SVG Interactif

Initiation

SVG

Le format d'image

Interactif

L'interaction ...

LE SVG

Scalable Vector Graphics

Le **SVG** est un format vectoriel.

Son contenu est au format **XML** et reste très proche du **HTML**

Il peut avoir 2 extensions:

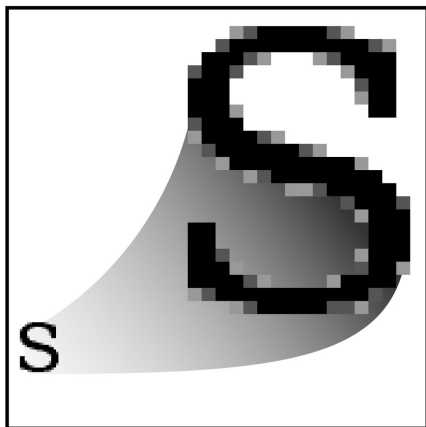**.svg** - non compressé
.svgz - compressé

LE SVG
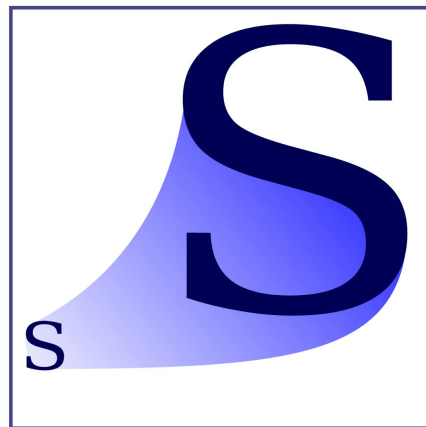
Scalable Vector Graphics

Standard ouvert

Développé par le W3C depuis 1999.

LE SVG

Raster
.jpeg .gif .png

Vector
.svg

(CC BY-SA 2.5) Wikipedia

Compatibilité
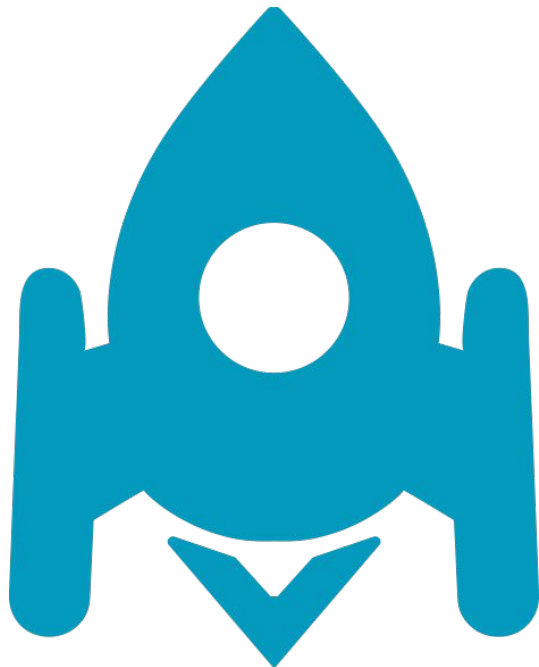
La compatibilité est maintenant totale

Attention cependant il y a certains paramètres à gérer pour:

Edge et Internet explorer 11

Aucun support pour Internet explorer 8

Support pour 97.25 % Mondialement (Source caniuse.com 07/07/2016)

LE SVG

Poids des fichiers:

