

BC and Web Components

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Code will be available

For Free Download as well as some tutorials



Welcome to the future

Web Components usher in a new era of web development based on encapsulated and interoperable custom elements that extend HTML itself. Built atop these new standards, Polymer makes it easier and faster to create anything from a button to a complete application across desktop, mobile, and beyond.

[GET POLYMER](#)[VIEW ON GITHUB](#)[Use Elements \(30 sec\) →](#)[Create Elements \(5 min\) →](#)[Build an app \(30 min\)](#)

```
<!-- Polyfill Web Components support for older browsers -->
<script src="components/webcomponentsjs/webcomponents.js"></script>

<!-- Import element -->
<link rel="import" href="google-map.html">

<!-- Use element -->
<google-map lat="37.790" long="-122.390"></google-map>
```

Using Polymer Elements

Using Polymer elements (like all Web Components) is absurdly simple:

1 Import element.

Find a component and import its definition into your page using an HTML Import (<link rel="import">).

2 Use the new element

Polymer Project

Web Components

Why?

- Allows us to make complex components simple
- Reduces code repeat
- Allows multiple instances of code to be update from one component
- Has backend integration in the component
- Makes styling easy

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Example

Google Map Example

Declarative Code

- You can define new components in a single library of code
- The resulting HTML is declarative and simple to read
- `<mymenu></mymenu>`

Style in a sandbox

- Styles are inside a component and dont impact other areas of code
- eg: class 'button' styled in one component will not be impacted by style in another component

Published Properties

- When creating a component you can choose what goes into it as attributes and methods.
- These methods make using a component easy

Data Binding

- You can define data binding and have ajax inside a component
- The component can also have endpoints as attributes
- `<my-component src="http://feed.rss"></my-component>`

Event binding and Javascript scope is easy

- You can easily define events that are picked up in a component without difficult javascript selectors
- You can have events bound to a component and not have them leak out to other items in a page

It is DRY

- Dont Repeat yourself
- If I have a blog listing in a component that component can be edited
- I can make use of other libraries of code

How can I use it?

- Bower and NPM is required
- Sync up you BC site
- Then you are good to go

Can I use it on a live site

- Officially NO
- But it will work
- Test it lots on lots of browsers
- Salesforce and Google are using it so you can too :-)

Simple Example

ECMA 6

Why ECMA 6?

- Javascript has been used for so many things it needs to be improved
- It is used for far more than it was originally designed for
- It needs to be more secure

Goals of ECMA 6

- Make javascript better for Applications
- Make it great for libraries
- as a target of code generators

What does it mean?

- Currently you cant write ECMA 6 and have it work
- It needs to be compiled to ECMA 5

Why do I need to know it?

- It will mean that in the future as things change we will need to adjust to the change
- Its kind of like what happened when flash was killed by apple - we had to adjust
- Same thing was for responsive websites - it seemed hard but the reality is that everything gets easier in a more complex world.

What changes?

- We have proper classes and OOP
- Named exports (like AMD)
- Template strings (String Interpolation) like liquid markup is native to ECMA 6
- Lots of cool loop functions

When will it be available?

- June 1015 is the formal publication of the spec
- Many features are already in the Browser engines
- can be used today by compiling to ECMA 5 (like coffee script)
- Still a long way to go

These tests represent **existence**, not functionality or full conformance. Sort by number of features? Show obsolete browsers?

