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# HTML SVG-Basics

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In this article, we will know **HTML SVG Basics**, & their implementation through the examples. SVG stands for Scalable Vector Graphics. It basically defines vector-based graphics in XML format. SVG graphics do NOT lose any quality if they are zoomed or resized. Every element and every attribute in SVG files can be animated.

**Advantages of SVG:** Advantages of using SVG over other image formats (like JPEG and GIF) are:

- SVG images can be created and edited with any text editor.
- SVG images can be searched, indexed, scripted, and compressed.
- SVG images are scalable.
- SVG images can be printed with high quality at any resolution.

## Differences between HTML SVG and HTML Canvas:

- SVG is a language for describing 2D graphics in XML whereas Canvas draws 2D graphics, on the fly with JavaScript.
- If attributes of an SVG object are changed, the browser can automatically re-render the shape whereas Canvas is rendered pixel by pixel. In canvas, once the graphic is drawn, it is forgotten by the browser.
- SVG is resolution independent whereas CANVAS is resolution-dependent.
- SVG supports event handlers whereas CANVAS doesn't have support for event handlers.

**Example 1:** In this example, We create an SVG line in HTML.

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## HTML

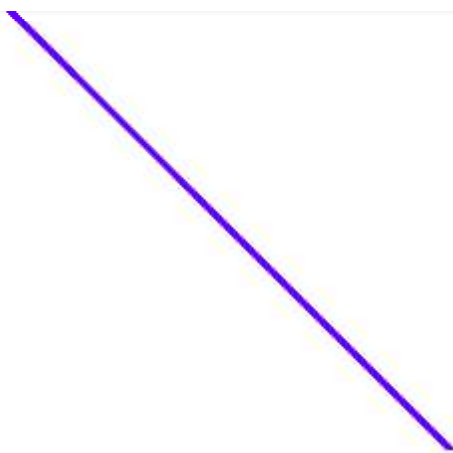
```
<!DOCTYPE html>
<html>

<body>
  <h2>Welcome To GeeksforGeeks</h2>
  <svg height="250" width="600">
    <line x1="10" y1="10" x2="400" y2="400"
      style="stroke:rgb(0,0,255);stroke-width:3" />
  </svg>
</body>

</html>
```

### Output:

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*SVG line Drawing*

## Example 2: Drawing A SVG Circle in HTML

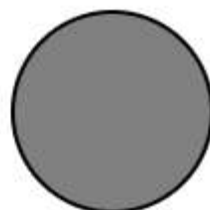
### HTML

```
<!DOCTYPE html>
<html>

<body>
  <!-- html svg tag is used here -->
  <svg width="200" height="200">
    <circle cx="80" cy="80" r="50" stroke="black"
      stroke-width="2" fill="grey" />
  </svg>
</body>

</html>
```

### Output:



*SVG Circle Drawing*

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```
<DOCTYPE html>
<html>

<body>
  <!-- html svg tag is used here -->
  <svg width="400" height="100">
    <rect width="400" height="100"
      style="fill: rgb(0, 0, 255);
        stroke-width: 10; stroke: rgb(0, 0, 0)" />
  </svg>
</body>

</html>
```

## Output:



SVG Rectangle Drawing

## Example 4: Drawing A SVG Rounded Rectangle in HTML

### HTML

```
<!DOCTYPE html>
<html>

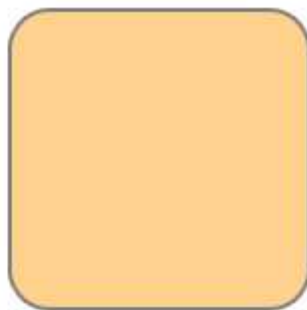
<body>
  <!-- html svg tag is used here -->
  <svg width="400" height="380">
    <rect x="80" y="20" rx="20"
      ry="20" width="150"
      height="150"
      style="fill: orange;
        stroke: black;
        stroke-width: 2;
        opacity: 0.5" />
  </svg>
</body>

</html>
```

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## Output:



*SVG Rounded Rectangle Drawing*

## Example 5: Drawing A SVG Star in HTML

### HTML

```
<!DOCTYPE html>
<html>

<body>
  <!-- html svg tag is used here -->
  <svg width="300" height="200">
    <polygon points="100,10 40,198 190,78 10,78 160,198"
      style="fill: grey; stroke: orange;
        stroke-width: 5; fill-rule: evenodd" />
  </svg>
</body>

</html>
```

## Output:



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SVG Star Drawing

## Example 6: Drawing A Logo in HTML using SVG

### HTML

```
<!DOCTYPE html>
<html>

<body>

  <!-- html svg tag is used here -->
  <svg height="300" width="700">
    <defs>
      <linearGradient id="grad1" x1="0%"
        y1="0%" x2="100%"
        y2="0%">
        <stop offset="0%"
          style="stop-color: white; stop-opacity: 1" />
        <stop offset="100%"
          style="stop-color: green; stop-opacity: 1" />
      </linearGradient>
    </defs>
    <ellipse cx="200" cy="100"
      rx="120" ry="80"
      fill="url(#grad1)" />
    <text fill="ffffff" font-size="22"
      font-family="ARIAL"
      x="120" y="110">
      GeeksforGeeks
    </text>
  </svg>
</body>

</html>
```

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[Read](#)[Discuss](#)[Courses](#)[Practice](#)[Video](#)The logo for GeeksforGeeks, featuring the text "GeeksforGeeks" in white on a green, rounded rectangular background.

*GFG Logo using SVG*

## Supported Browsers:

- Google Chrome 4.0
- Internet Explorer 9.0
- Firefox 3.0
- Opera 10.1
- Safari 3.2

A promotional banner for the MEGA JOB-A-THON. It features a yellow background on the left with a briefcase icon and the text "MEGA JOB-A-THON". The right side has a blue background with the text "For Freshers & Professionals" in yellow, "1 Contest | 30+ Opportunities" in white, and a yellow "Register Now" button. The GeeksforGeeks logo is in the top right corner.

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