St. Louis Clojure

ClojureScript Introduction

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`cgore.com`
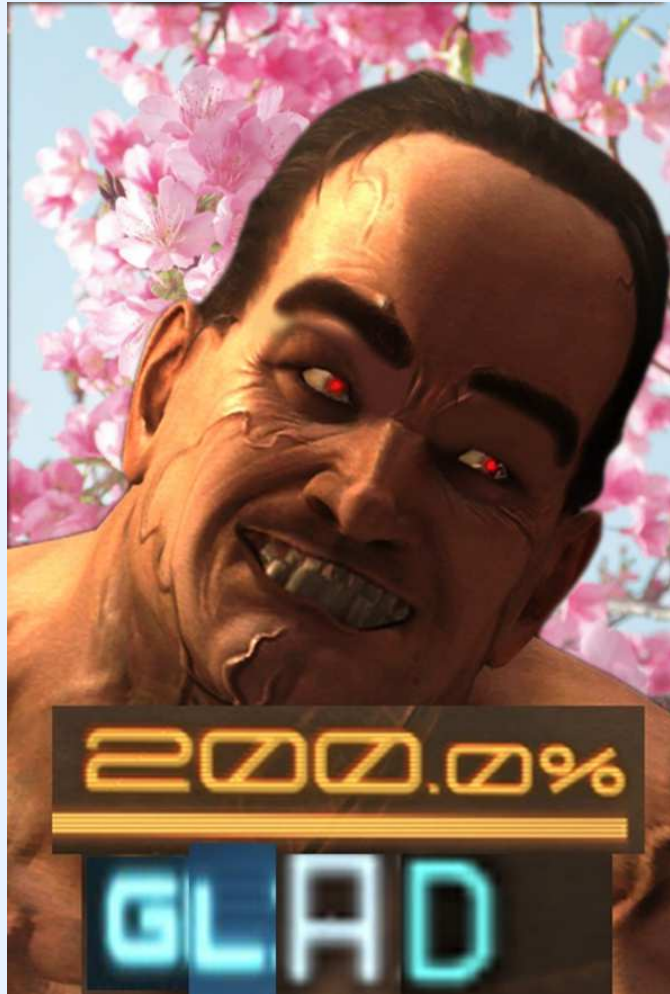
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Why ClojureScript?

Have you ever seen JavaScript?

Why ClojureScript?

Have you ever seen Clojure?

How I'm going to do stuff.

- I'm using Leiningen for the projects:
  `http://leiningen.org/`

- I'm using `cljs-kickoff` to template the project:
  `https://github.com/konrad-garus/cljs-kickoff`

- That uses `lein-cljsbuild`:
  `https://github.com/emezeske/lein-cljsbuild`

- And also `lein-ring`:
  `https://github.com/weavejester/lein-ring`

ClojureScript History

1958 LISP

1969 ARPANET

1984 Common Lisp

1990 WWW

1994 Netscape Navigator

1995 JavaScript

2007 Clojure

2012? ClojureScript

cljs-kickoff

There is some real work to standing up the file structure for any Clojure project, and ClojureScript is no exception. That's where `cljs-kickoff`[a] comes in: it sets up a minimal Leiningen template for ClojureScript with `lein-cljsbuild`.

```
$ lein new cljs-kickoff hello-world
```

---

[a]https://github.com/konrad-garus/cljs-kickoff

```
                        cljs-kickoff

hello-world
├── project.clj
├── resources
│   └── public
│       ├── css
│       │   └── page.css
│       └── help.html
└── src
    ├── clj
    │   └── hello_world
    │       └── server.clj
    └── cljs
        └── hello_world
            └── client.cljs
```

lein-cljsbuild

Your beautiful ClojureScript code needs to be *"compiled"* (air quotes) into ugly JavaScript to actually work, and you can use `lein-cljsbuild`[a] does that for you automatically whenever you change a relevant file.

