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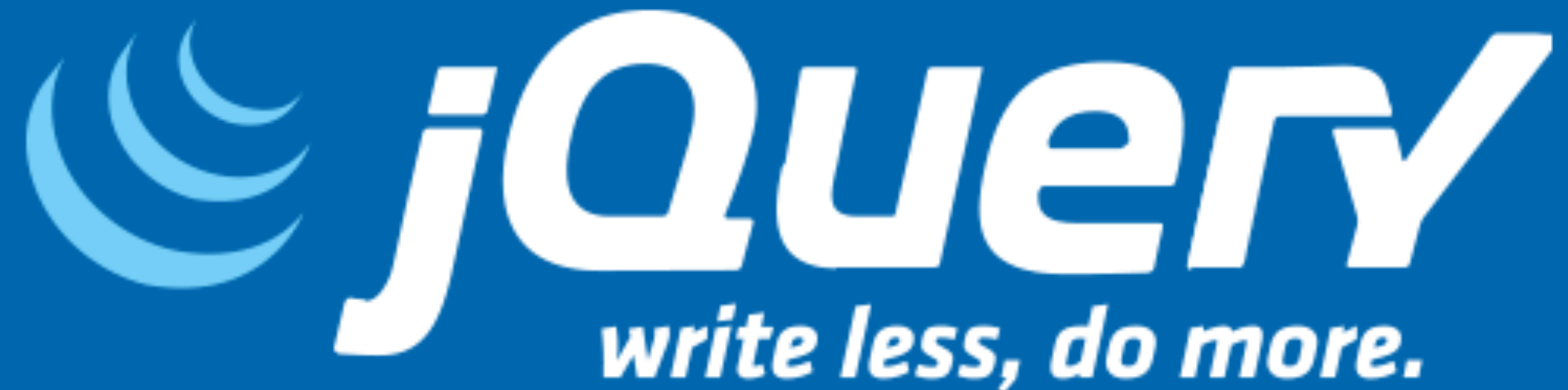
INTERACTIVE DATA VIZ SPRING 16

JQUERY

WHAT IS jQUERY?

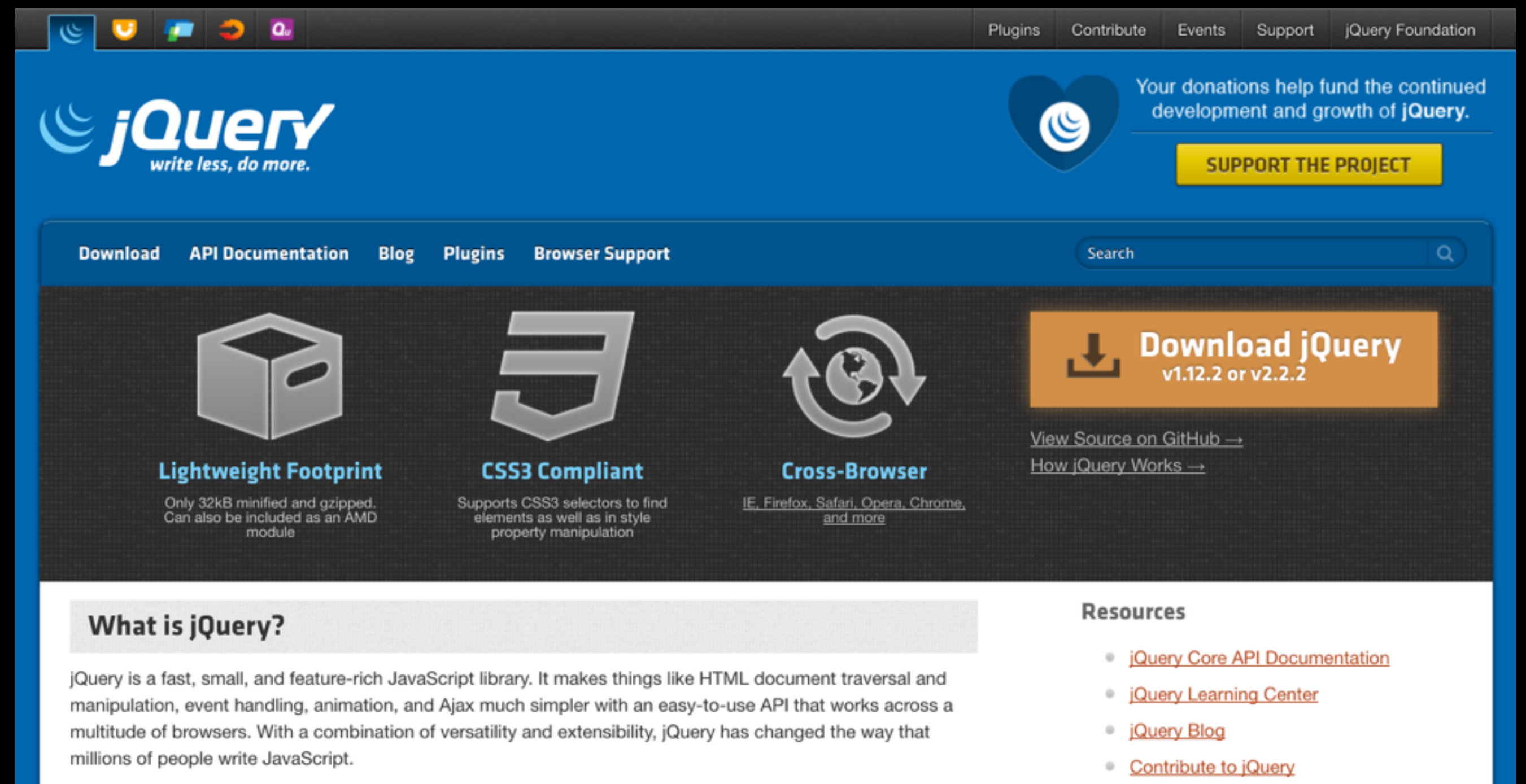
jQuery is a Javascript library that lets you jump-start your programming by handling many of the messy details of Javascript programming.

