XMetaL® Author

DITA Evaluation Guide

JustSystems Canada Inc.

About JustSystems

JustSystems is a leading global software provider with three decades of successful innovation in office productivity, information management, and consumer and enterprise software. With over 2,500 customers worldwide and annual revenues over $110M, the company is continuing a global expansion strategy that includes its enterprise software offering called xfy, its XMetaL content lifecycle solutions, and its pioneering work in the definition of the XBRL standard and commercialization of enabling technologies. A Gartner "Cool Vendor" selection in 2008, JustSystems is also a member of KMWorld's 100 Companies that Matter in Knowledge Management for 2008 and the 2007 EContent 100. XMetaL is a 2008 KMWorld Trend-Setting Product. Major strategic partnerships include IBM, Oracle and EMC. For more information, please visit http://www.justsystems.com.

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Welcome to XMetaL Author

Built on a history of support for structured authoring, XMetaL Author offers unparalleled flexibility and performance. The best-of-breed feature set is designed to simplify your DITA-based authoring and deployment tasks.

XMetaL is designed for DITA

XMetaL is designed to make correct DITA markup automatically. You don't have to memorize DITA markup rules or constantly think about its details. The content you create is continually checked for validity, and you are prevented from entering content that would make your document invalid.

XMetaL also supports DITA specializations with a minimum of setup work. You can also customize the formatting of DITA elements, for example, to treat them as tables.

XMetaL is WYSIOO

XMetaL is WYSIOO (What You see Is One Option), rather than WYSIWYG (What You See Is What You Get).

Your documents are styled in a logical, easy-to-read way. For example, section titles are bold, and numbered lists are auto-numbered. However, there are differences between how your document looks in the editor and how it looks in print or HTML. This is because different style sheets are used for producing output.

XMetaL is easy to configure

As you complete the exercises in this guide and become familiar with XMetaL, you may find things that you want to change and features you would like to add. You can easily customize the authoring environment and style sheets. For example, you can do the following:

- Change the style sheets for generating PDF and HTML output, to reflect corporate standards.
- Add or remove menu commands and toolbar buttons. For example, if you don't want writers to use the `<bold>` element, you can remove the Bold toolbar button and inline element.
- Add a custom dialog box for recording topic metadata.
- Change the way that element IDs are automatically generated.
- Change the way topics are named.

XMetaL can support different document types

XMetaL is designed to support DITA 'out of the box', and the exercises in this guide refer to examples of DITA documents.

However, your company may need to author documentation according to a standard other than DITA. Some companies set up XMetaL to efficiently create content for news web sites, printed catalogs, training materials, forms, and legal contracts. Designing the XML vocabulary and the user interface for creating a new type of document requires a significant amount of setup work. If you need to work with these XML editor for a specific type of document, please contact us.

XMetaL is not ...

XMetaL is not a content management system. The content you create with XMetaL can be stored on your Windows file system, or in a source control or content management system.

XMetaL is not a page layout tool. It comes with style sheets that are used to display your content in the editor and in the output you generate. You can customize the existing style sheets or develop your own using another application.

Introduction to DITA authoring

If this is your first introduction to writing structured or topic-based content, take a few minutes to learn about why teams are adopting this strategy.

Why structured authoring?

XMetaL Author is a full-featured editor for creating *structured documents* in XML. Although word processors are useful for writing letters and ad-hoc documents, they cannot address the need to publish information in a standard format or re-use part of the content in another document. Structured authoring environments require authors to follow a defined set of rules that determine what kind of content can be added to a document and in what sequence. Rules are defined in a *DTD* (Document Type Definition) or *schema* file.

If you're new to structured authoring, you'll find that you can't arbitrarily add content anywhere in a document. Structured environments direct you to place certain types of content at specific locations. Formatting and layout are determined not by authors, but by style sheets. You can easily create and deploy style sheets that meet the needs of your organization. By being relieved of the responsibility for formatting, writers can concentrate on writing.

Structured documents let you realize the following advantages:

- Eliminate the repetitive, time-consuming tasks involved in preparing content for publishing
- Ensure that your content satisfies regulatory or legal requirements, for example, by containing required warning messages
- Ensure that your content can be properly catalogued and searched
- Support for content re-use, for example, among service manuals for several products
- Allow content to be deployed in different formats, for example, in print and online
- Support for personalized content for different audiences
- Reduced localization costs, by localizing only the changed XML source, not the generated deliverables

Why Topic-Based Authoring?

The Darwin Information Typing Architecture (DITA) is an architecture for topic-based, structured XML authoring. As opposed to standards that support long, book-oriented writing, DITA is optimized for creating content in small, discrete units called topics that you then can organize in different ways to product output deliverables, including books, Web page content or online Help systems. You specify the organization for the deliverables using an XML file called a *DITA map*.

Why Topic-Typed Authoring?

DITA not only organizes content into topics, it also specifies a type for each topic. Each topic type has a specific set of rules for authoring content. For example, you cannot include a step in a concept topic because steps are only valid as part of a task. This structure guarantees consistency for all the topics of the same type. XMetaL provides templates so that you can start writing DITA-based topics quickly and easily.

If you need to either further restrict the structure of a topic or need to change the rules for a topic type, you can specialize the topic. However, this requires significant XML and DITA proficiency.

XMetaL advantages

XMetaL Author has some characteristics that set it apart from other DITA-based authoring solutions.

Content references

DITA supports reuse in several ways, one of which is by using the conref attribute to reference content from one topic or file into another. XMetaL enables you to create and manage content references by browsing to the target that you want to reference, so that you do not have to type file paths and element IDs. You can work with referenced content displayed within the document, as it would appear in output.

Conditional text

DITA has powerful support for creating multiple variations of a document from a single set of source files. You can configure XMetaL's *conditional text* feature to use conditions specific to your organization, and then assign conditions to content using a simple dialog. You can then display conditional text with color-coding, and produce deliverables with complex sets of conditions by clicking a few checkboxes.

Integrated publishing capabilities

XMetaL integrates with the DITA Open Toolkit for publishing deliverables. You do not have to install the Toolkit separately. XMetaL also includes enhanced support for PDF output to improve bookmap generation. This support includes extended configuration options for PDF publishing for better control over output without XSL-FO programming.

Templates

By default, XMetaL includes templates for each DITA topic and map type. When an author creates a new topic, the template of the appropriate type opens and provides the commonly used elements for the topic. This helps new authors get started quickly and provides default structure for the topics. If the default templates do not contain the elements you want authors to use or if you want to embed instructions in the templates, you can easily update them.

Integrated map editor

When you open a DITA map, XMetaL displays it in the Map Editor panel, which allows authors to work with the components of the map in a drag-and-drop tree view.

Natural Structured Authoring

XMetaL includes special features to support writing valid DITA, without having to know the details of DITA markup or having to view tags. For example, when you press Enter, XMetaL creates the most likely subsequent element to follow the current one. When you copy and paste formatted content from Word or HTML documents, XMetaL converts the formatted content to valid DITA markup.

