WHAT ARE KEYS IN REACT?

WHAT ARE KEYS?

- Unique identifiers for list elements in React.
- Help React identify and manage elements efficiently.

WHY USE KEYS?

Performance Optimization

- Minimize unnecessary re-renders.
- Enable React to update only the changed elements.

State Management

- Maintain the state of components correctly during updates.
- Prevent bugs related to input fields and component states.

HOW KEY WORKS

- **Key Mechanism**
  - React compares keys between renders to determine which items have changed.
  - Keys must be stable and unique among siblings.

EXAMPLE OF KEYS IN ACTION

- **WITH KEYS**

  {items.map(item => (<li key={item.id}>{item.name}))}

- **WITHOUT KEYS**

  {items.map(item => ({item.name}))}

DIFFERENCES IN BEHAVIOR

- **WITH KEYS**
  - Efficient rendering: Only updated elements re-rendered.
  - Correct state retention.
- **WITHOUT KEYS**
  - Potential performance issues: Entire list may re-render.
  - State confusion: Input values may not match items correctly.

BEST PRACTICES FOR KEYS

Use Unique Identifiers

- **Prefer stable IDs from your data source.**

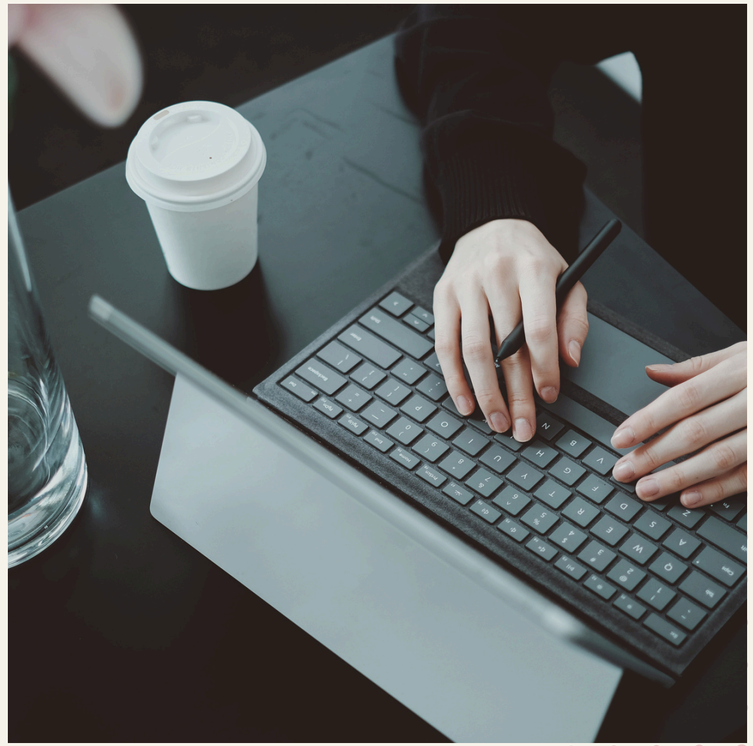
Keep Keys Consistent

- **Ensure keys remain the same between renders unless the item itself changes.**

CONCLUSION

Keys are crucial for performance and state management in React.

Always use keys for lists to optimize rendering and prevent bugs.



THANK YOU