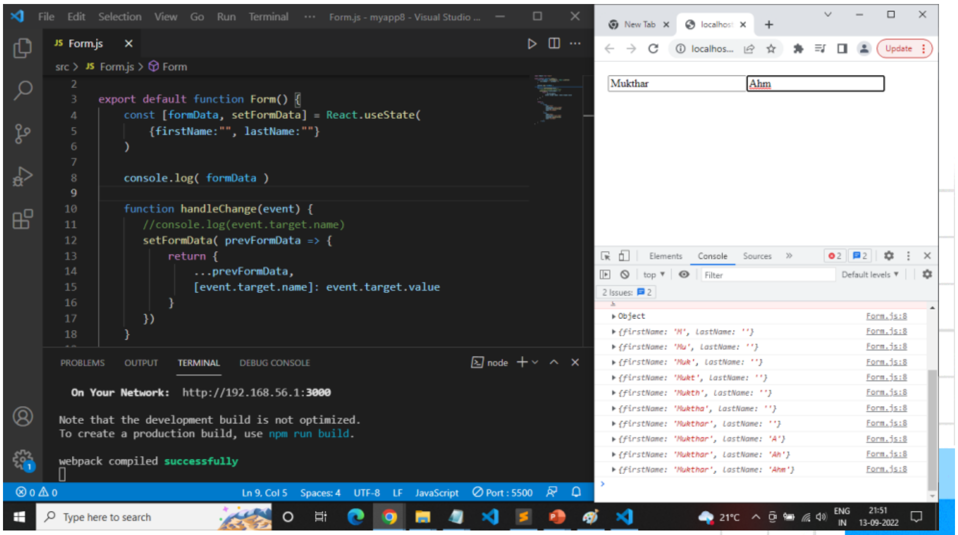
Changing State – onChange

- What can be done if the form has multiple controls/widgets.
- Example
  - First Name
  - Last Name

What will be IDEAL solution?

Changing State – onChange



Form.js - myapp8 - Visual Studio ...

src > Form.js > Form

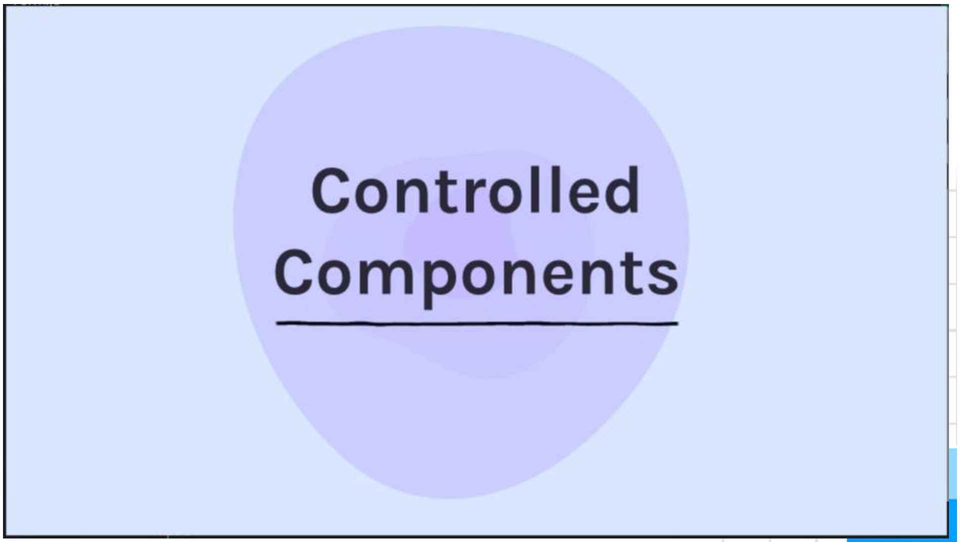
```
export default function Form() {
    const [formData, setFormData] = React.useState(
        {firstName:"", lastName:""}
    )

    console.log( formData )

    function handleChange(event) {
        //console.log(event.target.name)
        setFormData( prevFormData => {
            return {
                ...prevFormData,
                [event.target.name]: event.target.value
            }
        })
    }
```

```
  On Your Network:  http://192.168.56.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```

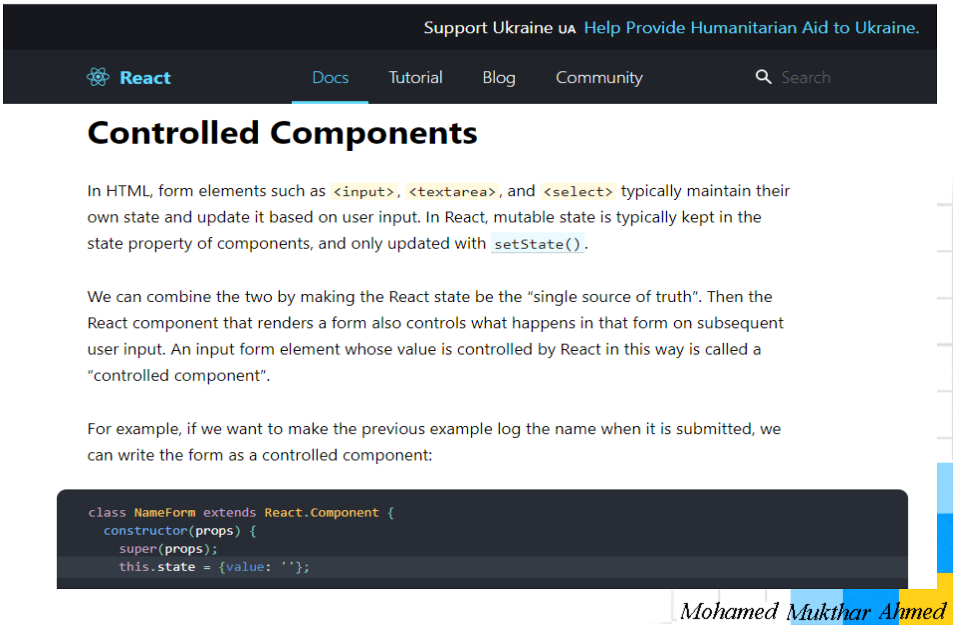
Ln 9, Col 5   Spaces: 4   UTF-8   LF   JavaScript   Port : 5500

Mukthar | Ahm