Specialization support

Administrators can easily configure XMetaL to support specializations of DITA topics and maps.

Learn more

To learn more about DITA, check the following resources::

- XMetaL online help and the XMetaL website at *http://www.xmetal.com*
- XMetaL Community Forums at *http://forums.xmetal.com*
- dita.xml.org community web site at *http://dita.xml.org*
- *Darwin Information Typing Architecture (DITA) Version 1.3* (the DITA language specification) *http://docs.oasis-open.org/dita/dita/v1.3/dita-v1.3-part0-overview.html*
- *DITA TC FAQ about keys* at *http://dita.xml.org/resource/dita-tc-faq-about-keys*
- Organization for the Advancement of Structured Information Standards (OASIS) at *http://docs.oasis-open.org*
- *DITA Open Toolkit* project page at *http://www.dita-ot.org/*
- *xmetal-dita* and *dita-users* user groups at *http://groups.yahoo.com*

About this guide

The exercises in this guide are designed to familiarize you with the XMetaL editor. Although they are designed to be done in order, you do not have to complete an exercise before moving on to the next one.

Sample files

Some exercises refer to sample files that are included with XMetaL. These files are best accessed the first time through the **Help** > **Samples** > **World Time Pro (DITA)** menu item. This shortcut will create and open a copy of the sample files in your Windows "Documents" folder, which is accessible from Windows Explorer. The full, correct folder name depends on your Windows OS and your username. For example, in Windows 10 the full name of this folder might be `C:\Users\yourname\Documents\XMetaL\Samples\DITA`.

You can restore the sample files to their original state any time by deleting the folder mentioned above. The next time you open the samples from the **Help** menu, XMetaL will create a fresh copy.

Chapter

1

XMetaL at a glance

Topics:

Before you begin creating content, take a few minutes to familiarize yourself with the XMetaL Author interface.

Views

XMetaL provides four ways to view the same document. Choose a view that you find most comfortable for your style of work and your level of expertise with DITA and XML.

Table 1: XMetaL Views

Name	Description
Normal	This is a styled view of your document, similar to word processors and HTML. When you work in Normal view, XMetaL keeps your document valid.
Tags On	Like Normal view, this is a styled view of your document. Element tags are displayed, indicating where elements start and end. When you work in Tags On view, XMetaL keeps your document valid.
Plain Text	This is an unformatted view of your XML content. This view is useful for troubleshooting or if you need to paste raw XML into your document.
Preview	This is a preview of how your document will look once it has been rendered as HTML. You cannot edit the document in this view.

Elements and attributes

Like every XML document, your DITA topic is associated with a DTD or schema. The DTD includes rules about what elements are allowed at any given point in your document. XMetaL continually ensures that your document remains valid. For example, the selection of elements available in the Insert Element pane includes only those elements that are valid at the insertion point. Also, when you try to insert elements using the

menus or by cut and paste, XMetaL inserts the element at the next valid
location in the document if it is not valid at the cursor location.

Choose a view

You can choose a view from the menu bar or from the view button bar. If you are not familiar with XML, try working in Normal view. If you are familiar with structured content, switch to Tags On view to see element boundaries.

1. Open the file `AboutWorldTimePro.xml`.
    By default, the document appears in Normal view.
2. Do one of the following:

    -   Click **View** and select a view

   -   Click a view button at the bottom of the document editor
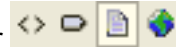
Identify the current element

The list of elements that are valid to insert depends on the position of the cursor in your document. The context bar displays the location of the cursor within the XML elements of the document.

Switch to Tags On view for this exercise.

1. Open the file `AboutWorldTimePro.xml`.
2. Place the cursor within a List Item (`<li>`) element.
    Check the context bar at the bottom of the editor. The context bar identifies the element in which the cursor is located, as well as all the ancestors of that element. (Ancestors may not be an exact match for this illustration.)

    concept / conbody / p / ul / li
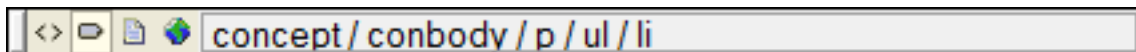
3. Select the list item including the opening and closing tags.
    The following image shows that the context bar now shows the parent of the selected item.

    concept / conbody / p / ul
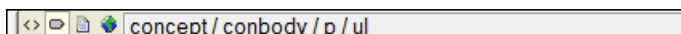
Display elements

There are two panels that display elements you can insert while editing: the "in-place, look-ahead Element list" and the **Insert Element** pane. The former displays a list of the elements that you can insert at or near your current location. The latter only displays elements that are valid at the insertion point.

Switch to Tags On view for this exercise.

1. Open the file `AboutWorldTimePro.xml`.
2. Place the cursor in the first paragraph (`<p>`) element.
3. Type the shortcut **Ctrl+Enter**
    The **in-place, look-ahead Element List** is displayed near the current insertion point. It contains a list of elements you can insert into your document.

4. Select an element from the **In-place, look-ahead Element List** and type **Enter**.

The selected element is inserted.

> **Note:** The element may not be inserted exactly at the location where your cursor was position. If the element is not valid at that location, XMetaL will find the next valid location to insert the element.

5. If the **Insert Element** pane is not already visible, click **View** > **Element List** to display it.

By default, the pane displays the **All** tab. This list displays all the elements that are valid at the insertion point.
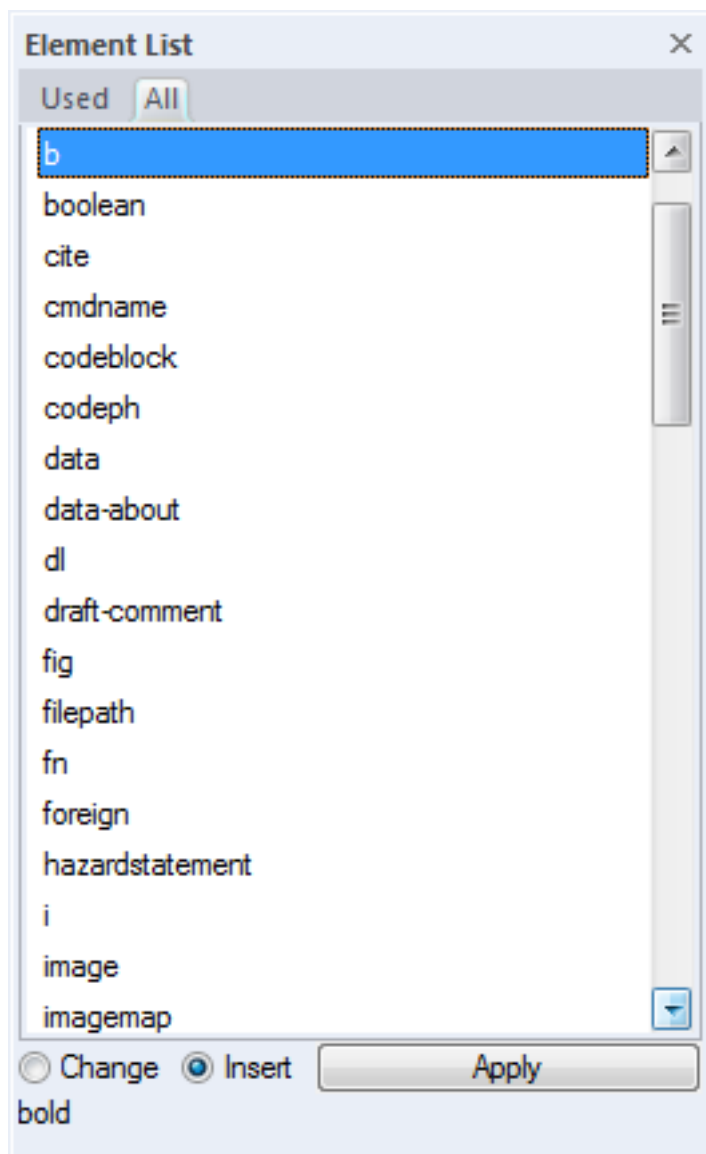
6. Move the cursor to different places in your file and observe how the Element List changes.

