

# Create a presentation using XSL Transformations

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# What you will need

- \* **Saxon**, a xslt processor
- \* FOP, a xml:fo processor
- \* *Stylesheets*, for your xslt transformation
- \* XML, XSL editor, you can also use VIM, Emacs

# Saxon

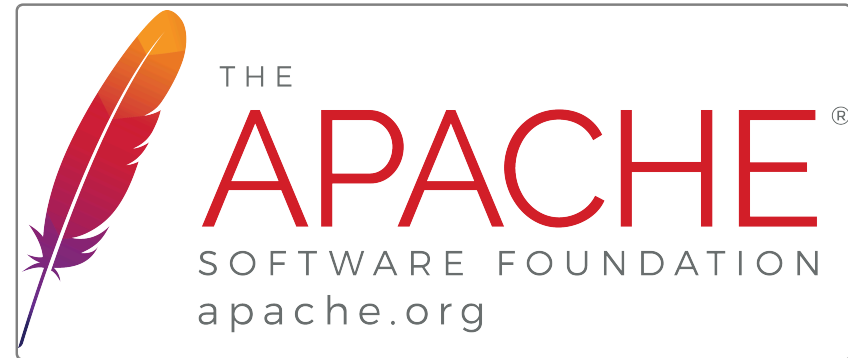
- \* Input: xml file and xsl transformation
- \* Output: another xml file(xml, xml:fo, xhtml, etc.)
- \* Linting
- \* Version 9.9
- \* Java version, Windows, Linux



Logo of Saxonica

# FOP

- \* Input: xml:fo file
- \* Output: pdf
- \* Old



Logo of Apache

# Used constructs

- \* Title
- \* Lists
  - Nesesd Lists
- \* Images
- \* Mixture of Picture and Image
  - Picture + Picture
  - List + Picture
  - List + List

# Lists

- \* List-item construct in xml:fo
- \* Unordered lists in xhtml

```
<fo:list-block font-family="{ $pdf-item-font-face }"  
  <xsl:for-each select="item">  
    <fo:list-item>  
      <fo:list-item-label>  
        <fo:block>  
          *  
        </fo:block>  
      </fo:list-item-label>  
      <fo:list-item-body start-indent="22pt">  
        <fo:block>  
          <xsl:value-of select="." />  
        </fo:block>  
      </fo:list-item-body>  
    </fo:list-item>  
  </xsl:for-each>  
</fo:list-block>
```

XML:FO List

# Pictures

- \* External-graphics in xml:fo  
(png, gif, jpg)
- \* XHTML - <img> tag

```
<xsl:template match="picture">  
  <fo:block text-align="center" span="all">  
    <fo:external-graphic width="257mm" height="auto" content-width="scale-to-fit"/>  
  </fo:block>  
</xsl:template>
```

Using external images

# Multicol

- \* Document body has 2 columns by default fo:block
- \* Span="all" can be used
- \* For XHTML - <div> tags with floats

```
<xsl:template match="multicol/itemize">
  <fo:list-block font-family="Arial" font-size="22pt">
    <xsl:for-each select="item">
      <fo:list-item>
        <fo:list-item-label>
          <fo:block>
            *
          </fo:block>
        </fo:list-item-label>
        <fo:list-item-body start-indent="22pt">
          <fo:block>
            <xsl:value-of select="." />
          </fo:block>
        </fo:list-item-body>
      </fo:list-item>
    </xsl:for-each>
  </fo:list-block>
</xsl:template>
<xsl:template match="picture">
  <fo:block text-align="center" span="all">
    <fo:external-graphic width="257mm" height="auto" content-width="scale-to-fit" src="" />
  </fo:block>
</xsl:template>
<xsl:template match="multicol/picture">
  <fo:block text-align="center">
    <fo:external-graphic width="120mm" height="200mm" content-width="scale-to-fit" src="" />
  </fo:block>
</xsl:template>
</xsl:stylesheet>
```

