

Dart Vs. Javascript

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What is Javascript?

JavaScript is a prototype-based scripting language that is dynamic, weakly typed and has first-class functions. It is a multi-paradigm language, supporting object-oriented, imperative, and functional programming styles.

- Wikipedia



What is Dart?

Dart is intended to solve JavaScript's problems (which, according to a leaked memo, cannot be solved by evolving the language) while offering better performance, the ability "to be more easily tooled for large-scale projects" and better security features. Google will offer a cross compiler that compiles Dart to ECMAScript 3 on the fly, for compatibility with non-Dart browsers. There will also be a facility to convert typed Closure code to Dart. Google also plans to integrate a native VM into Chrome (there is a Chromium branch aiming to implement this) and encourage competitors to do the same with their browsers.

- Wikipedia



Hello, world JS

```
1 <!doctype html>
  <html>
3 <head>
  <title>Hello , world.</title>
5 <meta charset="utf-8" />
  </head>
7 <body>
  <script src="js/hello.js"></script>
9 </body>
  </html>
```

hello-world-js/index.html



Hello, world JS

```
var date = Date.now();
2 console.log("Entry: " + date);
var body = document
4   .getElementsByName( 'body' )
   .item(0);
6 var span = document
   .createElement( 'span' );
8 span.setAttribute( 'id', 'hellocontainer' );
span.appendChild(
10   document.createTextNode( 'hello , world.' )
);
12 body.appendChild( span );
date = Date.now();
14 console.log("Exit: " + date);
```

hello-world-js/js/hello.js



Hello, world Dart

```
1 <!doctype html>
2 <html>
  <head>
4   <title>Hello , world.</title>
   <meta charset="utf-8" />
6 </head>
   <body>
8   <script type="application/dart" src="dart/hello.dart"></script>
   </body>
10 </html>
```

hello-world-dart/index.html

Hello, world Dart

```
1  #import( 'dart:dom' );  
2  
3  void main () {  
4    var date = new Date.now();  
5    print("Entry: ${date}");  
6    HTMLElement span = window.document.createElement( 'span' );  
7    span.id = 'hellocontainer';  
8    span.innerHTML = 'hello, world.';  
9    window.document.body.appendChild( span );  
10   date = new Date.now();  
11   print("Exit: ${date}");  
12 }
```

hello-world-dart/dart/hello.dart



Comparing HTML

	<code><!doctype html></code>		<code><!doctype html></code>
2	<code><html></code>	2	<code><html></code>
	<code><head></code>		<code><head></code>
4	<code><title>Hello , world.</title></code>	4	<code><title>Hello , world.</title></code>
	<code>></code>		<code>></code>
	<code><meta charset="utf-8" /></code>		<code><meta charset="utf-8" /></code>
6	<code></head></code>	6	<code></head></code>
	<code><body></code>		<code><body></code>
8	<code><script src="js/hello.js"></code>	8	<code><script type="application/dart" src="dart/hello.dart"></code>
	<code>/script></code>		<code></script></code>
	<code></body></code>		<code></body></code>
10	<code></html></code>	10	<code></html></code>

hello-world-js/index.html

hello-world-dart/index.html

Comparing scripts

```

1  var date = Date.now();
2  console.log("Entry: " +
    date);
3  var body = document
4  .getElementsByName('
    body')
    .item(0);
5  var span = document
    .createElement('span');
6  span.setAttribute('id', '
    hellocontainer');
7  span.appendChild(
10  document.createTextNode('
    hello, world.'))
    );
12 body.appendChild(span);
    date = Date.now();
14 console.log("Exit: " + date
    );

```

hello-world-js/js/hello.js

```

1  #import('dart:dom');
2
3  void main () {
4  var date = new Date.now()
    ;
5  print("Entry: ${date}");
6  HTMLElement span = window
    .document.
    createElement('span')
    ;
7  span.id = 'hellocontainer
    '
    ;
8  span.innerHTML = 'hello ,
    world.';
9  window.document.body.
    appendChild(span);
10 date = new Date.now();
12 print("Exit: ${date}");

```

hello-world-dart/dart/hello.dart



Warning! Dartium only!

At time of writing, pure Dart is only available in Dartium, a special Chromebuild. If you want to use it with other browsers, you have to compile it to Javascript. A compiler is included, but not yet optimized. Right now, a simple Hello, world example takes about 17000 lines when compiled to Javascript.

