

- Question 1: How are events handled in React compared to vanilla JavaScript? Explain the concept of synthetic events.

- **Vanilla JavaScript:** Events are handled using `addEventListener()` or inline event attributes (e.g., `onclick`, `onmouseover`).

```
document.getElementById('button').addEventListener('click', function() {  
  alert('Button clicked!');  
});
```

- **React:** Events are handled by passing event handler functions directly in JSX using camelCase event names (e.g., `onClick`, `onChange`), and React automatically binds them to the component's context.

```
<button onClick={() => alert('Button clicked!')}>Click Me</button>
```

### **Synthetic Events in React:**

**Synthetic Events** are React's wrapper around native browser events. They normalize the event behavior across all browsers, ensuring consistent behavior and improving performance by reusing event objects.

**Cross-browser consistency:** React's synthetic events behave the same across all browsers.

**Event pooling:** React reuses event objects for performance optimization.