Adobe InDesign CS3 and XML: A Technical Reference

TABLE OF CONTENTS

Adobe® InDesign® CS3 enables the design and production of professional page layouts. Built for demanding workflows, InDesign integrates smoothly with the Adobe tools you use every day, streamlines repetitive tasks, reliably outputs pages, and offers powerful features for creating richer, more complex documents. Additionally, InDesign CS3 has extensive XML and scripting capabilities to better support the varied needs of today's multichannel publishers.

Combining the predictable structure of XML files with InDesign's page layout capabilities lets you automate design and production tasks. You can associate InDesign formatting with XML content, so that when you import an XML file, content is automatically laid out on your pages. If you lay out many documents that have similar formatting, you can set up your design for the first document and then automate subsequent publications.

XML also serves as a useful interchange format to move information among different applications. For example, if you create content in InDesign that will be published in other media (such as on the web), you can export the InDesign file as XML to reuse the content.

Together, the powerful layout engine in InDesign and the inherent benefits of XML structures let you establish a publishing workflow that reduces production effort without compromising your design standards.

This white paper assumes an intermediate level of XML knowledge and provides detailed technical information about XML support in InDesign CS3.

Overview of XML syntax

Extensible Markup Language, or XML, is a text-based file format managed by the World Wide Web Consortium (www.w3.org). The Consortium describes XML as follows: "Originally designed to meet the challenges of large-scale electronic publishing, XML is also playing an increasingly important role in the exchange of a wide variety of data on the Web and elsewhere." A basic XML file is readable, as shown in the following sample:

```
<?xml version="1.0"?>
<Article author="CJM" date="2008-07-17">
 <Dateline>Anytown, Anywhere</Dateline>
 <Title>Traffic is Worse than Ever</Title>
 <Para>Complaints about traffic are on the rise. A recent survey shows
that commuting time is increasing.</Para>
 ...
</Article>
```

Like Hypertext Markup Language (HTML), XML uses angle brackets to indicate markup tags (for example, <Article> or <Para>). HTML has a predefined set of tags; in XML, you describe content more precisely by creating custom tags. The preceding example uses descriptive tags, such as Article, to label the information.

For more details about XML syntax, see Appendix A on page 30.

Integrating XML into a publishing workflow

XML is widely used for data exchange, such as e-business transactions. For creative professionals, who mainly work with content, XML is also becoming a critical technology. XML provides some exciting new opportunities for your publishing workflow:

- *Layout automation.* When the content structure is predictable, you can automatically process it to produce a consistent look and feel in your final output. For example, you can import XML into InDesign and lay out documents automatically. You can also export content from a database file to XML, and then use the XML file to produce the final content (for example, to publish a directory). To ensure that content is organized consistently, you can define the required structure using a document type definition (DTD) file.
- *Reusing content.* You can use XML as an intermediate format to exchange information between otherwise incompatible applications. This process lets you reuse information without tedious manual reformatting. XML provides extensive support for metadata, so you can provide additional information about your document and about elements within the document.

The following sections provide more detail about how InDesign supports XML-based publishing.

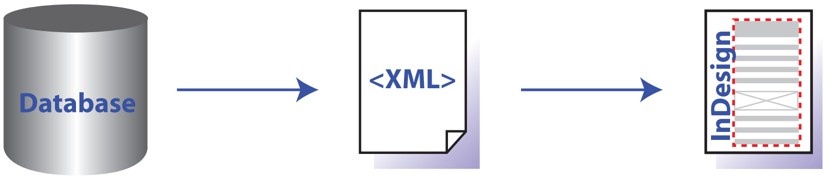
PDF versus XML

PDF and XML support the publishing workflow in different, but complementary, ways. PDF is designed to preserve the exact appearance of a document from one medium to another. PDF documents can be printed without reformatting. A PDF file may also contain structured information, enabling it to adapt to different display devices and to interact with XML workflows. XML preserves the structure, but not the appearance, of content, as well as metadata about elements. XML is easy to edit and can be displayed differently for different viewing media, making it an excellent choice when you need to share content that will be edited or reprocessed into another output format.

Layout automation with InDesign

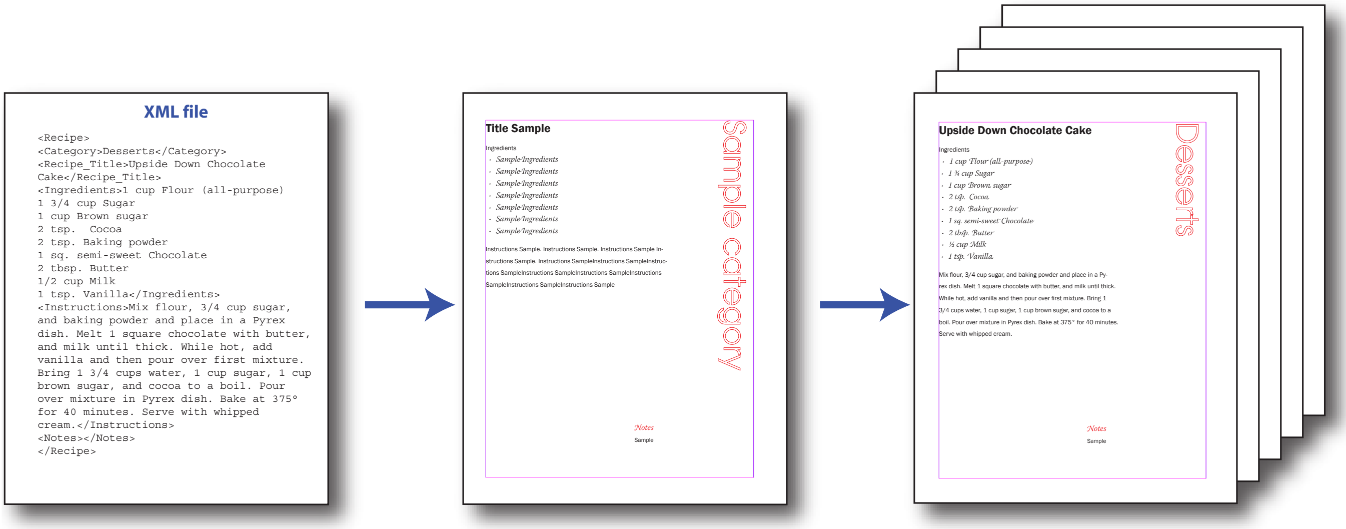
XML lets you set up workflows with layout automation. For example, you can create content in an XML file, and then import the XML file into InDesign. Instead of applying formatting paragraph by paragraph, you define the look and feel and associate XML tags with formatting. To ensure that information in the InDesign file changes automatically whenever the XML file is updated, you can create a link to the XML file in InDesign.

If the information you need to publish is stored in a database, you can export from the database to XML, and then import the XML file into InDesign, where InDesign formats the content automatically.



XML-based database publishing with InDesign

When publishing from a database, you often have a structure pattern that needs to be laid out identically from page to page. InDesign lets you define the page layout once, and then clone that layout for additional information. You can set up your layout using sample content or a typical set of information and then repeat that layout as many times as required for all of the content. For details on cloning layouts and other XML import options, see Importing XML files on page 11.



```
<Recipe>
<Category>Desserts</Category>
<Recipe_Title>Upside Down Chocolate
Cake</Recipe_Title>
<Ingredients>1 cup Flour (all-purpose)
1 3/4 cup Sugar
1 cup Brown sugar
2 tsp.  Cocoa
2 tsp. Baking powder
1 sq. semi-sweet Chocolate
2 tbsp. Butter
1/2 cup Milk
1 tsp. Vanilla</Ingredients>
<Instructions>Mix flour, 3/4 cup sugar,
and baking powder and place in a Pyrex
dish. Melt 1 square chocolate with butter,
and milk until thick. While hot, add
vanilla and then pour over first mixture.
Bring 1 3/4 cups water, 1 cup sugar, 1 cup
brown sugar, and cocoa to a boil. Pour
over mixture in Pyrex dish. Bake at 375°
for 40 minutes. Serve with whipped
cream.</Instructions>
<Notes></Notes>
</Recipe>
```

Title Sample

Ingredients

- *Sample Ingredients*
- *Sample Ingredients*
- *Sample Ingredients*
- *Sample Ingredients*
- *Sample Ingredients*
- *Sample Ingredients*
- *Sample Ingredients*

Instructions Sample. Instructions Sample. Instructions Sample Instructions Sample. Instructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions Sample

Sample category

Notes

Sample

Upside Down Chocolate Cake

Ingredients

- *1 cup Flour (all-purpose)*
- *1 ¾ cup Sugar*
- *1 cup Brown sugar*
- *2 tsp. Cocoa*
- *2 tsp. Baking powder*
- *1 sq. semi-sweet Chocolate*
- *2 tbsp. Butter*
- *½ cup Milk*
- *1 tsp. Vanilla*

Mix flour, 3/4 cup sugar, and baking powder and place in a Pyrex dish. Melt 1 square chocolate with butter, and milk until thick. While hot, add vanilla and then pour over first mixture. Bring 1 3/4 cups water, 1 cup sugar, 1 cup brown sugar, and cocoa to a boil. Pour over mixture in Pyrex dish. Bake at 375° for 40 minutes. Serve with whipped cream.

Desserts

Notes

Sample

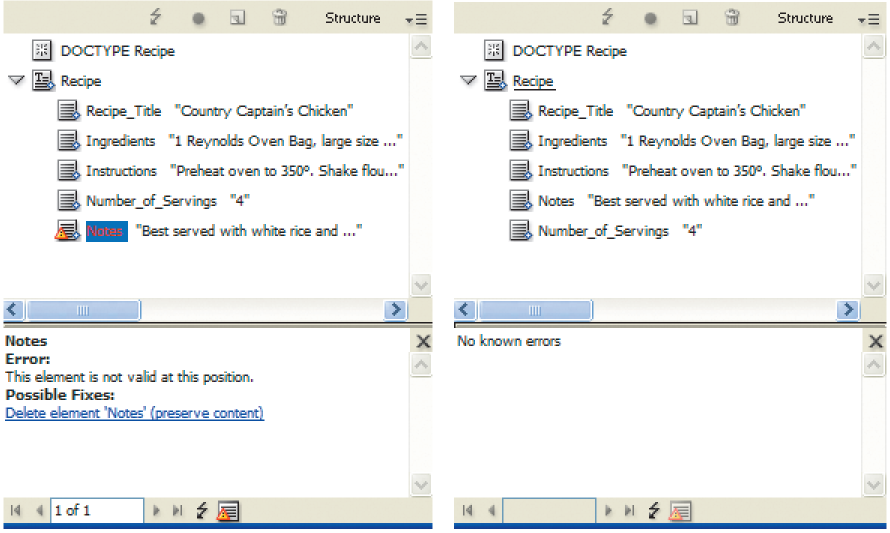
XML file with repeating structured content

Tagged InDesign layout

Page design and formatting can be cloned automatically.

Enforcing structure and organization

Using XML, you can spell out the rules for your documents and ensure that they are followed. Consider the example of a cookbook. In a cookbook, each recipe needs to be organized consistently—ingredients first, followed by instructions, notes, and perhaps a picture. If you have multiple authors contributing recipes, you want to make sure that all recipes are organized the same way. You can specify the required organization, and then validate a document to ensure that it follows the required structure.



Structure

DOCTYPE Recipe
Recipe
Recipe_Title "Country Captain's Chicken"
Ingredients "1 Reynolds Oven Bag, large size ..."
Instructions "Preheat oven to 350º. Shake flou..."
Number_of_Servings "4"
Notes "Best served with white rice and ..."

Notes
Error:
This element is not valid at this position.
Possible Fixes:
Delete element 'Notes' (preserve content)

1 of 1

Structure

DOCTYPE Recipe
Recipe
Recipe_Title "Country Captain's Chicken"
Ingredients "1 Reynolds Oven Bag, large size ..."
Instructions "Preheat oven to 350º. Shake flou..."
Notes "Best served with white rice and ..."
Number_of_Servings "4"

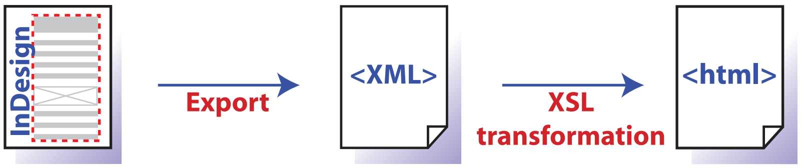
No known errors

Use a DTD to validate the structure of your imported XML. On the left, the DTD identifies an error for you to fix—the Notes element must occur before the Number_of_Servings element. On the right, the structure is valid.

Structure rules are stored in a Document Type Definition (DTD). The structure rules need not be rigidly defined. For example, a DTD could declare that a recipe must have pictures or a bulleted list, but it can also specify that these items are optional. With InDesign, an imported XML file can specify the DTD, or you can load it into a document separately. Once you have associated a DTD with XML content, you can validate the content. Alternatively, you could use an XML generation and editing application to do this validation separately from InDesign. In addition, InDesign does not require you to use a DTD, so you can also work without validating.

Reusing content from InDesign

Perhaps you create a weekly newspaper using InDesign. You have been asked to create a web-based version of the newspaper. You need to continue publishing the printed version, but you also need to extract stories from the newspaper and post them on your website. XML provides an excellent platform for setting up this type of content exchange. You can publish the newspaper as usual, then tag the content, export it to XML, and generate the HTML you need for the website from the XML file using Extensible Stylesheet Language (XSL) transformation.



Tagged content laid out in InDesign

XML file with tags but no formatting

Formatted HTML file created by translating XML tags

Specifying metadata

Metadata is information about content. You can include metadata in an XML file and even assign metadata to specific document components. In a newspaper, for example, it would be useful to know the author and editor of each story. You can create metadata that provides that information as part of the XML structure:

```
<Newspaper>
  <story author="CJM" editor="SSO">story goes here</story>
  <story author="MDM" editor="SSO">story goes here</story>
</Newspaper>
```

XML versus HTML versus XHTML

XHTML is a combination of HTML and XML. It uses HTML tags, but requires strict adherence to XML syntax rules. Like HTML, you can display XHTML in a browser.

From InDesign, you can export content to XHTML (File > Cross-Media Export > XHTML). The Export to XHTML feature requires no knowledge of scripting or XML. It provides a quick and easy way of reusing content from an InDesign document and is especially useful if you plan to edit the output in an HTML editor such as Adobe Dreamweaver. If you need additional control over the output, exporting to XML and using an XSL transformation is a useful and powerful approach.

Metadata is embedded at the location of the content it refers to as an attribute of that content, ensuring that it always stays with the described element. Later, you could use the metadata to filter information; for example, to locate all of the stories a particular author has written.

