

```
<?xml version="1.0" encoding="utf-8"
  standalone="yes"?>
<slide>
  <title>The Power of XML in InDesign
</title>
  <presenter>Ton Frederiks</presenter>
  <jobtitle>Sr. Application Engineer
</jobtitle>
  <company>Adobe Systems Benelux
</company>
  <image href="file:///images/IDCS2.psd" >
</image>
</slide>
```

The Power of XML in InDesign



Ton Frederiks

*Sr. Application Engineer
Adobe Systems Benelux*



XML: What Is It?

- **eXtensible Markup Language**
 - But it's NOT a Markup Language...



XML: What Is It?

- **XML is a standardized way to create Markup Languages for specific purposes**
 - Developed by the WorldWideWeb Consortium (W3C)
 - There are many XML based Markup Languages
 - You can even create your own



XML Markup Languages

- **Examples**
 - XHTML
 - XML for Webpages
 - SVG (Scalable Vector Graphics)
 - XML for Vector Graphics
 - JDF (Job Definition Format)
 - XML for Print workflow
 - XMP (eXtensible Metadata Platform)
 - XML for MetaData



XML Markup Languages

- **More examples**
 - AdsML
 - XML for Advertising workflow
 - NewsML
 - XML for News exchange
 - MathML
 - XML for mathematical expressions



XML Markup Languages

- **You can write your own!**
 - StampML
 - XML for your stamps collection
 - RecipesML
 - XML for Cookbooks
 - ...ML
 - XML for ...



XML and HTML

- XML differs from another Markup Language: HTML (Hypertext Markup Language)
 - HTML describes **presentation**
 - HTML has a fixed set of tags:
 - <p> means Paragraph, means Bold

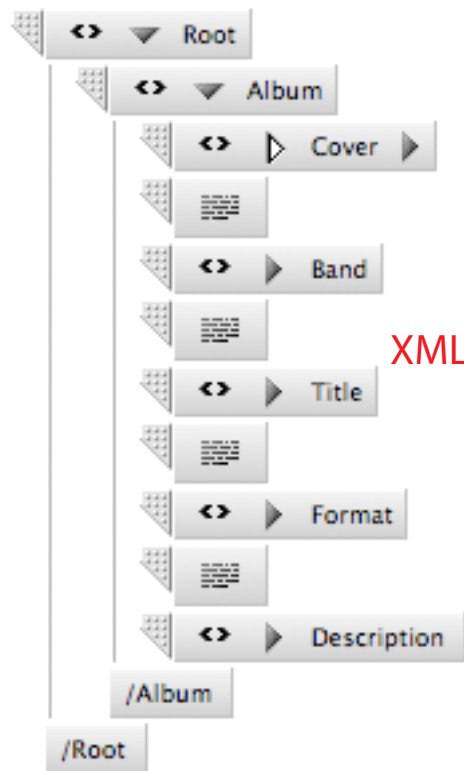
```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<Cookbook>
  <Recipe>
    <Recipe_Title>Here is the Title</Recipe_Title>
    <Ingredients>Here are the Ingredients
      More Ingredients </Ingredients>
    <Instructions>These are the Instructions.
      More Instructions</Instructions>
    <Notes>Here are the Notes</Notes>
  </Recipe>
</Cookbook>
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
<html>
  <head>
    <meta http-equiv="content-type" content="text/html;charset=utf-8">
    <meta name="generator" content="Adobe GoLive">
    <title>Cookbook</title>
  </head>
  <body>
    <h1><font color="#3333ff" face="Helvetica">Here is the Title</font></h1>
    <p><font face="Times">Here are the Ingredients<br>
      More ingredients</font></p>
    <p><font face="Arial">Here are the instructions<br>
      More instructions</font></p>
    <p><font face="Times"><b>Here are the Notes.</b></font></p>
  </body>
</html>
```




XML separates Presentation from Content

- Describes the structure of content
- Content is styled by an application



XML

Template 1

Template 2

XSLT → Template Web



XML Structure

- XML uses Elements (Defined by start `<...>` and end `</...>` tags) to describe **structure**
 - XML Tags can mean whatever you choose them to mean
 - `<p>` can mean Photographer, Postage Stamp or...
 - `` can mean Breakfast, Broker or Bistro



XML Structure

```
<?xml version="1.0" encoding="utf-8"
  standalone="yes"?>
<slide>
  <title>The Title of the Presentation
</title>
  <presenter>Name Presenter</presenter>
  <jobtitle>This is His or Her Jobtitle
</jobtitle>
  <company>The Company he/she works for
</company>
  <image href="file:///images/XYZ.psd">
</image>
</slide>
```



XML Structure

XML Declaration

```
<?xml version="1.0" encoding="utf-8"
standalone="yes"?>
```

Element
Start Tag

```
<slide>
```

Root
Element

Child
Elements

```
<title>The Title of the Presentation
</title>
```

```
<presenter>Name Presenter</presenter>
```

```
<jobtitle>This is His or Her Jobtitle
</jobtitle>
```

```
<company>The Company he/she works for
</company>
```

Element
End Tag

```
<image href="file:///images/XYZ.psd" >
</image>
```

```
</slide>
```

Attribute Name

Attribute Value

Attribute



XML Structure

- XML Tags can mean whatever you choose them to mean



‘I don’t know what you mean by “glory”,’ Alice said.