On a dedicated shell session:

```
$ lein cljsbuild auto
```

---

[a]https://github.com/emezeske/lein-cljsbuild

lein-ring

You will want a simple web server to put up your Clojure-Script, and you probably want it in Clojure. Ring[a] is a popular one, loosely similar in approach to Ruby's Rack, and `lein-ring`[b] provides a lot of nice Leiningen shortcuts for Ring.
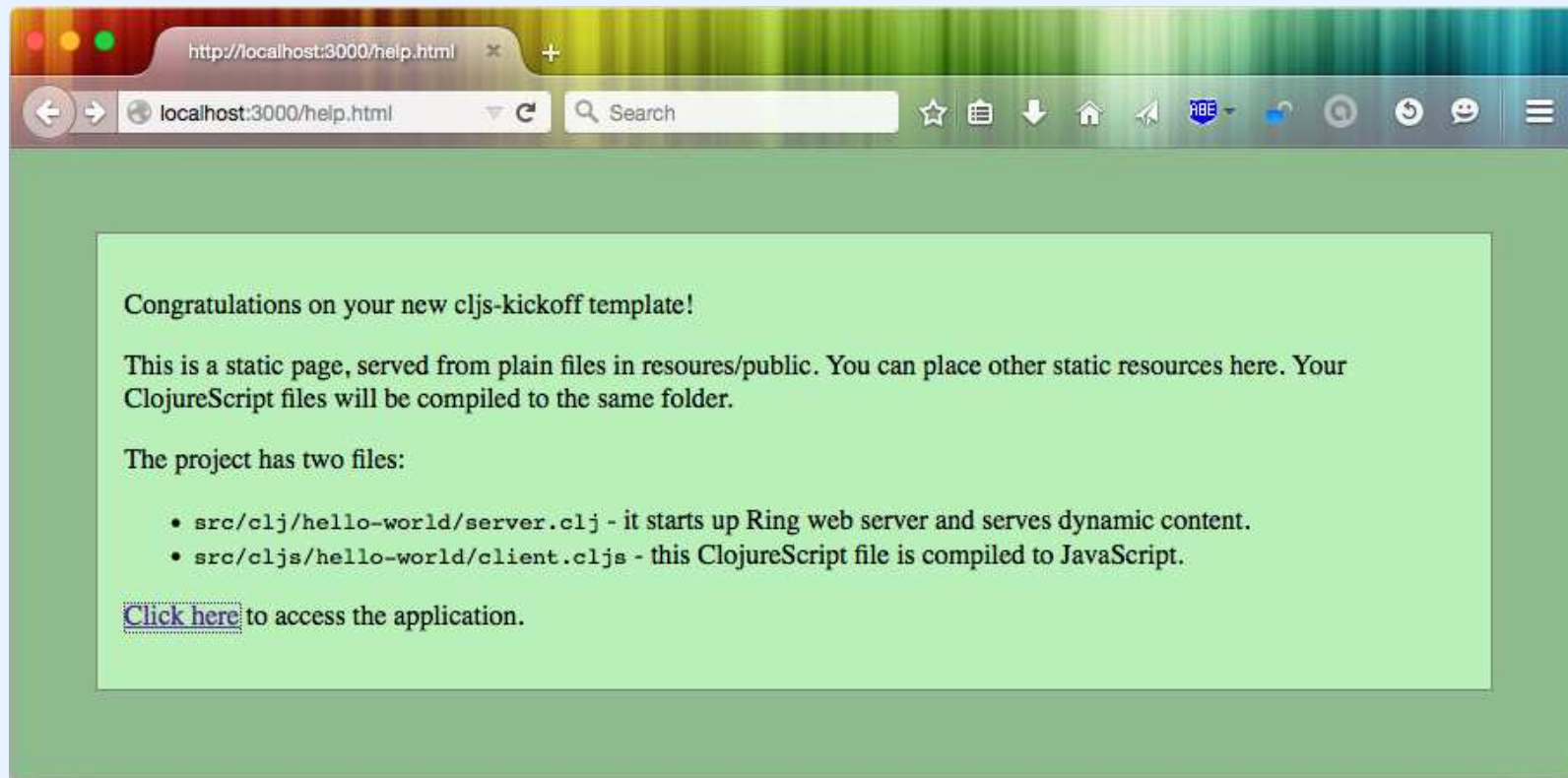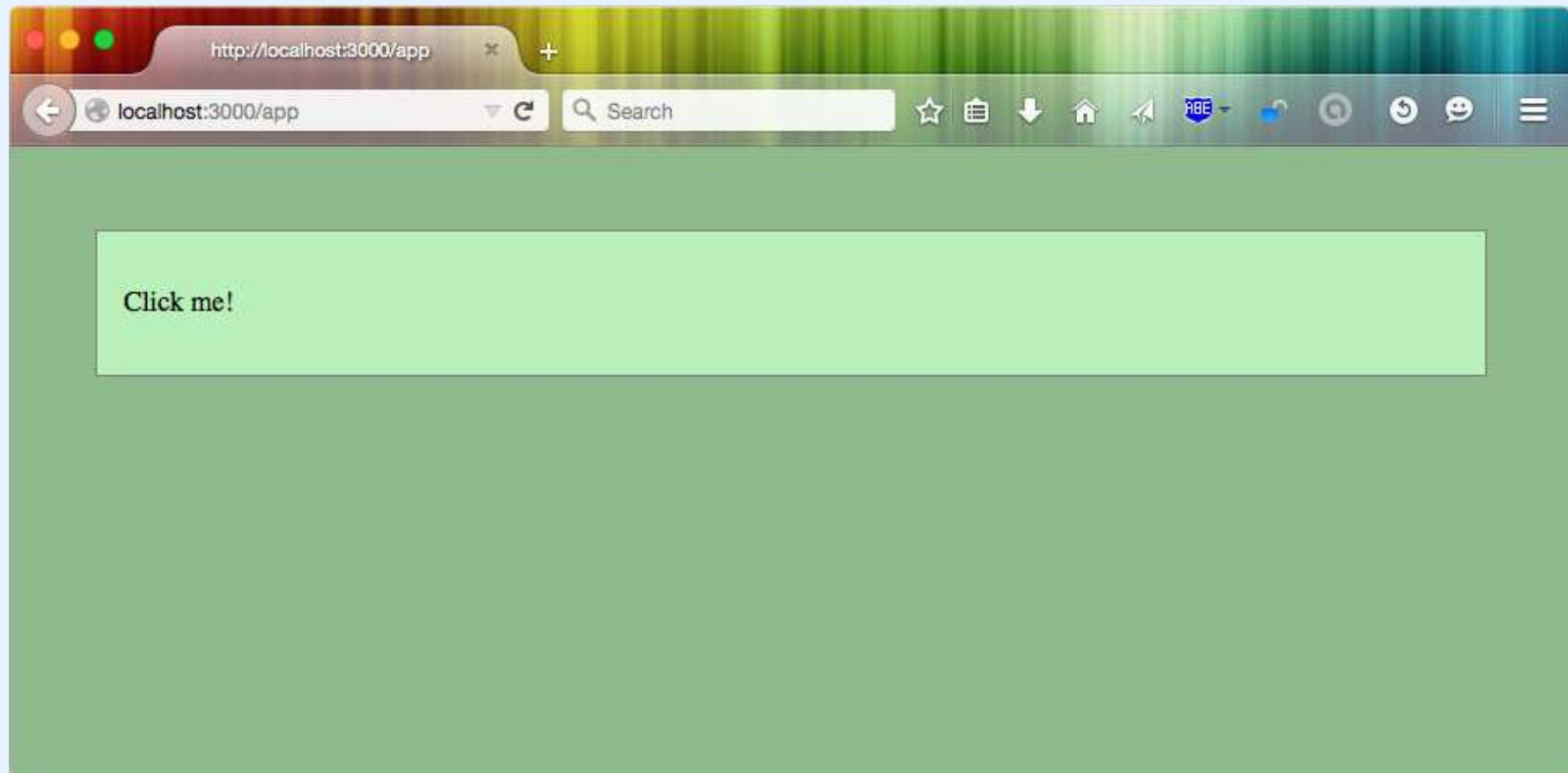
On a dedicated shell session:
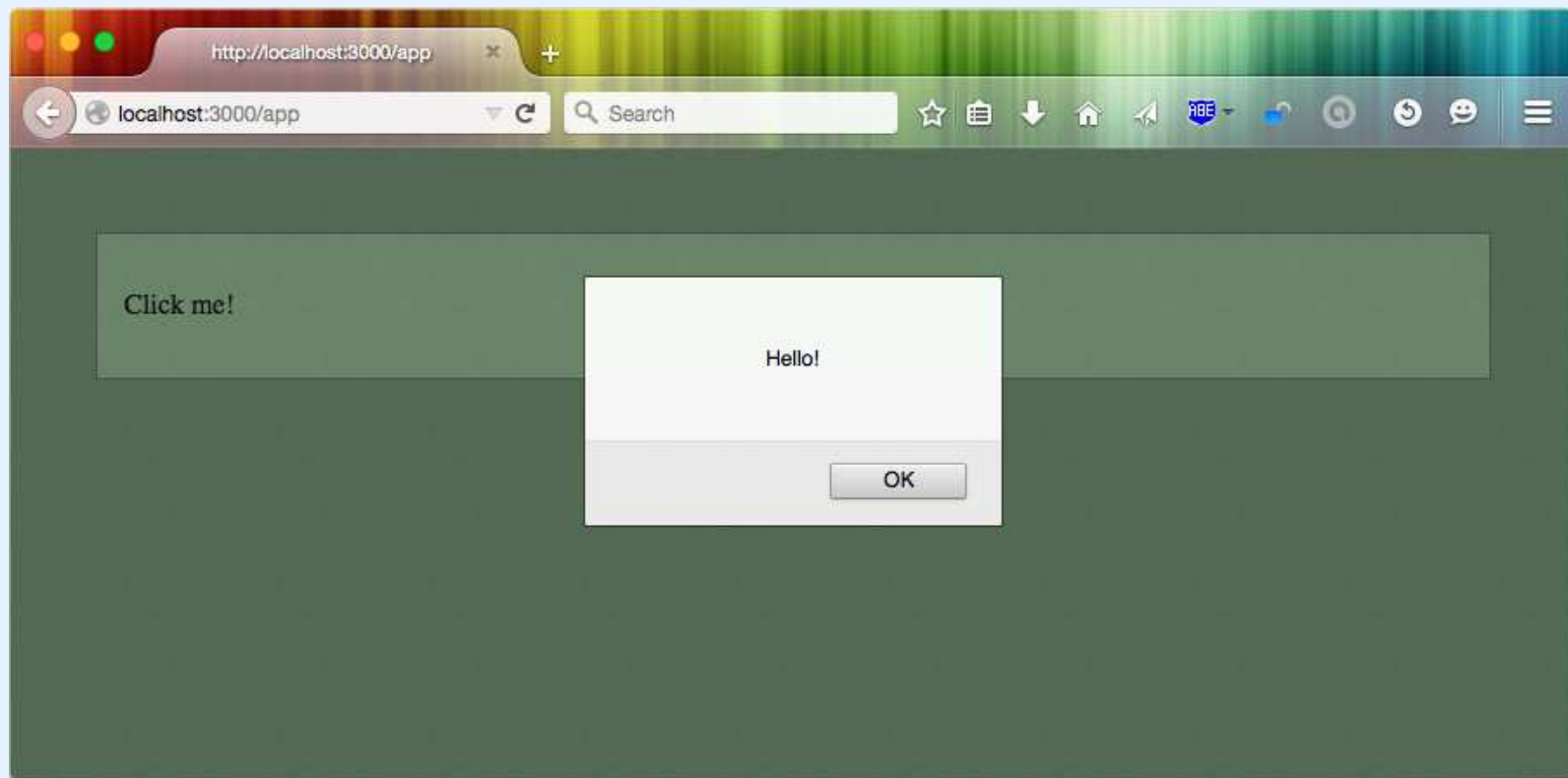
```
$ lein ring server
```