Multiple columns



# Validation

- \* Relax NG
- \* shemas
- \* data types from XSD?
- \* Jing

# Custom parameters

- \* Font size
- \* Font face
- \* Default page height

```
<!-- XHTML -->
<xsl:param name="xhtml-title-font-size" select="'40pt'"/>
<xsl:param name="xhtml-title-font-face" select="'Arial'"/>

<xsl:param name="xhtml-item-font-size" select="'18pt'"/>
<xsl:param name="xhtml-item-font-face" select="'Arial'"/>

<xsl:param name="xhtml-footer-font-size" select="'11pt'"/>
<xsl:param name="xhtml-footer-font-face" select="'Times'"/>

<xsl:param name="xhtml-default-slide-height" select="'500px'"/>
```

Customizable parameters

# Files

- \* xhtml for each slide
- \* pdf
- \* makefile for linux
- \* .bat for windows

# Problems with repetitive code

- \* multicol/picture and picture templates
- \* 99% same
- \* DRY
  - Dont
  - Repeat
  - Yourself

# Solution for pictures

```
<xsl:template match="picture">
  <xsl:call-template name="basic-picture">
    <xsl:with-param name="width" select = "'227mm'" />
    <xsl:with-param name="height" select = "'180mm'" />
    <xsl:with-param name="span" select = "'all'" />
  </xsl:call-template>
</xsl:template>

<xsl:template match="multicol/picture">
  <xsl:call-template name="basic-picture">
    <xsl:with-param name="width" select = "'110mm'" />
    <xsl:with-param name="height" select = "'200mm'" />
    <xsl:with-param name="span" select = "'none'" />
  </xsl:call-template>
</xsl:template>
```

Using parameters with templates

```
<xsl:template name="basic-picture">
  <xsl:param name = "width" />
  <xsl:param name = "height" />
  <xsl:param name = "span" />

  <fo:block-container width="{ $width}" height="{ $height}"
    <fo:block text-align="center">
      <fo:block
        border-style="solid"
        border-width="1px"
        border-color="gray"
        fox:border-radius="3px">
        <fo:external-graphic text-align="center"
          width="{ $width}"
          height="auto"
          content-width="scale-to-fit"
          src="{ @href}" />

      </fo:block>
    <fo:block>
      <xsl:value-of select="@caption" />
    </fo:block>
  </fo:block>
</fo:block-container>
</xsl:template>
```

Using parameters with templates

# The result

The screenshot shows a presentation viewer window titled 'Presentation'. The address bar displays the file path: `file:///home/dominik/Desktop/xslt_tutorial/output`. The slide is titled 'Lists' and contains the following content:

**Lists**

- \* List-item construct in xml:fo
- \* Unordered lists in xhtml

```
<fo:list-block font-family="{pdf-item-font-face}"  
<xsl:for-each select="item">  
  <fo:list-item>  
    <fo:list-item-label>  
      <fo:block>  
        *  
      </fo:block>  
    </fo:list-item-label>  
    <fo:list-item-body start-indent="22pt">  
      <fo:block>  
        <xsl:value-of select="." />  
      </fo:block>  
    </fo:list-item-body>  
  </fo:list-item>  
</xsl:for-each>  
</fo:list-block>
```

Construct in  
construct in  
in  
d lists in

```
<xsl:template match="multicol/itemize">  
  <fo:list-block font-family="Arial" font-size="22pt">  
    <xsl:for-each select="item">  
      <fo:list-item>  
        <fo:list-item-label>  
          <fo:block>  
            *  
          </fo:block>  
        </fo:list-item-label>  
        <fo:list-item-body start-indent="22pt">  
          <fo:block>  
            <xsl:value-of select="." />  
          </fo:block>  
        </fo:list-item-body>  
      </fo:list-item>  
    </xsl:for-each>  
  </fo:list-block>  
</xsl:template>  
<xsl:template match="picture">  
  <fo:block text-align="center" span="all">  
    <fo:external-graphic width="257mm" height="auto" content-width="scale-to-fit" sr<br/>  
  </fo:block>  
</xsl:template>  
<xsl:template match="multicol/picture">  
  <fo:block text-align="center">  
    <fo:external-graphic width="128mm" height="298mm" content-width="scale-to-fit" s<br/>  
  </fo:block>  
</xsl:template>  
</xsl:stylesheet>
```

Same content in pdf and xhtml form