7. Click the **Used** tab.

The **Used** tab displays only elements that are currently in use in open documents.

Create content

XMetaL includes many editing features you would expect to find in a word processor. However, if you work in Normal or Tags On view, some operations may be different than what you are used to. This is because XMetaL keeps your document valid as you work.
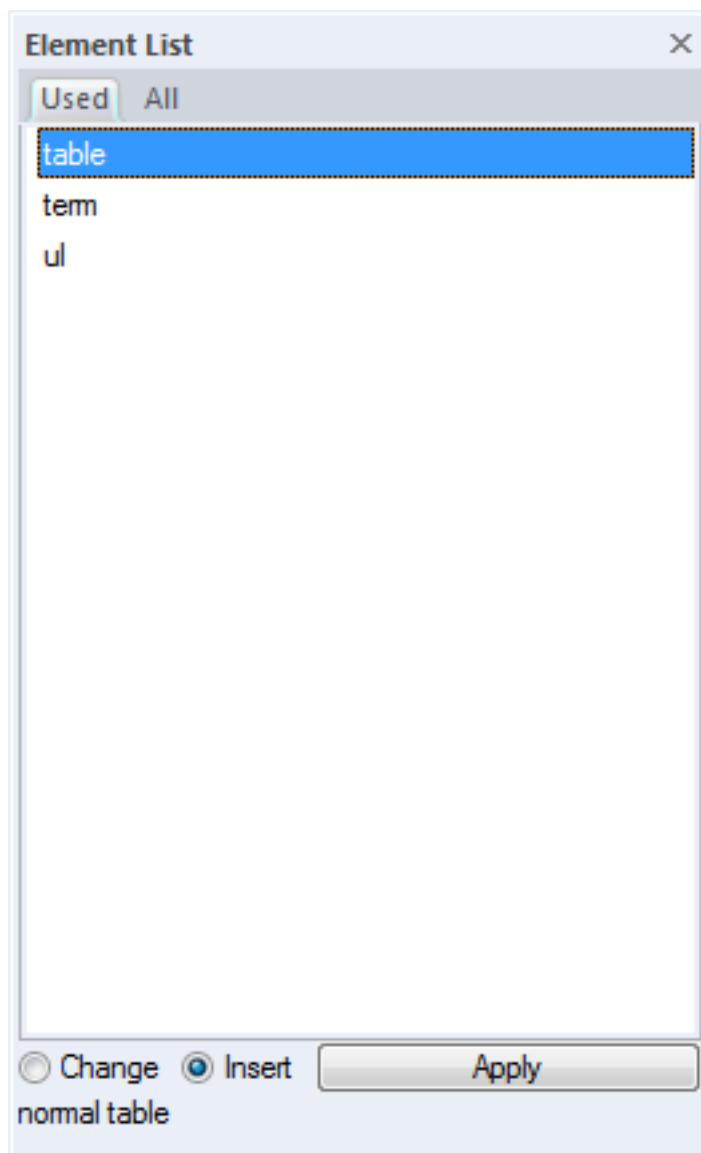
1. Open the file `AboutWorldTimePro.xml`.

2. Now you can begin creating and editing content. As you edit, you'll notice how XMetaL handles some common operations. Try the following:

   - Write some new sentences.
   - Click in different parts of the document and press the Enter key. You'll see that XMetaL creates a new element that is appropriate for the context. For example, press Enter at the end of the topic title to create the Short Description element.
   - Highlight a selection of text in a paragraph and drag and drop it to another location. If the location is valid, XMetaL moves the selected text.

- Copy and paste multiple paragraphs or tables from Word, Excel, or HTML. See how heading styles are mapped to sections, and lists to lists.
- Select multiple paragraphs, and turn them into a bulleted list by clicking **Insert** > **List** > **Bulleted List**.
- Select a paragraph, then click **Paragraph** > **Change Paragraph Type** > **Note**. XMetaL changes the selected paragraph to a note.
- To undo your changes, click **Edit** > **Undo** or press Ctrl+Z. XMetaL supports multiple levels of Undo.

Edit your document

Use the editing features to check spelling and find and replace. You can also track your changes.

1. Open the file `AboutWorldTimePro.xml`.
2. Click **Tools** > **Track Changes** and make some changes to your document.

   Notice how changes are marked according to the type of modification made. You can accept or reject changes by clicking **Tools** > **Accept or Reject Changes**.