En PNG : 18 kb

En SVG : 2 kb

En SVGZ: 1 kb

LE SVG

```
1   <?xml version="1.0" encoding="utf-8"?>
2   <!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN" "http://www.w3.org/Graphics/SVG/1.1/DTD/svg11.dtd">
3   <svg version="1.1" id="Calque_1" xmlns="http://www.w3.org/2000/svg" xmlns:xlink="http://www.w3.org/1999/xlink" x="0px" y="0px"
4        width="595.281px" height="841.891px">
5        <path fill="#039ABE" d="M385.265,596.969L333,614.768c-0.773,0.298-1.488,0.715-2.023,1.31l-30.24,33.515h-6.072l-30.24-33.515
6        c-0.476-0.595-1.19-1.071-2.024-1.31l-52.266-17.799c-2.024-0.714-4.286-0.119-5.536,1.727c-1.19,1.786-1.131,3.929,0.298,5.536
7        l91.852,107.805c0.298,0.298,0.595,0.477,1.012,0.596c0.416-0.119,0.715-0.298,1.012-0.596l91.793-107.864
8        c1.428-1.607,1.488-3.81,0.297-5.536C389.552,596.91,387.349,596.256,385.265,596.969z"/>
9        <path fill="#039ABE" d="M531.228,646.139c0-0.416,0.119-0.773,0.119-1.012c0-0.714-0.119-1.429-0.119-2.023
10       c-1.785-46.075-3.631-92.209-5.416-138.284c-1.133-28.156-2.203-56.373-3.395-84.53c-0.893-20.834,3.988-61.968-27.322-60.658
11       c-12.203,0.476-22.621,9.405-26.432,20.834c-1.727,4.882-7.5,50.838-3.393,52.147l-22.322-6.607
12       c2.32-18.216,7.5-91.019-43.574-175.132c-30.123-49.17-95.543-119.413-96.199-120.068c-1.428-1.488-3.631-1.905-5.535-1.131
13       c-1.786-0.774-3.988-0.477-5.536,1.131c-0.714,0.715-66.076,71.017-96.197,120.128c-51.075,84.113-45.956,156.916-43.575,175.132
14       c0,0-22.204,6.607-22.323,6.607c4.107-1.19-1.727-47.146-3.393-52.147c-3.81-11.429-14.227-20.299-26.431-20.834
15       c-31.252-1.191-26.43,39.824-27.323,60.658c-1.19,28.157-2.322,56.374-3.393,84.53c-1.786,46.075-3.631,92.209-5.417,138.284
16       c0,0.714-0.119,1.429-0.119,2.023c0,0.179,0,0.596,0.119,1.012c-1.012,10.835,2.798,21.609,10.239,29.169
17       c13.394,13.394,37.026,13.216,50.658-0.417c6.786-6.786,9.822-13.632,10.298-23.216c0.119-0.297,0.119-0.595,0.119-0.893
18       l3.214-68.576c17.918-11.013,37.146-22.502,44.229-26.312c8.691,11.43,52.385,44.943,104.115,44.943h5
19       c1.905,0,3.691,0,5.536-0.119c1.786,0,3.632,0.119,5.536,0.119h5c51.789,0,95.424-33.454,104.115-44.943
20       c7.084,3.81,26.311,15.299,44.229,26.312l3.215,68.576c0,0.298,0.119,0.596,0.119,0.893c0.477,9.644,3.512,16.43,10.299,23.216
21       c13.631,13.633,37.264,13.811,50.658,0.417C528.431,667.868,532.24,657.033,531.228,646.139z M344.488,432.792
22       c-12.5,12.501-29.107,19.406-46.848,19.406c-17.739,0-34.348-6.905-46.849-19.406c-25.835-25.836-25.835-67.862,0-93.638
23       c12.501-12.501,29.109-19.406,46.849-19.406c17.74,0,34.348,6.905,46.848,19.406
24       C370.324,364.989,370.324,406.956,344.488,432.792z"/>
25   </svg>
26
```
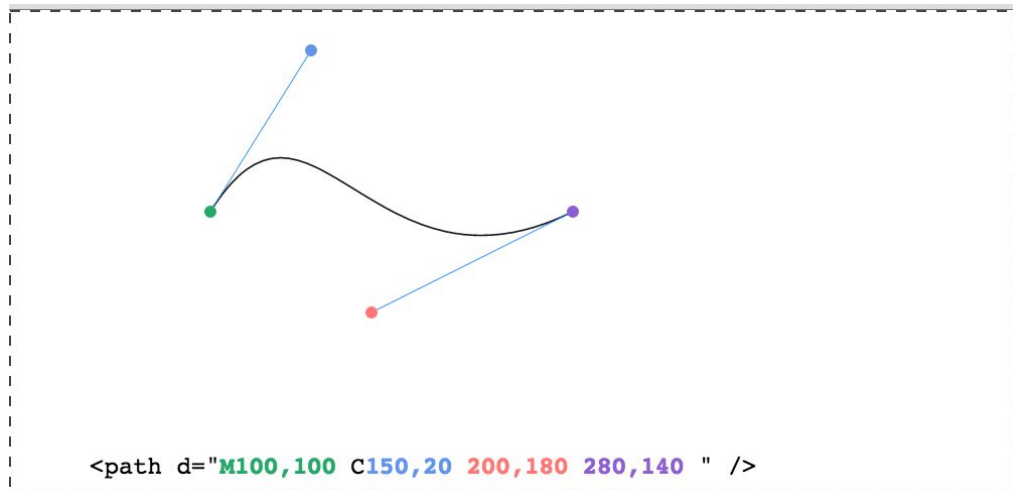
LES LOGICIELS SVG