Compilers Desktop browsers

| | Current browser | Traceur | 6to5 + polyfill | EJS | Closure Compiler | TypeScript | IE 10 | IE 11 | IE Technical Preview | FF 31 | FF 34 | FF 35 | FF 36 | CH 39, OP 26 | CH 40, OP 27 | SF 6 | SF 7.0 | SF 7.1, SF 8 | WK | OP 12 | KQ 4.14 | RH | PH | Node |
|-------|-----------------|---------|-----------------|-------|------------------|------------|-------|-------|----------------------|-------|-------|-------|-------|--------------|--------------|-------|--------|--------------|------|-------|---------|-------|-------|-------|
| 6/9 | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No |
| 6/8 | 6/9 | 7/9 | 7/9 | 6/9 | 6/9 | 0/9 | 0/9 | 8/9 | 7/9 | 7/9 | 7/9 | 7/9 | 4/9 | 4/9 | 0/9 | 0/9 | 0/9 | 0/9 | 0/9 | 0/9 | 0/9 | 0/9 | 0/9 | 0/9 |
| 8/10 | 6/8 | 4/8 | 8/8 | 6/8 | 0/8 | 0/8 | 8/8 | 8/8 | 3/8 | 3/8 | 3/8 | 8/8 | 5/8 | 5/8 | 1/8 | 1/8 | 1/8 | 1/8 | 2/8 | 0/8 | 1/8 | 1/8 | 5/8 | 1/8 |
| 3/5 | 8/10 | 6/10 | 10/10 | 8/10 | 0/10 | 0/10 | 8/10 | 8/10 | 0/10 | 0/10 | 0/10 | 0/10 | 5/10 | 5/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 4/10 | 0/10 |
| No | 3/5 | 4/5 | 3/5 | 3/5 | 3/5 | 0/5 | 0/5 | 0/5 | 3/5 | 3/5 | 3/5 | 3/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 |
| 8/8 | No | Yes | Yes | Yes | Yes | Yes | No | No | Yes | Yes | Yes | Yes | Yes | No | No | No | No | No | No | No | No | No | No | No |
| 7/8 | 8/8 | 8/8 | 6/8 | 2/8 | 0/8 | 0/8 | 0/8 | 4/8 | 6/8 | 6/8 | 6/8 | 8/8 | 0/8 | 0/8 | 0/8 | 0/8 | 2/8 | 2/8 | 0/8 | 0/8 | 0/8 | 0/8 | 0/8 | 0/8 |
| 3/3 | 7/8 | 8/8 | 6/8 | 6/8 | 0/8 | 0/8 | 0/8 | 8/8 | 0/8 | 0/8 | 0/8 | 0/8 | 4/8 | 0/8 | 0/8 | 0/8 | 0/8 | 0/8 | 0/8 | 0/8 | 0/8 | 0/8 | 0/8 | 0/8 |
| 3/3 | 3/3 | 3/3 | 3/3 | 0/3 | 0/3 | 0/3 | 3/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 | 1/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 |
| 4/4 | 3/3 | 3/3 | 3/3 | 3/3 | 1/3 | 0/3 | 0/3 | 0/3 | 3/3 | 3/3 | 3/3 | 1/3 | 2/3 | 0/3 | 0/3 | 1/3 | 1/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 | 0/3 |
| 9/10 | 4/4 | 4/4 | 3/4 | 3/4 | 0/4 | 0/4 | 0/4 | 4/4 | 3/4 | 3/4 | 3/4 | 4/4 | 4/4 | 0/4 | 0/4 | 1/4 | 1/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 1/4 | 0/4 |
| 2/4 | 9/10 | 8/10 | 0/10 | 5/10 | 0/10 | 0/10 | 0/10 | 0/10 | 7/10 | 7/10 | 8/10 | 9/10 | 9/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 5/10 | 0/10 |
| 2/2 | 2/4 | 2/4 | 4/4 | 4/4 | 0/4 | 0/4 | 0/4 | 2/4 | 2/4 | 2/4 | 2/4 | 4/4 | 4/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 4/4 | 0/4 | 0/4 |
| 1/2 | 2/2 | 2/2 | 2/2 | 2/2 | 0/2 | 0/2 | 0/2 | 1/2 | 0/2 | 2/2 | 2/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 |
| 0/40 | 1/2 | 1/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 |
| 10/11 | 0/40 | 0/40 | 18/40 | 0/40 | 0/40 | 16/40 | 16/40 | 40/40 | 18/40 | 19/40 | 19/40 | 19/40 | 21/40 | 22/40 | 18/40 | 18/40 | 18/40 | 18/40 | 8/40 | 0/40 | 16/40 | 18/40 | 18/40 | 18/40 |
