What is REDUX?

Code with Sloba

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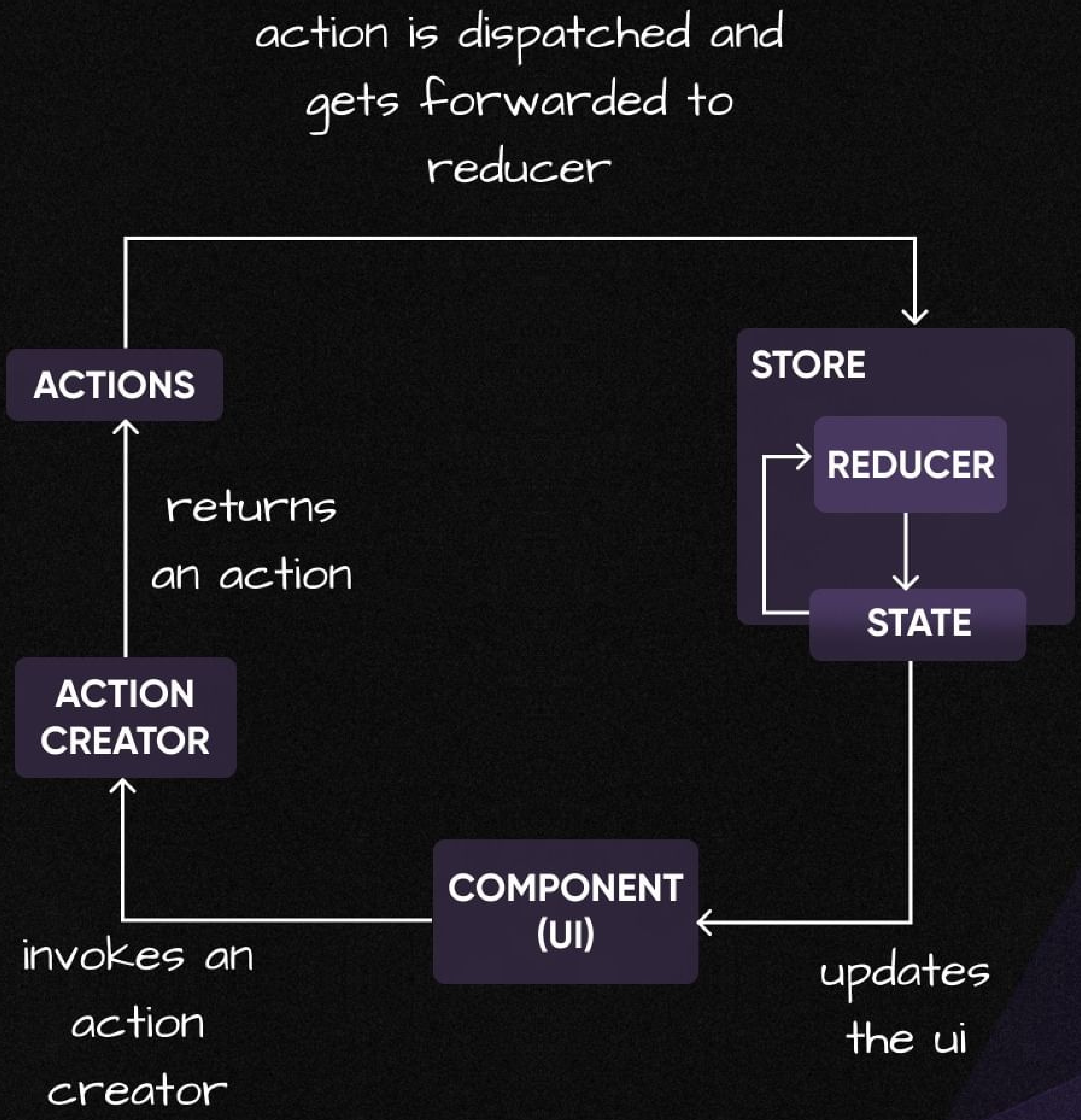
Redux is a JavaScript library for **managing the state** of applications.