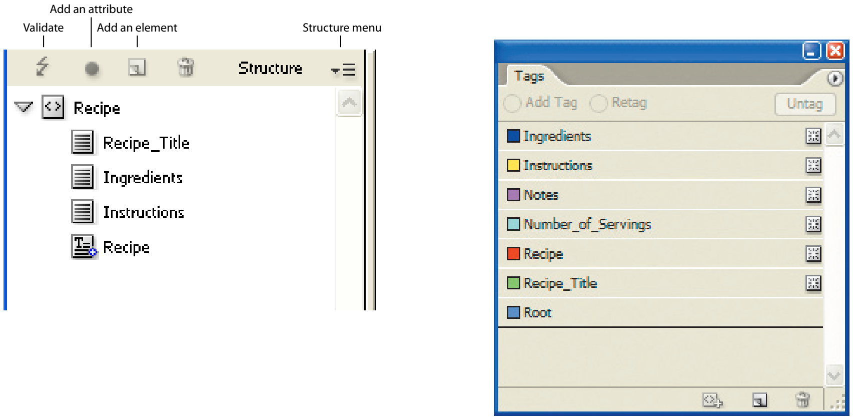
InDesign provides additional support for metadata in any InDesign file with the Extensible Metadata Platform (XMP) standard. The XMP standard, created by Adobe, lets you store document information, such as the author, copyright information, and keywords, in a file. The XMP information is accessible to other users even if they do not have the application in which you created the file. All Creative Suite 3 applications automatically embed certain XMP metadata. For example, InDesign files include XMP metadata about the swatches and fonts used in a document, as well as any linked files. You can view, search, and edit metadata using Adobe Bridge (available from any CS3 application). You can also embed metadata in InDesign files by choosing File > File Info and editing or adding metadata. The XMP metadata is saved as XML in a special section of the application file.

You can find additional XMP resources at *www.adobe.com/products/indesign/scripting*

XML tagging features in InDesign

InDesign offers several different ways of working with XML. This flexibility lets you set up a workflow that is compatible with your publishing environment.

Use the Structure pane and the Tags panel to work with XML structure in InDesign. The Structure pane shows you the document structure and lets you make changes to it. The Tags panel lists the XML tags that are available in the document. Just click the tag you want to apply it to selected content. (If you don't want to tag items manually, you can use the automated tagging techniques described later in this document.)



The Structure pane and Tags panel give you control over XML content. To display the Structure pane, choose View > Structure > Show Structure. Choose Window > Tags to open the Tags panel.

XML and InDesign documents

An InDesign document consists of pages that contain text, images, and even motion graphics (for embedding in interactive PDF files). Text stories can flow through one or more linked frames. Associated XML files reference the external images or other media types that can be placed in InDesign.

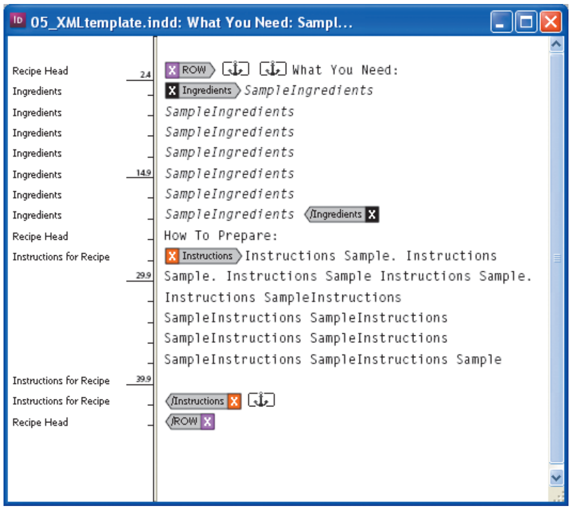
In contrast to this, an XML file consists of elements, attributes, and text. An XML file does not usually provide any font, page positioning, or other formatting information. You must specify how you want XML content to flow into your InDesign document.

An XML document is required to have a single root element. The root element contains all of the elements in the document, and is shown near the top of the Structure pane. In the art in the preceding section, the root element is Recipe.

You can associate XML with different InDesign objects. Most often, you associate XML with stories, paragraphs, text ranges, graphics, and other media. When an XML element is associated with a text frame, InDesign tags any frames that are linked to that text frame.

Viewing XML tags

To help you manage XML tags in an InDesign file, you can set up the file to show tags. In the main document window, tags appear as colored brackets. In the Story Editor, the entire tag name appears. To display XML tags, choose View > Structure > Show Tag Markers.



05_XMLtemplate.indd: What You Need: Sampl...

```
Recipe Head             2.4  ROW  What You Need:
Ingredients                  Ingredients SampleIngredients
Ingredients                  SampleIngredients
Ingredients                  SampleIngredients
Ingredients                  SampleIngredients
Ingredients            14.9  SampleIngredients
Ingredients                  SampleIngredients
Ingredients                  SampleIngredients /Ingredients
Recipe Head                  How To Prepare:
Instructions for Recipe      Instructions Instructions Sample. Instructions
                       29.9  Sample. Instructions Sample Instructions Sample.
                             Instructions SampleInstructions
                             SampleInstructions SampleInstructions
                             SampleInstructions SampleInstructions
                             SampleInstructions SampleInstructions Sample
Instructions for Recipe 39.9
Instructions for Recipe      /Instructions
Recipe Head                  /ROW
```

Tags visible in the Story Editor

You can also set your text frames to indicate the tag they are associated with by choosing View > Structure > Show Tagged Frames. InDesign displays the frames in the document window with a background color, which matches the color for the tag in the Tags panel.

XML tagging techniques: Manual, automatic, and style mapping

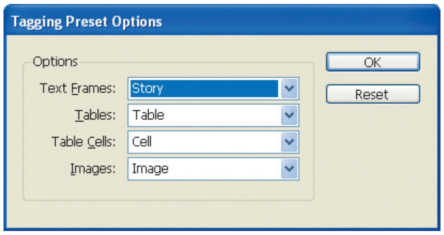
You can assign XML tags to any text and graphics content. To assign a tag manually, select the content and then click a tag in the Tags panel. (If the content already has a tag assigned, make sure that Retag is selected at the top of the panel.)

For text frames, tables, and table cells, InDesign lets you specify the tags to be used when InDesign automatically tags those objects. If you tag a range of text or other item in an untagged story, InDesign tags the story automatically with the default text frame tag. Similarly, if you tag some text inside a table cell, InDesign tags the table cell, table, and containing story using the specified tags.

To use automatic tagging for text frames and tables:

1 In the Tags panel menu or the Structure pane menu, select Tagging Preset Options. By default, text frames are mapped to the Story tag, tables are mapped to the Table tag, and table cells are mapped to the Cell tag.

2 Make any changes to the settings, and then click OK.



Tagging Preset Options

Options

Text Frames: Story

Tables: Table

Table Cells: Cell

Images: Image

Tagging Preset Options dialog box

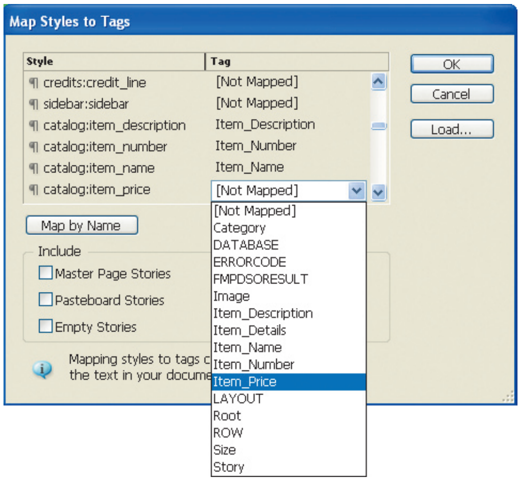
3 Select a text frame, table, table cell, or image and then click the Autotag icon ( ) in the Tags panel.

You don't have to select paragraphs one at a time and tag them if you're using paragraph, character, and nested styles. Instead, you can map style names to tags, so InDesign can automatically tag the specified content.

In addition, if you can control style names or tag names, consider matching them so that you can automate the mapping process. For example, if your XML content has a Caption tag, you can create a matching Caption style in your document. The Map By Name button lets you associate those styles automatically.

To assign tags automatically using style mapping:

1 In the Tags panel menu (or the Structure pane menu), choose Map Styles to Tags. The Map Styles to Tags dialog box opens.



Style	Tag
¶ credits:credit_line	[Not Mapped]
¶ sidebar:sidebar	[Not Mapped]
¶ catalog:item_description	Item_Description
¶ catalog:item_number	Item_Number
¶ catalog:item_name	Item_Name
¶ catalog:item_price	[Not Mapped]

Map styles for automatic XML tag assignment.

2 For each style you want to map, click the Tag list to display a pop-up menu and choose the appropriate XML tag from the list. If your style names match the XML tag names, click Map By Name.

Note: *To use mappings you set up in another InDesign file, click Load and select the file.*

3 Specify whether you want to map styles that occur in special locations by checking the appropriate items.

4 Click OK. The new XML tags are applied throughout the document.

Loading a DTD into a document

To use InDesign structure validation features, you must either load a DTD into InDesign or validate against a DTD that is defined and referenced in the imported XML file. To load a DTD, it must be available on the system.

To load a DTD into an InDesign file:

1 Click the Structure pane menu, and then click Load DTD.

2 Locate the DTD file and select it.

Note: *When you load a DTD file, it is embedded in the InDesign file (not linked). If you make updates to the DTD file, you must reload the DTD into InDesign.*

3 Click Open.

InDesign checks the DTD as it is loaded. If any problems are found, InDesign displays an error message. To correct errors, open the DTD in a text editor, make the appropriate changes, and then try loading it again.

Validating documents against a DTD

Once you load a DTD, you can validate the InDesign file.

To validate the document:

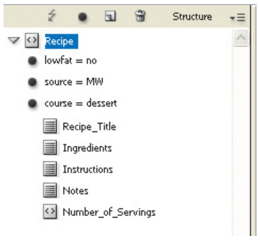
1 Click the Validate button (⚡) in the Structure pane.

2 InDesign reports any structure errors at the bottom of the Structure pane and provides suggestions on how to fix the problem. Click a suggestion to try that correction. When InDesign identifies invalid structure, it displays a warning icon on the element icon and highlights it in red in the Structure pane.

When the document is valid, InDesign tells you that no validation errors were found.

Managing attributes

Attributes provide additional information about an element. In a cookbook, you could use attributes to provide metadata, such as the course type, the recipe source, and whether a recipe is low in fat. InDesign displays attributes in the Structure pane only. Attributes cannot be placed into the document or used as content.

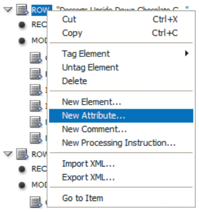


Recipe
lowfat = no
source = MW
course = dessert
Recipe_Title
Ingredients
Instructions
Notes
Number_of_Servings

The Recipe element has three attributes.

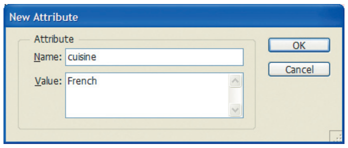
To add a new attribute:

1 In the Structure pane, right-click (Ctrl-click for Mac OS) the element that you want to add an attribute to and then choose New Attribute from the pop-up menu.



Pop-up menu resulting from the Structure pane.

2 Specify the name and value of the attribute, and then click OK.



Name: cuisine
Value: French

New Attribute dialog box.

The new attribute is shown underneath its element in the Structure pane.

Note: *Some attributes, such as table and image attributes, are created automatically when you export content to XML. You do not need to define these attributes in the Structure pane. For more information, see "Table attributes" on page 21 and "Images" on page 9.*

To edit an existing attribute, double-click the attribute in the Structure pane, make any needed changes, and then click OK.

Note: *DTDs may contain specifications for attributes. When you validate a document, InDesign notifies you about any required attributes that are missing, as well as attribute values that are not allowed by the DTD.*

Inserting comments

XML comments are similar to HTML comments. They let you embed information in the XML file. An XML comment looks like the following:

```
<!—- This is a comment. -->
```

To insert an XML comment:

1 In the Structure pane menu, choose New Comment. Or right-click (Ctrl-click for Mac OS) an element and select New Comment.

2 In the Value field, type the text you want for the comment. Omit the beginning and ending indicators (<!-- and -->, respectively). That is, if you type `This is a comment` the result in the XML output is:

```
<!-- This is a comment -->
```

This is a comment

The Structure pane shows comments.

Inserting processing instructions

Processing instructions let you embed special commands in an XML file. These commands are usually application-specific; for example, you can use processing instructions to embed stylesheet references.

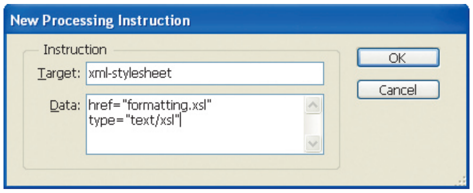
```
<?xml-stylesheet href="formatting.xsl" type="text/xsl"?>
```

To create a processing instruction:

1 In the Structure pane, click where you want to insert the processing instruction.

2 Click the Structure pane menu, and then choose New Processing Instruction.

3 Enter values in the Target and Data fields. For example, to create the processing instruction shown in the preceding example, type `xml-stylesheet` in the Target field and `href="formatting.xsl" type="text/xsl"` in the Data field.



New Processing Instruction

Instruction

Target: xml-stylesheet

Data: href="formatting.xsl" type="text/xsl"

Inserting a processing instruction

Note: *To apply the stylesheet in the processing instructions, see page 12 or page 28 for details on applying XSLT on import or export of XML.*

4 Click OK. The new processing instruction appears in the Structure pane.

xml-stylesheet:

A processing instruction in the Structure pane

XML and tables

InDesign tables must conform to a specific structure. When you import an XML file, any table that follows either the CALS table model or the InDesign table model is automatically rendered as a table in InDesign. When you export to XML, you can export tables using either the InDesign or the CALS model.

Note: *For details about the CALS table specification refer to OASIS (www.oasis-open.org/specs/tablemodels.php).*

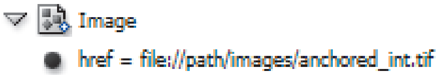
InDesign tables consist of a single Table tag, which contains Cell tags. You can use different names for the tags, but all of your tables must match that basic structure, as shown in the following example:

```
<Table>
 <Cell>first cell content</Cell>
 <Cell>second cell content</Cell>
 <Cell>third cell content</Cell>
 <Cell>fourth cell content</Cell>
 <Cell>fifth cell content</Cell>
 <Cell>sixth cell content</Cell>
</Table>
```

Use attributes to specify the number of columns, cell widths, and other information. When you export a table from InDesign to XML, some of these formatting attributes are created automatically in the XML file. Because the information is specific to InDesign and provides formatting information, the table attributes use the *aid* namespace. The namespace lets you easily identify an attribute as being part of the table formatting. For details, see “Table attributes” on page 21.

Images

XML generally handles images with a linked reference. When you tag an image frame, InDesign assigns an *href* attribute that points to the referenced (linked) image file. The *href* attribute shows the file path and filename and appears in the Structure pane as follows:



Image

● href = file://path/images/anchored_int.tif

The href attribute indicates the file path and file name.

InDesign can then export these *href* attributes in an XML file (as shown below), and can also process them correctly on import.

```
<Image href="file://path/images/testfile.jpg"></Image>
```

To ensure that InDesign exports images correctly, the images must be linked, not embedded. They must also be properly tagged. Only tagged content is exported, while content that is not tagged is ignored on export.

Note: *The recommended workflow is to work with linked, not embedded, graphics, so that InDesign can better handle collecting the images in a subfolder during export.*

To set up images for export to XML:

1 Choose Window > Links to open the Links panel and verify that all of your graphics are up-to-date.

2 Use the Tags panel to assign an XML tag, such as Image, to each image. If the tag is not available in your Tags panel, create it.

