SIGDOC

What are DITA topics?

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Guidepost

Purpose: This resource provides a conceptual overview of DITA topics and topic types.

Learning objective(s):

- Understand what DITA means by a "topic."
- Review how DITA maps organize topics by reference.
- Review the concept of information typing.
- Review the DITA topic types available with OASIS DITA 1.3.
- Review the elements common to all topic types.
- Answer some of the common questions about topic-based authoring.

Prerequisites:

- Familiarity with basic concepts associated with structured content.
- Familiarity with XML elements and attributes.
- Familiarity with a DITA editing tool.

Revision history (ACM-016)

Date	Author	Revision summary
03-06-2025	Stan Doherty	First public posting

DITA is often associated with the concept of "topic-based authoring." To unpack this concept, we need to address several questions.

What is a DITA topic?

From the first release of the OASIS DITA standard in 2005, the notion of a "topic" has been central.

A topic is a unit of information with a title and content, short enough to be specific to a single subject or answer a single question, but long enough to make sense on its own and be authored as a unit. [Source]

Just to set a baseline, this ACM document is not topic-based and has been authored in a linear fashion. Its content is authored in one flow and is stored in one file. It is organized with multiple headings (sections), but each section is cemented in place and cannot be moved around easily.

By way of contrast, topic-based authoring sees a publication as a collection of multiple "chunks" of content, each stored in a separate file (in this case `*.dita`). This is a topic. Each topic can be relocated easily within and between publications.

Note: All the examples in this article are in DITA source format. You can download all these DITA source files from GitHub:
- https://github.com/acm-sigdoc-structured/dita-topic-types

How do DITA maps organize topics into a publication?

A DITA map is an XML document (`*.ditamap`) that mostly contains references to DITA topics. When you are working in a DITA editing tool, you create ~~your~~ DITA topics and then reference them from your working map. Here's how these DITA topic files appear in a DITA editing tool when they are referenced from a map.
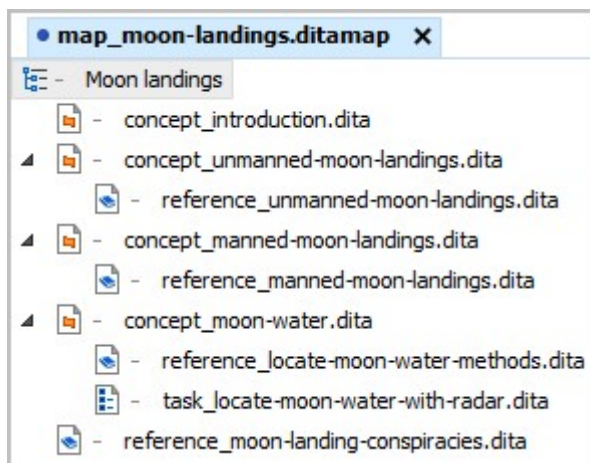
Most DITA editing tools can toggle between the display of filenames (above) and the display of topic titles (below).
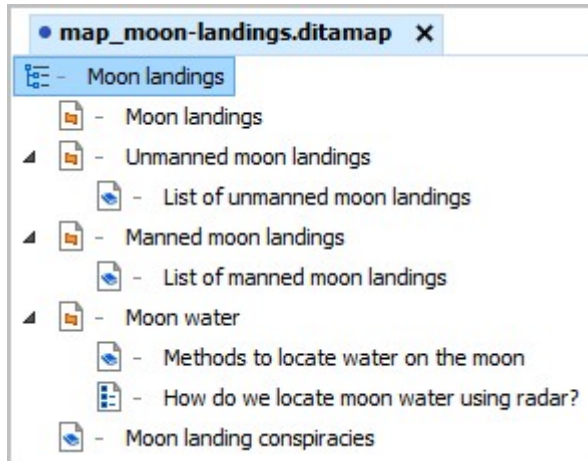
Each entry in this map is a topic reference (`<topicref>`) to a DITA topic file (`*.dita`). Here's how the underlying XML markup looks.

```xml
<map>
    <title>Moon landings</title>
    <topicref href="concept_introduction.dita"/>
    <topicref href="concept_unmanned-moon-landings.dita">
        <topicref href="reference_unmanned-moon-landings.dita"/>
    </topicref>
    <topicref href="concept_manned-moon-landings.dita">
        <topicref href="reference_manned-moon-landings.dita"/>
    </topicref>
    <topicref href="concept_moon-water.dita">
        <topicref href="reference_locate-moon-water-methods.dita"/>
        <topicref href="task_locate-moon-water-with-radar.dita"/>
    </topicref>
    <topicref href="reference_moon-landing-conspiracies.dita"/>
</map>
```