| 10/11 | 10/11 | 11/11 | 9/11 | 0/11 | 0/11 | 0/11 | 5/11 | 11/11 | 10/11 | 11/11 | 11/11 | 11/11 | 11/11 | 0/11 | 0/11 | 9/11 | 9/11 | 0/11 | 0/11 | 0/11 | 0/11 | 0/11 | 6/11 | 0/11 |
| 10/11 | 10/11 | 11/11 | 9/11 | 0/11 | 0/11 | 0/11 | 5/11 | 11/11 | 10/11 | 11/11 | 11/11 | 11/11 | 11/11 | 0/11 | 0/11 | 9/11 | 9/11 | 0/11 | 0/11 | 0/11 | 0/11 | 0/11 | 6/11 | 0/11 |
| 0/4 | 0/4 | 0/4 | 1/4 | 0/4 | 0/4 | 0/4 | 2/4 | 4/4 | 2/4 | 3/4 | 3/4 | 4/4 | 4/4 | 0/4 | 0/4 | 3/4 | 3/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 2/4 | 0/4 |
| 0/4 | 0/4 | 0/4 | 1/4 | 0/4 | 0/4 | 0/4 | 0/4 | 4/4 | 0/4 | 4/4 | 4/4 | 4/4 | 4/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 2/4 | 0/4 |
| 0/20 | 0/20 | 0/20 | 11/20 | 0/20 | 0/20 | 0/20 | 0/20 | 17/20 | 12/20 | 14/20 | 14/20 | 14/20 | 0/20 | 0/20 | 0/20 | 0/20 | 0/20 | 0/20 | 0/20 | 0/20 | 0/20 | 0/20 | 0/20 | 0/20 |
| 0/14 | 0/14 | 0/14 | 14/14 | 0/14 | 0/14 | 0/14 | 0/14 | 13/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 |
| No | No | Yes | No | No | Yes | No | No | Yes | Yes | No | No | No | No | Yes | Yes | No | No | No | No | No | No | No | No | No |
| 12/14 | 12/14 | 12/14 | 6/14 | 11/14 | 0/14 | 0/14 | 0/14 | 0/14 | 8/14 | 10/14 | 10/14 | 11/14 | 0/14 | 0/14 | 0/14 | 0/14 | 7/14 | 8/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 | 0/14 |
| Yes | Yes | Yes | Yes | Yes | No | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | No | Yes | Yes | No | No | No | No | No |
| 3/4 | 3/4 | 2/4 | 4/4 | 0/4 | 0/4 | 0/4 | 1/4 | 3/4 | 2/4 | 3/4 | 3/4 | 4/4 | 3/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 1/4 | 0/4 | 0/4 | 1/4 | 3/4 | 0/4 |
| 0/16 | 0/16 | 0/16 | 0/16 | 0/16 | 0/16 | 0/16 | 0/16 | 0/16 | 3/16 | 4/16 | 4/16 | 3/16 | 3/16 | 3/16 | 3/16 | 3/16 | 3/16 | 2/16 | 3/16 | 3/16 | 3/16 | 2/16 | 2/16 | 3/16 |
| No | No | No | No | No | No | No | No | No | No | No | No | No | No | Yes | Yes | No | No | No | No | No | No | No | No | No |
| 2/2 | 2/2 | 2/2 | 0/2 | 0/2 | 0/2 | 0/2 | 2/2 | 1/2 | 2/2 | 2/2 | 2/2 | 1/2 | 1/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 | 0/2 |
| 5/6 | 5/6 | 4/6 | 4/6 | 0/6 | 0/6 | 0/6 | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | 0/6 | 0/6 | 0/6 | 3/6 | 0/6 | 0/6 | 0/6 | 0/6 | 0/6 | 3/6 | 0/6 |
| No | No | Yes | Yes | Yes | Yes | No | No | No | Yes | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No |

All the red is no support

<http://kangax.github.io/compat-table/es6/>

Why is it important for BC Users ?

- Making stronger code and better understanding makes all BC Sites better
- Being aware of these changes as developers helps you become a better programmer
- Knowing about new features and when they are supported can ensure you have longer term support for sites you build

Moving Forward

- Release a tutorial step by step with code for Polymer and BC specific code examples
- Rapid prototype building for Polymer components
- Liquid examples of these templates

Further Reading

- polymer-project.org
- <http://webcomponents.org/>
- <https://www.bcappcenter.com/blog/>
- <http://customelements.io/>