

# HTML5 Canvas

The **HTML5 <canvas>** tag is used to draw graphics, on the fly, via scripting (usually JavaScript). However, the <canvas> element has no drawing abilities of its own (it is only a container for graphics) - you must use a script to actually draw the graphics. The **getContext()** method returns an object that provides methods and properties for drawing on the canvas.

This reference will cover the properties and methods of the `getContext("2d")` object, which can be used to draw text, lines, boxes, circles, and more - on the canvas.

## Colors, Styles, and Shadows

Property	Description
<code>fillStyle</code>	Sets or returns the color, gradient, or pattern used to fill the drawing
<code>strokeStyle</code>	Sets or returns the color, gradient, or pattern used for strokes
<code>shadowColor</code>	Sets or returns the color to use for shadows
<code>shadowBlur</code>	Sets or returns the blur level for shadows
<code>shadowOffsetX</code>	Sets or returns the horizontal distance of the shadow from the shape
<code>shadowOffsetY</code>	Sets or returns the vertical distance of the shadow from the shape

Method	Description
<code>createLinearGradient()</code>	Creates a linear gradient (to use on canvas content)
<code>createPattern()</code>	Repeats a specified element in the specified direction
<code>createRadialGradient()</code>	Creates a radial/circular gradient (to use on canvas content)
<code>addColorStop()</code>	Specifies the colors and stop positions in a gradient object

## Line Styles

Property	Description
<code>lineCap</code>	Sets or returns the style of the end caps for a line
<code>lineJoin</code>	Sets or returns the type of corner created, when two lines meet
<code>lineWidth</code>	Sets or returns the current line width
<code>miterLimit</code>	Sets or returns the maximum miter length

## Rectangles

Method	Description
<code>rect()</code>	Creates a rectangle
<code>fillRect()</code>	Draws a "filled" rectangle
<code>strokeRect()</code>	Draws a rectangle (no fill)
<code>clearRect()</code>	Clears the specified pixels within a given rectangle

## Paths

Method	Description
fill()	Fills the current drawing (path)
stroke()	Actually draws the path you have defined
beginPath()	Begins a path, or resets the current path
moveTo()	Moves the path to the specified point in the canvas, without creating a line
closePath()	Creates a path from the current point back to the starting point
lineTo()	Adds a new point and creates a line to that point from the last specified point in the canvas
clip()	Clips a region of any shape and size from the original canvas
quadraticCurveTo()	Creates a quadratic Bézier curve
bezierCurveTo()	Creates a cubic Bézier curve
arc()	Creates an arc/curve (used to create circles, or parts of circles)
arcTo()	Creates an arc/curve between two tangents
isPointInPath()	Returns true if the specified point is in the current path, otherwise false

## Transformations

Method	Description
scale()	Scales the current drawing bigger or smaller
rotate()	Rotates the current drawing
translate()	Remaps the (0,0) position on the canvas
transform()	Replaces the current transformation matrix for the drawing
setTransform()	Resets the current transform to the identity matrix. Then runs transform()

## Text

Property	Description
font	Sets or returns the current font properties for text content
textAlign	Sets or returns the current alignment for text content
textBaseline	Sets or returns the current text baseline used when drawing text

Method	Description
fillText()	Draws "filled" text on the canvas
strokeText()	Draws text on the canvas (no fill)
measureText()	Returns an object that contains the width of the specified text

## Image Drawing

Method	Description
drawImage()	Draws an image, canvas, or video onto the canvas

## Pixel Manipulation

Property	Description
width	Returns the width of an ImageData object
height	Returns the height of an ImageData object
data	Returns an object that contains image data of a specified ImageData object

Method	Description
createImageData()	Creates a new, blank ImageData object
getImageData()	Returns an ImageData object that copies the pixel data for the specified rectangle on a canvas
putImageData()	Puts the image data (from a specified ImageData object) back onto the canvas

## Compositing

Property	Description
globalAlpha	Sets or returns the current alpha or transparency value of the drawing
globalCompositeOperation	Sets or returns how a new image are drawn onto an existing image

## Other

Method	Description
save()	Saves the state of the current context
restore()	Returns previously saved path state and attributes
createEvent()	
getContext()	
toDataURL()	