

XSL Formatting Objects Tutorial

Graphics

There is a special inline element for including graphics into XSL FO (XSLFO) — `<fo:external-graphic>`. The source image is specified by the `src` attribute whose value is a URI. XEP handles HTTP, FTP, data and filesystem resource locators in URIs. An unqualified URI is treated as a path to a file in the local file system; if the path is relative, it is calculated from the location of the source XSL FO (XSLFO) document.

Here's an example:

```
<fo:block>
  This text includes a picture:
  <fo:external-graphic src="url('smile.gif')"1
    content-height="1em"2 content-width="1em"3/>
</fo:block>
```

1

Note the `url('...')` function-like wrapper around the file name: this is required by the XSL 1.0 Recommendation. (XEP recognizes unwrapped URLs, too).

23

In this example, the height and the width of the image are expressed in units relative to the nominal font size. This is a convenient technique to scale small inlined images proportionally to the text height.

If you need a block-level graphic, you should wrap the element in a `<fo:block>`, like in the example below:

```
<fo:block font-weight="bold"
  keep-with-next.within-column="always">1
  Figure 1: A Smiling Face
</fo:block>
<fo:block>
  <fo:external-graphic src="url('smile.gif')"
    content-height="200%" content-width="200%"/>2
</fo:block>
```

1

This property “glues” the figure caption to the figure itself.

2

`content-width` and `content-height` expressed as percents denote scaling the image from its original (intrinsic) size.

It is also possible to create an image directly in the XSL FO (XSLFO), using the embedded SVG feature:

```
<fo:block>
  Here is the image of a typical roadsign:
```

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```
<fo:instream-foreign-object content-height="1em">1
  <svg:svg xmlns:svg="http://www.w3.org/2000/svg"2
    height="100" width="100" viewBox="-50 -50 100 100">
    <svg:circle r="50" style="fill:red; stroke:none"/>
    <svg:rect x="-40" y="-10" width="80" height="20"
      style="fill:white; stroke:none"/>
    </svg:svg>
  </fo:instream-foreign-object>
</fo:block>
```

1

Embedded images can be scaled with the same attributes as external ones.

2

SVG elements reside in a separate namespace that has to be declared; otherwise, SVG images will not be recognized.