Humpty Dumpty smiled contemptuously.

‘Of course you don’t — till I tell you.

I meant “there’s a nice knock-down argument for you!”’

‘But “glory” doesn’t mean “a nice knock-down argument”,’ Alice objected.

‘When I use a word,’ Humpty Dumpty said, in rather a scornful tone,

‘it means just what I choose it to mean — neither more nor less.’

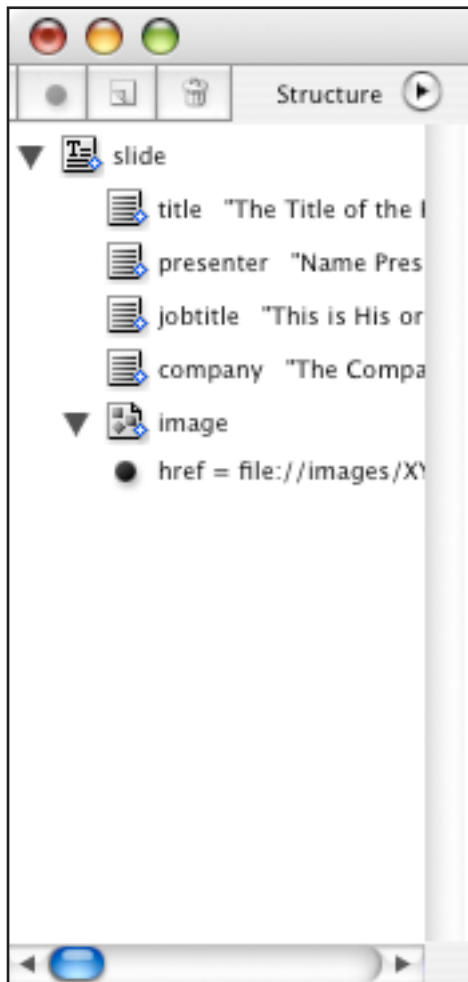


XML Structure

- **Well-Formed XML**
 - “Humpty Dumpty style” XML
 - Must conform to the XML spec
 - Well-formedness is the minimum level a document must achieve to be processed and displayed
- **Valid XML**
 - Requires a DTD (document type definition):
 - A set of rules that a document must follow (allowed elements, order) which software may need to read before processing and displaying a document
- **InDesign supports both**



XML Structure Pane in InDesign



```
<?xml version="1.0" encoding="utf-8"
standalone="yes"?>
<slide>
  <title>The Title of the Presentation
</title>
  <presenter>Name Presenter</presenter>
  <jobtitle>This is His or Her Jobtitle
</jobtitle>
  <company>The Company he/she works for
</company>
  <image href="file:///images/XYZ.psd" >
  </image>
</slide>
```




Structure Panel Elements



- Structural element

Each document includes only one root element, which can be renamed, but cannot be moved or deleted. Other structural elements are used to organize the elements listed below.



- Story element

Represents tagged stories (one or more linked frames).



- Text element

Represents XML-tagged text within a frame.



- Graphic element

Represents a tagged frame that includes a placed image. Each graphic element includes an “href” attribute that defines the path or URL to the linked file.



- Unplaced text element

Unplaced text element not yet associated with a page item in the document layout.



Structure Panel Elements



- Unplaced graphic element

Unplaced graphic element not yet associated with a page item in the document layout.



- Table element

Represents a table.



- Header cell element

Represents a cell in the header row of a table.



- Body cell element

Represents a cell within the body of a table.



- Footer cell element

Represents a cell in the footer row of a table.



- Empty element

An empty frame is associated with this element.



Structure Panel Elements

- Attribute
Includes metadata, such as keywords or location of a linked image (HREF attribute). Attributes are meaningful in XML but do not appear in the InDesign document itself.
- Comment
Includes comments that appear in the XML file, but not the InDesign document.
- Processing instruction
Includes an instruction that triggers an action in applications that can read processing instructions.
- DOCTYPE element
Tells InDesign which DTD file to use when validating the XML



InDesign and XML

- **InDesign uses XML in many ways:**
 - XMP for Metadata
 - File Info: Author, Copyright etc. for InDesign docs.
 - Info Palette: Shows placed content info
 - Fly-out menu gives also XMP file info
 - Adobe Bridge shows Swatches and Fonts in InDesign documents



InDesign and XML

- **InDesign uses XML in many ways:**
 - **Export: SVG for exporting pages or selected objects as Scalable Vector Graphics**
 - To be used in web pages.
 - **Export: Package for GoLive**
 - Saves text as InCopy documents (.incd)
 - InCopy document fileformat is xml
 - **Export for InCopy**
 - .incd (InCopy 2, CS1 and CS2)
 - .incx (InCopy CS2, based on InDesign Interchange format (.inx))