If you want to relocate or promote/demote a particular topic, you simply move the entry in the map.

DITA processors read these entries in the DITA map and generate the desired output, which can be PDF, HTML, webhelp, or other formats configured or enabled by a specific software processor. Here's how the generated PDF table of contents looks.

Contents

It's fair to say that DITA topics provide the content for a publication, while DITA maps provide the organization.

How does information typing affect topic-based authoring?

Some of the benefits of using information types when authoring are:

- *Author focus*: Writers developing content in a particular information type are more likely to restrict content appropriate for that information type.

- *Reader focus*: Readers of content in a specific information type will have a more coherent reading experience.

- *Content economy*: In the process of developing content for a specific information type, far less extraneous or tangential content will creep into the writing. Technical cruft often does not make the cut.

- *Reuse planning*: With a clearer picture of the types of information in a doc set, it becomes easier to identify opportunities for reusing conceptual, reference, or task content.

In addition to adopting topics as the unit of authoring, DITA embraced information typing. Here are the most frequently used topic types. They ship with OASIS DITA 1.3 and are bundled with all DITA editing tools and component content management systems.

| Topic type	Description
Concept	Concepts provide background that helps readers understand essential information about a product, a task, a process, or any other conceptual or descriptive

	information.
	Concept topics address the questions, "What is this?" or "How does it work?"
Reference	Reference topics provide data that supports users as they perform a task. Reference topics might provide lists and tables that include product specifications, parts lists, and other data that are often "looked up" rather than memorized. A reference topic can also describe commands in a programming language or required tools for a series of maintenance tasks.
	Reference topics address the question, "What details do I need to know?" or "What are the parts of this thing?"
Task	Tasks are the essential building blocks to provide procedural information. A task information type answers the "How do I?" question by providing precise step-by-step instructions detailing the requirements that must be fulfilled, the actions that must be performed, and the order in which the actions must be performed. The <task> topic includes sections for describing the context, prerequisites, expected results, and other aspects of a task.
Generic	Generic topics are untyped. The generic topic type should only be used if authors are not trained in information typing or when a specialized topic type is inappropriate.

Our sample publication on moon landings contains four concept topics, four reference topics, and one task topic. DITA editing tools often display small icons next to each topic reference in DITA maps to identify different topic types.
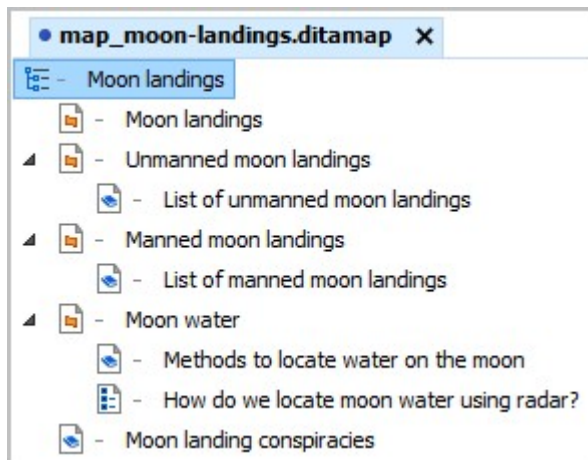
How do I create different topic types?

