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2016-02-24

## Arrow functions vs. bind()

Labels: [coding](#), [dev](#), [esnext](#), [javascript](#)

ES6 arrow functions are often a compelling alternative to `Function.prototype.bind()`.

### 1. Extracting methods

If an extracted method is to work as a callback, you must specify a fixed `this`, otherwise it will be invoked as a function (and this will be `undefined` or the global object). For example:

```
obj.on('anEvent', console.log.bind(console))
```

An alternative is to use an arrow function:

```
obj.on('anEvent', x => console.log(x))
```

### 2. this via parameters

The following code demonstrates a neat trick: For some methods, you don't need `bind()` for a callback, because they let you specify the value of `this`, via an additional parameter. `filter()` is one such method:

```
const as = new Set([1, 2, 3]);
const bs = new Set([3, 2, 4]);
const intersection = [...as].filter(bs.has, bs);
// [2, 3]
```

However, this code is easier to understand if you use an arrow function:

```
const as = new Set([1, 2, 3]);
const bs = new Set([3, 2, 4]);
const intersection = [...as].filter(a => bs.has(a));
// [2, 3]
```

### 3. Partial evaluation

`bind()` enables you to do *partial evaluation*, you can create new functions by filling in parameters of an existing function:

```
function add(x, y) {
  return x + y;
}
const plus1 = add.bind(undefined, 1);
```

Again, I find an arrow function easier to understand:

```
const plus1 = y => add(1, y);
```

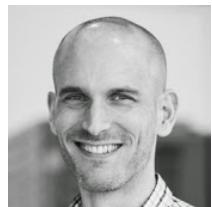
### 4. Further reading

- [Currying versus partial application \(with JavaScript code\)](#)

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vs. bind()

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bradleymeck • a year ago

Don't forget `arguments` is not defined in an arrow function as well.

3 ^ | v • Reply • Share >



Axel Rauschmayer Mod → bradleymeck • a year ago

Right. But that's a different topic. Rest parameters should (mostly) make up for that, though.

6 ^ | v • Reply • Share >



zenw0lf • a year ago

A minor nitpick: what you refer as partial evaluation is in reality partial (function) application. <https://en.wikipedia.org/wiki/...>

2 ^ | v • Reply • Share >



Barney Carroll • a year ago

Regarding partial evaluation: a bound function can still have `this` re-bound, which is rarely desirable. Arrows ensure a total lockdown of `this`.

1 ^ | v • Reply • Share >



Nikos • 8 months ago

I've had zero luck arrow functions and babel recently, having to resort to `.bind(this)` all over the place

^ | v • Reply • Share >



dou4cc • a year ago

I think it is better below:

`::console.log`

^ | v • Reply • Share >



virtyaluk → dou4cc • 8 months ago

`console.log` is now bound to `console` object. So there's no need to use that syntax or even arrow function syntax. Actually, you may write something like this  
`obj.on('anEvent', console.log)`  
and it's just a code optimization.

Many of those who write this kind of articles demonstrate non-optimized code with the only purpose to show the new syntax. That's stupid. You may write elegant and optimized code avoiding this kind of useless advice ("Extracting methods" section) most of the time.

^ | v • Reply • Share >



Axel Rauschmayer Mod → virtyaluk • 8 months ago

This blog post is not about performance or about showing new syntax, but about writing code that's as easy to understand as possible. Additionally, engines are getting better and better at optimizing these kinds of patterns, so I wouldn't even be sure about performance in the long run.

^ | v • Reply • Share >



Drew | Person → dou4cc • a year ago

I'm excited for this syntax too. I wonder how quickly it will progress.

Tweets by @rauschma

Axel Rauschmayer

@rauschma

Enjoying "Troll Hunters":

- "Let's call him 'Gnome Chomsky'"

- "Juliet dies in this? Nooo!"

9h

Axel Rauschmayer  
Retweeted

Jonathan Creamer  
@jcreamer898

A nice little shout out to  
@rauschma...

[infoworld.com/article/316483](http://infoworld.com/article/316483)  
... #es2017 #async

JavaScr...  
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13h

Axel Rauschmayer  
@rauschma

Not a physics book!  
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02 Feb

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Jordan Harband  
@ljharb

Making our React  
components forbid extra  
props has caught SO many  
bugs. I highly recommend it.

[npmjs.com/airbnb-prop-ty...](http://npmjs.com/airbnb-prop-ty...)

npm: air...  
Custom ...  
npmjs.com

02 Feb

Axel Rauschmayer  
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Seth Petry-Johnson  
@spetryjohnson

Open strong. Be bold. Tell a  
story. Do something to get  
me interested. Opening w/  
the "obligatory 'about me'  
slide" puts me to sleep :)

02 Feb

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^ | v • Reply • Share >



Anas Raza Firdousi → Drew | Person • a year ago

Already available in things like TypeScript

^ | v • Reply • Share >



Šime Vidas • a year ago

There's the code repetition, though. It seems ok for when there's only one parameter, but when you have 3 or more, it becomes tedious (and also error-prone).

^ | v • Reply • Share >



Dmitri Pavlutin • a year ago

Well, when using bind() you don't create a closure of the current scope. But I found arrow functions pretty too :).

^ | v • Reply • Share >



olexandr → Dmitri Pavlutin • 10 months ago

Using bind() will lead to performance degradation because of switching between JIT and c++ code at least for JSC. I think the same for V8 and Chakra and SpiderMonkey. Arrow function will be executed without such switches.

Also as I know .call() and .apply() are faster to .bind()

^ | v • Reply • Share >



Axel Rauschmayer Mod → Dmitri Pavlutin • a year ago

There is much that engines could optimize, so we'll see what happens in the long run.

^ | v • Reply • Share >

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