3. Choose **Tools** > **Spell Checker...** and spell-check the document.
4. Choose **Edit** > **Find and Replace...** to find and replace terms in the document.
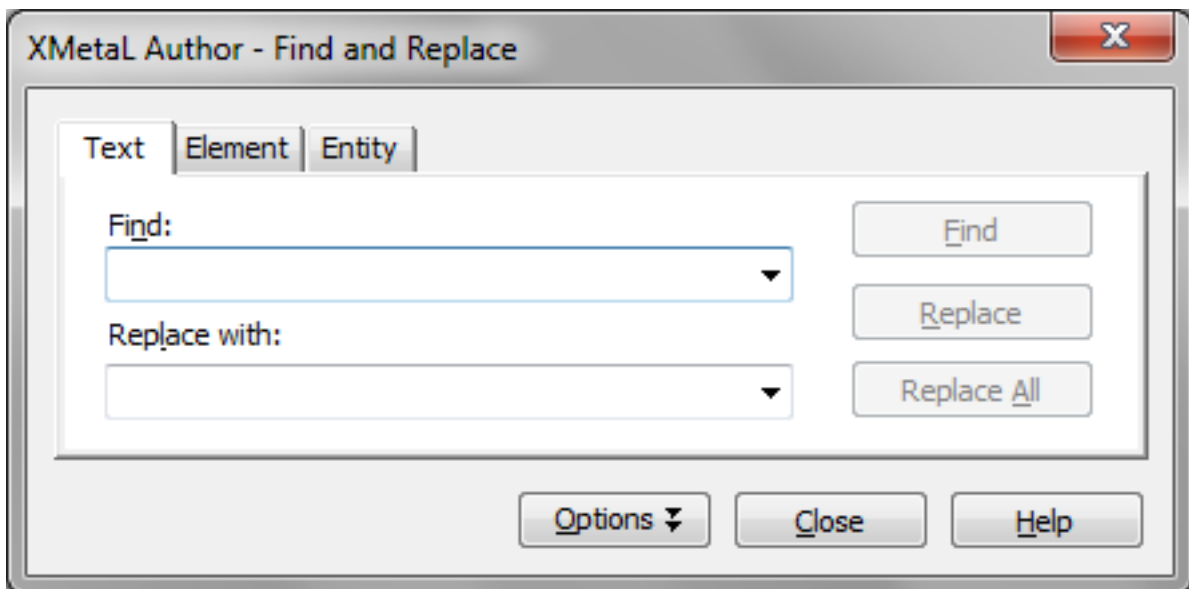
Chapter

2

Creating topics and maps

Topics:

DITA organizes information that can stand on its own into topics. Topics are organized into maps or bookmaps.

You may be familiar with writing a section or a chapter, but DITA focuses on a different unit of information: the topic. The topic is the basic building block for DITA information. DITA provides the following topic types:

- Concept. For general, conceptual information such as a description of a product or feature.
- Task. For procedural information such as how to use a dialog.
- Reference. For reference information.

If you have completed the exercises that show you how to edit a document, you are already familiar with DITA topics. Open the file `AboutWorldTimePro.xml` and switch to Tags On view. Check the first or root element; it is `<concept>`. This means that the document is a concept topic.

You can organize topics into a DITA map or bookmap. A basic map allows a hierarchy of topics, and bookmaps also support book divisions such as chapters and booklists such as indexes. Maps do not actually contain topics, but rather references to them. These are known as *topic references*. Maps and bookmaps are saved with the extension '.ditamap'.

Maps can also contain relationship tables, which establish relationships between the topics contained within the map. Relationship tables are also used to generate links in your published document.

Many teams start writing projects by creating a map and then adding topic references to it. In XMetaL, you can create a DITA topic and insert a reference to it in one step. After you create the topic, you can double-click on the topic reference in the DITA map to open the topic.

You can use your map or bookmap to generate output using a deliverable type such as HTML Help or PDF.

Create a map

The procedure for creating a map is similar to that for creating a topic. Use the menus to select the map template.

1. Click **File** > **New**.
2. On the **DITA Map** tab, select **Map** and click **OK**.
   XMetaL opens the **Map Properties** dialog.
3. Type a name for the map and click **OK**.

   The **Map Editor** opens in the **Resource Manager** pane. Notice that there are toolbars in the Map Editor.

4. In the Map Editor toolbars, click on the **AppMenu** button and select **Save Map** or **Save Map As...** to save the map file.

Create a topic and add it to a map

You can create a topic and add it to a map through the **Insert Topic Reference** dialog. You can open topics by double-clicking in the Map Editor.

1. In the Map Editor, click the **Insert Reference** button and select **Insert** > **Topic Reference**.
   XMetaL opens the **Insert Topic Reference** dialog.
2. In the **Navtitle** field, type a title for your topic.
3. Click **Create**.
   XMetaL displays the **New** dialog.
4. Click the **DITA Topic** tab.

   XMetaL displays the topic templates. There is a template for each topic type.

5. Select **Concept** and click **OK**.
6. Type a file name and click **OK**.
7. Click **OK** to close the **Insert Topic Reference** dialog.
   The new topic appears in the map.

Organize topics in a map

It is easier to get a better understanding of how to organize topics in a DITA map using a populated map. Try moving topics by clicking and dragging and through the Map Editor menus.

1. Open the file `WorldTimePro.ditamap`.

   This sample map includes topics of different types.

2. Use the triangle icons to expand/collapse submaps.

3. Select the **Calculating Time** topic reference, then click the down arrow button on the map editor toolbar.
   The topic and all the topics nested within it move as a unit underneath the next topic at the same level (in this case, **Using the fraction converter**).

4. Select **The World Time Pro window** and click **Edit** > **Demote Item**.
   The topic and all the topics nested within it move as a unit underneath the previous topic at the same level.

5. Close the map without saving.

Create a bookmap

The procedure for creating a bookmap is similar to that for creating a map. Use the menus to select the bookmap template. You can create a bookmap in the XML or Map Editor.

1. Click **File** > **New** in the main menu.

   XMetaL displays the New dialog box.

2. On the **DITA Map** tab, select the **Bookmap** template, and then click **OK**.
   The **Bookmap Properties** dialog box opens.

3. Enter bookmap properties , and then click **OK**.
   For example, enter 'My bookmap' in the 'Main book title' field.
   The bookmap opens in the Map Editor and includes the following common book elements:

   • **Front matter** - contains the material that precedes the main body of a document. It may include items such as an abstract, a preface, and various types of book lists such as a `<toc>`, `<tablelist>`, or `<figurelist>`

   • **Untitled part** - contains the chapters that make up the main body of the document

   • **Appendix** - references a topic as an appendix within the bookmap

   • **Back matter** - contains the material that follows the main body of a document and any appendixes.

4. Open the folders that make up the common book elements to view the contents of the available elements.

5. To rename a part of the main body of the document without adding content, select the `<Untitled part>` element, and then click **Properties**. In the Topic Title field, enter 'Part 1', and then click **OK**.
   The element is now named Part 1. The names of most of the elements can be changed in this manner if you do not want to directly reference content.

6. To insert a chapter within the newly renamed part elements, select the `<Part 1>` element. Then from

   the Insert Reference menu 🔗 select **Insert** > **Bookmap Topic Reference** > **Chapter Reference**, browse to the Samples folder, and select a DITA topic for the new reference. Click **OK**.
   The new chapter reference appears at the same level with Part 1 in the document hierarchy.

7. With the new chapter reference highlighted, click the right arrow icon in Map Editor.
   The new chapter reference is moved under Part 1 in the document structure.

8. Save the bookmap file.

Specify relationships between topics

DITA supports specifying relationships that are manifested by links between topics using relationship tables.

1. Open the sample **World Time Pro (DITA)** (`WorldTimePro.ditamap`) file. To do this, go to **Help> Samples** and select **World Time Pro (DITA)**.

   This sample map includes topics of different types as well as a relationship table.

2. In the Map Editor click on the **AppMenu** button ▤ and select **Switch to XML View of Map** to display the map in the editing pane.