Adobe Illustrator

Inkscape

GIMP

Comment ça marche ?

```
<path d="M100,100 C150,20 200,180 280,140 " />
```

(crédit petercollingridge.co.uk)

M/m (move to)
L/l (line to)
H/h (horizontal line to)
V/v (vertical line to)
Q/q (quadratic curve to)
T/s (smooth quadratic curve to)
C/c (cubic curve to)
S/s (smooth cubic curve to)
A/a (elliptical arc to)

```
<svg xmlns="http://www.w3.org/2000/svg"
     xmlns:xlink="http://www.w3.org/1999/xlink"
     width="100%" height="100%">

    <rect
        id="background"
        fill="#FF9900"
        width="100"
        height="100"
        rx="4"
        ry="4"/>

    <g id="circles" fill="#FF9900">
        <circle
            id="n"
            cx="50"
            cy="18.4"
            r="18.4"/>
```

RECT   -> Créer un rectangle
             -> Couleur: #FF9900
             -> Largeur / hauteur de 100
             -> Position relative droite 4 / 4

CIRCLE   -> Créer un cercle
             -> Couleur: #FF9900
             -> Rayon de 18.4
             -> Position du centre 50/18.4

Intégrer dans une page web

Comme une image:

```
<img src="image.svg" />
```

(Pas d'interaction)

Comme une image dans le style:

.**element** **{** **background-image**: **url**(**image.svg**); **}**

(Pas d'interaction)

Avec la balise object:

`<object src="image.svg" type="image/svg+xml">`

Directement dans la page html:

```
1  <!doctype html>
2  <html>
3    <body>
4      <svg width="100" height="50">
5        <circle cx="40" cy="20" r="10" />
6      </svg>
7    </body>
8  </html>
```

Directement dans la page html:

Le meilleur moyen pour interagir

Interactif

L'interaction ...

Voyons quelques exemples d'interaction

Animation:

http://svgcircus.com/

http://www.species-in-pieces.com/

Voyons quelques exemples d'interaction

Interaction:

http://julieng.student.codeur.online/example_svg/

http://snapsvg.io/demos/

Comment ça marche ?

Comme une page web

Changer la couleur
Lorsque la souris est sur l'élément

```css
.imgElement:hover { fill: #CC0000; }
```

Créer un lien sur un élément de l'image

```
<svg width="100" height="50">
    <a href="http://www.google.com"><circle cx="40" cy="20" r="10" /></a>
</svg>
```

Appeler une fonction javascript

```
<svg width="100" height="50">
    <circle cx="40" cy="20" r="10" onclick="maFonction();" />
</svg>
```

Quelques méthodes:

http://www.petercollingridge.co.uk/blog/rotating-3d-svg-cube
http://codepen.io/MRokas/pen/aNBjdQ

http://kartograph.org/

http://tympanus.net/Development/AnimatedSVGIcons/
http://tympanus.net/Development/AnimatedCheckboxes/

Les outils pour ne pas refaire le monde

Raphaël JS

https://github.com/DmitryBaranovskiy/raphael

Velocity

http://velocityjs.org/

TweenMax

https://greensock.com/tweenmax

Snap.svg

http://snapsvg.io/

Vivus

https://maxwellito.github.io/vivus/

Merci

Quelques liens:

http://tutorials.jenkov.com/svg

http://www.petercollingridge.co.uk

http://svgtutorial.com

http://www.tutorialspoint.com/svg/