It provides a way to **centralize** the state of an application in a **single store**, making it easier to debug, test, and reason about the state changes in the application.

One particularly cool feature of Redux is its support for **time travel**. With Redux DevTools, developers can **inspect** the state of their application at **any point in time**, including past and future states.

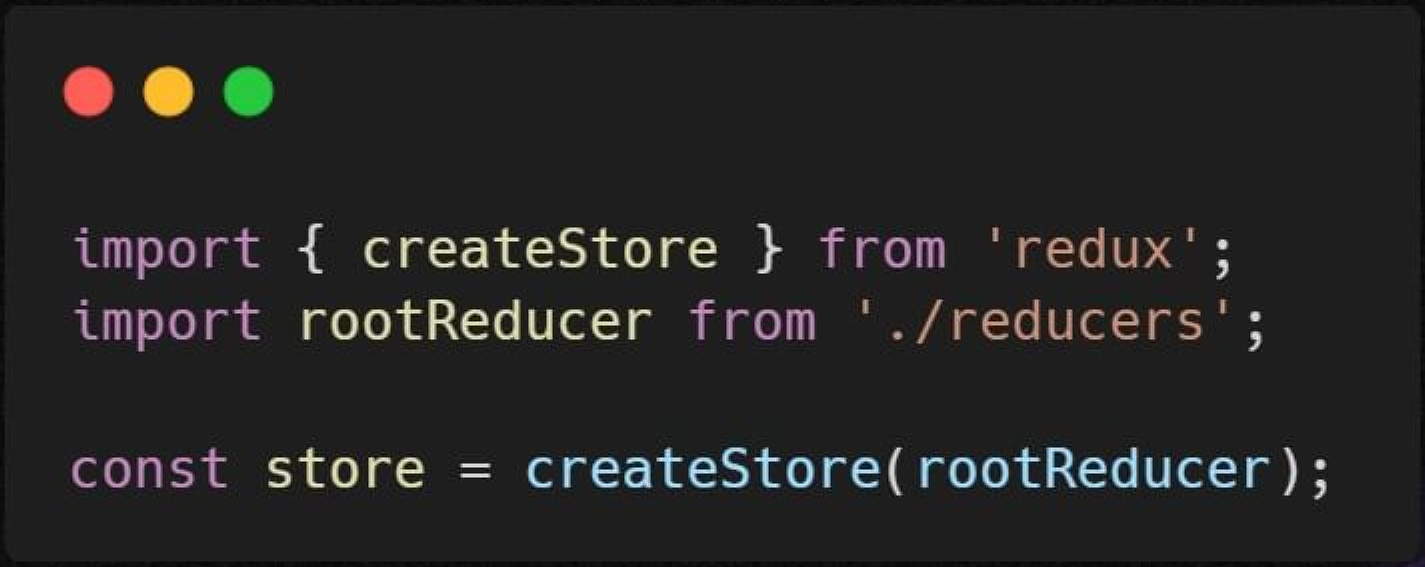
This makes it easier to debug and understand the state changes in the application.


action is dispatched and gets forwarded to reducer
STORE
REDUCER
STATE
ACTIONS
returns an action
ACTION CREATOR
COMPONENT (UI)
invokes an action creator
updates the ui

Store Creation

In React, "store" refers to a centralized **container** that **holds the state** of your application. It's where you keep all of the data that your React components need to render, and it's managed using a **state management library** like Redux or MobX.

To create a Redux store, use the **`createStore`** function from the **redux** library, and pass in your root reducer as an argument.