When you export images to XML, the images are automatically collected in a subfolder to make it easier to move the XML file and its linked graphics. The file references in the exported XML file are then updated to point to the images in the subfolder. On export, you control the final file format of the images and whether certain images are exported.

To configure image options:

1 Choose File > Cross-media Export > XML.

2 Specify a file name for the exported file and choose XML as the format.

3 Click Save.

4 In the Export XML dialog box, click the Images tab.

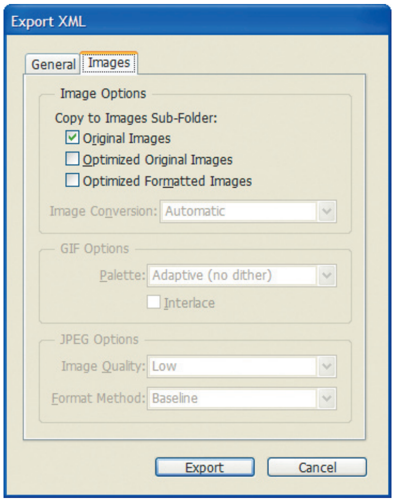


Image Options

Copy to Images Sub-Folder:

☑ Original Images

☐ Optimized Original Images

☐ Optimized Formatted Images

Image Conversion: Automatic

GIF Options

Palette: Adaptive (no dither)

☐ Interlace

JPEG Options

Image Quality: Low

Format Method: Baseline

Control the format of your exported images, and whether InDesign includes the original image as well.

5 Set the image options. For detailed instructions, see InDesign Help.

6 Click Export.

Understanding entity processing

When you import an XML file into InDesign, it may contain entities for special characters. For example, the ampersand uses the **`&amp;`** entity. When you import an XML file, the entity is translated into the appropriate special character.

Text entities refer to text defined in the XML file or in the DTD. For example, an XML file might contain a reference to a shared copyright statement:

```
<WhitePaper>
<!ENTITY copyright "Copyright (c) 2008 Adobe Systems Incorporated
All Rights Reserved."  >
white paper content...
&copyright;
</WhitePaper>
```

The entity definition is in the <!ENTITY ...> section

The entity reference starts with an ampersand (&).

When you import XML, text entities are expanded. You do not see the &copyright; placeholder in your InDesign document. Instead, you see the copyright entity text.

XML files can also contain entity references that point to other files. Entity references look similar to the copyright example above, but the entity definition specifies a file instead of text.

```
<!ENTITY copyright SYSTEM "copyright.txt">
```

These entities are also expanded on import. InDesign does not preserve the link to the original entity file.

Note: *Unparsed entity references are not processed by InDesign. For images, use an href attribute that contains the file name instead. If necessary, transform the XML file with XSLT to create the required structure.*

Planning an XML workflow

When you import an XML file, the file structure appears in the Structure pane, but the content may not initially appear in your document. You must explicitly assign XML tags to placeholder text frames to automate flowing XML content into layouts on import. Assigning XML tags to text frames after importing an XML file will not cause the content to appear in those frames.

InDesign provides several different ways of working with XML content. The best approach depends on your workflow:

- For a one-time project, create a blank InDesign document, import the XML file, and then format the content as needed. This approach is suited for small, unique projects.

- To lay out the same type of XML content repeatedly, import the XML file into an InDesign document that contains paragraph, character, and table styles. Then, associate the XML tags with the styles in the InDesign document. This approach is faster than applying styles manually, but requires more planning. If you have several documents that require the same layout, this workflow will save you time.
- If the XML content contains repeating elements that need to be formatted identically, format a sample element set and then clone that formatting for the remainder of the XML file. This approach is very efficient for highly structured content, such as directories or variable data publishing.
- Instead of associating XML tags with styles using the InDesign mapping feature, embed style names directly into the XML file using attributes. When you import the XML file into an InDesign layout that includes those defined styles, InDesign associates the XML tags with the specified styles automatically. If you control the content of the XML file, this approach provides additional automation.
- On import, attach an XSL transformation file to the XML file. This new feature in InDesign CS3 allows you to filter, rearrange, and reorganize the XML structure as you bring it into InDesign.
- For complex layout requirements, use the new XML rules feature to assign XML formatting using scripts written in JavaScript, VBScript, or AppleScript. For details, see “XML rules” on page 25.

Extensible Stylesheet Language (XSL) is a powerful transformation language designed for processing XML files. You can find more information about transforming XML with XSL at *www.adobe.com/products/indesign/scripting*.

Importing XML files

InDesign offers a number of XML import options that enable you to more finely control how XML content is placed into your documents. When you import an XML file into InDesign, the Structure pane displays the XML content. You can then drag and drop the content into frames or directly onto the page, depending on how you’ve set up your layout. Alternatively, if you have prepared the InDesign document with tagged text and graphics frames that match the structure of the imported XML, InDesign displays the XML content in the Structure pane and flows it into the tagged layout automatically.

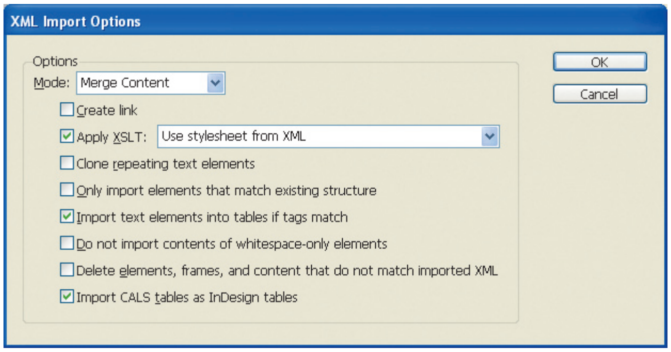
You can exclude certain elements by name, which allows you to filter XML information and display only what you need in the InDesign file. You have the option of linking or embedding the XML content.

To control how XML content is imported:

1 Choose File > Import XML.

2 Navigate to and select the XML file you want to import.

3 If necessary, select Show XML Import Options, and then click Open.



XML Import Options

Options

Mode: Merge Content

□ Create link

☑ Apply XSLT: Use stylesheet from XML

□ Clone repeating text elements

□ Only import elements that match existing structure

☑ Import text elements into tables if tags match

□ Do not import contents of whitespace-only elements

□ Delete elements, frames, and content that do not match imported XML

☑ Import CALS tables as InDesign tables

Control the behavior of XML import with these options.

4 Select the import options you want.

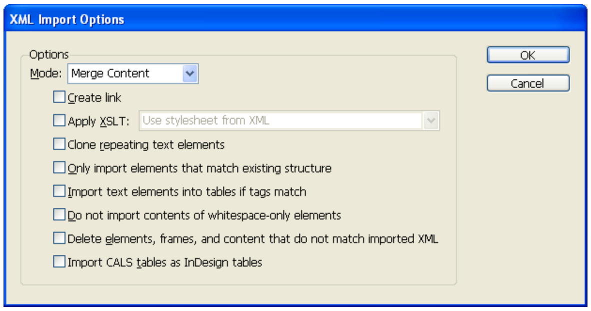
- *Create link.* Sets up a pointer to the source XML file, which is useful if the XML file is updated regularly and you want to ensure that your InDesign file remains up-to-date.

  Links to an XML file behave like other text and graphics links—if the linked file is updated outside of InDesign, InDesign refreshes it. There is, however, one complication: Because you control how information is displayed by associating the XML tags with InDesign formatting, changing the structure of the XML file may have unexpected results. For example, if a new XML tag appears in the linked file, you may need to modify the InDesign file to accommodate that tag.

- *Apply XSLT.* Lets you assign a Extensible Stylesheet Language Transformation file to the XML content, either by browsing for a file or by using the stylesheet file referenced in the XML file as a processing instruction (see page 8 for an example). XSLT stylesheets let you filter, rearrange, and perform other transformations on the XML content. For details about XSLT, refer to the World Wide Web Consortium, which manages the XSL and XSLT specifications (*www.w3.org/Style/XSL/*).

- *Clone repeating text elements.* Select this option to replicate the formatting in the current file for several elements.

  InDesign lets you clone a layout for repeating text elements. You can create a single formatting instance (in this example, for a recipe), and then reuse that layout to create pages for all of the other content.



XML Import Options

Options

Mode: Merge Content

□ Create link

□ Apply XSLT: Use stylesheet from XML

□ Clone repeating text elements

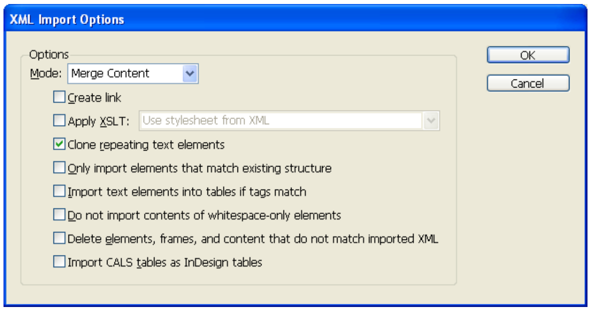
□ Only import elements that match existing structure

□ Import text elements into tables if tags match

□ Do not import contents of whitespace-only elements

□ Delete elements, frames, and content that do not match imported XML

□ Import CALS tables as InDesign tables



XML Import Options

Options

Mode: Merge Content

□ Create link

□ Apply XSLT: Use stylesheet from XML

☑ Clone repeating text elements

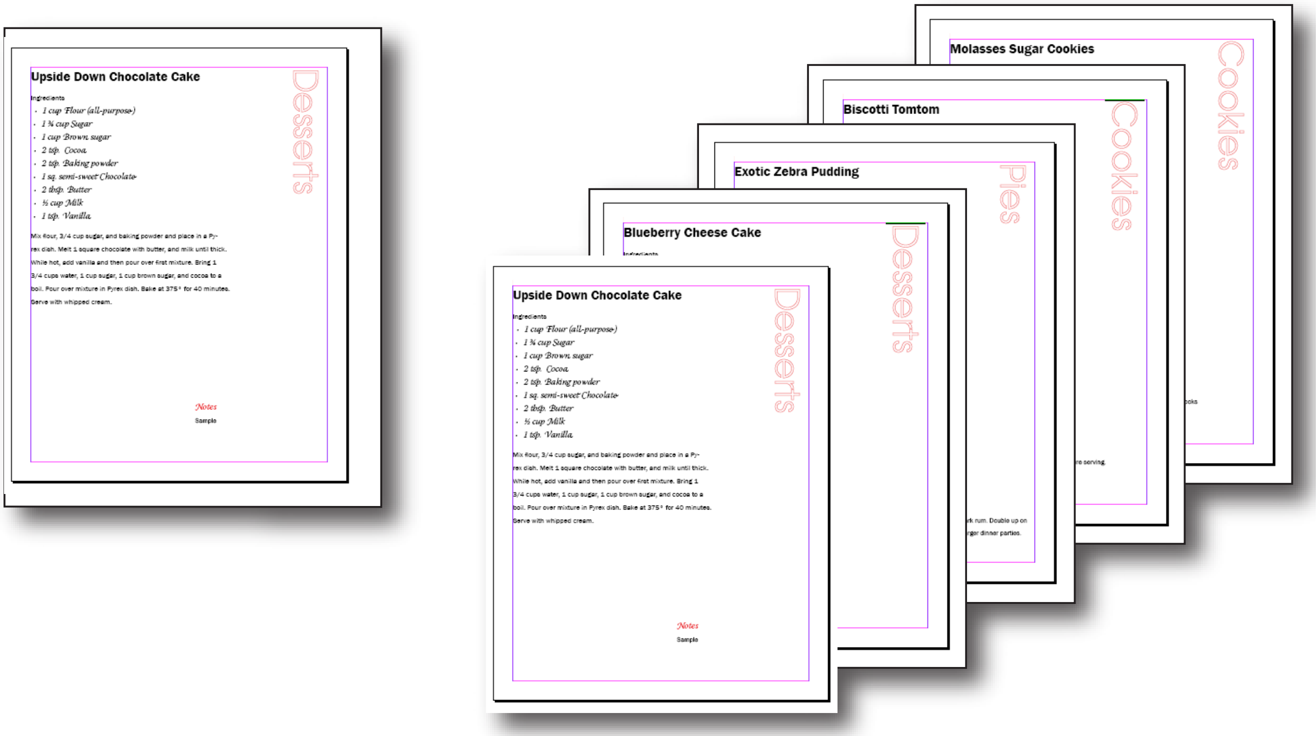
□ Only import elements that match existing structure

□ Import text elements into tables if tags match

□ Do not import contents of whitespace-only elements

□ Delete elements, frames, and content that do not match imported XML

□ Import CALS tables as InDesign tables



Upside Down Chocolate Cake

Ingredients

- 1 cup Flour (all-purpose)
- 1 ¾ cup Sugar
- 1 cup Brown sugar
- 2 tsp. Cocoa
- 2 tsp. Baking powder
- 1 sq. semi-sweet Chocolate
- 2 tbsp. Butter
- ½ cup Milk
- 1 tsp. Vanilla

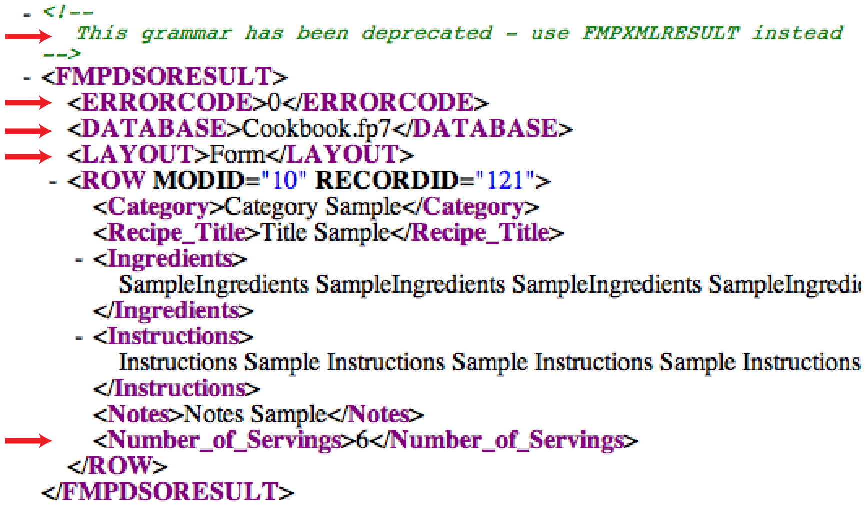
Mix flour, 3/4 cup sugar, and baking powder and place in a Pyrex dish. Melt 1 square chocolate with butter, and milk until thick. While hot, add vanilla and then pour over first mixture. Bring 1 3/4 cups water, 1 cup sugar, 1 cup brown sugar, and cocoa to a boil. Pour over mixture in Pyrex dish. Bake at 375° for 40 minutes. Serve with whipped cream.

Notes

Sample

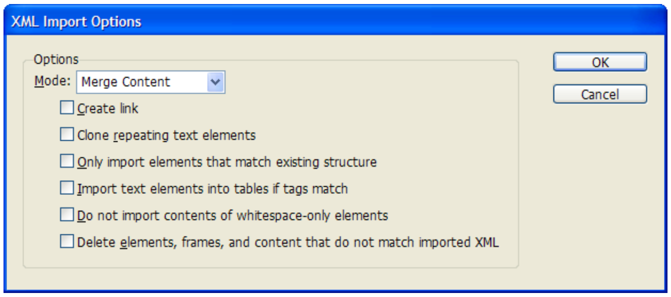
Automatically generate repetitive layouts and populate it with your content using the efficient cloning import option.

