What do {curly braces} around javascript variable name mean [duplicate]

Asked 5 years ago Active 3 years, 3 months ago Viewed 41k times

135

25

This question already has an answer here:
What is this JavaScript syntax: {Ci, CC}? [duplicate] *2 answers*

EDIT After looking at JSHint I found this **'destructuring expression' is available in ES6 (use esnext option) or Mozilla JS extensions (use moz)** and this however after reading it I still don't understand why it is used

I have come across the following code on MDN

```
var ui = require("sdk/ui");
var { ActionButton } = require("sdk/ui/button/action");
```

What do the braces on the second line do and why are they used? Why are there no braces on the first line?

javascript firefox firefox-addon

edited Aug 7 '14 at 16:57

asked Aug 7 '14 at 16:44
Georgi Georgiev
1,281 4 21 30

marked as duplicate by Bergi javascript Aug 27 '15 at 21:09

This question has been asked before and already has an answer. If those answers do not fully address your question, please ask a new question.

3 I think that's an EcmaScript 6 destructuring binding pattern. – Pointy Aug 7 '14 at 16:50

@Pointy after looking at JSHint I found this 'destructuring expression' is available in ES6 (use esnext option) or Mozilla JS extensions (use moz) and this however after reading it I still don't understand why it is used developer.mozilla.org/en-US/docs/Web/JavaScript/… – Georgi Georgiev Aug 7 '14 at 16:54

4 @Bergi surely closing this as a duplicate of a pre-ES6 question whose answers claim that this is a JS 1.7 feature unique to Firefox isn't helpful? The world has changed since that question was asked and the answers there are obsolete - plus this question is drawing far more views. We should improve this Q&A pair to clearly include the history of this syntax so that nobody gets confused about the relationship between JS 1.7 and ES 6, then close the *other* question as a duplicate of *this* one. – Mark Amery Nov 23 '15 at 11:21

@MarkAmery: Both these questions *ask* about the JS 1.7 feature, and are even tagged firefox. For ES6 questions, I'm using Javascript object bracket notation on left side to assign as the canonical question. – Bergi Nov 23 '15 at 16:19

@Bergi Hmm. Given the context in which he found this code, you're clearly right that the code the OP was reading was using the JS 1.7 feature, but I think the OP in this case has come across this syntax and *doesn't know* which version of the syntax he's seeing. Wouldn't it be more useful to have a comprehensive duplicate target that explains that there are two specifications that introduce the syntax (as well as any differences between the two, although I think they're identical and the ES spec just copied the JavaScript 1.7 version exactly)? – Mark Amery Nov 23 '15 at 16:26

1 Answer

185

This is what's known as a destructuring assignment, and it's a new feature of JavaScript 1.7 (and ECMAScript 6) (Currently, only available in the FireFox JavaScript engine.) Roughly, it would translate into this:

```
var ActionButton = require("sdk/ui/button/action").ActionButton;
```

It seems silly in this example, as there's only one item being assigned. However, you'd be able to use this pattern to assign multiple variables at once:

```
{x, y} = foo;
```

Is the equivalent to:

```
x = foo.x;
y = foo.y;
```

This can also be used for arrays. For example, you could easily swap two values without using a temporary variable:

```
var a = 1;
var b = 3;

[a, b] = [b, a];
```

Browser support can be tracked using kangax' ES6 compatibility table.

edited May 13 '16 at 16:45

Daniel Samuels
476 4 20

answered Aug 7 '14 at 16:52

Mike Christensen
59.2k 40 175 280

21 A much more useful example would be something like `{width, height, color} = options` , which would replace the lines `width = options.width; height = options.height; color = options.color` . – meagar ♦ Aug 7 '14 at 16:55 ✎

2 @CaseyFalk - From what I can tell, `var {x, y} = ...` would be the equivalent of `var x = ...` and `var y = ...` and `{x, y} = ...` would be the equivalent of `x = ...` and `y = ...` – Mike Christensen Aug 7 '14 at 17:07

2 @CaseyFalk - In other words, you're right. Since the example above was declaring `{ ActionButton }` , my *rough translation* was incorrect. I've updated it. – Mike Christensen Aug 7 '14 at 17:08

1 I realize it was "rough" -- sorry to be nit-picky. :) Have an upvote. – Casey Falk Aug 7 '14 at 17:13

3 "JavaScript 1.7 support was introduced in Firefox 2 (October 2006)" :D Anyway, it is part of the ECMA-6 draft (assignment, binding), so it will get broader browser support in the foreseeable future. Also: `(function(arg1, {opt1, opt2}) { console.log(arg1, opt1, opt2); })(1, {opt1: 2, opt2: 3})` . Also: `var {ActionButton: ab} = ...;` – nmaier Aug 7 '14 at 17:36