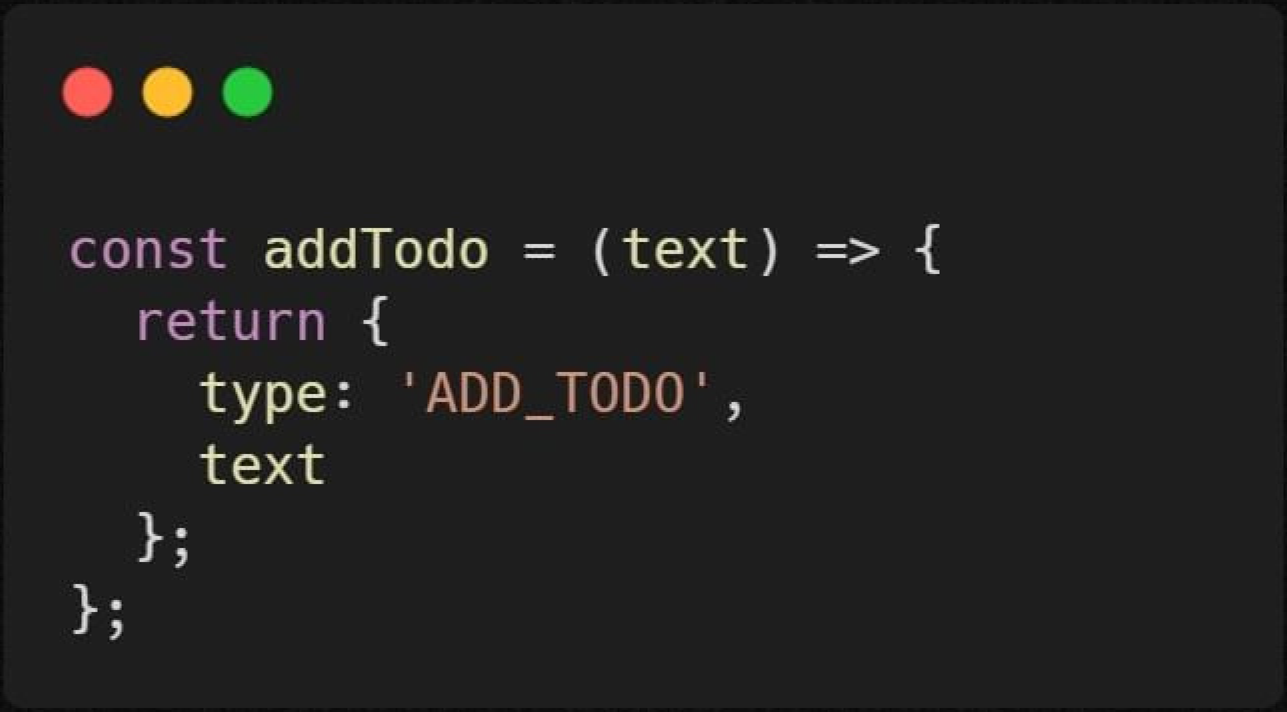


```
import { createStore } from 'redux';
import rootReducer from './reducers';

const store = createStore(rootReducer);
```

Action Creation

Actions in Redux are plain **objects that describe changes** to the state. To create an action, define an object with a **type** property and any other data needed to describe the change.



```
const addTodo = (text) => {
  return {
    type: 'ADD_TODO',
    text
  };
};
```

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Dispatching Actions

To dispatch an action and update the state, call the **`dispatch`** method on your store and pass in the action as an argument.

```
store.dispatch(addTodo('Learn Redux'));
```

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Reducer Functions

Reducers in Redux are pure functions that **take in the current state** and an action and **return the next state**.

```
const todoReducer = (state = [],
action) => {
  switch (action.type) {
    case 'ADD_TODO':
      return [
        ...state,
        {
          text: action.text,
          completed: false
        }
      ];
    default:
      return state;
  }
};
```

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Combining Reducers

If your application has multiple reducers, you can use the **`combineReducers`** function from the **redux** library to **combine** them into a **single root reducer**.

```
import { combineReducers } from
'redux';

const rootReducer =
combineReducers({
  todos: todoReducer,
  ...
});
```

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Connecting to React Components

To connect your Redux store to React components, use the **connect** function from the **react-redux** library.

```
import { connect } from 'react-redux';

const TodoList = ({ todos }) => (
  <ul>
    {todos.map((todo, index) => (
      <li key={index}>{todo.text}</li>
    ))}
  </ul>
);

const mapStateToProps = (state) => {
  return {
    todos: state.todos
  };
};

export default
connect(mapStateToProps)(TodoList);
```