DITA editing tools and component content management systems make it easy to create instances of specific topic types. To create an instance, ┿ choose **File** - **New** and select the appropriate topic type.
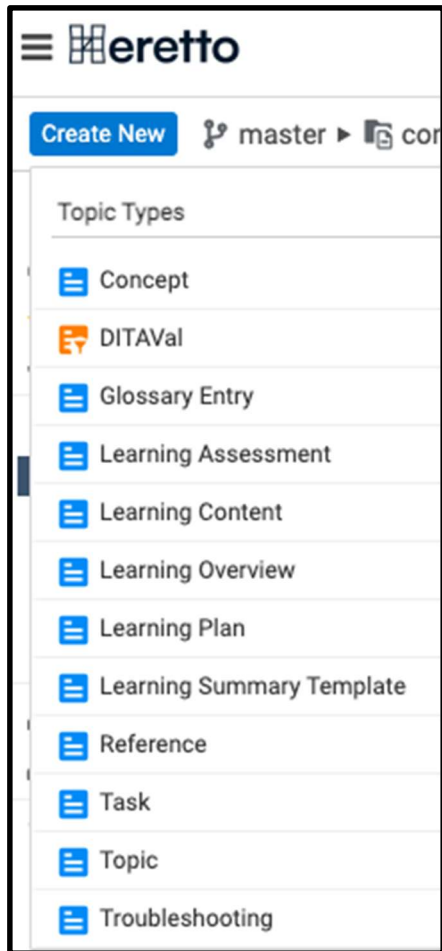
If you were to choose to create a reference topic, for example, the DITA editing tool or Component Content Management System (CCMS) would read the XML document type definition (DTD) named `reference.dtd` and make a copy (instance) available to me to name and save. The XML markup in that new topic instance declares that it is a reference topic and is derived from the `reference.dtd` document type definition.

```
<!DOCTYPE reference PUBLIC "-//OASIS//DTD DITA Reference//EN" "reference.dtd">
```

Each topic type has a unique DTD from which authors create instances.

What are common and type-specific elements for topic types?

You might expect that the elements in each topic type would be completely unique, but they are not.

All the popular topic types can contain the following elements:

- `<prolog>`: Provides a container for metadata relevant to the topic, for example `<audience>`, `<author>`, `<component>`, `<keywords>`, `<prodinfo>`, and `<resourceid>`. Processors and

search optimization tools use this metadata to create links to this topic from other topics sharing relevant metadata.

- `<title>`: Provides the title of the current topic. This title appears in generated output as topic or section headings, TOC entries, and cross-reference hypertext.

- `<shortdesc>`: Provides a brief description of topic content. This short description helps the reader answer the question, "Is this topic relevant to what I am looking for?"

- Common elements in running text: `<p>`, `<section>`, `<ol>`, `<ul>`, `<simpletable>`, `<example>`, or `<image>`.

In a DITA editing tool, here is how a concept topic might look with these common elements.

Certain other elements are relevant to only one topic type:

- *Reference topics*: `<resyn>` (for syntax diagrams) and `<properties>` (for syntax arguments).

- *Task topics*: `<context>`, `<prereq>`, `<steps>`, `<step>`, and `<result>`. Formal task topics are perhaps the most restrictive in terms of which elements you can put where, but they offer many

benefits in terms of readability. Here is what a task topic might look like in a DITA editing tool.

task title **How do we locate moon water using radar?** title

shortdesc **Short Description:** Ground-penetrating radar (GPR) is a powerful tool for detecting water on the Moon. shortdesc

taskbody prereq **Before you begin:** ▷*Pre-requisite*◁: You need to send and receive radar radio waves from an orbiting spacecraft. prereq

context **About this task:**

p ▷*Context*◁: GPR works by sending radio waves into the lunar surface and analyzing the reflected signals. p context

steps

1. step ▷The spacecraft transmitter sends radio radar waves to the lunar surface. ◁

   info These waves penetrate the surface to varying depths, depending on the material they encounter. info step

. . .

4. step ▷The analysis systems on the spacecraft transmit the raw data and the working map back to Earth. ◁ step

steps

result **Results:**

p While radar is a valuable tool, it's often used in conjunction with other instruments, such as neutron spectrometers and infrared spectrometers, to confirm the presence of water. p result

What are some common concerns about topic-based authoring?