InDesign and XML

- **InDesign uses XML in many ways:**
 - **Export/Open: InDesign Interchange format (.inx)***
 - For saving backwards to InDesign CS1
 - **Export/Place: InDesign Snippets (.inds)***
 - Saves document fragments as a full representation of InDesign content
 - Based on .inx
 - Includes formatting, geometry, tags and structure
 - Also used for Library objects

* Machine readable format, currently not meant for human consumption



InDesign and XML

- **InDesign uses XML in many ways:**
 - Import XML
 - Into Root element
 - Into selected element
 - DTD
 - Export XML
 - From selected elements
 - Can include Images
 - DTD



Getting XML onto the page

- **Import in Structure Pane and drag & drop onto the page**
 - Drag the root element to place the entire XML file
 - Drag desired elements to blank page areas or to a frame
- **Import into a Template**
 - Merge the XML with existing structure
 - Flow content automatically into tagged placeholder frames



XML Templates

- **Connect XML elements to placeholders in the document**
 - Create the structure from scratch by tagging frames and placeholder text
 - This structure must match the structure from the XML files you want to import
 - Or import some sample XML that contains the structure
 - Easiest way: all tags and structure is imported
 - Drag & drop elements to page
 - Apply Style



XML Templates

- **Anchored frames are part of a text stream**
 - Behaviour similar to inline objects
 - Can contain images or text
 - Can be tagged like any other page item
 - Can be positioned outside the text frame
 - More design options



XML Templates

- **Apply style to XML content**
 - Style the placeholder text and choose “Clone repeating text elements” during import
 - Map tags to styles
 - Map by Name



Snippets as XML building blocks

- **Snippets preserve XML structure and can be used as building blocks to create an XML template**
 - Use Snippets if you want to preserve an enclosing tag for several tagged page items
 - Delete the href attribute from image elements
 - Drag Items from the Page, not from the Structure palette



Tables

- **InDesign's table model consists of a Table element and collection of table Cells as its child elements.**
 - InDesign Namespace attributes can be used to create a table on import
 - If a tagged table is present in a template, simple tags can be used to populate the table.
 - "Import text elements into tables if tags match"
 - Tables always need a parent element



Import XML New Features

- **Create Link**
 - Similar to linked graphics
 - XML file is visible in Links palette
 - Can be updated when linked file has changed



Import XML New Features

- **Clone repeating text elements**
 - Replicates the formatting applied to tagged placeholder text
 - Use for repeating items in a text stream that have the same structure
 - List of names and addresses
 - Products and prices



Import XML New Features

- **Only import elements that match existing structure**
 - Filters the imported XML
 - Only imports elements that match the tags and structure in the structure pane
 - Imports a subset of the xml file



Import XML New Features

- **Import text elements into tables if tags match**
 - Makes it easy to import tables
 - Imports elements into a placeholder table if the tags match the table tag and its cell tags
 - You do not have to use the complex (but powerfull) InDesign table tagging structure



Import XML New Features

- **Do not import contents of white-space only elements**
 - Leaves any existing content in place if the matching XML content contains only whitespace
 - Whitespace:
 - A return or tab character
 - Text in the InDesign document outside elements (tags)
 - Mailmerge type of documents
 - Insert text and inline graphics that are not part of the XML document



Import XML New Features

- **Delete elements, frames and content that do not match imported XML**
 - Removes elements from the Structure pane and the layout that don't have matches in the XML file
 - InDesign can delete the element containing the placeholder text if its not in the imported XML



Import XML New Features

- **Features for Developers**
 - Plugin developers can use a XSLT* on import/export
 - Specify a Paragraph style or Character style in the XML to style the content on import

* XSLT (eXtensible Stylesheet Language Transformation) a language for transforming XML documents into other XML documents



Styles on Import

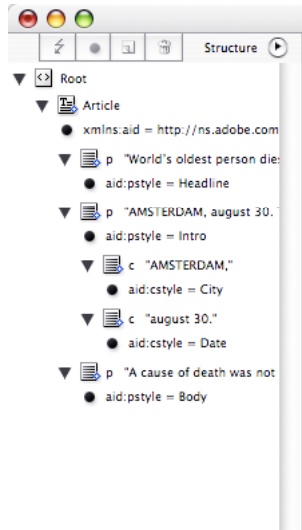
- **Attribute Mapping**

- You can add paragraph and character style attributes to XML elements *

- Name: `aid:pstyle`
- Value: Name of the Paragraph style
- Name: `aid:cstyle`
- Value: Name of the Character style

- InDesign will read the attributes on import and apply the styles (when present) or create the styles (when not present)

- * Need also to add the AID namespace to the XML file
- `xmlns:aid="http://ns.adobe.com/AdobeInDesign/4.0/"`





More Info

- **InDesign CS2 User Guide and Helpfile**
- **Adobe.com**
 - Whitepapers:
 - http://www.adobe.com/products/indesign/xml_scripting.html
 - **Adobe Forums**
 - InDesign Scripting forum
- **General info on XML:**
 - **w3c.org**
 - WorldWideWeb consortium XML specs
 - **www.w3schools.com/xml**
 - XML Basic lessons and XML Advanced
 - **www.w3.org/XML/1999/XML-in-10-points**