```
▸ Object                                               Form.js:8
▸ {firstName: 'M', lastName: ''}                       Form.js:8
▸ {firstName: 'Mu', lastName: ''}                      Form.js:8
▸ {firstName: 'Muk', lastName: ''}                     Form.js:8
▸ {firstName: 'Mukt', lastName: ''}                    Form.js:8
▸ {firstName: 'Mukth', lastName: ''}                   Form.js:8
▸ {firstName: 'Muktha', lastName: ''}                  Form.js:8
▸ {firstName: 'Mukthar', lastName: ''}                 Form.js:8
▸ {firstName: 'Mukthar', lastName: 'A'}                Form.js:8
▸ {firstName: 'Mukthar', lastName: 'Ah'}               Form.js:8
▸ {firstName: 'Mukthar', lastName: 'Ahm'}              Form.js:8
```



155



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Controlled Components

In HTML, form elements such as `<input>`, `<textarea>`, and `<select>` typically maintain their own state and update it based on user input. In React, mutable state is typically kept in the state property of components, and only updated with `setState()`.

We can combine the two by making the React state be the "single source of truth". Then the React component that renders a form also controls what happens in that form on subsequent user input. An input form element whose value is controlled by React in this way is called a "controlled component".

For example, if we want to make the previous example log the name when it is submitted, we can write the form as a controlled component:

```
class NameForm extends React.Component {
  constructor(props) {
    super(props);
    this.state = {value: ''};
```

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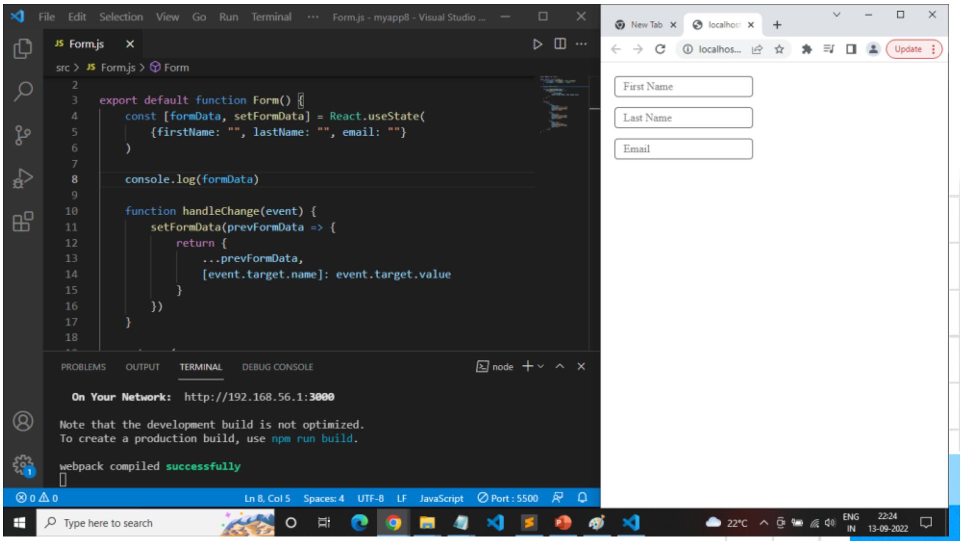
Controlled Components


File Edit Selection View Go Run Terminal ··· Form.js - myapp8 - Visual Studio ...
Form.js
src > Form.js > Form
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
Ln 8, Col 5 Spaces: 4 UTF-8 LF JavaScript Port : 5500
New Tab
localhost
localhos...
Update
First Name
Last Name
Email
Type here to search
22°C
ENG IN
22:24 13-09-2022

