

One-color.js - JS color manipulation made easy

Peter Müller (@_munter_)

CopenhagenJS
October 20th 2011

Overview

`whoami(1)`

Defining “web-server work”

What’s the problem?

Event-based servers

Using Node.js

Node.js

Node.js is a set of bindings to V8 JavaScript engine
for scripting network programs.

— *Ryan Dahl*

JavaScript

Built for event-based programming.

JavaScript

Built for event-based programming.

Think: Users clicking on fancy buttons on random web pages. . .

JavaScript

Built for event-based programming.

Think: Users clicking on fancy buttons on random web pages. . .

(Also: “Designed” and implemented in 14 days. . .)

Google's V8

Compiling (most) JavaScript to native machine code

Node.js

Provides bindings for various libraries.

Makes everything asynchronous.

A single connection

A single connection

=

1 “Event”

A single connection

=

1 “Event”

=

1 Closure

A single connection

=

1 “Event”

=

1 Closure

=

1 struct & some pointers

A single connection

=

1 "Event"

=

1 Closure

=

1 struct & some pointers

+

Queue of events waiting to be processed

A minimal webserver in Node.js:

```
// Import HTTP package
var http = require('http');

// Set up basic server
var server = http.createServer(function (req, res) {
  res.writeHead(200, {'Content-Type': 'text/plain'});
  res.end('Hello␣World␣\n');
});

// Start the server
server.listen(8124, "127.0.0.1");
console.log('Server␣running␣at␣http://127.0.0.1:8124/');
```

Tricky things afoot!

```
var file = 'myFile.txt';  
fs.readFile(file, function () {  
    sys.write("Hi");  
});  
sys.write("BYE");
```


Tricky things afoot!

```
var file = 'myFile.txt';  
fs.readFile(file, function () {  
    sys.write("Hi");  
});  
sys.write("BYE");
```

Outputs:

BYE
HI

Actual execution order

```
var file = 'myFile.txt';  
fs.readFile(file, ... );  
sys.write("BYE");
```

Actual execution order

```
var file = 'myFile.txt';  
fs.readFile(file, ... );  
sys.write("BYE");
```

And when file finished loading:

```
function () {  
    sys.write("Hi");  
}
```

Writing modules

```
// Example.com module
function example_com(config) {
  self.config = config;
}

example_com.prototype = {
  get: function () {
  }
}
```

Gotcha's: Backtraces, package management, your habits.

Node Advice #1:

Stick with 0.2 for now – not all libraries are updated yet.

Node Advice #2:

```
./configure --prefix=./local  
make  
make install
```

Node Advice #3:

```
curl http://npmjs.org/install.sh | sh
```