   The map, viewed in the editing pane, includes a relationship table that specifies relationships between the topics in the map.

   🔄 **Note:** The map closes in Resource Manager.

3. Place the cursor in the last row of the table and click the 🔲 button on the Table toolbar.

   🔄 **Note:** You may need to open the Table toolbar by right-clicking in the toolbar area.

4. Copy the "Where to buy World Time Pro" topic reference and paste it in the first cell of the new row.

   You include it in the first column because it is a concept topic.

5. Copy the "Using the Date Analysis Engine" topic reference and paste it in the second cell of the new row to establish a relationship between the topics.

   You include this topic in the second column because it is a task topic.

6. Right-click on the new "Where to buy World Time Pro" topic reference and click **Properties**.

7. In the **Topic Reference Properties** dialog box, click the **Special Attributes** tab.

8. In the **Linking** field, select "Target Only", and then click **OK**.
   The result of this setting is that the "Using the Date Analysis Engine" topic will contain a link to the "Where to buy World Time Pro" topic, but the "Where to buy World Time Pro" topic will not have a reciprocal link.

9. In the main menu, click **File > Switch to Map Editor** to display the map in the Map Editor.
   The relationship table appears as an item at the end of the map.

Create an index entry

You can specify index entries that apply to the entire topic or for a specific location in the topic. Index entries are used to create the index when you generate output.

Switch to Tags On view (**View > Tags On** in the main menu) for this exercise.

1. Open the file **About World Time Pro** (`AboutWorldTimePro.xml`) file in Tags On view.

2. In the `<prolog>` element, locate and place your cursor between the `<metadata>` and `<prodinfo>` tags, then insert **keywords** from the **Element List** pane.

   The `<prolog>` element contains metadata that applies to the entire topic.

3. Place the cursor within the `<keyword>` element, then click **Insert > Index Marker**.

4. In the **Index term** field, type: `World Time Pro, About`.

5. To add another index entry, click **More Markers** and type: `feature summary`, then click **OK**.

6. To add an index entry to a specific location in the topic, place the cursor at the beginning of the last paragraph, then click **Insert > Index Marker**.

7. Type `feature summary`, then click **OK**.
   The `<indexterm>` element appears at the end of the paragraph.

8. Close the topic without saving.

To view results, generate output. For more information, see the *Publishing* on page 43 section in this guide.

Insert a cross-reference

When you insert a cross-reference to another topic, the title of the topic is displayed in the place of the cross-reference. Cross-references can also point to elements other than topics, such as tables and sections. Cross-references are difficult to create in tools that lack strong DITA support, but are straightforward in XMetaL.

1. Open the sample map file.
2. In the Map Editor view, double-click the title of any topic to open it.
3. Click in a paragraph in the topic.

   Note: DITA 1.3 does not allow cross-references in the title of a topic.

4. Click **Insert** > **Link** > **Cross-Reference**.
5. Click **Browse**.
6. Browse to and select another file from the DITA sample documents folder. Click OK.
   An <xref> element is inserted. The title of the topic you selected appears in the <xref> element.
7. View the *attributes* of the <xref> element you just inserted: In Tags On view, hover the mouse pointer over one of the <xref> tags.
   A tooltip appears. The *href* attribute includes the path to the file and the topic ID of the target topic. The *type* and *format* attributes have also been set automatically based on the target topic.
8. Click **View** > **Page Preview**.
   A hyperlinked topic title appears in place of the <xref> element.

You can try generating output in multiple formats to see how cross-references appear. PDF output displays the topic title and page number. PDF, HTML, and help outputs display a hyperlinked topic title.

If you change the target topic title after you insert the cross-reference, the updated title is used when you generate output. You can make XMetaL display the updated title by clicking **Edit** > **Refresh All References**.

Chapter

3

Creating and binding keys

Topics:

- *Create a key definition and add it to a map*
- *Create a key definition with keyword and add it to a map*

The DITA key-reference provides a way to define and control reuse globally at the DITA map level instead of locally at the topic level.

The DITA key reference is an indirect addressing technique that separates references (topicrefs, conrefs, etc.) from the direct address of the target. Unlike the @href and @conref which contain direct addresses to a topic or element, the @keyref and @conkeyref refer to key names. The key names are bound to their targets by definitions written elsewhere (in maps). Different maps can bind the same key names to different targets or resources.

This form of referencing is also called *late-bound*, because the association of key names to targets is computed by the DITA-aware processor (such as a publishing engine), rather than when a topic or map is being authored. XMetaL's DITA-awareness includes the ability to configure which late-binding to use when refreshing referenced content so you can have a context-specific authoring experience.

Create a key definition and add it to a map

You can create a key definition and add it to a map through the **Insert Key Definition** dialog.

1. In the Map Editor, click on the **Key Operations** button and select **Insert** > **Key Definition...** .
   XMetaL opens the **Insert Key Definition** dialog.
2. In the **Keys** field, type one or more key names separated by spaces.
3. Click **Browse** to set the **Href** field to a selected DITA topic.
4. Click **OK** to close the **Insert Key Definition** dialog.
   The new key definition and binding appears in the map.

Create a key definition with keyword and add it to a map

You can create a key definition and add it to a map through the **Insert Key Definition with Keyword** dialog.

1. In the Map Editor, click the **Key Operations** button and select **Insert** > **Variable Text**.
   XMetaL opens the **Insert Variable Text** dialog.
2. In the **Keys** field, type one or more key names separated by spaces.
3. In the **Keyword** field, type a key value.
4. Click **OK** to close the **Insert Variable Text** dialog.
   The new key definition and binding appears in the map.

Chapter

4

Re-using content

Topics:

- *Working with content and key references*
- *Insert a content reference*
- *Insert a key-based content reference*
- *Insert a key reference*

When you re-use content, you create content in one location and refer to it from other locations. Content that is used in this way is referred to as *referenced content*. This is useful for strings such as product names or for procedures that you want to re-use among several manuals. You can edit the content in the source location and the changes are reflected wherever the content appears.

For DITA experts: When you insert referenced content, XMetaL adds an element with a *conref* (content reference) attribute that points to the referenced content. You can create content references to any DITA element.

XMetaL provides the following ways of re-using content:

- You can attach a content reference to an existing element.
- You can insert an element with a content reference.

DITA makes the distinction between *local content*, that is the text and graphics that are actually present in the element, and *referenced content* that is referred to by the element. You have the option of displaying local content or referenced content.

Working with content and key references

DITA has two referencing mechanisms, one direct and one indirect. For each of these DITA reuse mechanisms, a piece of content can be included by reference in multiple contexts. When you need to update that content, you need to update it in only one place. Content references are useful for standard warnings and definitions. Key references are useful for product names and other content that varies while the context does not.

XMetaL includes rich functionality for creating, viewing, and managing both content and key references.