```
export default function Form() {
    const [formData, setFormData] = React.useState(
        {firstName: "", lastName: "", email: ""}
    )

    console.log(formData)

    function handleChange(event) {
        setFormData(prevFormData => {
            return {
                ...prevFormData,
                [event.target.name]: event.target.value
            }
        })
    }

```

```
  On Your Network:  http://192.168.56.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```

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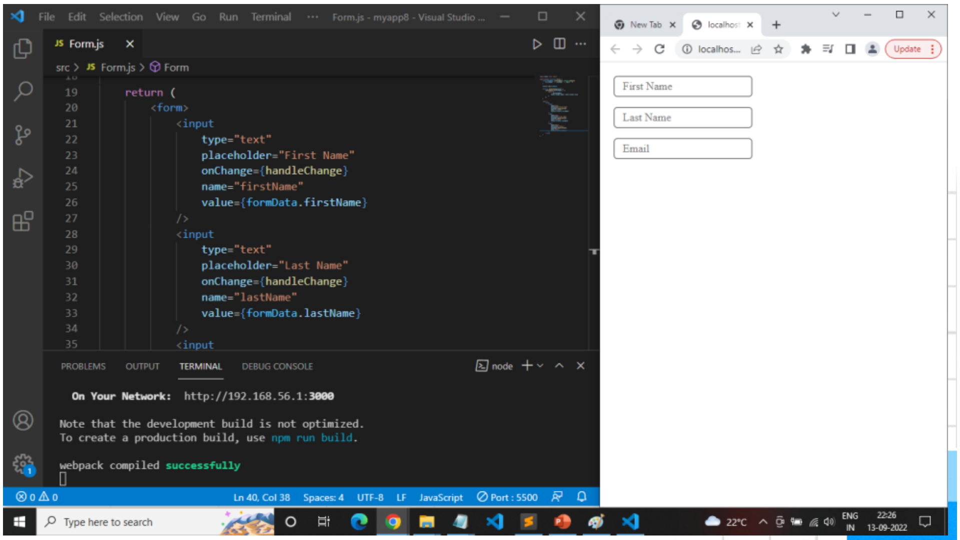
Controlled Components


File Edit Selection View Go Run Terminal ··· Form.js - myapp8 - Visual Studio ...
Form.js
src > Form.js > Form
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
Ln 40, Col 38 Spaces: 4 UTF-8 LF JavaScript Port : 5500
New Tab
localhost
localhos...
Update
First Name
Last Name
Email
Type here to search
22°C
ENG IN
22:26 13-09-2022

```
    return (
        <form>
            <input
                type="text"
                placeholder="First Name"
                onChange={handleChange}
                name="firstName"
                value={formData.firstName}
            />
            <input
                type="text"
                placeholder="Last Name"
                onChange={handleChange}
                name="lastName"
                value={formData.lastName}
            />
            <input
```