A single line of code can thus achieve what could require dozens of lines of pure Javascript. Think of it as a collection of prewritten functions.



WHAT IS jQUERY?

jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wraps them into **methods** that you can call with a single line of code. With jQuery, you can manipulate the DOM and your CSS, as well as create a number of effects and animations.



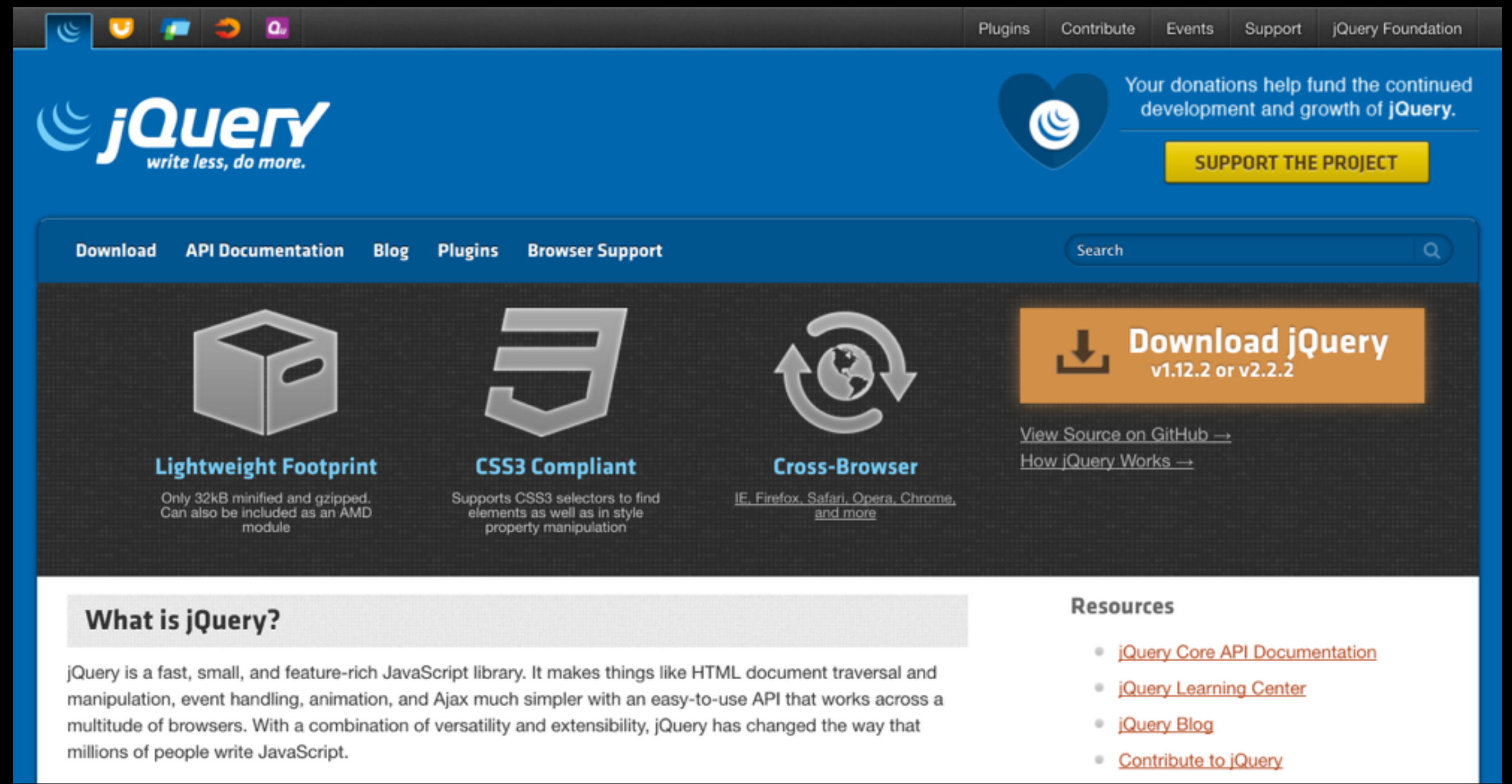
The screenshot shows the jQuery website homepage. At the top, there's a navigation bar with links for Plugins, Contribute, Events, Support, and jQuery Foundation. Below this is the jQuery logo with the tagline "write less, do more." and a heart icon with the text "Your donations help fund the continued development and growth of jQuery." and a "SUPPORT THE PROJECT" button. A secondary navigation bar includes links for Download, API Documentation, Blog, Plugins, and Browser Support, along with a search bar. The main content area features three key features: "Lightweight Footprint" (Only 32kB minified and gzipped. Can also be included as an AMD module), "CSS3 Compliant" (Supports CSS3 selectors to find elements as well as in style property manipulation), and "Cross-Browser" (IE, Firefox, Safari, Opera, Chrome, and more). A prominent orange button says "Download jQuery v1.12.2 or v2.2.2" with a download icon. Below this are links for "View Source on GitHub" and "How jQuery Works". The footer contains a "What is jQuery?" section with a brief description and a "Resources" section with links to "jQuery Core API Documentation", "jQuery Learning Center", "jQuery Blog", and "Contribute to jQuery".

