

# 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**