

How to Draw a Line in JavaScript

Summary: in this tutorial, you'll learn how to draw a line using the Canvas API.

Steps for drawing a line in JavaScript

To draw a line on a [canvas](#), you use the following steps:

- First, create a new line by calling the `beginPath()` method.
- Second, move the drawing cursor to the point `(x,y)` without drawing a line by calling the `moveTo(x, y)` .
- Finally, draw a line from the previous point to the `point (x,y)` by calling the `lineTo(x,y)` method.

Set the line stroke

If you want to stroke the line with the `strokeStyle` , you can call the `stroke()` method after calling the `lineTo(x,y)` method.

Set the line width

To set the width for a line, you use the `lineWidth` property of the 2D drawing context before calling `stroke()` method:

```
ctx.lineWidth = 10;
```

The `lineTo(x,y)` method

The `lineTo(x,y)` method accepts both positive and negative arguments.

If the `x` is positive, the `lineTo(x,y)` method draws the line from the starting point to the right. Otherwise, it draws the line from the starting point to the left.

If the `y` is positive, the `lineTo(x,y)` method draws the line from the starting point down the y-axis. Otherwise, it draws the line from the starting point up to the y-axis.

Drawing a line example

The following shows the `index.html` file that contains a canvas element:

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>JavaScript - Drawing a Line</title>
  <link rel="stylesheet" href="css/style.css">
</head>

<body>

  <h1>JavaScript - Drawing a Line</h1>

  <canvas id="canvas" height="400" width="500">
  </canvas>
  <script src="js/app.js"></script>

</body>

</html>
```

And this `app.js` contains that draws a line with the color red, 5-pixel width from the point (100, 100) to (300, 100):

```
function draw() {
  const canvas = document.querySelector('#canvas');

  if (!canvas.getContext) {
    return;
  }
}
```

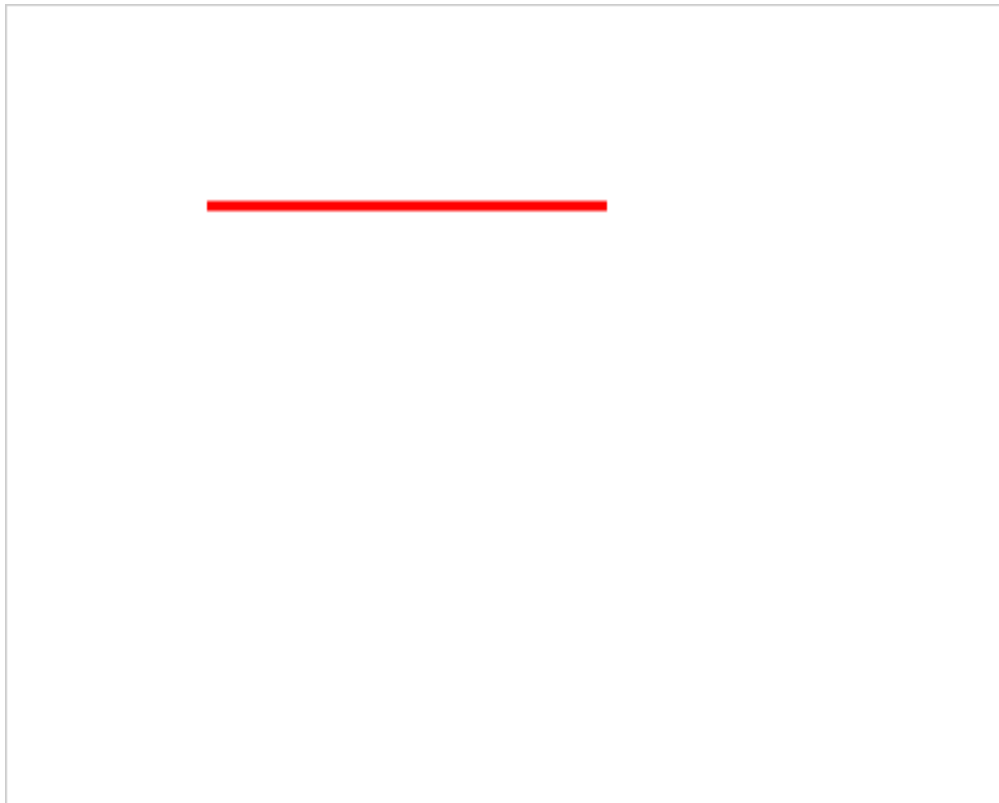
```
const ctx = canvas.getContext('2d');

// set line stroke and line width
ctx.strokeStyle = 'red';
ctx.lineWidth = 5;

// draw a red line
ctx.beginPath();
ctx.moveTo(100, 100);
ctx.lineTo(300, 100);
ctx.stroke();

}
draw();
```

The following shows the output:



[Here is the link that shows the canvas with the line.](#)

Develop a reusable drawLine() function

The following `drawLine()` function draws a line from one point to another with a specified stroke and width:

```
function drawLine(ctx, begin, end, stroke = 'black', width = 1) {  
  if (stroke) {  
    ctx.strokeStyle = stroke;  
  }  
  
  if (width) {  
    ctx.lineWidth = width;  
  }  
  
  ctx.beginPath();  
  ctx.moveTo(...begin);  
  ctx.lineTo(...end);  
  ctx.stroke();  
}
```

To draw a line from `(100,100)` to `(100,300)` with the line color green and line width 5 pixels, you can call the `drawLine()` function as follows:

```
const canvas = document.querySelector('#canvas');  
if (canvas.getContext) {  
  const ctx = canvas.getContext('2d');  
  drawLine(ctx, [100, 100], [100, 300], 'green', 5);  
}
```

Summary

- Use `beginPath()`, `moveTo(x, y)` and `lineTo(x,y)` to draw a line.
- Use the `strokeStyle` and `lineWidth` to set the line stroke and line width.