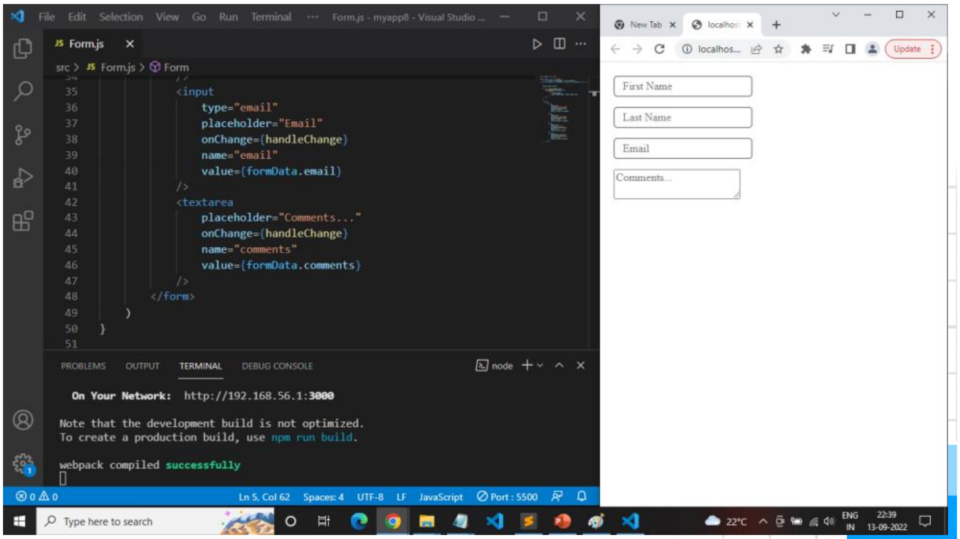
```
  On Your Network:  http://192.168.56.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```

Mohamed Mukthar Ahmed

Textarea Control



```
            <input
                type="email"
                placeholder="Email"
                onChange={handleChange}
                name="email"
                value={formData.email}
            />
            <textarea
                placeholder="Comments..."
                onChange={handleChange}
                name="comments"
                value={formData.comments}
            />
        </form>
    )
}
```

```
  On Your Network:  http://192.168.56.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```

First Name

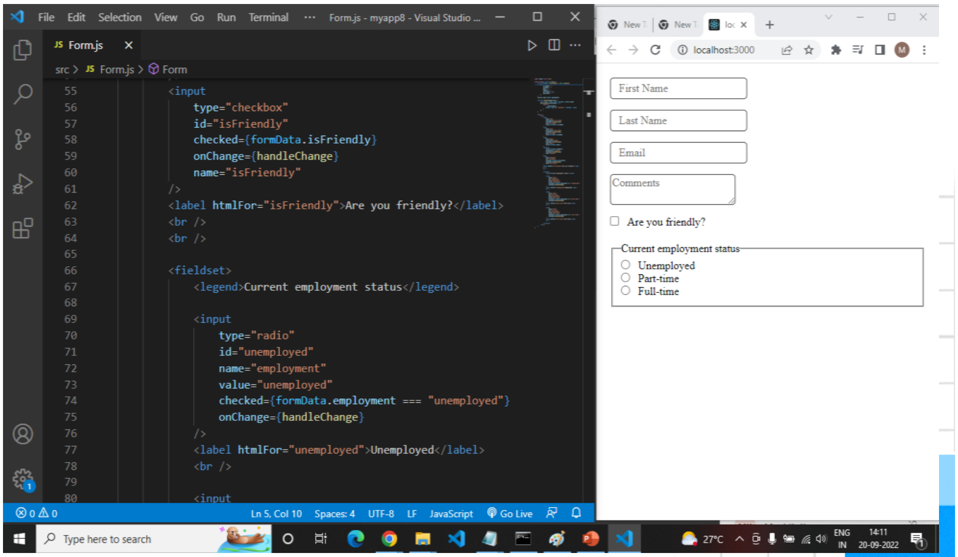
Last Name

Email

Comments...

Mohamed Mukthar Ahmed

Checkbox & Radio Button Controls



```
            <input
                type="checkbox"
                id="isFriendly"
                checked={formData.isFriendly}
                onChange={handleChange}
                name="isFriendly"
            />
            <label htmlFor="isFriendly">Are you friendly?</label>
            <br />
            <br />

            <fieldset>
                <legend>Current employment status</legend>

                <input
                    type="radio"
                    id="unemployed"
                    name="employment"
                    value="unemployed"
                    checked={formData.employment === "unemployed"}
                    onChange={handleChange}
                />
                <label htmlFor="unemployed">Unemployed</label>
                <br />

                <input
```