You can use any of the following strategies for managing content and key references:

- Arbitrary content references: You may prefer to keep many pieces of reusable content in one file. For example, you might want one file to consist of a list of product names, with each product name in a "phrase" (`<ph>` element) within the file. Then, wherever you need to display a product name, you can insert a content reference that points to the appropriate `<ph>` element in this file.
- Arbitrary key bindings: You may prefer to keep key bindings defined in a submap (i.e. key map) and use a ditaval file to select a particular submap. Additionally or alternatively, you can define key bindings in your root map.

How content & content key references work

XMetaL creates the reference to the external content by adding a *conref* or *conkeyref* attribute to an element in the local document. These attributes define a link to the referenced content, one direct (conref) and made up of a path to the file and the topic ID within the file. The other indirect (conkeyref) and made up with a key name and the topic ID within the file for the current effective key space. The path may also reference a specific element ID within the topic. Referenced content is not physically copied to the referencing file, however XMetaL displays it as if it were actually there. You can also choose to view "local content" instead of referenced content, to edit the attributes or contents of the referencing element.

How key references work

XMetaL creates the indirect reference to the external content by adding a *keyref* attribute to an element in the local document. The *keyref* attribute defines a link to the referenced content that best matches the local element type. There are no paths to file or extra ID addressing required. Referenced content is not physically copied to the referencing file, however XMetaL displays it as if it were actually there using an xm-replace_text processing instruction to surround the bound text.

Insert a content reference

This exercise shows you how to insert an element with a content reference.

1. Open the file `AboutWorldTimePro.xml`.
2. Click at the end of last paragraph in the file.
3. Click **Reuse** > **Insert Element with Content Reference**.
4. In the **Start of range** list box, select the element ID beginning with "ul_".
   A preview showing five bulleted list items appears.
5. Click **OK.**
   A <ul> element is inserted, with a *conref* attribute pointing to the other <ul> element. The new <ul> element is selected.

Insert a key-based content reference

This exercise shows you how to insert an element with a key-based content reference.

1. Open the file `AboutWorldTimePro.xml` by selecting **Help > Samples > World Time Pro (DITA)**.
2. Click at the end of last paragraph in the file.
3. Click **Reuse** > **Insert Element with Key-Based Content Reference**.
4. Click the **Select Key** button.
   The **Select Key** dialog will appear and display the associated key space
5. Select the `about_world_time_pro` key from the list of keys presented in the list view.
6. Click **OK**.
   `about_world_time_pro` key will be set into the **Reference an element in this file field**.
7. In the **Start of range** list box, select the element ID beginning with "ul_".
   A preview showing five bulleted list items appears.
8. Click **OK.**
   A <ul> element is inserted, with a *conkeyref* attribute pointing to the other <ul> element. The new <ul> element is selected.

Related Links

> *Create a key definition and add it to a map* on page 28
>> You can create a key definition and add it to a map through the **Insert Key Definition** dialog.

Insert a key reference

This exercise shows you how to insert an element with a key reference.

1. Open the file `AboutWorldTimePro.xml` by selecting **Help > Samples > World Time Pro (DITA)**.
2. Click at the end of last paragraph in the file.
3. Click **Reuse** > **Insert Element with Keyref**.
4. Select an element from the **Element type** drop-down list an element to be inserted.
5. Click the **Select Key** button.
   The **Select Key** dialog will appear and display the associated key space.
6. Select the `product_name` key from the list of keys presented in the list view.
7. Click **OK**.
8. Click **OK**.
   The selected element is inserted; the value of its *keyref* attribute is the selected key name.

Related Links

> *Create a key definition with keyword and add it to a map* on page 28
>> You can create a key definition and add it to a map through the **Insert Key Definition with Keyword** dialog.

Chapter

5

Working with conditions

You can make most DITA elements conditional, including images and index markers. XMetaL Author has a easy-to-use interface for applying conditions to content and specifying them in output.

By default, XMetaL comes with the following conditions:

*   Audience
*   Platform
*   Product

Each condition defines values. For example, Audience includes values of "Administrator" and "User" by default.

You can specify your own conditions through the following configuration file: `..\XMetaL\Author\Conditional Text\configs\ct_config.xml`.

Without specializing DITA, you can:

*   Change the values for Audience, Platform, and Product. E.g. configure the system to use your own product names.
*   Add a fourth condition, to be stored using the DITA *otherprops* attribute. For example, you can add a "Location" condition with values of "on-site" and "mobile".

For DITA experts: If you need more than four conditions, you can create new ones by specializing the *otherprops* attribute. You can then configure the system to use those new attributes.
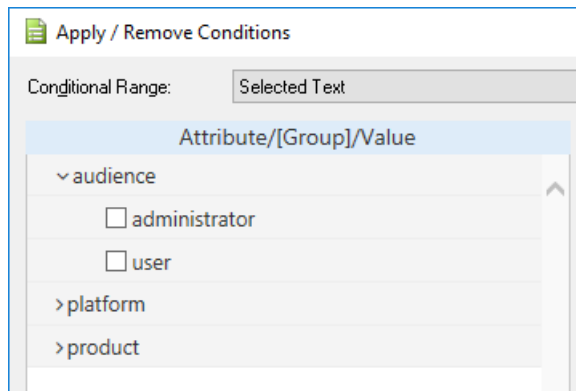
Apply conditions

You can apply conditions to text and images in your document through the Apply/Remove Conditions dialog.

For this exercise, switch to Tags On view.

1. Open the file `AboutWorldTimePro.xml`.
2. Select some text in the first list item.
3. Click **Reuse** > **Apply/Remove Conditions**.

4. From the **Audience** category, select **Administrator**, then click **OK**.

   XMetaL Author automatically creates the `<ph>` tags that are necessary to mark the conditional range. The conditional range appears with a colored background, with ~ symbols before and after it.

   If you do not see `<ph>` tags or ~ symbols, it is because you selected an entire element, rather than text within an element, before you chose the condition to apply.

5. Optionally, change the appearance of the conditional text by clicking **Reuse** > **Style Conditional Text**.
6. Save and close the document.

Create a condition

You can create your own conditions in the Condition Configuration File. You can add values to the existing default conditions or create your own DITA lets you define conditions through the `attribute` element that has the name 'otherprops'. After you modify the configuration file, you need to re-start XMetaL.

In order to create your own conditions, you must be able to read and understand XML. This topic is intended for advanced users.

1. Open the file `..\XMetaL\Author\Conditional Text\configs\ct_config.xml`.
2. Add a new `<value>` element with the name 'evaluator'.
   For example,

```
<attribute name="audience" title="Audience">
   ...
   <value name="evaluator" title="Evaluator" />
</attribute>
```

Use the `title` attribute to indicate how the condition value should appear in the XMetaL interface.

