Managing State with useReducer

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Agenda

Why useReducer?

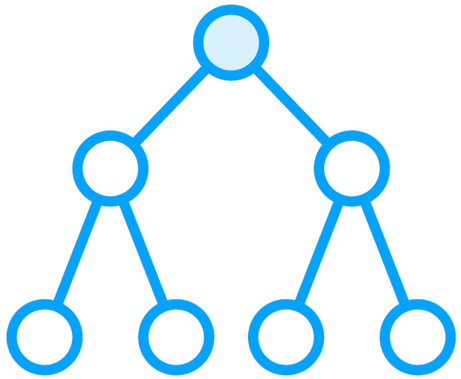
- Pure functions
- useState vs useReducer

Convert from useState to useReducer

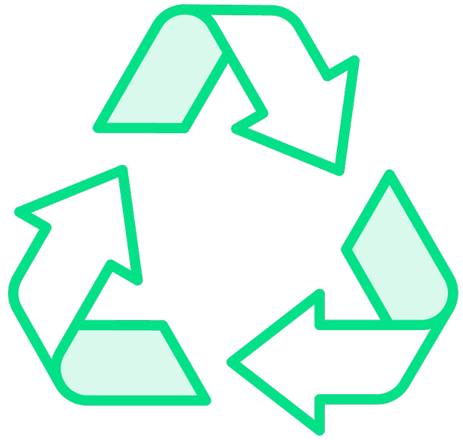
useReducer

```
const initialState = { count: 0 }

function reducer(state, action) {
  switch (action.type) {
    case 'increment':
      return { count: state.count + 1 }
    case 'decrement':
      return { count: state.count - 1 }
    default:
      throw new Error()
  }
}

function Counter() {
  const [state, dispatch] = useReducer(reducer, initialState)

  return (
    <>
      Count: {state.count}
      <button onClick={() => dispatch({ type: 'decrement' })}>-</button>
      <button onClick={() => dispatch({ type: 'increment' })}>+</button>
    </>
  )
}
```

Why useReducer?

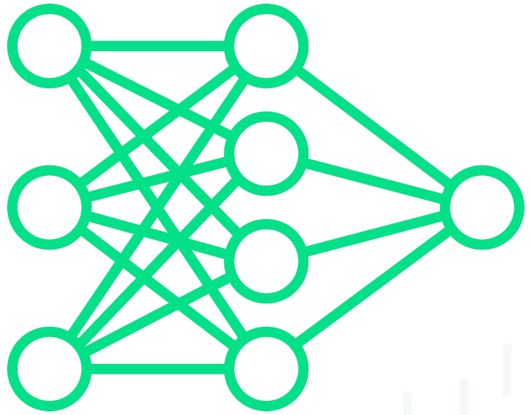


Extract



Reuse

Unit test



Scalability

```
function add(x, y) {
  return x + y;
}
```

- Always returns same output for a given input
- Composable and reusable
- Easy to understand and test in isolation

What’s a Pure Function?

Depends only on arguments
Doesn’t mutate arguments
Has no side-effects
Returns a new value

Demo

Implement useReducer

- Switch from useState to useReducer

useState vs useReducer

Good default

useState

Easy to implement for most scenarios

Easy to learn

VS

Switch to as needed

useReducer

More scalable for complex scenarios:

- Many complex state transitions
- Multiple sub-values
- Next state depends on the previous one

Reason about state in isolation

Testable in isolation

Reusable

Summary

Switched from useState to useReducer

- Handles state as a pure function
- Can unit test
- Can reuse
- Scales well
- Can mix with useState

Consider for complex state

Up Next:

Context (global data, funcs)