

Chapter 31: SVG

SVG stands for Scalable Vector Graphics. SVG is used to define graphics for the Web

The HTML `<svg>` element is a container for SVG graphics.

SVG has several methods for drawing paths, boxes, circles, text, and graphic images.

Section 31.1: Inline SVG

SVG can be written directly into a HTML document. Inline SVG can be styled and manipulated using CSS and JavaScript.

```
<body>
  <svg class="attention" xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink" viewBox="0 0 1000 1000" >
    <path id="attention"
d="m571,767l0,-106q0,-8,-5,-13t-12,-5l-108,0q-7,0,-12,5t-5,13l0,106q0,8,5,13t12,6l108,0q7,0,12,-6t5
,-13Zm-1,-208l10,-257q0,-6,-5,-10q-7,-6,-14,-6l-122,0q-7,0,-14,6q-5,4,-5,12l9,255q0,5,6,9t13,31l03,
0q8,0,13,-3t6,-9Zm-7,-522l428,786q20,35,-1,70q-10,17,-26,26t-35,10l-858,0q-18,0,-35,-10t-26,-26q-21
,-35,-1,-70l429,-786q9,-17,26,-27t36,-10t36,10t27,27Z" />
  </svg>
</body>
```

The above inline SVG can then be styled using the corresponding CSS class:

```
.attention {
  fill: red;
  width: 50px;
  height: 50px;
}
```

The result looks like this:



Section 31.2: Embedding external SVG files in HTML

You can use the `` or `<object>` elements to embed external SVG elements. Setting the height and width is optional but is highly recommended.

Using the image element

```

```

Using `` does not allow you to style the SVG using CSS or manipulate it using JavaScript.

Using the object element

```
<object type="image/svg+xml" data="attention.svg" width="50" height="50">
```

Unlike ``, `<object>` directly imports the SVG into the document and therefore it can be manipulated using Javascript and CSS.

Section 31.3: Embedding SVG using CSS

You can add external SVG files using the `background-image` property, just as you would do with any other image.

HTML:

<div class="attention"></div>

CSS:

```
.attention {
  background-image: url(attention.svg);
  background-size: 100% 100%;
  width: 50px;
  height: 50px;
}
```

You can also embed the image directly into a css file using a data url:

```
background-image:  
url(data:image/svg+xml,%3Csvg%20xmlns%3D%22http%3A%2F%2Fwww.w3.org%2F2000%2Fsvg%22%20xmlns%3Axlink  
%3D%22http%3A%2F%2Fwww.w3.org%2F1999%2Fxlink%22%20viewBox%3D%220%200%201000%201000%22%20%3E%0D%0A%  
%3Cpath%20id%3D%22attention%22%20d%3D%22m571%2C767l0%2C-106q0%2C-8%2C-5%2C-13t-12%2C-5l-108%2C0q-7%  
2C0%2C-12%2C5t-5%2C13l0%2C106q0%2C8%2C5%2C13t12%2C6l108%2C0q7%2C0%2C12%2C-6t5%2C-13Zm-1%2C-208l10%  
2C-257q0%2C-6%2C-5%2C-10q-7%2C-6%2C-14%2C-6l-122%2C0q-7%2C0%2C-14%2C6q-5%2C4%2C-5%2C12l9%2C255q0%2  
C5%2C6%2C9t13%2C3l103%2C0q8%2C0%2C13%2C-3t6%2C-9Zm-7%2C-522l428%2C786q20%2C35%2C-1%2C70q-10%2C17%2  
C-26%2C26t-35%2C10l-858%2C0q-18%2C0%2C-35%2C-10t-26%2C-26q-21%2C-35%2C-1%2C-70l429%2C-786q9%2C-17%  
2C26%2C-27t36%2C-10t36%2C10t27%2C27Z%22%20%2F%3E%0D%0A%3C%2Fsvg%3E);
```