For authors who are new to topic-based authoring, the transition can be challenging. Everyone learns at a different pace and in different ways, so there is no global success formula beyond getting solid training and sharing your experiences as you go. That said, many writers making the transition have some legitimate concerns.

- If I am not sure what the best topic type might be for something I am writing, what do I do?

  Writers do not need to make a decision about using a particular topic type when they are in the early stages of writing. You can often draft content in a simple text editor while figuring things

out. If you want to draft the content in DITA markup before deciding about a topic type, consider working in the DITA generic topic type. It is the least restrictive topic type and supports moving draft content into more appropriate concept, reference, or task topic types.

- Can I split one large topic into multiple, smaller topics?

Yes - as writers gain experience authoring and mapping topics, the average size of DITA topics tends to get smaller. Some concept and reference topics contain `<section>` elements that are logical candidates to copy-paste into a new topic. Some tools automate this process of segmenting sections into separate topics.
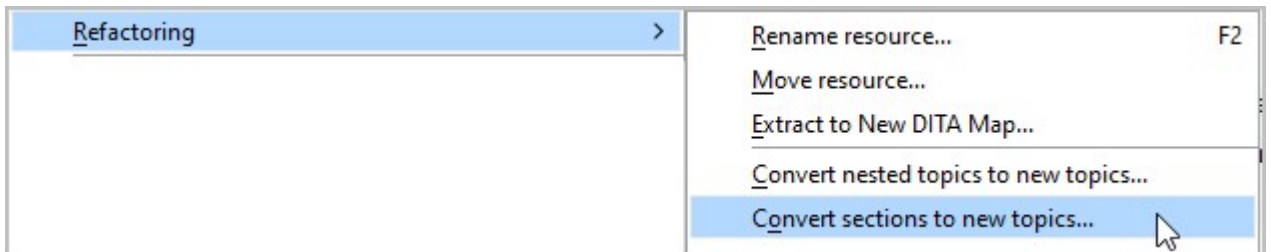
- Can a DITA editing tool convert the markup in one topic type to another topic type?

Yes - popular DITA editing tools can automate the conversion of markup.
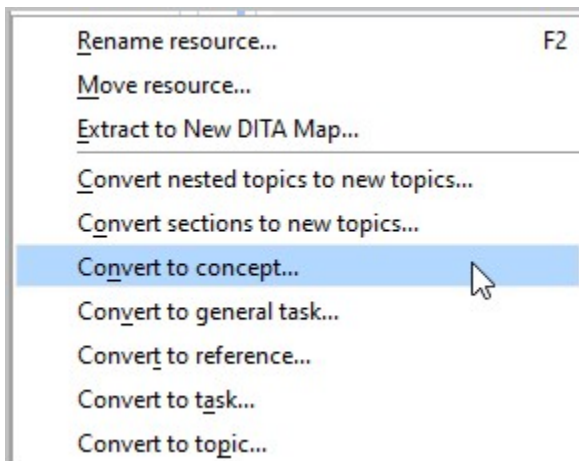
- Will I need to revise some of the content when I move content from one topic type to another?

