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Dotcall - A Callback Hell Remedy



_exebook, 25 Nov 2014

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A syntax sugar module that will silently convert sync-style dot preceded calls into an async ladder.



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Introduction

Ever been to callback hell? Here, I propose another solution. A syntax sugar called Dotcall. I developed it while working on my various *Node.js* projects because I realized I spend too much time on very simple tasks only because callback syntax is so unfriendly. It is not rocket science, it is just time consuming to get all the curly and less curly braces in place. I post it here because it could be used by someone, maybe you will report issues or even help make it better with your forks or commits. The source is here <https://github.com/exebook/dotcall>.

Theory

The theory behind it is this:

- Most of the time, the result of an asynchronous function is not used, and after it was called, the upper functions also exit immediately. Although sometimes the upper function can do something after it called the first `async(callback)`, usually it does nothing and returns. Sometimes, the asynchronous function could return something useful, but most of the time, it just returns `undefined` and the real stuff is returned with `callback(result)`.
- When the above situation is true, the special syntax sugar can be applied.

There is some discussion of this theory on StackOverflow: <http://stackoverflow.com/questions/27102432/automatic-callback-ladder-creator>

Syntax

The syntax of dotcall is very simple, when the call's brace is preceded with a dot .(, then the call is converted (hence the name):

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```
var a = f.()
console.log(a)
```

Is replaced with:

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```
f(function(DOTCALL1) { var a = DOTCALL1
  console.log(a)
})
```

In case your callback uses more than one parameter, there is an extended syntax, called double colon syntax.

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```
redis.set('a', 12345)
redis.get('a' :: err, data)
if (err) console.log(err)
console.log(data) // outputs 12345
```

Another case of **double colon** notation is to specify the useful argument number like this:

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```
redis.set('a', 12345)
console.log(redis.get('a' :: 2))
```

The above outputs **12345**, because Redis function `get(err, data)` uses `data` as a second parameter.

Implementation

Instead of using complex JavaScript parser, I decided to use a naive approach and simple string manipulation with `.IndexOf`, `.replace`, `.substr` and `RegExp`. So the module is fast and small. The whole source code is under 300 lines, and in fact most of that is comments. Since the approach is naive, of course it will only handle most straight forward situations, but that could cover almost everything I need to talk to DB or do some async file or network operations.

install with npm

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```
npm install dotcall
```

About Me

My name is Yakov, I am from Russia. I have been working for many years on Exebook Self-Publisher, which is closed now. Later, I created Deodar file manager and text editor in Node.js+OpenGL. You can find it at <https://github.com/exebook/deodar> under Unlicense license, but it is not localized to English. Now I am working for uteeter.com and ksana.tw. I program mostly in JavaScript.

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