GETTING jQUERY

```
<script src="js/jquery-2.2.1.min.js"></script>
```

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.12.0/jquery.min.js"></script>
```

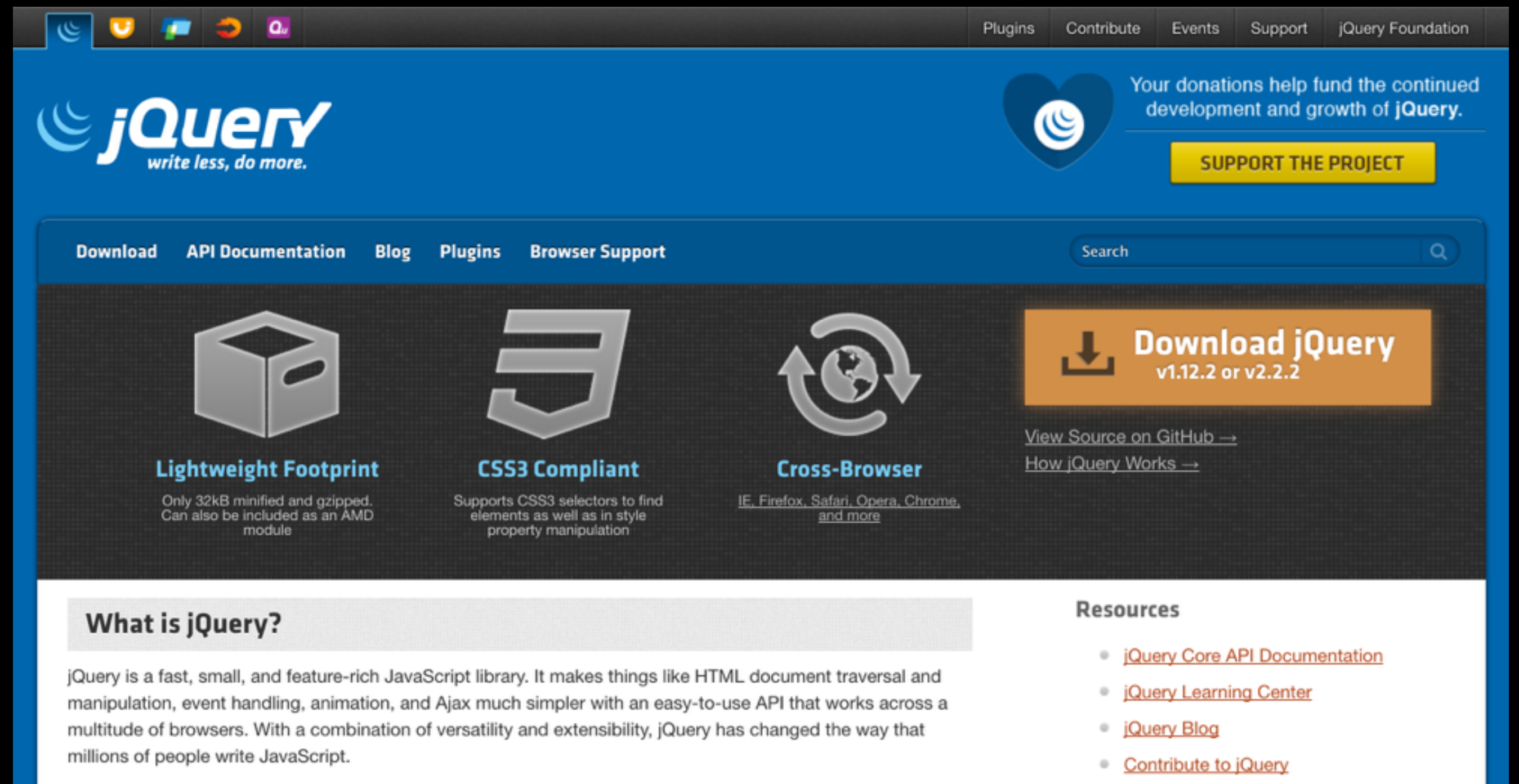
You add jQuery to your pages as a script tag in the head (usually) of your document, as we did with our Highcharts exercises. You can download your own versions (as we did), or use a CDN (content delivery network) to link to.



The screenshot shows the jQuery website homepage. At the top, there's a navigation bar with links for Plugins, Contribute, Events, Support, and jQuery Foundation. Below that is the jQuery logo with the tagline "write less, do more." and a "SUPPORT THE PROJECT" button. The main content area features a navigation menu with links for Download, API Documentation, Blog, Plugins, and Browser Support. Below the menu are three feature highlights: "Lightweight Footprint" (Only 32kB minified and gzipped. Can also be included as an AMD module), "CSS3 Compliant" (Supports CSS3 selectors to find elements as well as in style property manipulation), and "Cross-Browser" (IE, Firefox, Safari, Opera, Chrome, and more). A prominent "Download jQuery v1.12.2 or v2.2.2" button is also visible. At the bottom, there's a "What is jQuery?" section and a "Resources" section with links to jQuery Core API Documentation, jQuery Learning Center, jQuery Blog, and Contribute to jQuery.

GETTING jQUERY