First Name

Last Name

Email

Comments

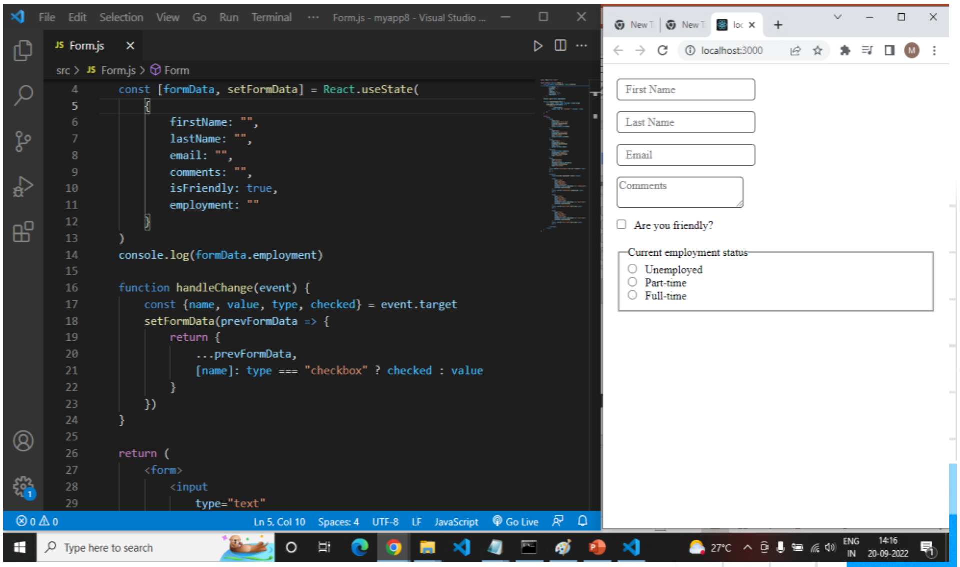
□ Are you friendly?

Current employment status

○ Unemployed
○ Part-time
○ Full-time

Mohamed Mukthar Ahmed

Checkbox & Radio Button Controls


File Edit Selection View Go Run Terminal ··· Form.js - myapp8 - Visual Studio ...
Form.js
src > Form.js > Form
Ln 5, Col 10 Spaces: 4 UTF-8 LF JavaScript Go Live
Type here to search
localhost:3000
27°C
ENG IN
14:16 20-09-2022

```
    const [formData, setFormData] = React.useState(
        {
            firstName: "",
            lastName: "",
            email: "",
            comments: "",
            isFriendly: true,
            employment: ""
        }
    )
    console.log(formData.employment)

    function handleChange(event) {
        const {name, value, type, checked} = event.target
        setFormData(prevFormData => {
            return {
                ...prevFormData,
                [name]: type === "checkbox" ? checked : value
            }
        })
    }

    return (
        <form>
            <input
                type="text"
```

First Name

Last Name

Email

Comments

☐ Are you friendly?

Current employment status

○ Unemployed
○ Part-time
○ Full-time

Mohamed Mukthar Ahmed

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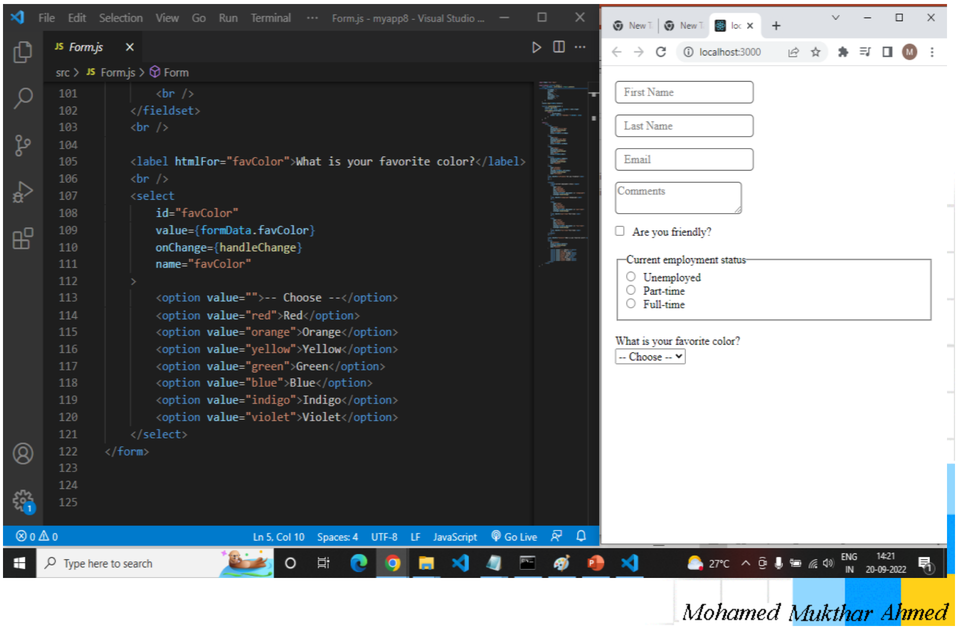
Drop-Down-List


