

**Handle  
checkbox**

# What is a Controlled Checkbox?

In React, a checkbox is controlled when its checked state is managed by React's state.

We don't use `document.querySelector` — instead, we use `useState` and `onChange`.

# Scenarios

- ❑ Single Checkbox
- ❑ Multiple Independent Checkboxes: Sometimes, you have several separate checkboxes, each with its own state.
- ❑ Grouped Checkboxes (Dynamic Handling): When you have many checkboxes — instead of multiple states, use one object or array.
- ❑ Select All / Deselect All Feature
- ❑ Handling Checkbox Inside a Form
- ❑ Uncontrolled Checkbox (with useRef)

# Summary:

Type	Technique	State Type	Example
Single	Controlled	Boolean	<code>useState(false)</code>
Multiple (separate)	Controlled	Multiple booleans	3 states
Grouped	Controlled	Object or Array	Dynamic keys
Select All	Controlled	Object + logic	Check all boxes
Inside Form	Controlled	Mixed (text + checkbox)	Single object
Uncontrolled	Ref-based	<code>useRef()</code>	Direct DOM access

# Tips:

- ✓ Always use checked, not value.
- ✓ Don't use e.target.value (use e.target.checked)..
- ✓ Reset checkboxes easily with setState(initialState).
- ✓ Keep logic pure — don't mutate arrays/objects directly.
- ✓ Group checkboxes if they belong to one category.

Thank  
You