- *Only import elements that match existing structure.* If the XML file contains elements that you do *not* want to show in your layout, and your tagged InDesign file does not use elements of the same name, select this option. Any elements that do not match a tag used in the InDesign document will not be imported into InDesign.



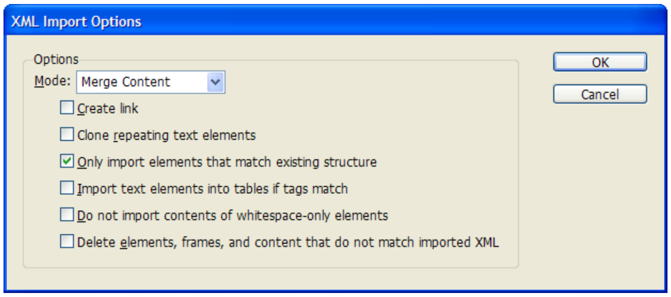
```
- <!--
    This grammar has been deprecated - use FMPXMLRESULT instead
  -->
- <FMPDSORESULT>
    <ERRORCODE>0</ERRORCODE>
    <DATABASE>Cookbook.fp7</DATABASE>
    <LAYOUT>Form</LAYOUT>
  - <ROW MODID="10" RECORDID="121">
      <Category>Category Sample</Category>
      <Recipe_Title>Title Sample</Recipe_Title>
    - <Ingredients>
        SampleIngredients SampleIngredients SampleIngredients SampleIngredi
      </Ingredients>
    - <Instructions>
        Instructions Sample Instructions Sample Instructions Sample Instructions
      </Instructions>
      <Notes>Notes Sample</Notes>
      <Number_of_Servings>6</Number_of_Servings>
    </ROW>
  </FMPDSORESULT>
```

The XML source file contains several items that are not needed in the InDesign document (as indicated by the red arrows calling out lines in the XML source above).



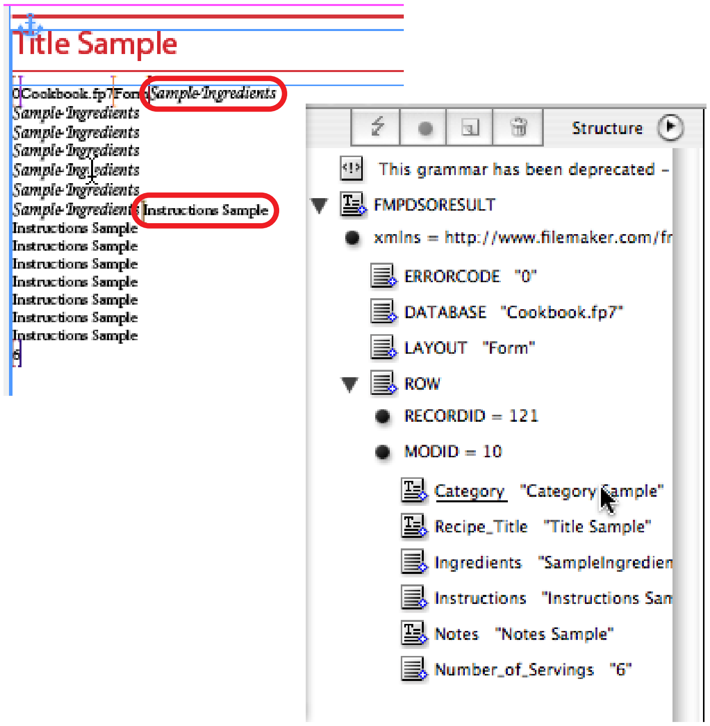
XML Import Options

Options
Mode: Merge Content
□ Create link
□ Clone repeating text elements
□ Only import elements that match existing structure
□ Import text elements into tables if tags match
□ Do not import contents of whitespace-only elements
□ Delete elements, frames, and content that do not match imported XML



XML Import Options

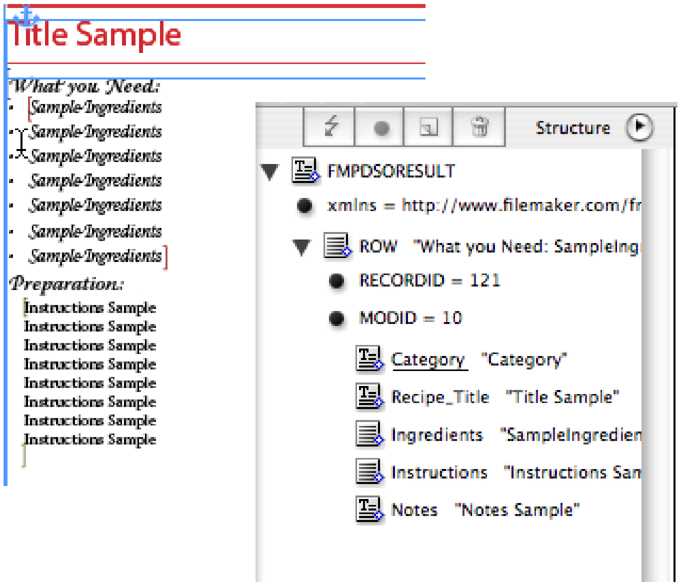
Options
Mode: Merge Content
□ Create link
□ Clone repeating text elements
☑ Only import elements that match existing structure
□ Import text elements into tables if tags match
□ Do not import contents of whitespace-only elements
□ Delete elements, frames, and content that do not match imported XML



Title Sample
0Cookbook.fp7Form Sample Ingredients
Sample Ingredients
Instructions Sample
6

Structure
This grammar has been deprecated –
FMPDSORESULT
xmlns = http://www.filemaker.com/fr
ERRORCODE "0"
DATABASE "Cookbook.fp7"
LAYOUT "Form"
ROW
RECORDID = 121
MODID = 10
Category "Category Sample"
Recipe_Title "Title Sample"
Ingredients "SampleIngredien
Instructions "Instructions San
Notes "Notes Sample"
Number_of_Servings "6"

The additional items appear in the InDesign document.

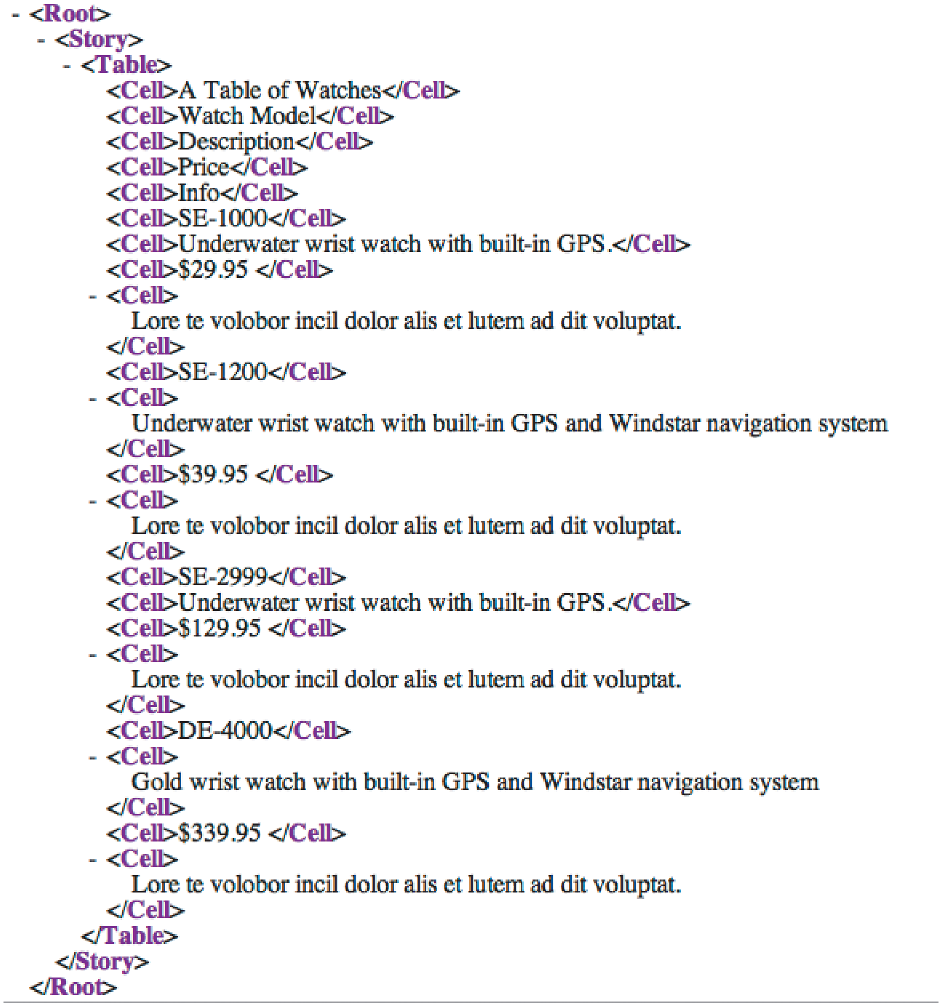


Title Sample
What you Need:
Sample Ingredients
Preparation:
Instructions Sample

Structure
FMPDSORESULT
xmlns = http://www.filemaker.com/fr
ROW "What you Need: SampleIng
RECORDID = 121
MODID = 10
Category "Category"
Recipe_Title "Title Sample"
Ingredients "SampleIngredien
Instructions "Instructions San
Notes "Notes Sample"

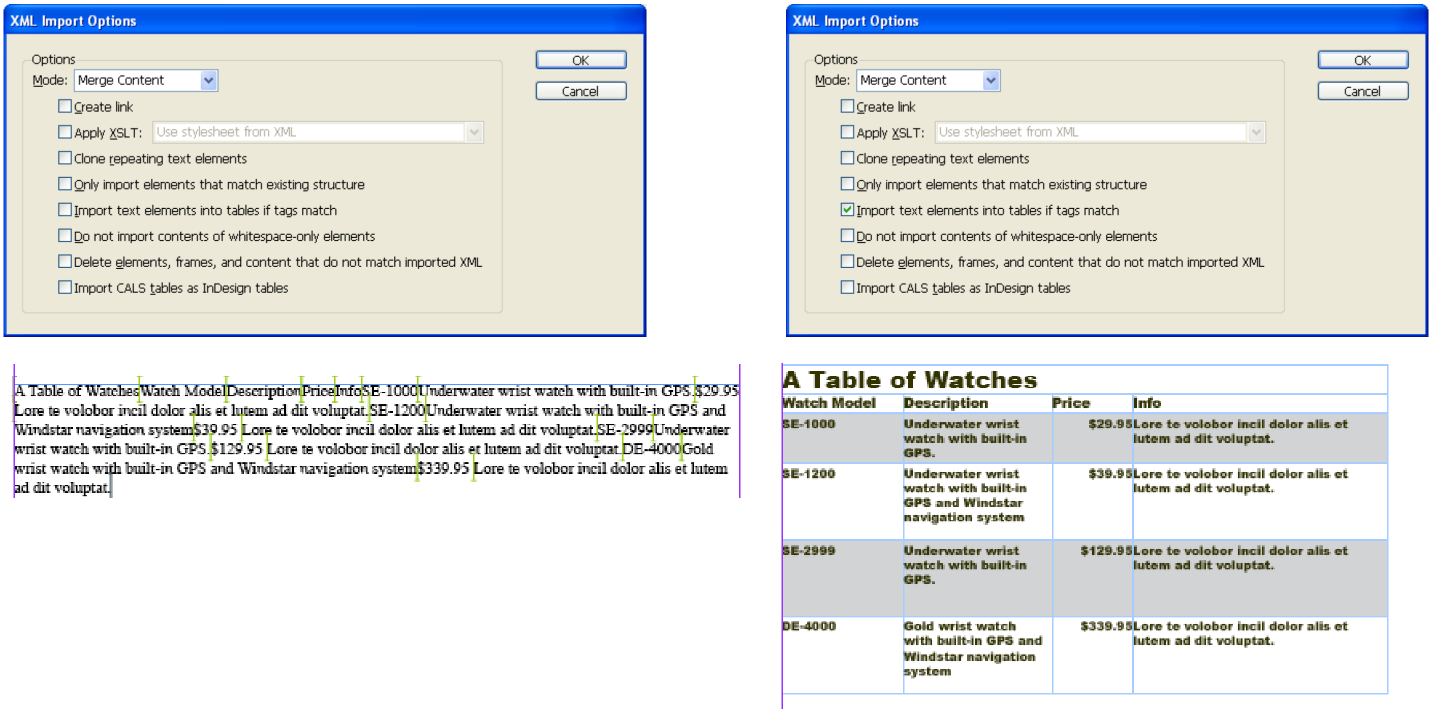
Items that do not match InDesign structure are removed.

- *Import text elements into tables if tags match.* If your XML file contains a table whose tagging matches the table tagging in the InDesign document, select this option. InDesign inserts the content of the XML table into the InDesign table, even if the XML table is missing table-specific attributes. For details on table attributes, see page 21.



```
- <Root>
  - <Story>
    - <Table>
        <Cell>A Table of Watches</Cell>
        <Cell>Watch Model</Cell>
        <Cell>Description</Cell>
        <Cell>Price</Cell>
        <Cell>Info</Cell>
        <Cell>SE-1000</Cell>
        <Cell>Underwater wrist watch with built-in GPS.</Cell>
        <Cell>$29.95 </Cell>
      - <Cell>
          Lore te volobor incil dolor alis et lutem ad dit voluptat.
        </Cell>
        <Cell>SE-1200</Cell>
      - <Cell>
          Underwater wrist watch with built-in GPS and Windstar navigation system
        </Cell>
        <Cell>$39.95 </Cell>
      - <Cell>
          Lore te volobor incil dolor alis et lutem ad dit voluptat.
        </Cell>
        <Cell>SE-2999</Cell>
        <Cell>Underwater wrist watch with built-in GPS.</Cell>
        <Cell>$129.95 </Cell>
      - <Cell>
          Lore te volobor incil dolor alis et lutem ad dit voluptat.
        </Cell>
        <Cell>DE-4000</Cell>
      - <Cell>
          Gold wrist watch with built-in GPS and Windstar navigation system
        </Cell>
        <Cell>$339.95 </Cell>
      - <Cell>
          Lore te volobor incil dolor alis et lutem ad dit voluptat.
        </Cell>
    </Table>
  </Story>
</Root>
```

The XML file contains a basic table.



