

React.js Full Course — Lesson Notes

What is React?

React is a JavaScript library for building user interfaces. It uses a component-based architecture where each piece of UI is an isolated, reusable component.

Core Concepts

JSX

```
const element = <h1 className="title">Hello, {name}!</h1>;
```

JSX is syntactic sugar for `React.createElement()`. It looks like HTML but compiles to JavaScript.

Components

```
// Function component
function Welcome({ name }) {
  return <h1>Hello, {name}</h1>;
}

// Usage
<Welcome name="Alice" />
```

Props vs State

Concept	Props	State
Owned by	Parent component	Current component
Mutable?	No (read-only)	Yes (via setter)
Purpose	Pass data down	Manage internal data

Event Handling

```
function Button() {
  const handleClick = () => alert("Clicked!");
  return <button onClick={handleClick}>Click Me</button>;
}
```

Conditional Rendering

```
function Status({ isOnline }) {
  return <span>{isOnline ? " Online" : "● Offline"}</span>;
}
```

Lists & Keys

```
const items = ["React", "Vue", "Angular"];
return (
  <ul>
    {items.map((item, i) => <li key={i}>{item}</li>)}
  </ul>
);
```

Key Takeaways

1. Think in components — break UI into small, reusable pieces.
 2. Props flow down, events bubble up.
 3. Never mutate state directly — always use the setter function.
 4. Every list item needs a unique key prop.
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