File Edit Selection View Go Run Terminal ··· Form.js - myapp8 - Visual Studio ...
Form.js
src > Form.js > Form
Ln 5, Col 10 Spaces: 4 UTF-8 LF JavaScript Go Live
Type here to search
localhost:3000
27°C
ENG IN
14:21 20-09-2022

```
                <br />
            </fieldset>
            <br />

            <label htmlFor="favColor">What is your favorite color?</label>
            <br />
            <select
                id="favColor"
                value={formData.favColor}
                onChange={handleChange}
                name="favColor"
            >
                <option value="">-- Choose --</option>
                <option value="red">Red</option>
                <option value="orange">Orange</option>
                <option value="yellow">Yellow</option>
                <option value="green">Green</option>
                <option value="blue">Blue</option>
                <option value="indigo">Indigo</option>
                <option value="violet">Violet</option>
            </select>
        </form>
```

First Name

Last Name

Email

Comments

☐ Are you friendly?

Current employment status

○ Unemployed
○ Part-time
○ Full-time

What is your favorite color?

-- Choose --

Mohamed Mukthar Ahmed

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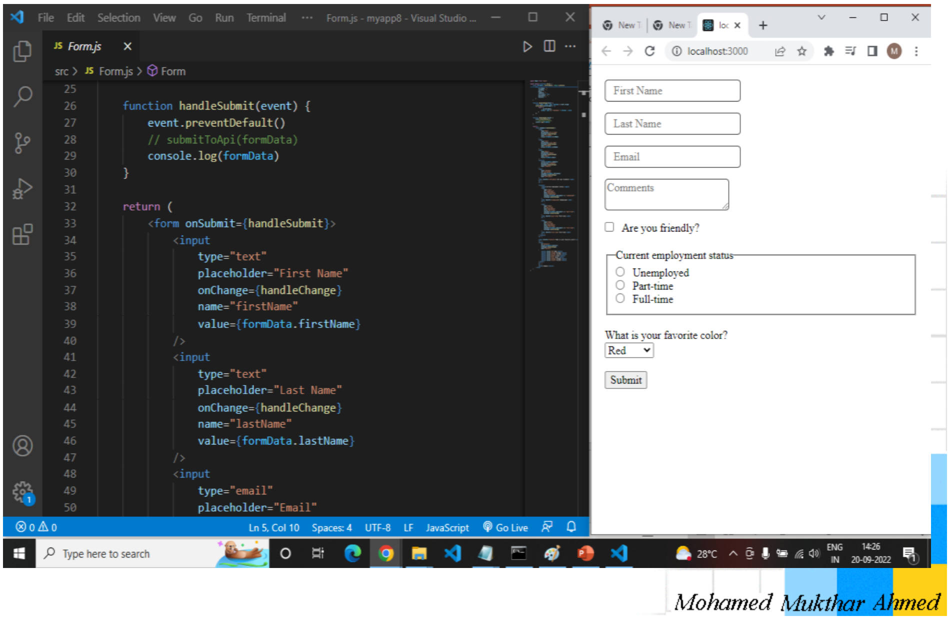
The onSubmit Event


File Edit Selection View Go Run Terminal ··· Form.js - myapp8 - Visual Studio ...
Form.js
src > Form.js > Form
Ln 5, Col 10 Spaces: 4 UTF-8 LF JavaScript Go Live
Type here to search
localhost:3000

```
    function handleSubmit(event) {
        event.preventDefault()
        // submitToApi(formData)
        console.log(formData)
    }

    return (
        <form onSubmit={handleSubmit}>
            <input
                type="text"
                placeholder="First Name"
                onChange={handleChange}
                name="firstName"
                value={formData.firstName}
            />
            <input
                type="text"
                placeholder="Last Name"
                onChange={handleChange}
                name="lastName"
                value={formData.lastName}
            />
            <input
                type="email"
                placeholder="Email"
```

First Name

Last Name

Email

Comments

☐ Are you friendly?

Current employment status
○ Unemployed
○ Part-time
○ Full-time

What is your favorite color?
Red

Submit