The Flamegraph

In this lesson, we'll discuss what information flamegraphs reveal and how to read it for each component.

WE'LL COVER THE FOLLOWING

- Flamegraph Tab
- What do the Bars Represent?
- What do the Colors of the Bars Represent?
  - Grey Bar
  - Yellow Bar
  - Blue Bars
- `props` and `state`

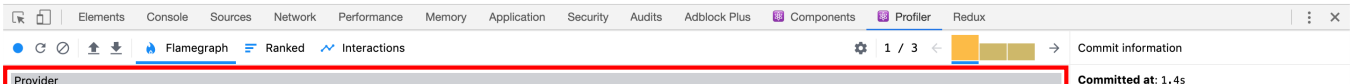
After a successful recording session, you'll be presented with a couple of different pieces of information about your components.

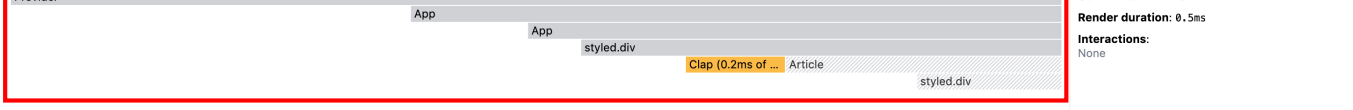
First, you have 3 tabs representing different groups of information - we will now be discussing each of them separately.

Flamegraph Tab

The first tab represents a flamegraph.

The flamegraph displays information on how long it took your component tree to render.





What do the Bars Represent?

You'll notice that each component in your application tree is represented by bars of varying lengths and colors.

The length of a bar defines how long it took the component and its children to render.

Judging by the bar length, it appears that the `Provider` component took the longest time to render. That makes sense since the `Provider` is the main root component of the app. The time represented here is the time taken for the `Provider` and all its children to render.

That's half the story.

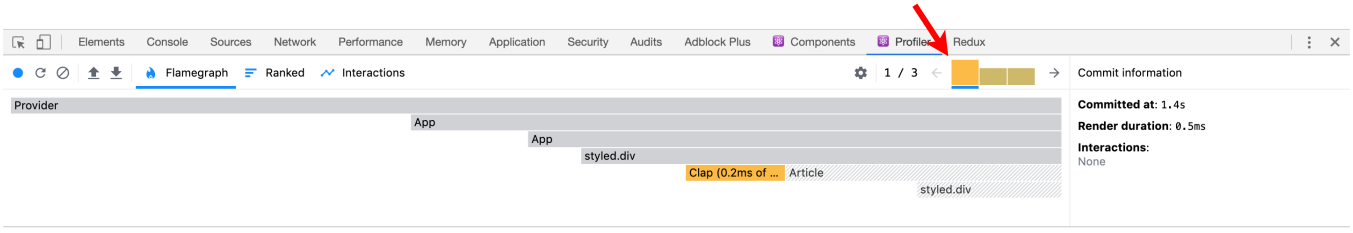
What do the Colors of the Bars Represent?

You can see that the length and color of the bars are different.

For example, `Provider` and a couple of other components have a *grey* color.

What does that mean?

Initially, we are investigating the first commit made to the DOM during the interaction with the application.



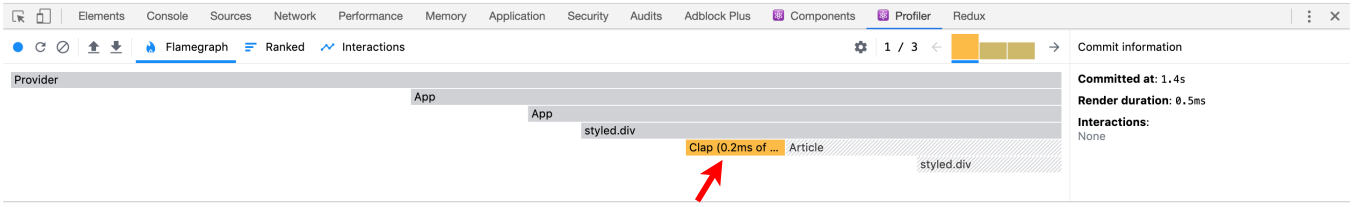
Grey Bar

The components with a grey color weren't rendered in this commit. The

length of the bar only represents how long it took the component to render *previously* before this commit, i.e., before the interaction with the application.