XML Import Options

Options
Mode: Merge Content
☐ Create link
☐ Apply XSLT: Use stylesheet from XML
☐ Clone repeating text elements
☐ Only import elements that match existing structure
☐ Import text elements into tables if tags match
☐ Do not import contents of whitespace-only elements
☐ Delete elements, frames, and content that do not match imported XML
☐ Import CALS tables as InDesign tables

XML Import Options

Options
Mode: Merge Content
☐ Create link
☐ Apply XSLT: Use stylesheet from XML
☐ Clone repeating text elements
☐ Only import elements that match existing structure
☑ Import text elements into tables if tags match
☐ Do not import contents of whitespace-only elements
☐ Delete elements, frames, and content that do not match imported XML
☐ Import CALS tables as InDesign tables

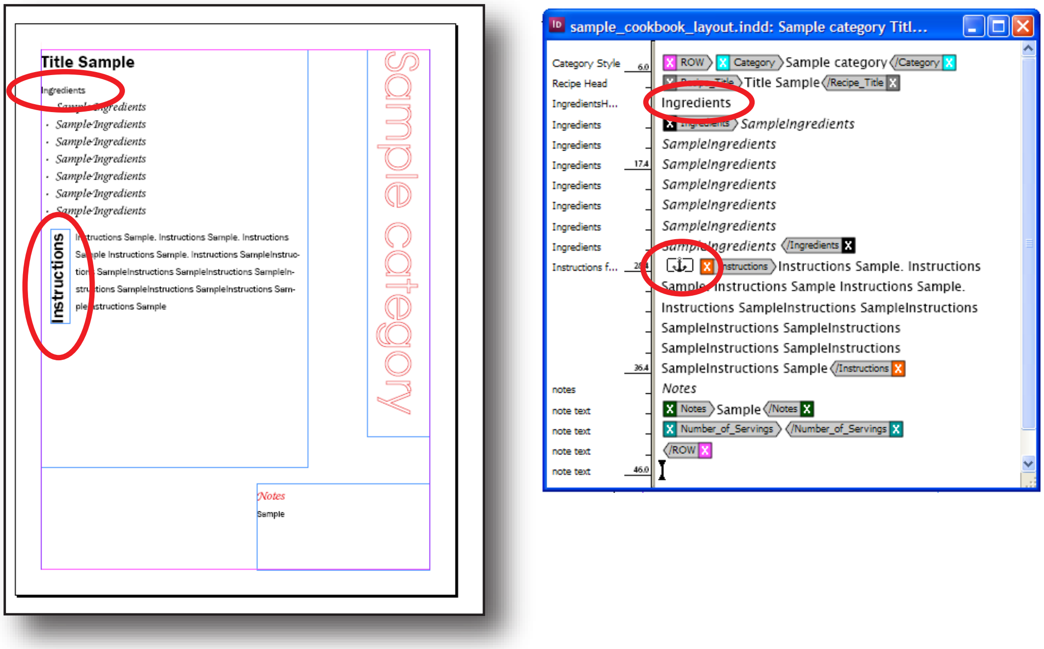
A Table of WatchesWatch ModelDescriptionPriceInfoSE-1000Underwater wrist watch with built-in GPS.$29.95 Lore te volobor incil dolor alis et lutem ad dit voluptat.SE-1200Underwater wrist watch with built-in GPS and Windstar navigation system$39.95 Lore te volobor incil dolor alis et lutem ad dit voluptat.SE-2999Underwater wrist watch with built-in GPS.$129.95 Lore te volobor incil dolor alis et lutem ad dit voluptat.DE-4000Gold wrist watch with built-in GPS and Windstar navigation system$339.95 Lore te volobor incil dolor alis et lutem ad dit voluptat.

A Table of Watches

Watch Model	Description	Price	Info
SE-1000	Underwater wrist watch with built-in GPS.	$29.95	Lore te volobor incil dolor alis et lutem ad dit voluptat.
SE-1200	Underwater wrist watch with built-in GPS and Windstar navigation system	$39.95	Lore te volobor incil dolor alis et lutem ad dit voluptat.
SE-2999	Underwater wrist watch with built-in GPS.	$129.95	Lore te volobor incil dolor alis et lutem ad dit voluptat.
DE-4000	Gold wrist watch with built-in GPS and Windstar navigation system	$339.95	Lore te volobor incil dolor alis et lutem ad dit voluptat.

On import, InDesign can automatically generate a basic table from the XML content, which you can then style. Or you can import the content into a preexisting styled table (shown here on the right).

- *Do not import contents of whitespace-only elements.* If you want InDesign to ignore empty elements in the XML file, select this option. This option allows you to insert text, carriage returns, and anchored objects—and even to preserve these items when you update a linked XML file—providing they are inserted into elements that did not have any content in the imported XML file.



Title Sample
Ingredients
- Sample Ingredients
- Sample Ingredients
- Sample Ingredients
- Sample Ingredients
- Sample Ingredients
- Sample Ingredients
- Sample Ingredients

Instructions
Instructions Sample. Instructions Sample. Instructions Sample Instructions Sample. Instructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions Sample Instructions Sample

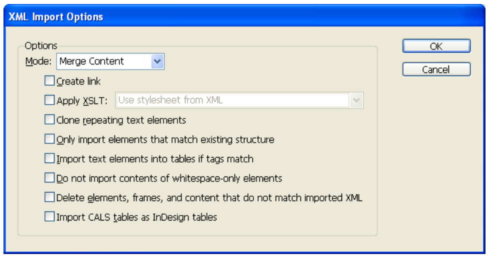
Sample category

Notes
Sample

sample_cookbook_layout.indd: Sample category Titl...

```
Category Style    6.0  ROW  Category Sample category /Category
Recipe Head            Recipe_Title Title Sample /Recipe_Title
IngredientsH...        Ingredients
Ingredients            Ingredients SampleIngredients
Ingredients            SampleIngredients
Ingredients      17.4  SampleIngredients
Ingredients            SampleIngredients
Ingredients            SampleIngredients
Ingredients            SampleIngredients
Ingredients            SampleIngredients /Ingredients
Instructions f...  28.4  Instructions Instructions Sample. Instructions
                       Sample Instructions Sample Instructions Sample.
                       Instructions SampleInstructions SampleInstructions
                       SampleInstructions SampleInstructions
                       SampleInstructions SampleInstructions
                 36.4  SampleInstructions Sample /Instructions
notes                  Notes
note text              Notes Sample /Notes
note text              Number_of_Servings /Number_of_Servings
note text              /ROW
note text        46.0
```

The “Ingredient” and “Instructions” labels are embedded in the template file. In the Story Editor, you can see that the labels are positioned outside the tags that have content.



XML Import Options

Options

Mode: Merge Content

□ Create link

□ Apply XSLT: Use stylesheet from XML

□ Clone repeating text elements

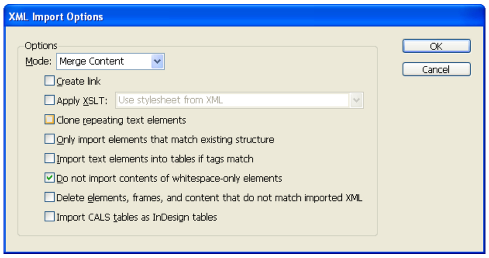
□ Only import elements that match existing structure

□ Import text elements into tables if tags match

□ Do not import contents of whitespace-only elements

□ Delete elements, frames, and content that do not match imported XML

□ Import CALS tables as InDesign tables



XML Import Options

Options

Mode: Merge Content

□ Create link

□ Apply XSLT: Use stylesheet from XML

□ Clone repeating text elements

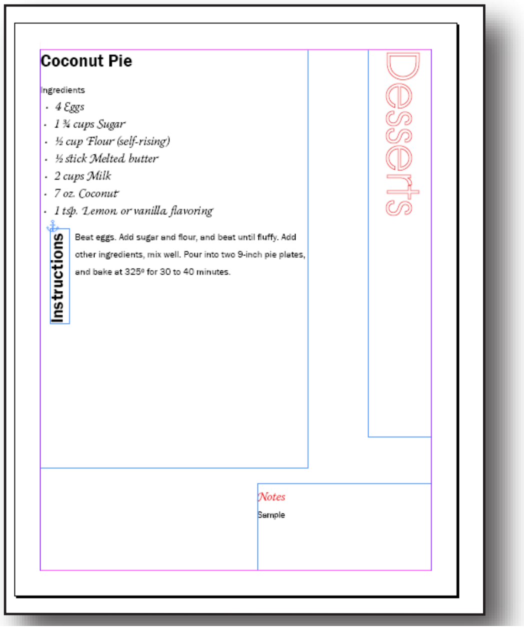
□ Only import elements that match existing structure

□ Import text elements into tables if tags match

☑ Do not import contents of whitespace-only elements

□ Delete elements, frames, and content that do not match imported XML

□ Import CALS tables as InDesign tables



Coconut Pie

Ingredients

- 4 Eggs
- 1 ¾ cups Sugar
- ½ cup Flour (self-rising)
- ½ stick Melted butter
- 2 cups Milk
- 7 oz. Coconut
- 1 tsp. Lemon or vanilla flavoring

Instructions

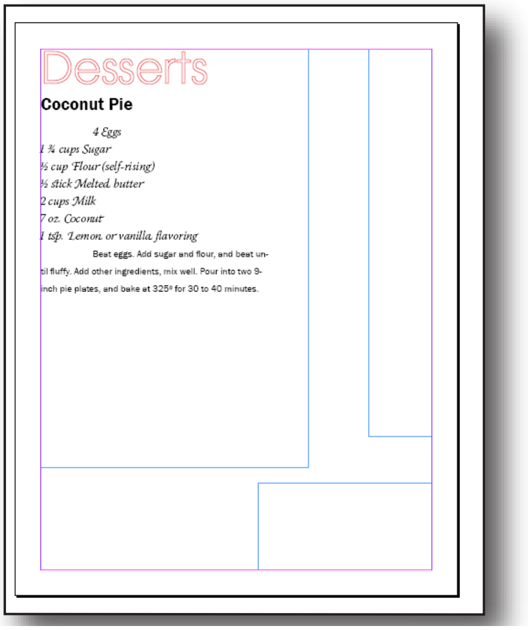
Beat eggs. Add sugar and flour, and beat until fluffy. Add other ingredients, mix well. Pour into two 9-inch pie plates, and bake at 325º for 30 to 40 minutes.

Desserts

Notes

Sample

When whitespace-only elements are imported, the labels are deleted and extra tabs and paragraph returns appear in the document.



Desserts

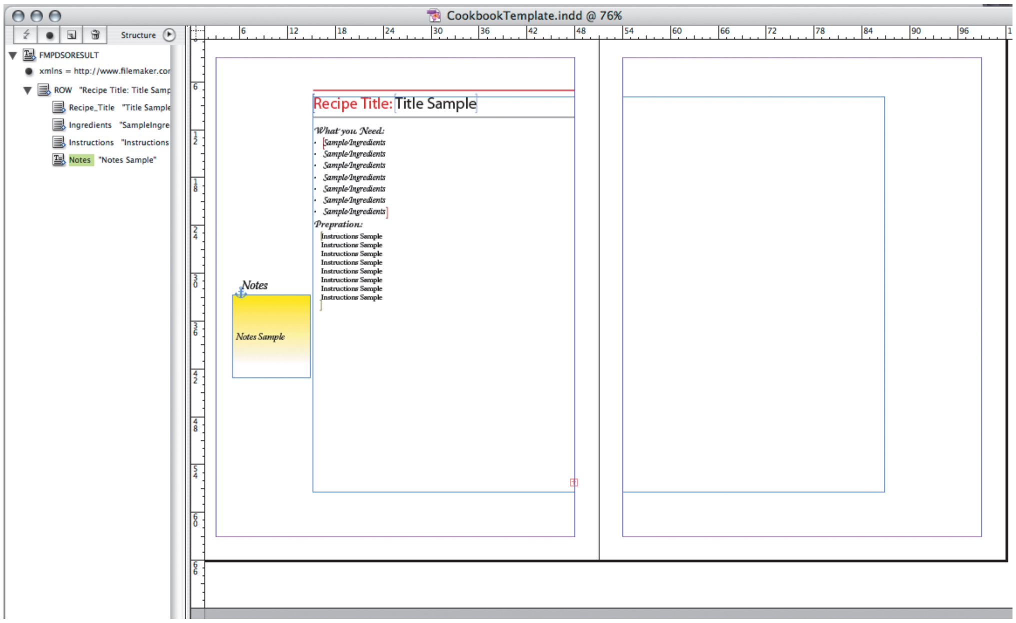
Coconut Pie

4 Eggs
1 ¾ cups Sugar
½ cup Flour (self-rising)
½ stick Melted butter
2 cups Milk
7 oz. Coconut
1 tsp. Lemon or vanilla flavoring

Beat eggs. Add sugar and flour, and beat until fluffy. Add other ingredients, mix well. Pour into two 9-inch pie plates, and bake at 325º for 30 to 40 minutes.

Content of whitespace-only elements is not imported. "Ingredients" and "Instructions" labels are preserved.

- *Delete elements, frames, and content that do not match imported XML.* If your XML has elements that occur in only some parts of the content, and are shown in the layout, select this option. On import, if there is an InDesign element or frame associated with an element that does not appear in the incoming XML file, the InDesign items will be deleted.



CookbookTemplate.indd @ 76%

Structure

FMPDSORESULT
xmlns = http://www.filemaker.cor
ROW "Recipe Title: Title Samp
Recipe_Title "Title Sample
Ingredients "SampleIngre
Instructions "Instructions
Notes "Notes Sample"

Recipe Title: Title Sample

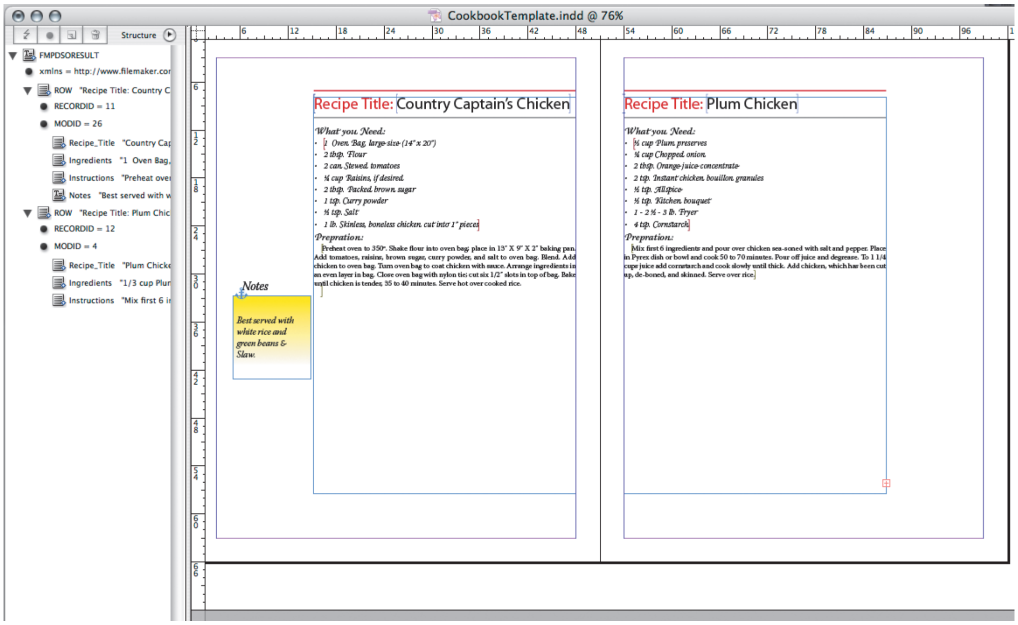
What you Need:
- Sample Ingredients
- Sample Ingredients
- Sample Ingredients
- Sample Ingredients
- Sample Ingredients
- Sample Ingredients
- Sample Ingredients

Prepration:
Instructions Sample
Instructions Sample
Instructions Sample
Instructions Sample
Instructions Sample
Instructions Sample
Instructions Sample
Instructions Sample

Notes

Notes Sample

The template contains a placeholder for notes.



