



# St. Louis Clojure

## ClojureScript Reagent Tutorial

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**We write Clojure at The Climate Corporation,  
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## Why ClojureScript? Isn't JavaScript good enough?



ClojureScript lets us use Clojure, a real lisp, in place of JavaScript.



## ClojureScript versus JavaScript – Namespaces

JavaScript has no native namespacing.

ClojureScript's namespacing works the same as in Clojure.

One namespace:

```
1 (ns my.library)
2 ...
```

Including another namespace:

```
1 (ns my.library
2   (:require [other.library :as other]))
3 ...
```

## ClojureScript versus JavaScript – no variable hoisting

This actually does something in JavaScript other than raise an error, which is probably not what you want:

```
1 function printName() {  
2   console.log('Hello, ' + name);  
3   var name = 'Bob';  
4 }
```

# ClojureScript versus JavaScript – destructuring binds

```
1 (def m {:first "Bob"
2         :middle "J"
3         :last "Smith"})
4
5 (let [{:keys [first middle last]} m]
6   ...)
7
8 (def color [255 255 100 0.5])
9
10 (let [[r g _ a] color]
11   ...)
```

## ClojureScript versus JavaScript – arbitrary keys for hash maps

```
1 // JavaScript -- Only string keys allowed
2 var m = {
3   "foo": 1,
4   "bar": 2
5 };
```

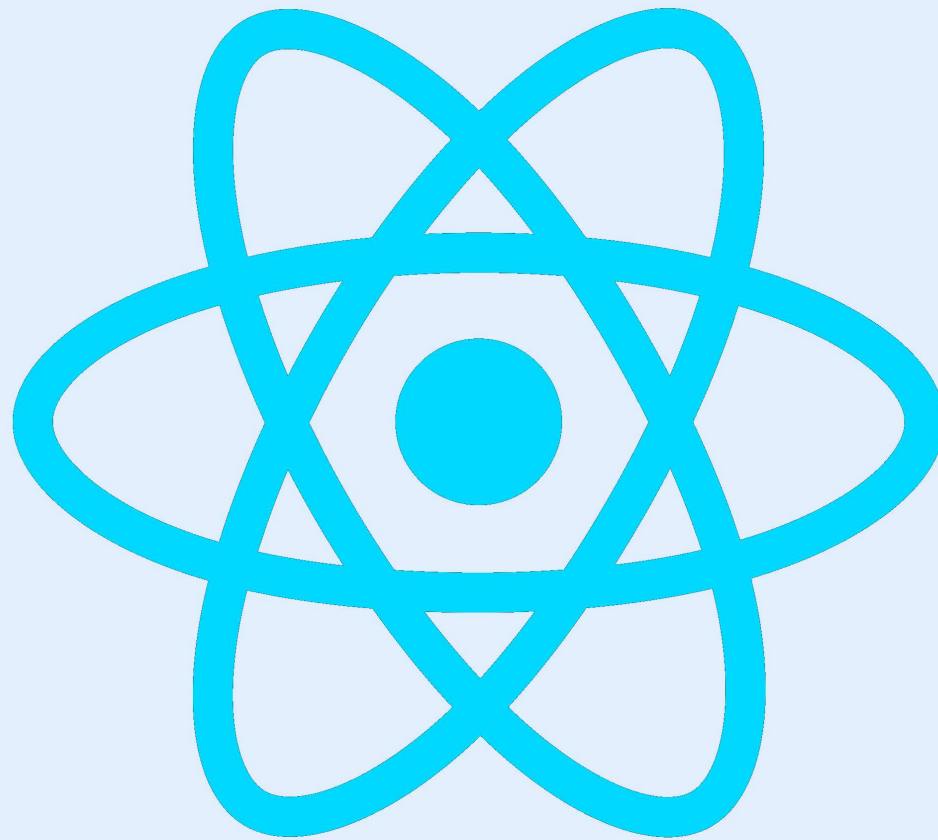
```
1 ;; ClojureScript -- Arbitrary keys allowed
2 (def m { [1 2] 3
3          #{1 2} 3
4          '(1 2) 3 })
```



**There's lots of other differences too, but they are mostly opinionated things.**

- Immutable collections
- Simpler Boolean system
- Optional parameters and arity
- Lazy evaluation
- ...

Reagent is a wrapper around React.js for  
ClojureScript.



## Why do we want to use React.js?

- React.js comes out of Facebook originally, but is used everywhere now.
- React.js dates back to 2011.
- React.js is good at creating user interfaces.
- If you are used to MVC, React.js is the V.

**Conclusion**

*Questions?*