jQuery comes in two versions: a minified production version, and an uncompressed development version. The former is smaller and more lightweight, the latter is recommended if you wish to actually read the code. We will use the uncompressed version today (2.2.2).



The screenshot shows the jQuery website homepage. At the top, there is a navigation bar with links for Plugins, Contribute, Events, Support, and jQuery Foundation. The main header features the jQuery logo with the tagline "write less, do more." and a call to action "SUPPORT THE PROJECT" with a heart icon. Below the header, there is a search bar and a navigation menu with links for Download, API Documentation, Blog, Plugins, and Browser Support. The main content area highlights three key features: "Lightweight Footprint" (Only 32kB minified and gzipped. Can also be included as an AMD module), "CSS3 Compliant" (Supports CSS3 selectors to find elements as well as in style property manipulation), and "Cross-Browser" (IE, Firefox, Safari, Opera, Chrome, and more). A prominent orange button labeled "Download jQuery v1.12.2 or v2.2.2" is visible, along with links for "View Source on GitHub" and "How jQuery Works". At the bottom, there is a "What is jQuery?" section and a "Resources" section with links to "jQuery Core API Documentation", "jQuery Learning Center", "jQuery Blog", and "Contribute to jQuery".

<http://jquery.com/download/>

jQuery syntax

The syntax of jQuery is made to select HTML elements and then perform some action on those elements.