CookbookTemplate.indd @ 76%

Structure

- FMPDSORESULT
  - xmlns = http://www.filemaker.cor
  - ROW "Recipe Title: Country C
    - RECORDID = 11
    - MODID = 26
    - Recipe_Title "Country Cap
    - Ingredients "1 Oven Bag,
    - Instructions "Preheat over
    - Notes "Best served with w
  - ROW "Recipe Title: Plum Chic
    - RECORDID = 12
    - MODID = 4
    - Recipe_Title "Plum Chicke
    - Ingredients "1/3 cup Plur
    - Instructions "Mix first 6 ir

Notes

Best served with white rice and green beans & Slaw.

Recipe Title: Country Captain's Chicken

What you Need:

- *1 Oven Bag, large-size (14" x 20")*
- *2 tbsp. Flour*
- *2 can Stewed tomatoes*
- *¼ cup Raisins, if desired*
- *2 tbsp. Packed brown sugar*
- *1 tsp. Curry powder*
- *½ tsp. Salt*
- *1 lb. Skinless, boneless chicken cut into 1" pieces*

Prepration:

Preheat oven to 350°. Shake flour into oven bag; place in 13" X 9" X 2" baking pan. Add tomatoes, raisins, brown sugar, curry powder, and salt to oven bag. Blend. Add chicken to oven bag. Turn oven bag to coat chicken with sauce. Arrange ingredients in an even layer in bag. Close oven bag with nylon tie; cut six 1/2" slots in top of bag. Bake until chicken is tender, 35 to 40 minutes. Serve hot over cooked rice.

Recipe Title: Plum Chicken

What you Need:

- *⅓ cup Plum preserves*
- *¼ cup Chopped onion*
- *2 tbsp. Orange juice concentrate*
- *2 tsp. Instant chicken bouillon granules*
- *½ tsp. Allspice*
- *½ tsp. Kitchen bouquet*
- *1 - 2½ - 3 lb. Fryer*
- *4 tsp. Cornstarch*

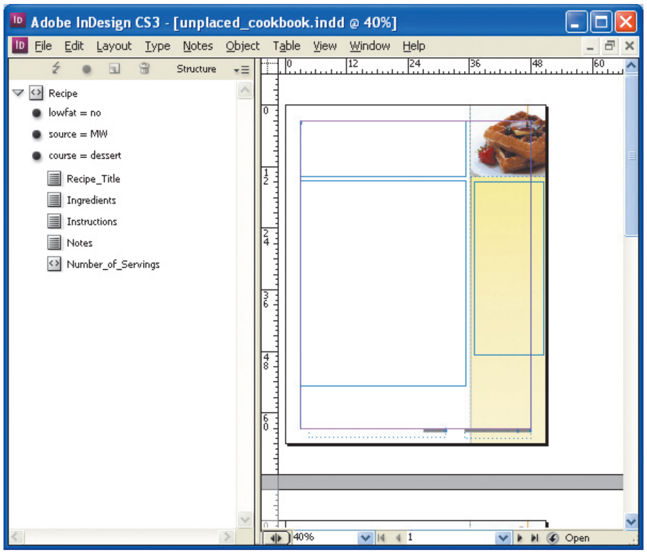
Prepration:

Mix first 6 ingredients and pour over chicken sea-soned with salt and pepper. Place in Pyrex dish or bowl and cook 50 to 70 minutes. Pour off juice and degrease. To 1 1/4 cups juice add cornstarch and cook slowly until thick. Add chicken, which has been cut up, de-boned, and skinned. Serve over rice.

When you import XML content, the Notes text frame is deleted from the second recipe page because that recipe does not contain a Notes element.

- *Import CALS table as InDesign tables.* Tables in the XML source file that follow the CALS specification are converted to InDesign tables during import.

When the XML file is imported, InDesign displays it in the Structure pane. Depending on whether your layout includes tagged frames that match the imported XML, the content may also appear automatically in the layout.



Adobe InDesign CS3 - [unplaced_cookbook.indd @ 40%]

- Recipe
  - lowfat = no
  - source = MW
  - course = dessert
  - Recipe_Title
  - Ingredients
  - Instructions
  - Notes
  - Number_of_Servings

Imported XML content appears in the layout window only if you've set up tagged frames that match the XML structure.

Formatting XML text content manually

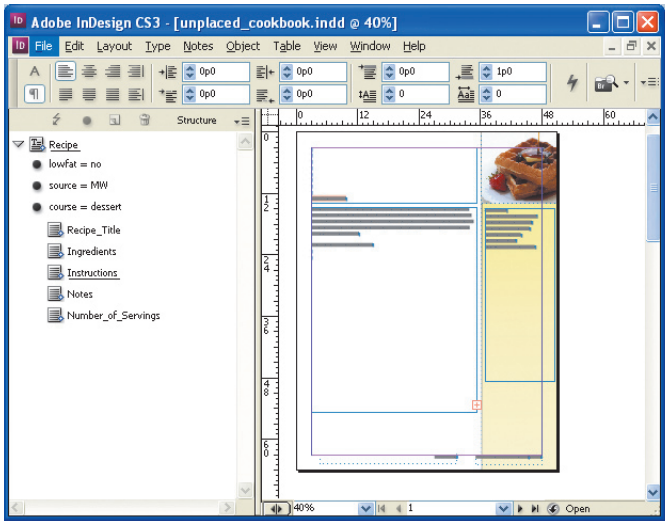
After importing an XML file, you can lay out text elements by dragging and dropping them onto the page, which creates and fills the frames on the fly, or by dragging and dropping them into existing frames. You can then format those text elements manually just as you would any other text content. Options for automatic formatting are discussed in the sections that follow.

Manual formatting is most useful if you rarely receive XML content, or if the structure of the XML files is unpredictable. It requires very little setup or planning, and you can format the content at the paragraph or character level. If you link to the XML file, you can preserve any formatting you've applied if you need to update the linked content.

To lay out and format XML text content manually:

1 In the Structure pane, locate the element you want to lay out.

2 Drag and drop the element to a frame inside your document. If you drop the content on a blank page, a default text frame is created for it.



Content that is visible on the page has a special icon in the Structure pane. Note that placed content shown here uses a different icon than unplaced content (shown in the previous image).

The selected element and all of its descendant elements are displayed in the text frame. You can now apply text formatting to the XML content using the Character, Paragraph, or Control panels, just as you would to any other text in InDesign. For information about applying text formatting, see InDesign Help.

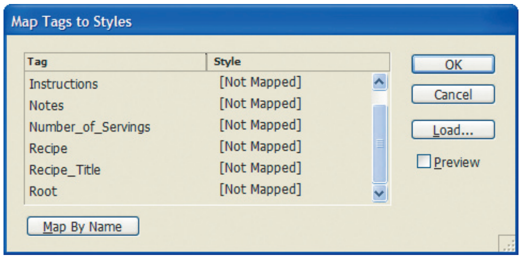
Formatting XML text using style mapping

Instead of formatting text manually, you can map XML elements to paragraph, character, and table styles. This approach works well when you have predictable element names in the XML content, and have created a template that contains the required paragraph and character styles.

To map XML elements to paragraph and character styles:

1 Import the XML file and lay out the elements you want in your document.

2 In the Structure pane menu, select Map Tags to Styles.



Tag	Style
Instructions	[Not Mapped]
Notes	[Not Mapped]
Number_of_Servings	[Not Mapped]
Recipe	[Not Mapped]
Recipe_Title	[Not Mapped]
Root	[Not Mapped]

Map tags to apply formatting automatically

3 You can map tags in three different ways:

- If the XML tag names match the InDesign style names, click Map by Name.
- If you have an existing InDesign document with the desired style mappings set up, click Load and select that file.
- If you need to map tags individually, click the corresponding style field (the default value is Not Mapped) and then choose a style from the pop-up list.

4 Click OK. The mappings you specify are applied to your document.

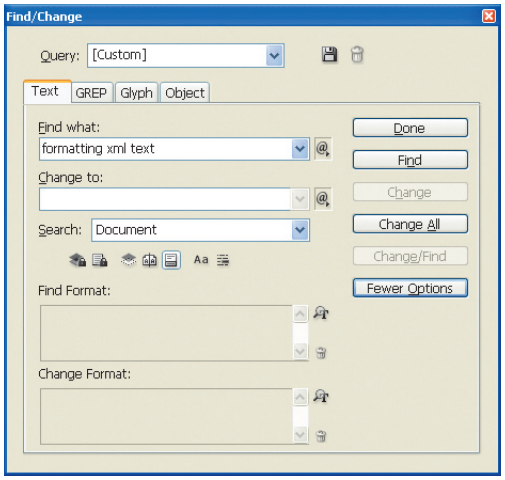
***Note:** Mapping tags to style names, and vice-versa, is exacting. For example, the process is case sensitive, so a tag called Body (with a capital B) will not automatically map to a style called body (with a lowercase b).*

Using Find/Change to format XML text

The Find/Change feature gives you a powerful way assign XML tags. You can, for example, search for a specific text string that uses a particular paragraph style. When you map tags to styles, InDesign assigns your mappings globally; the find/change approach lets you restrict the tag mappings to a subset of a particular style.

To use the Find/Change feature to format XML text:

1 Choose Edit > Find/Change to display the Find/Change dialog box.



Query: [Custom]

Find what: formatting xml text

Change to:

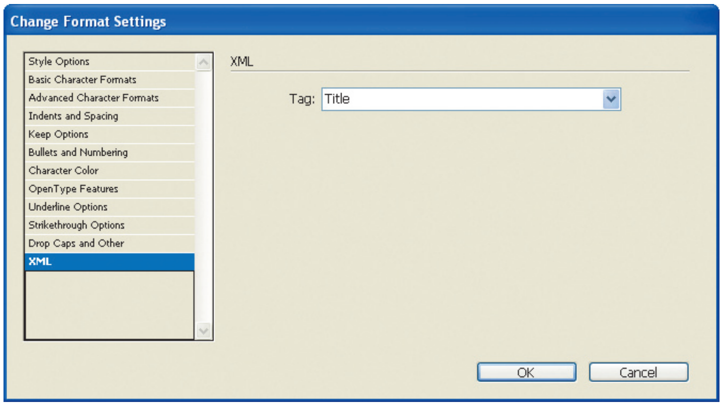
Search: Document

Find/Change gives you complete control over your search

2 If the Find Format/Change Format options are not shown, click More Options to expand the dialog box.

3 Specify what you want to find. You can search for text, paragraph styles, characters styles, and much more. The GREP tab lets you search for a text pattern using wildcards; for details, refer to InDesign Help and to *www.adobe.com/go/learn_id_grep*.

4 The Find Format and Change Format fields let you specify that you want to match on styles, XML tags, or specific formatting. (For example, you can search for text that uses a specific font and font size.) To assign an XML tag to the found content, click the Specify attributes to change icon ( ) next to the Change Format field.



XML

Tag: Title

You can change the selected text to the specified XML tag.

5 Choose XML in the list of style choices, and then choose an XML tag from the Tag drop-down list. (If you do not see the tag you want, use the Tags panel to create the tag. You cannot type in an arbitrary tag name in the Change Format dialog box.)

6 Click OK.

7 Click Find and use the Find/Change options as usual.

Formatting text using namespace attributes in import and export

InDesign supports special formatting attributes, which let you embed a reference to a paragraph, character, table, or cell style in an XML file. When the XML file is imported and laid out, InDesign uses the referenced style to format that element.

Special-purpose attributes in InDesign use either the *aid*: or *aid5:* prefix. These prefixes indicate a namespace.

Note: *For an explanation of namespaces, see the W3C Recomm*endation at www.w3.org/TR/xml-names11/.

To use paragraph or character styles, your XML file must declare the *aid* namespace. To use table or cell styles, the file must declare the aid5 namespace. The following excerpt shows a file that declares both namespaces:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE Recipe SYSTEM "recipe.dtd">
<Recipe xmlns:aid="http://ns.adobe.com/AdobeInDesign/4.0/"
xmlns:aid5="http://ns.adobe.com/AdobeInDesign/5.0/">
...
</Recipe>
```

The Recipe element contains the namespace declarations, starting with xmlns.

Inside the XML file, you must reference the style you want to use with an attribute:

- *aid:pstyl*e for paragraph styles
- *aid:cstyl*e for character styles
- *aid5:tablestyl*e for table styles
- *aid5:cellstyle* for cell styles inside a table

Paragraph and character style attributes

For text formatting, you use the *aid:pstyle* and *aid:cstyle* attributes to specify paragraph and character styles, respectively. The following example shows these attributes:

```
...
<Recipe _ Title aid:pstyle="title">Country Captain&apos;s Chicken
</Recipe _ Title>
<Ingredients aid:pstyle="ingredients">1 sOven Bag, large size (14” x 20”)
2 tbsp. Flour
2 can Stewed tomatoes
1/4 cup Raisins, <Emphasis aid:cstyle="italics">if desired</Emphasis>
2 tbsp. Packed brown sugar
1 tsp. Curry powder
1/2 tsp. Salt
1 lb. Skinless, boneless chicken cut into 1” pieces</Ingredients>
...
```

The *aid:pstyle* attribute indicates that the Recipe_Title element uses the title paragraph style.

For character styles, use the *aid:cstyle* attribute.

When you import this content, InDesign applies the specified paragraph and character styles. You can define the style’s attributes either before or after importing the XML content. If your document does not contain the specified styles, InDesign creates and applies default styles using your specified style names when you import the XML, and you can then edit those styles afterwards.

One advantage of this approach is that a single XML element does not have to be formatted with a single style for the entire document. In complex structures, a single element (such as Title) may use different paragraph styles when it occurs in different positions in the structure. Use the *aid:pstyle* attributes to specify which style is required in each location, as shown in the following example:

```
<topic>
  <title aid:pstyle="h1">Topic title</title>
  <para>This first-level topic uses an h1 paragraph style for the title.</para>
  ...
  <topic>
    <title aid:pstyle="h2">Subtopic title</title>
    <para>This second-level, nested topic uses an h2 paragraph style for the
    title.</para>
    ...
  </topic>
</topic>
```

Table and cell style attributes

For table formatting, you use the *aid5:tablestyle* and *aid5:cellstyle* attributes to specify paragraph and character styles, respectively. The following example shows these attributes (other table attributes have been removed for readability):

```
<Table xmlns:aid5="http://ns.adobe.com/AdobeInDesign/5.0/"
       aid5:tablestyle="MyTableStyle">
    <Cell aid5:cellstyle="MyCellStyle">A</Cell>
    <Cell>B</Cell>
    <Cell>C</Cell>
    <Cell>D</Cell>
</Table>
```

Table attributes

The *aid* and *aid5* namespace attributes for tables are described in the following table:

ATTRIBUTE	VALUE	DESCRIPTION
aid:table	table cell	Specifies a table-type element. A value of “table” indicates the container table element; a value of “cell” indicates a cell element.
aid:trows	*Numeric*	Specifies the number of rows in the table. Used only in the Table element.
aid:tcols	*Numeric*	Specifies the number of columns in the table. Used only in the Table element.
aid5:tablestyle	*Text*	Specifies the table’s style. Equivalent to the pstyle attribute for paragraphs.
aid:theader	*Empty*	If present, the *theader* attribute indicates that the current cell is part of a table header row.
aid:crows	*Numeric*	Specifies how many rows the current cell spans. The default is 1.
aid:ccols	*Numeric*	Specifies how many columns the current cell spans. The default is 1.
aid:ccolwidth	*Numeric*	Specifies the width, in points, of the current cell.
aid5:cellstyle	*Text*	Specifies the style of the current cell. Similar to the cstyle attribute for character styles.
aid:tfooter	*Empty*	If present, the *tfooter* attribute indicates that the current cell is part of a table footer row.

A typical table looks something like the following example.

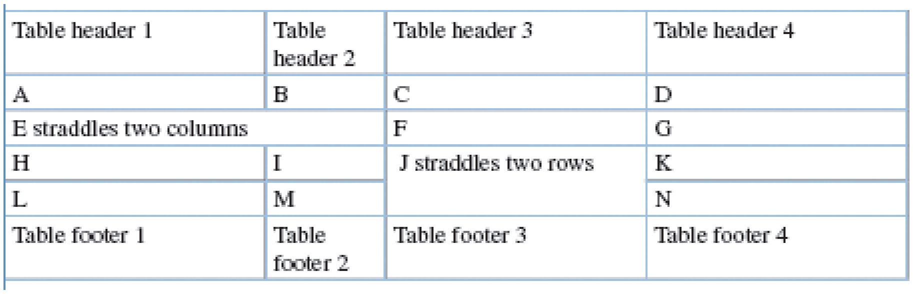


Table header 1	Table header 2	Table header 3	Table header 4
A	B	C	D
E straddles two columns		F	G
H	I	J straddles two rows	K
L	M		N
Table footer 1	Table footer 2	Table footer 3	Table footer 4

Sample table. The XML code for the table is shown below.

Notes: *The code example that follows uses line breaks and whitespace to improve readability. Important sample code is shown in bold. In your text editor, the XML may look different.*

The pstyle, cstyle, tablestyle, and cellstyle attributes are not shown here. They are not included when you export XML from InDesign; they are available only to support automatic formatting when you import XML content into InDesign.

The *aid:trows* and *aid:tcols* attributes specify the number of rows and columns in the table.

The empty *aid:theader* attribute indicates a heading cell. Footing cells use a similar *aid:tfooter* attribute. Regular table cells do not have an attribute to indicate what type they are.

