# What is typechecking in React?

Typechecking is a process of validating the properties passed to components.

It helps in catching errors early and provides more reliable code.

Age : Elon
Error Message

React provides a built-in typechecking mechanism called PropTypes.

# Creating User component

Let's create a simple User component that displays the name and age of a user.

```jsx
import PropTypes from 'prop-types';

function User(props) {
  return (
    <div>
      <h1>{props.name}</h1>
      <p>{props.age}</p>
    </div>
  );
}
```

# Adding proptypes to User component

We can define the expected properties using the PropTypes object like this:

```
User.propTypes = {
  name: PropTypes.string.isRequired,
  age: PropTypes.number.isRequired
};
```

It specifies that the **name** property should be a **string** and the **age** property should be a **number**.

The **isRequired** flag means that the property is mandatory.

# Creating UserList component

The UserList component can be used to render each user in the list.

```jsx
import PropTypes from 'prop-types';

function UserList({users}) {

    return (
        <ul>
            {users.map((user) => (
                <li key={user.email}>
                    <span>{user.name}</span>
                    <span>{user.age}</span>
                    <span>{user.email}</span>
                </li>
            ))}
        </ul>
    )
}
```

# Adding proptypes to UserList component

In the **UserList** component, we expect the users property to be an **array** of objects with name, age and email properties.

```
UserList.propTypes = {
    users: PropTypes.arrayOf(
        PropTypes.shape({
            name: PropTypes.string.isRequired,
            age: PropTypes.number.isRequired,
            email: PropTypes.string.isRequired,
        })
    ).isRequired
};
```
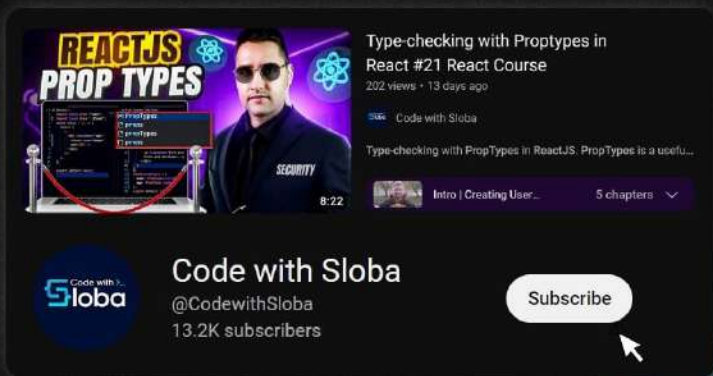
`PropTypes.shape` method is used to define an object with specific shape or structure

To better understand this topic check out this video on my **YouTube** channel.



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