---

[a]https://github.com/ring-clojure/ring
[b]https://github.com/weavejester/lein-ring

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Hello, World!

Browser window at localhost:3000/help.html:

Congratulations on your new cljs-kickoff template!

This is a static page, served from plain files in resources/public. You can place other static resources here. Your ClojureScript files will be compiled to the same folder.

The project has two files:

- `src/clj/hello-world/server.clj` - it starts up Ring web server and serves dynamic content.
- `src/cljs/hello-world/client.cljs` - this ClojureScript file is compiled to JavaScript.

Click here to access the application.

Hello, World!

Hello, World!

project.clj: **Dependencies**

```
1 (defproject hello-world "0.1.0-SNAPSHOT"
2   ;; ...
3   :dependencies [[org.clojure/clojure "1.5.1"]
4                  [org.clojure/clojurescript "0.0-2156"]
5                  [ring "1.2.1"]]
6   ;; ...
7   )
```

project.clj: **Plugins**

```
1 (defproject hello-world "0.1.0-SNAPSHOT"
2   ;; ...
3   :plugins [[lein-cljsbuild "1.0.2"]
4             [lein-ring "0.8.10"]]
5   ;; ...
6   )
```

project.clj: ClojureScript Build

```clojure
(defproject hello-world "0.1.0-SNAPSHOT"
  ;; ...
  :hooks [leiningen.cljsbuild]
  :source-paths ["src/clj"]
  :cljsbuild {
    :builds {
      :main {
        :source-paths ["src/cljs"]
        :compiler {:output-to "resources/public/js/cljs.js"
                   :optimizations :simple
                   :pretty-print true}
      :jar true}}}
  ;; ...
  )
```

`project.clj`: **Ring Server**

```
1 (defproject hello-world "0.1.0-SNAPSHOT"
2   ;; ...
3   :main hello-world.server
4   :ring {:handler hello-world.server/app})
```

Questions?