```
<Table xmlns:aid="http://ns.adobe.com/AdobeInDesign/4.0/" aid:table="table"
aid:trows="6" aid:tcols="4">
  <Cell aid:table="cell" aid:theader="" aid:crows="1" aid:ccols="1"
  aid:ccolwidth="130">Table header 1</Cell>
  <Cell aid:table="cell" aid:theader="" aid:crows="1" aid:ccols="1"
  aid:ccolwidth="59">Table header 2</Cell>
  <Cell aid:table="cell" aid:theader="" aid:crows="1" aid:ccols="1"
  aid:ccolwidth="130">Table header 3</Cell>
  <Cell aid:table="cell" aid:theader="" aid:crows="1" aid:ccols="1"
  aid:ccolwidth="130">Table header 4</Cell>

  <Cell aid:table="cell" aid:crows="1" aid:ccols="1"
  aid:ccolwidth="130">A</Cell>
  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="59">B
  </Cell>
  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="130">C
  </Cell>
  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="130">D
  </Cell>
```

The *aid:ccols* attribute indicates that the current cell spans the specified number of columns. The default, 1, indicates no column spanning. The *aid:crows* attribute indicates row spanning.

```
  <Cell aid:table="cell" aid:crows="1" aid:ccols="2">E straddles two
  columns</Cell>
  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="130">F
  </Cell>
  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="130">G
  </Cell>

  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="130">H
  </Cell>
  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="59">I
  </Cell>
  <Cell aid:table="cell" aid:crows="2" aid:ccols="1" aid:ccolwidth="130">J
  straddles two rows</Cell>
  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="130">K
  </Cell>

  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="130">L
  </Cell>
  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="59">M
  </Cell>
  <Cell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="130">N
  </Cell>
  <Cell aid:table="cell" aid:tfooter="" aid:crows="1" aid:ccols="1"
  aid:ccolwidth="130">Table footer 1</Cell>
  <Cell aid:table="cell" aid:tfooter="" aid:crows="1" aid:ccols="1"
  aid:ccolwidth="59">Table footer 2</Cell>
  <Cell aid:table="cell" aid:tfooter="" aid:crows="1" aid:ccols="1"
  aid:ccolwidth="130">Table footer 3</Cell>
  <Cell aid:table="cell" aid:tfooter="" aid:crows="1" aid:ccols="1"
  aid:ccolwidth="130">Table footer 4</Cell>
</Table>
```

If you are importing XML tables and want InDesign to format your table automatically, you need to create XML content that contains the *aid* and *aid5* namespace attributes or that uses the CALS model.

Note: *If your XML content uses a table model other than the two supported by InDesign, consider using Extensible Stylesheet Language (XSL) transformations to modify the content before or during import. For details about XSL, see* www.w3.org/Style/XSL/

Ruby attributes (for Japanese)

For Japanese text, a ruby attribute is available. InDesign stores ruby (pronunciation guides) in the *aid:ruby* attribute. In the InDesign file, ruby are displayed next to the kanji characters for which they provide pronunciation cues. You can set up ruby one character at a time, using the MonoRuby tag, or in a group with the GroupRuby tag.

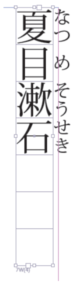
A MonoRuby example is shown below:

```
<MonoRuby>

  <aid:ruby xmlns:aid="http://ns.adobe.com/AdobeInDesign/4.0/">
     <aid:rbc>
          <aid:rb>夏</aid:rb>
          <aid:rb>目</aid:rb>
          <aid:rb>漱</aid:rb>
          <aid:rb>石</aid:rb>
     </aid:rbc>
     <aid:rtc>
          <aid:rt>なつ</aid:rt>
          <aid:rt>め</aid:rt>
          <aid:rt>そう</aid:rt>
          <aid:rt>せき</aid:rt>
     </aid:rtc>
  </aid:ruby>
</MonoRuby>
```

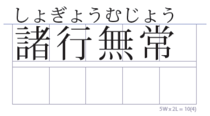
The namespace declaration is required.

The *aid:rbc* element contains *aid:rb* elements. Individual kanji are stored inside the *aid:rb* elements.



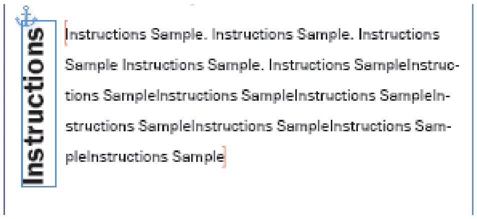
The *aid:rtc* element contains *aid:rt* elements. Ruby text is stored inside the *aid:rt* elements.

```
<aid:ruby xmlns:aid="http://ns.adobe.com/AdobeInDesign/4.0/">
<aid:rb>諸行無常</aid:rb>
<aid:rt>しょぎょうむじょう</aid:rt>
</aid:ruby>
```



Using anchored objects for repeating elements

In XML publishing, publishers often need to lay out pages of data accompanied by repeating elements, such as headings or graphics. However, those repeating elements may need to vary their position page to page depending on their relationship to the actual content on the page. For example, in the cookbook layout used to illustrate concepts in this document, an Instructions title is designed to appear next to the instructions on each page. The positioning of the instructions varies page to page depending on the length of the list of ingredients included at the top of each page.



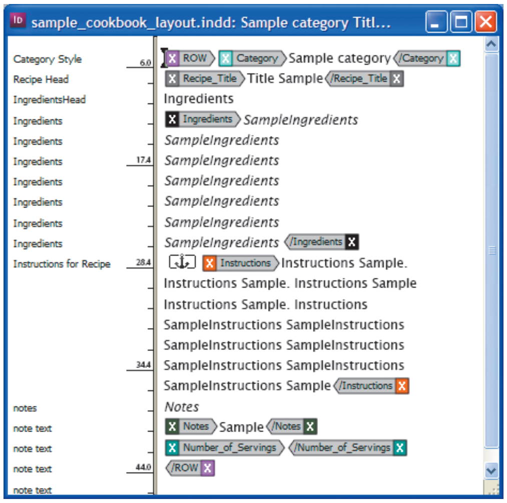
Instructions Sample. Instructions Sample. Instructions Sample Instructions Sample. Instructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions SampleInstructions Sample

Use anchored objects to set up repeating layout elements.

To automate the flexible creation of repeating XML elements within InDesign, you need to use anchored objects in your XML workflow. Anchored objects are items, such as graphic images or text boxes, that are attached—or anchored—to specific text. The anchored object travels with the text containing the anchor as the text reflows. (Another alternative is to use XML rules to create the effect you want. See page 25 for more details.)

Here are a few tips to keep in mind in setting up anchored objects for repeating XML elements:

- You can use anchored objects to handle both text and graphics content that is repeated.
- To automate this workflow, you must set up one story with anchored objects and then clone the results as you import the full XML data. You do this by creating a frame, pasting it into the content flow, and then adjusting the position of the newly created anchored object to suit your layout. (See InDesign Help for tips on positioning anchored objects.) Then, when you import the XML file, choose Clone Repeating Text Elements.
- When you set up an anchored object be careful about where you position the anchored object relative to the XML tags to produce the layout you want. For example, the following example shows the anchored object correctly positioned between the Ingredients end tag and the opening tag for Instructions.



Category Style	6.0	ROW 〉 Category 〉 Sample category 〈 /Category
Recipe Head		Recipe_Title 〉 Title Sample 〈 /Recipe_Title
IngredientsHead		Ingredients
Ingredients		Ingredients 〉 *SampleIngredients*
Ingredients		*SampleIngredients*
Ingredients	17.4	*SampleIngredients*
Ingredients		*SampleIngredients*
Ingredients		*SampleIngredients*
Ingredients		*SampleIngredients*
Ingredients		*SampleIngredients* 〈 /Ingredients
Instructions for Recipe	28.4	⚓ Instructions 〉 Instructions Sample.
		Instructions Sample. Instructions Sample
		Instructions Sample. Instructions
		SampleInstructions SampleInstructions
		SampleInstructions SampleInstructions
	34.4	SampleInstructions SampleInstructions
		SampleInstructions Sample 〈 /Instructions
notes		*Notes*
note text		Notes 〉 Sample 〈 /Notes
note text		Number_of_Servings 〉 〈 /Number_of_Servings
note text	44.0	〈 /ROW
note text		

Anchoring position is very important in structured documents.

To position repeating XML content using anchored objects:

1. Choose View > Structure > Show Tag Markers and View > Structure > Show Tagged Frames to make the frames easier to see.
2. Choose File > Import to import an XML file.
3. Create the initial layout by dragging and dropping XML elements from the Structure pane into text and graphics frames on the page (or use tagged frames to automatically flow the XML content).
4. Create an untagged text or graphics frame using the type, frame, or drawing tools.
5. Drag and drop the appropriate XML element onto your new text or graphics frame.
6. Select the frame and choose Edit > Cut.

7 With the Type tool, click an insertion point in the tagged text where you want to anchor the object. Then choose Edit > Paste.

***Note:** Make sure your cursor is positioned at a point in the text that maps to the point in the Structure pane where you would like the XML element to be inserted.*

8 In the Structure pane, note that InDesign created an extra element when you pasted the frame. Delete the original element and keep the newly created element, which is now properly anchored. To find out which element maps to the newly created element, right-click one of the elements in the Structure pane and choose Go To Element. InDesign will then select that element in the layout. When you have the right one selected, delete it.

9 Choose Object > Anchored Object > Options to specify the positioning for the anchored frame.

10 Save the resulting InDesign document as a template for automating this layout. Then, when importing XML content into the template, choose Clone Repeating Text Elements in the XML Import Options dialog box.

XML rules

XML rules are InDesign script components that allow you to apply actions based on the XML tags in your document. An XML rule has two components:

- An XPath matching expression that determines which XML tags are processed by the rule.
- A function, which is applied to the tags that are selected by the matching expression.

Note: *This discussion of XML rules assumes that you have basic familiarity with InDesign scripting. For background on scripting, refer to one of the InDesign CS3 Scripting Guides (www.adobe.com/products/indesign/scripting) for AppleScript, VBScript, or JavaScript. The examples in this document are written in JavaScript*

In addition to the XML rules, a script that executes XML rules has two other pieces:

- XML rules processor (a scripting object) — Locates XML elements in an XML structure using XPath and applies the appropriate XML rule(s). A script can contain multiple XML rule processor objects, and each rule-processor object can be associated with a given XML rule set.
- Glue code — A set of routines provided by Adobe to make the process of writing XML rules and interacting with the XML rules-processor easier.

The following example shows a simple InDesign script that contains a single XML rule:

```
//  DESCRIPTION: Sample script for XML Rules Processing
app.scriptPreferences.version = 5 ;
//Locate and run the glue code.jsx file.
var myFilePath = app.filePath + "/Scripts/xml rules/glue code.jsx";
if(File(myFilePath).exists == false){
 myFilePath = File.openDialog("Locate the file: glue code.jsx");
}
if(myFilePath != null){
 var myFile = File(myFilePath);
 app.doScript(myFile);
 main();
}

function main(){
 if (app.documents.length != 0){
    var myDocument = app.documents.item(0);
    var myRuleSet = new Array (new AddIngredientLabel);
    with(myDocument){
        var elements = xmlElements;
        _ _ processRuleSet(elements.item(0), myRuleSet);
    }
}
```

The AddIngredientLabel XML rule is declared here.

processRuleSet is part of the glue code that Adobe provides to help you with XML processing.

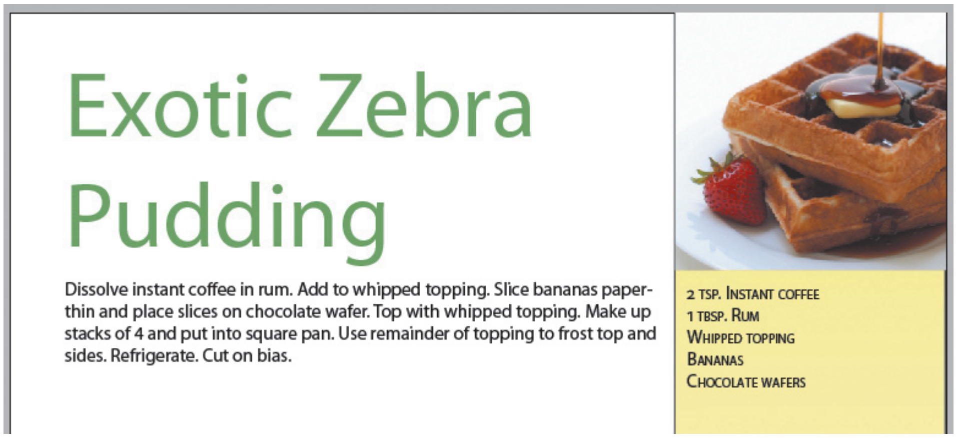
```
else{
 alert("No open document");
}

