Simplifying React Hooks

Meet Zaveri | Follow
Dec 4 · 6 min read

focuses on folks who are coming from class components

Typical overview of what we are going to do in this post

In this article, I tried my best to make it easier for you to understand what are react hooks. I have written this for guys coming from traditional class component pattern who want to explore react hooks.

We'll cover how to use `useState` , `useEffect()` and more techniques to simulate the experience you were having in class component era

✨ Hooks and Class Components

Hooks don't work inside classes and that gives us benefit of using them in functional component.

But what about **lifecycles and state** which we were leveraging in class components? Well, there is a way for replicating them in form of hooks.

> Hooks are functions that let you "hook into" React state and lifecycle features from function components. Hooks don't work inside classes, they let you use React without classes — React.js Official Documentation

💡 **Let's talk about managing state: useState**

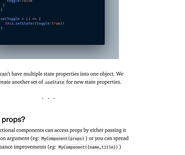
`useState` is a hook which helps us manage state.

```
const [toggle,setToggle] = useState(false)
```

- A state property which holds the current value and can keep track of
- A function which sets state property. In this case it updates "toggle" property
- Initial value for state property

You can get a glimpse from this above image as what `useState` hook offers. So when you call `setToggle(true)` then `toggle` value changes from `false` to `true`

If we were to replicate this into **class component** then, it would look like this



Unlike class, we can't have multiple state properties into one object. We have to always create another set of `useState` for new state properties.

. . .

How to use props?

As we know, functional components can access props by either passing it directly in function argument (eg: `MyComponent(props)` or you can spread them for performance improvements (eg: `MyComponent({name,title})`)

So there's no explicit API or section on how should we use props in react hooks.

🔗 APIs, where we should call them ?!

Old Class-Ical way

Usually we would write network requests(APIs) in '`componentDidMount`' lifecycle which is the preferable one as per react documentation suggests.

```
componentDidMount(){
this.props.getData()
}
```

But for hooks we have a similar way to do network requests in particular fashion.

useEffect())

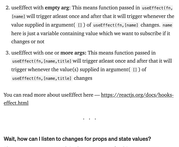
As documentation says, it's a *hook that lets you perform side effects.*

> Remember that any useEffect( ) hook will be called atleast once at time of render phase regardless of its arguments

We can call our APIs in `useEffect()` as following:

```
import React, { useEffect } from 'react';
import ProfilePage from "./ProfilePage";

const ProfileContainer = () => {

  useEffect(() => {
    fetch('/api/user') // perform any side effects or network requests
  }, []); // => empty array means 'run once'

  return <ProfilePage />;
};

export default ProfileContainer;
```

example_useEffect_empty_arr.js hosted with ❤ by GitHub | view raw



So as you can see if we pass empty array `[]` in second argument of the function and it will be executed only once when that component **completes its first render**. This is because there're no values in array(i.e. second arg) to keep track of whether those values change or not.

Take a look at this scenario

1. useEffect with **no arge**: This means function passed in `useEffect()`will always trigger when there's re-render of the component
2. useEffect with **empty arg**: This means function passed in `useEffect(fn, [])`will trigger atlease once and after that it will trigger whenever the value supplied in argument(`[]`) of `useEffect(fn,[])`changes. same here is just a variable containing value which we want to subscribe if it changes or not
3. useEffect with one or **more args**: This means function passed in `useEffect(fn,[name,title])` will trigger atleast once and after that it will trigger whenever the value(s) supplied in argument(`[]`) of `useEffect(fn,[name,title]` changes

You can read more about useEffect here — https://reactjs.org/docs/hooks-effect.html

. . .

Wait, how can I listen to changes for props and state values?

The most common approach in class component for this use case was achieved using `componentDidUpdate`

```
componentDidUpdate(prevProps,prevState){
  if(prevProps.data !== this.props.data){
  // do some action
}
}
```

Discuss how `useEffect()` hook can be used for it

This can be achieved in hooks by writing your logic in function of `useEffect` and by passing your value on which you want to check if that changed in dependency array `[]`

Passing our logic into function and list of dependency(s) into dependency array will conclude that whenever any of the dependency(s)'s value changes, then the function will be re-triggered hence our logic will be applied as per old method in class component

```
import React, { useEffect } from 'react';

const Container = () => {
  const searchVal = prop.searchVal;
  const makeAPICall = () => {
    // do your ajaxy activities, side effects or network effects
  }
  useEffect(makeAPICall,[searchVal])
  return Input(onKeyDown:handle);
};
export default Container;
```

comparision_example.js hosted with ❤ by GitHub | view raw

> **Again, *take note that this useEffect() will always be executed atleast once as I said earlier. This means that if your `prop.searchVal` hasn't changed then also your hook will be triggered.***

To overcome this, you could add extra condition in function which differentiates initial state(value) of `prop.searchVal`

. . .

When can I know that my component is going to unmount?

This can also be achieved via passing `[]` empty arge in useEffect with main function returning another function where we can have unmount logic in it

You will get clear understanding when you'll try it with

```
import React, { useEffect } from 'react';

const ProfileContainer = () => {

  // generally I prefer this as useEffect with empty arg[]
  useEffect(() => {
    fetch('/api/user') // perform any side effects or network requests

    // if you can have return() for this function which will be executed when component will
    return () => {
      console.log("Unmounting ...");
      // cancelRequestPromise();
    }
  }, []); // => empty array means 'run once'

  return <div>Hello World !</div>;
};

export default ProfileContainer;
```

example_unmount_hook_js hosted with ❤ by GitHub | view raw

Note there are two things here. 1) the empty braces 2) return function to contain unmounting logic

This means this useEffect snippet will act like:

1. initial logic in function gets executed (as in component just mounted)
2. the logic inside return function gets executed when component is unmounted

How can I wrap them ?

Same way as we did with class components. Yeah literally, we wrap as `activeWrapper(Dashboard)` .

📖 Conclusion

So folks, these were essential barebones for getting up and running with hooks.

Please report or suggest me if I have included any misinformation, incorrect logic or lack of proof.

I will do another post on covering other hooks considering the amount of response I get here.

Thanks, keep grinding!

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Promoted Engineer with a keen interest in Computer Science.
Passionate about Open Source, JavaScript and its ecosystem.

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