```
$('selector').action();
```

jQuery syntax

The syntax of jQuery is made to select HTML elements and then perform some action on those elements.

The dollar sign is used to define and access jQuery. This function creates the jQuery object – it is the same as writing ...

```
$('selector').action();
```

```
jQuery('selector').action();
```


jQuery syntax

The selector is used to find HTML elements; it can be a tag, a class or an ID (using CSS notation).

```
$( 'selector' ).action();
```

```
$( 'button' ).action();
```

```
$( 'button.myButton' ).action();
```

```
$( 'button#myButton' ).action();
```

jQuery syntax

The jQuery action is then called to act upon the selected element(s). There are a number of built-in jQuery effects that you will find very useful in adding interactivity and motion to your page.

```
$( 'selector' ).action();
```

```
$( 'button' ).slideDown();
```

```
$( 'button.myButton' ).hide();
```

```
$( 'button#myButton' ).toggle();
```

jQuery syntax

jQuery methods are frequently inside an event called `document.ready`. This is to ensure that the jQuery code does not run until the document has finished loading.

```
$(document).ready(function(){  
    $('#button.myButton').hide();  
});
```

A simple example

We will begin with a simple illustration of how jQuery works, using a very simple HTML document. Use your basic template to create a simple HTML document called **hideseek.html**. Add four circles in a row under a simple headline and paragraph.

```
$(document).ready(function(){  
    $(this).hide();  
});
```

New JS + jQuery things

We already know the equal sign in Javascript is an **assignment operator**. It does NOT mean equal to, as it would in $2 + 2 = 4$, but that you are assigning a value to something (like a variable).

```
var x = 5;
```

New JS + jQuery things

Two equal signs mean equal to in Javascript. Often you would use this to check a value, like checking to see if the value of x is equal to 5. This creates a boolean, returning true or false.

```
var x = 5;
```

```
var x = 5;
```

```
document.getElementById("demo").  
innerHTML = (x == 5);
```

New JS + jQuery things

Three equal signs are also used to as a comparison selector, and are used to check whether something has equal value and is equal type. It's like checking to see if one variable is the exact same thing as another.

```
var x = 5;
```

```
var x = 5;
```

```
document.getElementById("demo").  
innerHTML = (x == 5);
```

```
if (index === currentIndex) {  
    $button.addClass('active');  
}
```

New JS + jQuery things

The code today includes several examples as well of **logical operators**.

These are used to determine the logic between variables or values.

Two ampersands means “and.”

```
(x < 10 && y > 1)
```

(This would return true if the value of x is less than 10 AND the value of y is more than 1; otherwise, it would return false.)

New JS + jQuery things

The code today includes several examples as well of **logical operators**.

These are used to determine the logic between variables or values.

An exclamation point means “NOT.”

`!(x === y)`

(Essentially, the NOT value would return true for false statements, and vice versa. In our code today, we will use this to check whether the current link has a class of “active.”.)

New JS + jQuery things

The code today includes several examples as well of **logical operators**.

These are used to determine the logic between variables or values.

Two vertical lines means "OR."

```
( x === 5 || y === 5 )
```

(This would check whether either x OR y are five. If either are, it would return TRUE.)

New JS + jQuery things

Today, we will use several additional built-in jQuery methods — those that you can use without additional code if you have jQuery loaded into your page. Here is what they do.

`find();`

The **find** method returns descendant elements of the selected element.

`preventDefault();`

Based on events; if this method is called, the default action of the event will not be triggered.

`hash();`

this.hash reads the href attribute of **this**, and gets the part of the URL beginning with #

New JS + jQuery things

Today, we will use several additional built-in jQuery methods — those that you can use without additional code if you have jQuery loaded into your page. Here is what they do.

`is()`;

Checks if one of the selected elements matches the selectorElement.

`parent()`;

Returns the direct parent element of the selected element.

`attr()`;

Sets or returns attributes and values of the selected elements. It returns the value of the FIRST matched element, or sets one or more attribute/value pairs for the set of matched elements.

New JS + jQuery things

Today, we will use several additional built-in jQuery methods — those that you can use without additional code if you have jQuery loaded into your page. Here is what they do.

`eq()` ;

Returns an element with a specific index number of the selected elements.

`push()` ;

Adds a new item to an array. (The opposite is `pop()`, BTW.)

`appendTo()` ;

Inserts HTML elements at the end of the selected elements.