function AddIngredientLabel(){
 this.name = "AddIngredientLabel";
 //Match the Ingredients elements.
 this.xpath = "//Ingredients";
 this.apply = function(myElement, myRuleProcessor){
   with(myElement){
       insertTextAsContent("Ingredients:\r", XMLElementPosition.
ELEMENT _ START);
   }
 return false;
 }
}
}
```

The AddIngredientLabel function is defined here. The //Ingredients expression selects all Ingredients elements in the structure.

The insertTextAsContent function inserts the specified content at the beginning of each Ingredients element.

Running this script inserts some text into the content. Before you run the script, you have the following:



Exotic Zebra Pudding

Dissolve instant coffee in rum. Add to whipped topping. Slice bananas paper-thin and place slices on chocolate wafer. Top with whipped topping. Make up stacks of 4 and put into square pan. Use remainder of topping to frost top and sides. Refrigerate. Cut on bias.

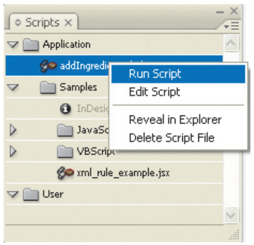
2 TSP. INSTANT COFFEE
1 TBSP. RUM
WHIPPED TOPPING
BANANAS
CHOCOLATE WAFERS

Cookbook example before running the AddIngredientLabel script.

To run a script:

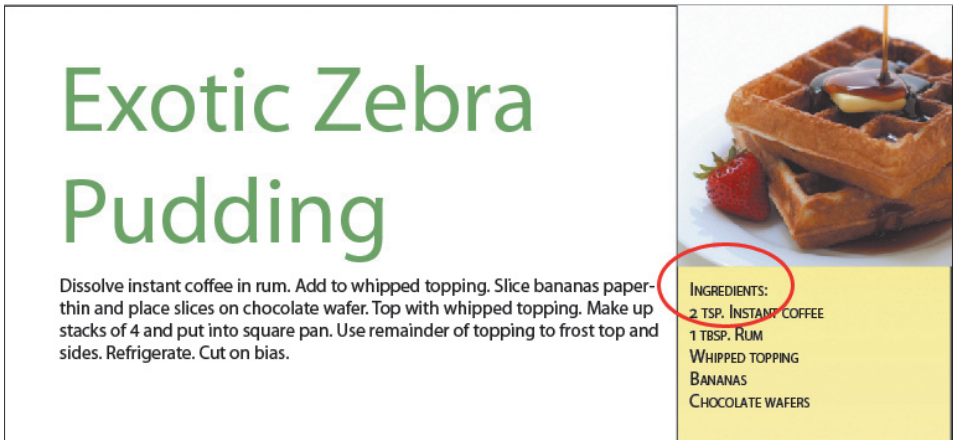
1. Select a script in the Script panel (Window > Automation > Scripts).

2. Right-click and select Run Script from the pop-up menu.



Run scripts from the Scripts panel

The result of the script is that “Ingredients:” and a return character are added to the beginning of the Ingredients list.



Exotic Zebra Pudding

Dissolve instant coffee in rum. Add to whipped topping. Slice bananas paper-thin and place slices on chocolate wafer. Top with whipped topping. Make up stacks of 4 and put into square pan. Use remainder of topping to frost top and sides. Refrigerate. Cut on bias.

Ingredients:
2 tsp. Instant coffee
1 tbsp. Rum
Whipped topping
Bananas
Chocolate wafers

The result of the AddIngredientLabel script

CHOOSING BETWEEN XML RULES AND XSLT

Both XML rules and XSLT let you manipulate XML structure. Generally, XSL transformation is more appropriate when you need to rearrange, filter, or modify the XML structure; XML rules are more appropriate when you want to integrate XML tags with InDesign layout features.

For example, given a <sidebar> element in your XML content, you could use XSLT to move the <sidebar> element to the end of a section. XML rules would useful to move the <sidebar> content from the main text flow into the empty column on the right and to add a box with a drop shadow behind the sidebar information.

XSLT would be useful to sort recipes in a cookbook alphabetically; XML rules would be handy to create a drop capital for the first letter in each recipe title.

In many cases, XSLT or XML rules can accomplish the same thing, and you can use the either approach.

Exporting XML

You can export XML from any InDesign file. InDesign exports only the information that is tagged in the Structure pane. Content in untagged text frames, embedded images, and untagged images are not exported.

To export XML:

1 Make sure that all of the information you want to export is tagged. (If necessary, use the Tags panel to assign tags.)

2 (Optional) If you want to export only information below a specific element, select that element in the Structure pane.

3 Choose File > Cross-media Export > XML.

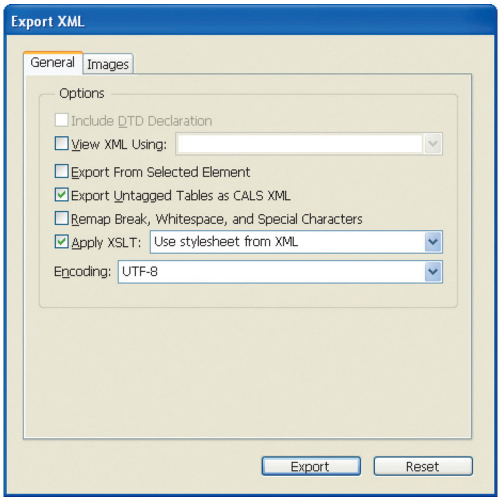
4 Specify a file name and location and select XML as the file type. Click Save.

5 Set the export options:

- To include a reference to your DTD in the XML file, select the corresponding option.
- To display the XML after it is created, select View XML Using and specify the editor of your choice.
- To export starting with the element you selected in step 2, select Export From Selected Element.
- To export untagged tables as CALS tables, select the corresponding option. If you do not select this option, any untagged tables are discarded on export. Tagged tables are exported using the InDesign table model.
- To use decimal character entities for breaks, whitespace, and other special characters, select the Remap Break, Whitespace, and Special Characters option. For details on InDesign’s mapping for special characters, see Appendix B on page 32.

- To apply an XSL transformation during export, select the Apply XSLT option and then specify a stylesheet. You can browse for a file on your system. If the structure contains a processing instruction with a stylesheet reference, you can use that stylesheet. See "Inserting processing instructions" on page 8 for an example.

- Choose a text encoding method. The default is UTF-8.



□ Include DTD Declaration
□ View XML Using:
□ Export From Selected Element
☑ Export Untagged Tables as CALS XML
□ Remap Break, Whitespace, and Special Characters
☑ Apply XSLT: Use stylesheet from XML
Encoding: UTF-8

The export options provide control over XML output.

***Note:** For information about image export options, see "Images" on page 9.*

5 Click Export.

XML files use Unicode encoding. If you try to open the XML file in an editor or viewer that does not support Unicode, you may see error messages or character substitution in your output XML, so be sure to use a Unicode-compliant editor. If you plan to transform the XML files into HTML for display on the web, be to use the remapping option for special characters. XML and InDesign support a wider range of characters than HTML does.

Using InDesign Interchange (INX) files in XML workflows

The InDesign Interchange format is an external representation of the InDesign document object model. It preserves complete document information, including content, formatting, geometry, and XML tagging, for transparent interchange. This format supports a number of InDesign CS3 features, including backwards compatibility with InDesign CS2, InDesign snippets, and the assignments workflow with InCopy CS3. This section focuses on how the InDesign snippets feature can support your XML publishing workflows.

A snippet is an InDesign object or group of objects that have been exported from a document to share with others or re-use in your workflow. These files might be comprised of text, imported graphics, native InDesign objects, styled tables—whatever you can lay out on an InDesign page.

You create a snippet by selecting the objects you want to reuse and then dragging and dropping them onto your desktop, into Adobe Bridge, or into a Library panel, or by choosing File > Export and choosing InDesign Snippet for Format. When you place or drag a snippet back into a layout, InDesign recreates the original objects, their formatting, their relative positioning on the page, and any XML tags that have been applied. (A snippet is an XML wrapper on a series of InDesign scripting calls that direct InDesign how to reproduce the file.)

You can integrate snippets into an XML workflow to achieve more production efficiency. Here is an example of how this might work: Imagine that you update and publish tables of data daily or weekly. For example, you might publish sports scores, top 10 lists, or weather information in tables. The basic design of those tables doesn't vary, though you might freshen the color scheme regularly. One way to streamline this process would be to use snippets.

You simply design and tag the tables, link them to the XML data you publish, and then export each of them as a snippet. The snippet preserves the XML tags and the linked data. When you drag and drop one of the snippets into another InDesign layout, you can then tweak the design, update the link to the XML data, and publish the results. The entire process can happen in a few quick steps.

For more information about working with InDesign snippets, see the InDesign online Help system.

Note: *The INX format is not intended to be human readable or to be used as a long-term archiving format. We do not recommend trying to create or edit INX files using a text editor or storing snippets in a database.*

Where to go from here

The combination of XML and InDesign offers you the best of both worlds—the structure, predictability, and automation of XML along with the powerful InDesign layout engine that lets your creativity shine. With strong support for XML as an input or output format, InDesign provides you with many possibilities for automating layout and reusing content.

To start, you may want to experiment with a small amounts of content. You might, for example, export some articles to XML for reuse on a website or consider whether some database information could be linked into your publication automatically.

Once you have configured the basic publishing system, you can use scripting to further automate and streamline your XML publishing. Virtually everything in InDesign is scriptable. You can write scripts in JavaScript (for cross-platform compatibility), VBScript, or AppleScript. For details about scripting, see the *InDesign Scripting Guides* and sample scripts on your installation DVD. You can also get more information on the Adobe website at *www.adobe.com/products/indesign/scripting*.

The InDesign area on the Adobe website at *www.adobe.com/products/indesign/* provides comprehensive information on InDesign CS3, links to additional white papers, customer success stories, training and consulting resources, third-party plug-ins, user groups, and other useful resources.

FOR MORE INFORMATION

For a comprehensive overview of InDesign, please visit www.adobe.com/products/indesign/

Appendix A: XML syntax

XML files are required to follow certain syntax rules. When a file follows the rules, it is *well-formed*.

The syntax rules include the following:

- All tags must be opened and closed.

  ```
  <p>This paragraph has a closing tag.</p>
  ```

  ```
  <p>This is not allowed.<p>The second paragraph starts without a closing tag
  for the first.</p>
  ```

- Empty tags must include a closing slash before the end of the tag, as shown in these examples:

  ```
  <br/>
  ```

  ```
  <img src="file.gif"/>
  ```

- Tags must be properly nested.

  ```
  This text is <b><i>bold and italic</i></b>.
  ```

  ```
  This text uses <b><i>crossed</b></i> tags, which are not allowed.
  ```

- All attribute values must be quoted.

  ```
  <p align="center">This paragraph has a center attribute</p>
  ```

  ```
  <table border=0>This table needs quotes around the border value.</table>
  ```

- Tag names cannot contain spaces or special characters and must start with an alphabetic character.

  Legal tag names: `<Sect1>`, `<Para>`,`<Long _ Element _ Name>`

  Illegal tag names: `<1Sect>`, `<Long Element Name>`, `<Asterisk*>`

Note: *For a complete discussion of XML syntax, see the XML Recommendation at* www.w3.org/TR/2004/REC-xml-20040204/.

All XML files must follow the basic syntax rules.

Enforcing structure rules

XML gives you the option of specifying a set of rules for content. Files that follow the structure rules are *valid*. You declare structure rules in a document type definition (DTD).

Working with structure rules and valid files gives you the ability to define and enforce document organization. With a DTD or Schema file, you can set up requirements for your content. Conceptually, this process is similar to creating a formatting template, but with structure rules, you can *require* that documents must follow the rules you establish. You could, for example, specify that a story must begin with a title and a byline. For an academic journal, you could require an abstract at the beginning of an article. You can require that bibliographic information must be organized a certain way. Structure rules let you ensure that documents are consistent.

InDesign lets you work with or without a DTD, but you must provide a DTD if you want to validate your documents.

In XML, the DTD is declared at the top of the file, as shown here:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE Recipe SYSTEM "recipe.dtd">
<Recipe>...</Recipe>
```

The DTD is shown here:

```
<!ELEMENT Recipe  (Recipe _ Title, Ingredients, Instructions, Notes?,
Number _ of _ Servings? ) >
<!ELEMENT Recipe _ Title (#PCDATA) >
<!ELEMENT Ingredients (#PCDATA) >
<!ELEMENT Instructions (#PCDATA) >
<!ELEMENT Notes (#PCDATA) >
<!ELEMENT Number _ of _ Servings (#PCDATA) >
```

For each element, the DTD specifies what information is permitted.

ELEMENT NAME	ELEMENT DEFINITION	DESCRIPTION
Recipe	Recipe_Title, Ingredients, Instructions, Notes?, Number_of_Servings?	Must contain one Recipe_Title element, followed by one Ingredients element, followed by one Instructions element, followed by zero or one Notes elements, followed by zero or one Number_of_Servings elements. The question mark (?) indicates that the Notes and Number_of_Servings elements are optional.
Recipe_Title Ingredients Instructions Notes Number_of_Servings	#PCDATA	#PCDATA indicates that the element contains text.

Where to get a DTD

If you have a client who requires delivery of XML files, the client may already have a DTD and will provide it to you. You can also create your own DTD, but before you do so, consider whether one of these standard DTDs meets your requirements.

- NewsML (*www.newsml.org*)
- Publishing Requirements for Industry Standard Metadata (PRISM) (*www.prismstandard.org*) for magazine content
- SportsML (*www.sportsml.org*)
- Technical documents:
  - DocBook (*www.oasis-open.org/committees/tc_home.php?wg_abbrev=docbook*)
  - Darwin Information Typing Architecture (DITA) (*www.oasis-open.org/committees/tc_home.php?wg_abbrev=dita*)
- Chemical Markup Language (*cml.sourceforge.net*)
- Other DTD examples (*www.service-architecture.com/xml/articles/specific_xml_vocabularies.html*)

Appendix B: InDesign-to-XML character mapping

The following table describes how special characters in InDesign are mapped on export to XML when the Remap Break, Whitespace, and Special Characters option is selected.

SYMBOL	INDESIGN CHARACTER NAME	XML EQUIVALENT
Special characters		
•	Bullet	&#8226;
©	Copyright	&#169;
…	Ellipsis	&#8230;
¶	Pilcrow (paragraph)	&#182;
®	Registered trademark	&#174;
§	Section	&#167;
™	Trademark	&#8482;
—	Em dash	&#8212;
–	En dash	&#8211;
“	Double left quotation mark	&#8220;
”	Double right quotation mark	&#8221;
‘	Single left quotation mark	&#8216;
’	Single right quotation mark	&#8217;
	Discretionary hyphen	None (discarded during export)
-	Nonbreaking hyphen	- (standard hyphen)
	Autopage number	* None (discarded during export)
	Next page number	* None (discarded during export)
	Previous page number	* None (discarded during export)
	Section marker	* None (discarded during export)
	Tab	* None (discarded during export)
	Right indent tab	* None (discarded during export)
	End nested style here	* None (discarded during export)
White space characters		
	Em space	Standard space character
	En space	Standard space character
	Flush space	Standard space character
	Hair space	Standard space character
	Thin space	Standard space character
	Figure space	Standard space character
	Narrow Nonbreaking (0x202F) space	Standard space character
	Punctuation space	Standard space character
Break characters		
	Page breaks	None (discarded during export)
	Column breaks	None (discarded during export)
	Frame breaks	None (discarded during export)
	Odd page break	None (discarded during export)
	Even page break	None (discarded during export)
	Paragraph returns (CR)	Standard space character
	Forced line break (LF)	Standard space character

* These characters result in a warning during export that content contains characters that cannot be encoded.

Adobe Systems Incorporated
345 Park Avenue, San Jose, CA 95110-2704 USA
www.adobe.com