

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

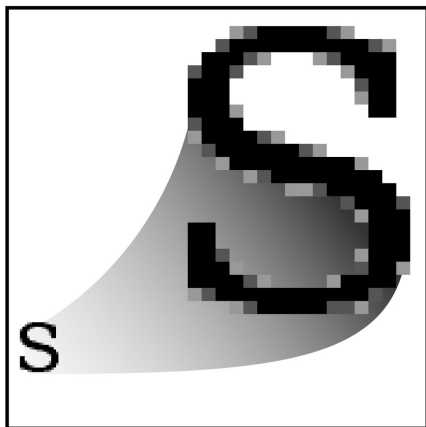
LE SVG

Scalable Vector Graphics

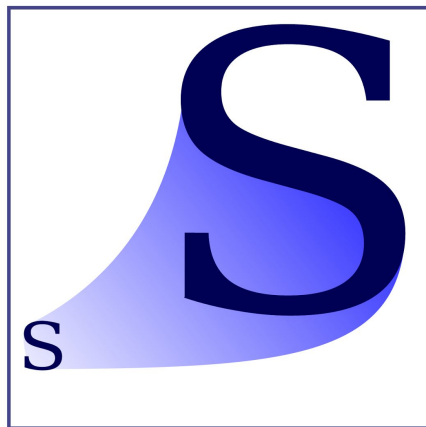
Standard ouvert

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

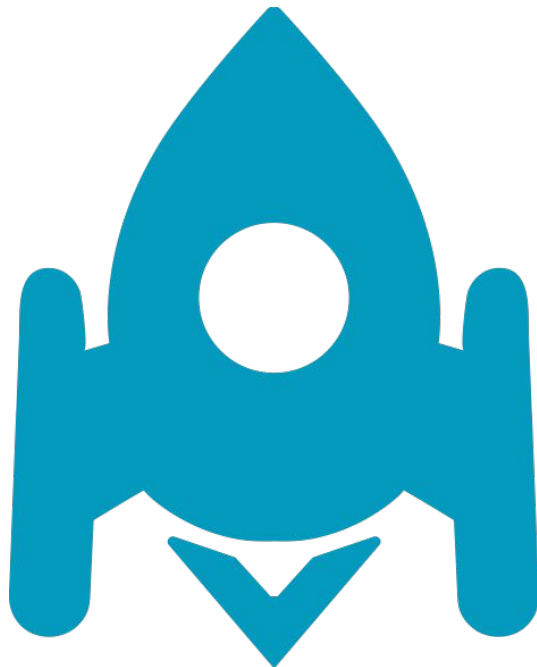
Attention cependant il y a certains paramètres à gérer pour:

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-0.773,0.298-1.488,0.715-2.023,1.311-30.24,33.515h-6.072l-30.24-33.515
6   c-0.476-0.595-1.19-1.071-2.024-1.311-52.266-17.799c-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>
```

LES LOGICIELS SVG



Adobe Illustrator

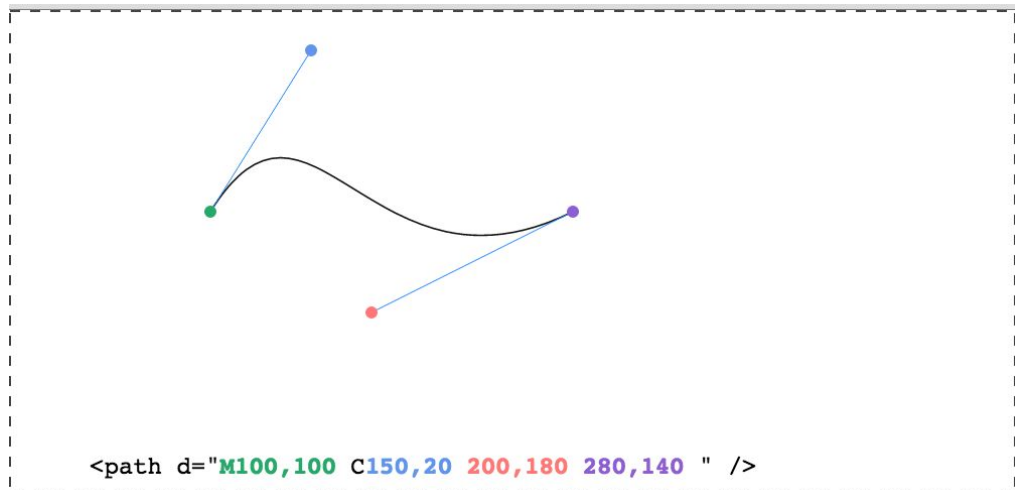


Inkscape



GIMP

Comment ça marche ?



(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:

```

```

(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">  
  </object>
```

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

```
.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/>