If you think about it, that's reasonable.

Upon careful examination, you'll see that the only component with a different flamegraph color here is the `Clap` component.



Yellow Bar

This component represents the Medium clap button that was clicked.

A yellow bar means the component took the most time to render in this commit. No other component is colored which means the `Clap` button was the only component re-rendered in this commit.

That's perfect!

You don't want to click the `Clap` button and see a different component is being re-rendered. That'll be a performance hit right there.

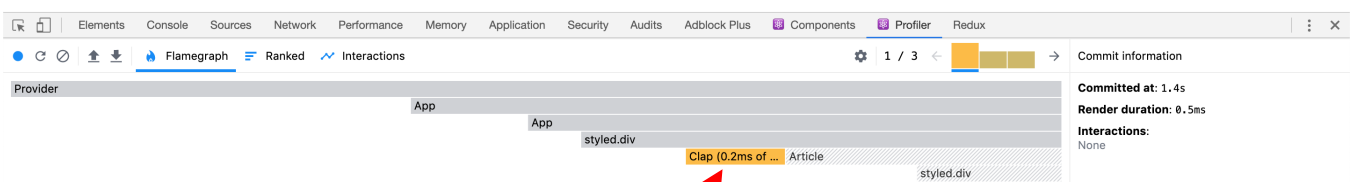
Blue Bars

In more complex applications, you'll find flamegraphs with more than just yellow and grey bars. You'll find some with blue bars.

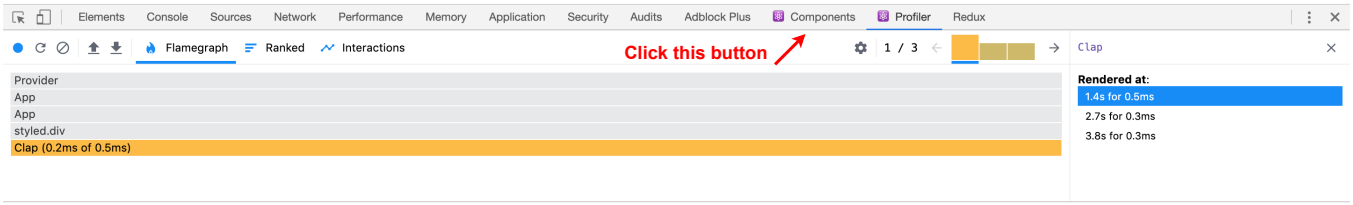
It's worth noting that longer, yellow bars took more time to render, followed by blue ones, and finally grey bars which weren't re-rendered in the particular commit being viewed.

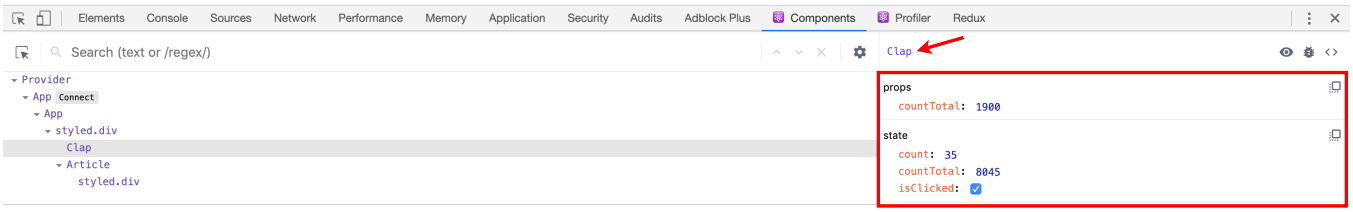
`props` and `state`

It's also possible to click on a particular bar to view more information on why it rendered or not, i.e., the `props` and `state` passed to the component.



Now, click the **components** button to view the `props` and `state` of the first clap.





You can go back to the **Profiler** tab and click on the commit bars on top to see the difference in `props` or `state` across each commit render by clicking the **Components** tab again.

In the next lesson, we'll learn about ranked charts which represent the hierarchy of viewed components.