

# Intro to SVG

# Easy to create

Arguably, the coolest thing about SVG is you don't need fancy (or expensive) software to make them. Just like your HTML/CSS files, you can create an SVG with nothing more than trusty ol' Notepad, Textedit or even VIM.

# Easy to create

Try it yourself - save this file as sample.svg:

```
<svg xmlns="http://www.w3.org/2000/svg">
```

```
<circle cx="20" cy="20" r="48" fill="#ff0000"/>
```

```
</svg>
```

# Easy to create

The output should be similar to this:



# Container object

What about if we wanted to group the circle and rectangle into a single object?

SVG has a handy [<g>](#) element that you can use as a 'container' for grouping objects together. Think of it like a DIV in HTML.

## Container object - <g>

```
<svg xmlns="http://www.w3.org/2000/svg">
```

```
<g id="shapes">
```

```
<circle cx="40" cy="40" r="24" fill="#00cc00"/>
```

```
<rect x="100" y="20" height="50" width="50" fill="#ff3300"/>
```

```
</g>
```

```
</svg>
```

More advanced example

<http://hack.engeto.com/example.svg>

# SVG in Python

There are multiple libraries that might be used

- svgwrite - <http://pythonhosted.org/svgwrite/>
- PyX
- DrawSVG (2.7 only)
- pySVG
- svglib - read and convert SVG to different formats



# svgwrite - simple demo

```
[engeto ~]# pip install svgwrite
```

```
import svgwrite
```

```
dwg = svgwrite.Drawing('test.svg', profile='tiny')  
dwg.add(dwg.line((0, 0), (10, 0),  
stroke=svgwrite.rgb(10, 10, 16, '%')))  
dwg.add(dwg.text('Test', insert=(0, 0.2), fill='red'))  
dwg.save()
```

# PyX - Python graphics package

```
[engeto ~]# pip install pyx
```

```
from pyx import *  
g = graph.graphxyz(0, 0, size=5, x=graph.axis.bar(),  
y=graph.axis.bar(), z=None, z2=graph.axis.lin())  
  
g.plot(graph.data.data(graph.data.points([[1, 1, 1.4], [1, 2, 1.8], [2,  
1, -0.5], [2, 2, 0.9]]), xname=1, yname=2, z2=3),  
[graph.style.barpos(fromvalue=0, frompathattrs=None),  
graph.style.bar(barattrs=[style.linejoin.bevel])])  
  
g.writeSVGfile('bar')
```

# PyX - Python graphics package

<http://pyx.sourceforge.net/examples/>

# drawSVG (2.7 only)

[engeto ~]# git clone <https://github.com/petercollingridge/DrawSVG>

```
from drawSVG import SVG  
mySVG = SVG()
```

```
mySVG.addChildElement('rect', {'x':20, 'y':40, 'width':80,  
'height':50, 'fill': 'blue'})
```

```
mySVG.addChildElement('text', {'x':22, 'y':12,}, "Engeto  
test")  
mySVG.write('test.svg')
```

# pySVG

```
[engeto ~]# pip install pysvg
```

<http://pythonhosted.org/pysvg/>

# svglib - conversion only

```
[engeto ~]# pip install svglib
```

```
from svglib.svglib import svg2rlg
from reportlab.graphics import renderPDF, renderPM

drawing = svg2rlg("example.svg")
renderPDF.drawToFile(drawing, "example.pdf")
renderPM.drawToFile(drawing, "example.png")
```