3. Now try creating a new condition and values.
The following example creates a new condition called 'Release', with values of 'Beta' and '1.0'.

```
<attribute name="otherprops" title="Release">
   <value name="beta" title="Beta" />
   <value name="1.0" title="1.0" />
</attribute>
```

Chapter

6

Working with subject schemes

Topics:

* *Create a subject scheme map*
* *Add a subject scheme to a map*
* *Apply conditions using subject scheme values*

Subject schemes are a feature of DITA that allows you to define hierarchical sets of values that can be used for various purposes.

One common usage of subject schemes is for prescribing a set of allowable values (called *controlled values*) to be used for conditional attributes.

Using subject schemes for this purpose in XMetaL first requires you to complete two setup tasks. These tasks are often considered as a responsibility of an information architect (as opposed to being "authoring" tasks).

* Creating a subject scheme map.
* Adding the subject scheme map to your DITA map.

After you have completed these tasks you will be able to use the controlled values for conditional attributes when you are authoring topics in XMetaL.

Create a subject scheme map

The best way to edit a subject scheme map is to use "XML View" (the main editor window), not the regular Map Editor. XMetaL opens subject scheme maps in this view by default (configurable via the **Tools** > **Options...** dialog under **DITA** category's **Subject scheme** tab).

Here is a subject scheme map that defines several values for the DITA `audience` attribute:

```
<subjectScheme>
  <subjectdef keys="users">
    <subjectdef keys="administrator"/>
    <subjectdef keys="technician"/>
    <subjectdef keys="sales_engineer"/>
    <subjectdef keys="customer"/>
  </subjectdef>

  <enumerationdef>
    <attributedef name="audience"/>
    <subjectdef keyref="users"/>
  </enumerationdef>
</subjectScheme>
```

- The `<subjectdef>` elements with keys attributes define the controlled values.
- The `<enumerationdef>` element specifies that the values under the "users" key should be used for the `audience` attribute.

Follow the procedure below to create a subject scheme map like this.

1. From the main menu select **File** > **New**.
   The **New** dialog opens.
2. From the **Map** tab select **Subject Scheme Map** and click **Ok**.

   A new, untitled subject scheme map opens.

   Note: If the subject scheme opens in the Map Editor, click on the **AppMenu** toolbar button ☰ and select **Switch to XML View of Map**.

3. Use the **Element List** and **Attribute Inspector** panels to create the markup that you require.

   - For each `<subjectdef>` element, enter the name of a subject item in the `keys` attribute.

   - In the `<attributedef>` element, use the `keyref` attribute to designate a name or set of names from the available keys, and use the `name` attribute to specify the conditional attribute for which these controlled values will be used.

   Here is a preview of how the above map will appear, when completed, in XML view:
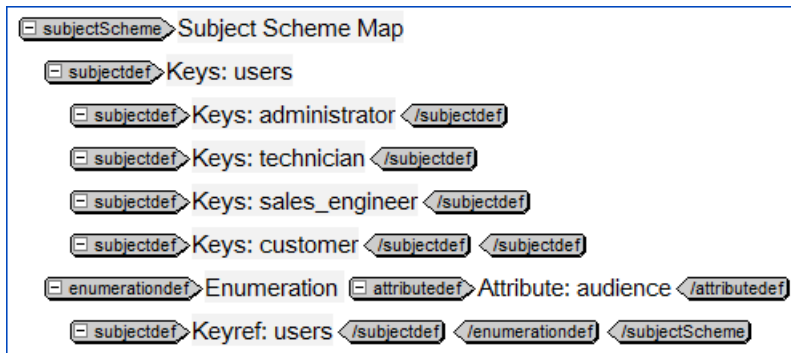
4. Save the map.

Add a subject scheme to a map

You can add a subject scheme to a DITA map by adding a map reference that points to the subject scheme map.

Open the World Time Pro DITA map in the Map Editor.

1. In the Map Editor, click to select an item in the map.

2. Click on the **Insert Reference** toolbar button and select **Insert** > **Map Reference...** .

3. Browse to select your subject scheme map; click **Ok**.

4. Save the map.

Apply conditions using subject scheme values

There are two ways to set controlled values on an element/attribute. One is to use the **Attribute Inspector** panel; the other is to use the **Apply/Remove Subject Scheme** dialog.

1. Open the file `AboutWorldTimePro.xml` .

2. Click somewhere in the document that is allowed to use conditional text (almost anywhere other than the topic title).

3. In the **Attribute Inspector** panel, select the audience attribute, and then click on the pulldown menu for that attribute.

The pulldown menu contains the controlled values that were specified in your subject scheme map:
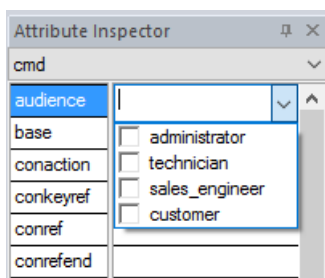
Note: The checkboxes allowing multiple selections may or may not appear, depending on the user preference setting for "Allow only one controlled value per attribute" in the **Tools** > **Options...**

dialog (under the **DITA** category's **Subject Scheme** tab).

4. Select a value, or use the check boxes to select multiple values, for this element/attribute.

5. Alternatively, select the **Reuse** > **Apply/Remove Subject Scheme...** command.

   The **Apply/Remove Subject Scheme** dialog appears.
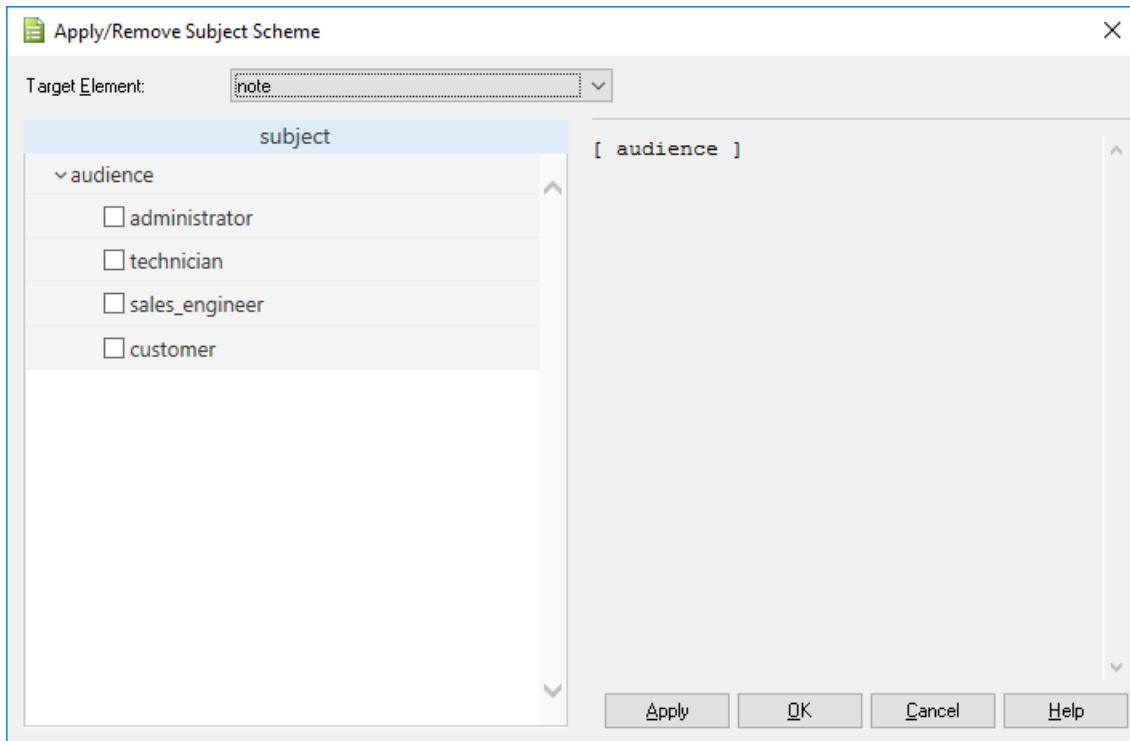
6. Use the check boxes to select controlled values for this element/attribute.

Chapter

7

Operating on multiple topics

Topics:

- *Finding text content*
- *Spell checking topics in a map*
- *Run a custom cross-file operation*

Various cross-map operations are available to help you locate, understand and/or change content across the topics used by your DITA map.

With DITA's topic-oriented writing paradigm, familiar tasks like Find and Replace or Spell Check are more cumbersome when you have many topics in your DITA map to oversee. The cross-file operation mechanism in XMetaL Author can repeatedly apply a specific operation in a batch-style manner saving you from opening individual topics and doing the same operation topic by topic.

The cross-file operation mechanism reports the results in a docked panel at the bottom of the XMetaL Author application window. You can review the results and act upon them in an orderly fashion.

Finding text content

This exercise shows you how to find a text phrase.

1. Open the file `AboutWorldTimePro.xml` by selecting **Help > Samples > World Time Pro (DITA)**. The **Using World Time Pro** map will open in the Map Editor.
2. In the Map Editor, click the **Cross-map Find** button
   A **Find in Files** dialog appears.
3. Activate the **Text** tab and click in the **Text:** edit box.
4. Type a word to search for such as calendar.
5. Click **Find.**
   A **Find 1** results tab appears listing all the found occurrences of the text.
6. Double-click one of the results to jump to that occurrence of text.

Spell checking topics in a map

This exercise shows you how to spell check all topics in a DITA map.

1. Open the file `AboutWorldTimePro.xml` by selecting **Help > Samples > World Time Pro (DITA)**. The *Using World Time Pro* DITA map will open in the Map Editor
2. In the Map Editor, click the **Cross-map Spell Check** button
   A **Spell Checking** results tab appears listing all the spelling mistakes.
3. Double-click one of the results to jump to the misspelled word.

Run a custom cross-file operation

This exercise shows you how to run a custom cross-file operation that does Word Counting for all topics in a DITA map.

1. Open the file `AboutWorldTimePro.xml` by selecting **Help > Samples > World Time Pro (DITA)**.
2. Click **Tools > Run Cross-File Operation**.
   The **Run Cross-File Operation** dialog appears.
3. From the **Operation** drop-down list select the **Word Count** item.
4. Click **Run.**
   A **Cross-File Operation** results tab appears listing all the word totals per topic and an overall total for the entire set of topics referenced by the DITA map.

Chapter

8

Publishing

Topics:

- *Generate output*
- *Generate output with complex conditions*

When you publish a document, you create output for a topic or map file in a standard format such as HTML Help or PDF. XMetaL uses the DITA Open Toolkit to publish documents.

The DITA Open Toolkit is installed when you install XMetaL Author and you can run it through the **Generate Output** menu item. You get the same results that you would using the toolkit directly, but XMetaL is much easier to use.

The format and characteristics of your output is determined by saved configuration called a *deliverable type*. By default, XMetaL includes deliverable types for several standard output formats.

Note: If you want to create Microsoft HTML Help (CHM) output, ensure you have Microsoft HTML Help Workshop installed. This is available from *http://www.microsoft.com*.

Generate output

You can generate output from the sample map files. You can specify which conditions to include in your output.

This exercise requires Microsoft HTML Help Workshop.

1. Open the file `WorldTimePro.ditamap`.
2. Click **File** > **Generate Output for DITA Map**.
3. Select the **HTML Help (CHM)** deliverable type, then click **Show/Hide Conditional Text**.
   You can now select conditions that you want to appear in the output. The settings are retained for all subsequent output.
4. From the **Audience** condition, select **Administrator** and click **OK**.
   XMetaL begins the process of creating output for your document.
5. At the end of the generating process, click **Open File**.
   Open the generated CHM file and click through the topics to see how the generated links appear in the parent and child topics, as well as the Related links specified by the relationship table.
6. Now create a PDF file for your document. Click **File** > **Generate Output for DITA Map** and select **XMetaL Enhanced PDF**, then click **OK**.
7. Open the generated PDF document and browse through the document to see how the same information appears in the different output format.

Generate output with complex conditions

This exercise shows you how to generate output for content that is conditionalized for multiple audiences and multiple platforms.

For this exercise, use the table below as an example. This table already has conditions applied. For example, row 3 has been conditionalized to indicate that it applies to the "Administrator" audience and the "Windows" platform.

#	Sample	Audiences	Platforms
1	The PrintFlamingo system stores important settings in a configuration file.	All	All

1. Open the file `t_Generate_output_with_complex_conditions.xml` from your `C:\Program Files\XMetaL\Author\Evaluation Guide\tasks` folder.
2. Optionally, view what conditions are used in the document:
   a) Click anywhere in row 3 of the table above.
   b) Click **Reuse** > **Apply/Remove Conditions**.
   c) From the Conditional Range drop-down list, choose "row".
      The dialog displays which conditions apply to table row 3.
3. Click **File** > **Generate Output for DITA Topic**.
4. In the **Generate Output for DITA Topic** dialog, click **Show/Hide Conditional Text**.
5. Expand the **Audience** node and select the **Administrator** checkbox. Expand the **Platform** node and select the **Mac OS X** checkbox. Click OK.
6. In the **Generate Output for DITA Topic dialog**, choose any deliverable type, and click OK.

In output, only rows 1, 2, and 4 of the table appear. This is what you want: all material that is needed by administrators using a Macintosh, and no material that is irrelevant to them. To get this result using other tools, you would probably have had to create conditions such as "Macintosh not-administrator" for the other rows.

You can experiment with styling of conditions using this file. When viewing the document in XMetaL, note that by default, all conditional text is colored with a light blue background. You can configure this by choosing **Reuse** > **Style Conditional Text**, for example to style content for Windows in green text and content for the Macintosh in red text.

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