Yes – beyond converting the underlying markup, you'll need to rework some of the writing to support robust concept, reference, and task topic structures.
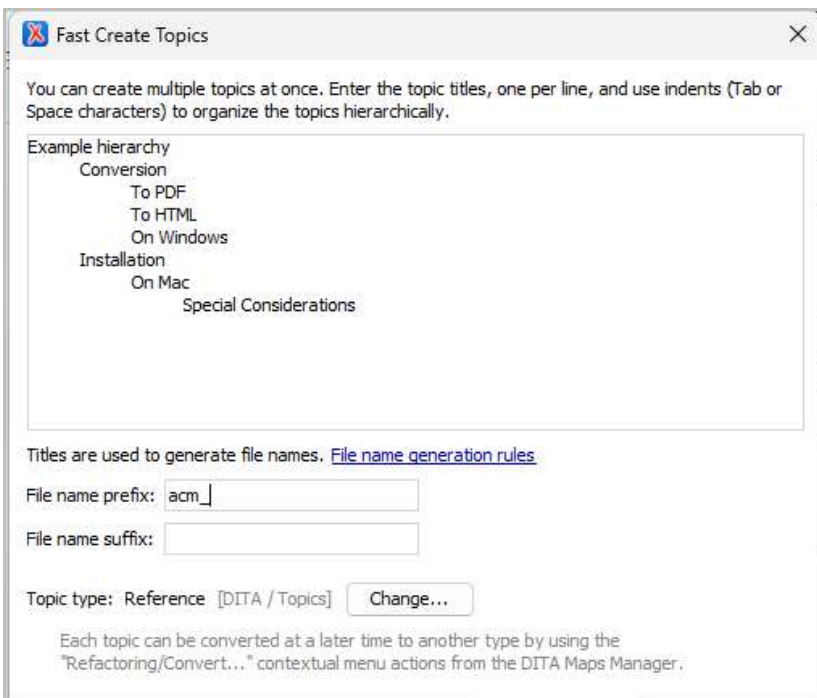
- Can I import unstructured content into a DITA topic?
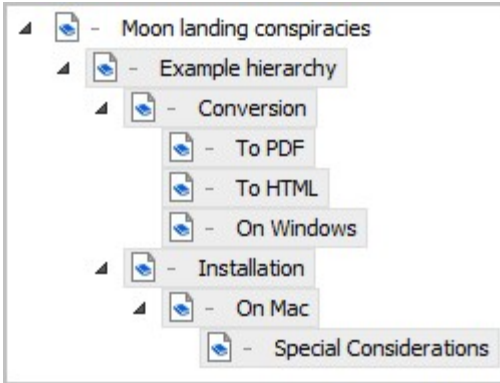
Yes - DITA editing tools and component content management systems provide conversion tools.
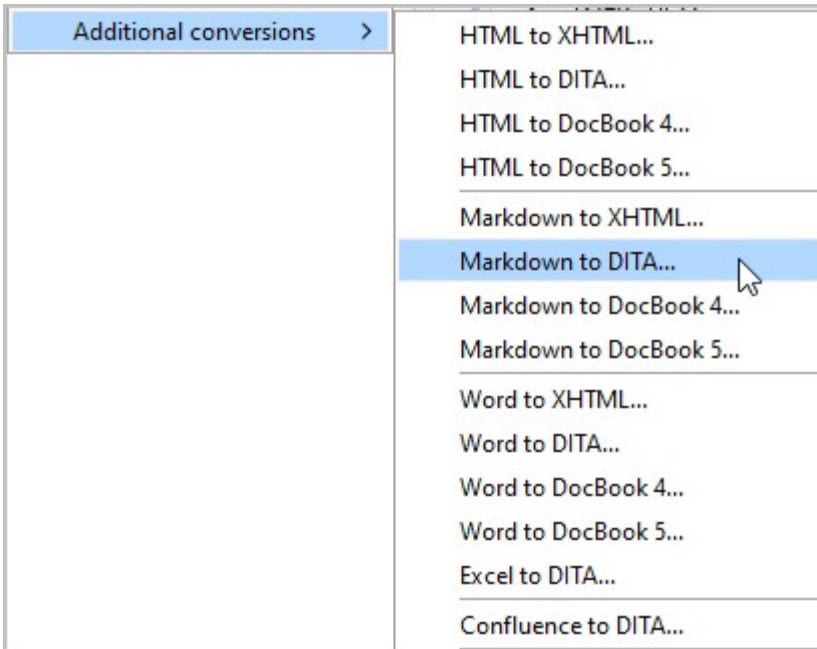
- Can I create multiple DITA topics from an outline?

  Yes - some DITA editing tools can convert a plain-text outline into a set of topics and then add them to your current map.

- Can I export multiple DITA topics to a single MS Word, HTML, or Markdown file?

  Yes - the DITA Open Toolkit provides multiple transformations from modular (DITA) to linear document formats. The DITA editing tool, Oxygen XML Editor, bundles a copy of the DITA Open Toolkit and invokes it when it generates most output types.
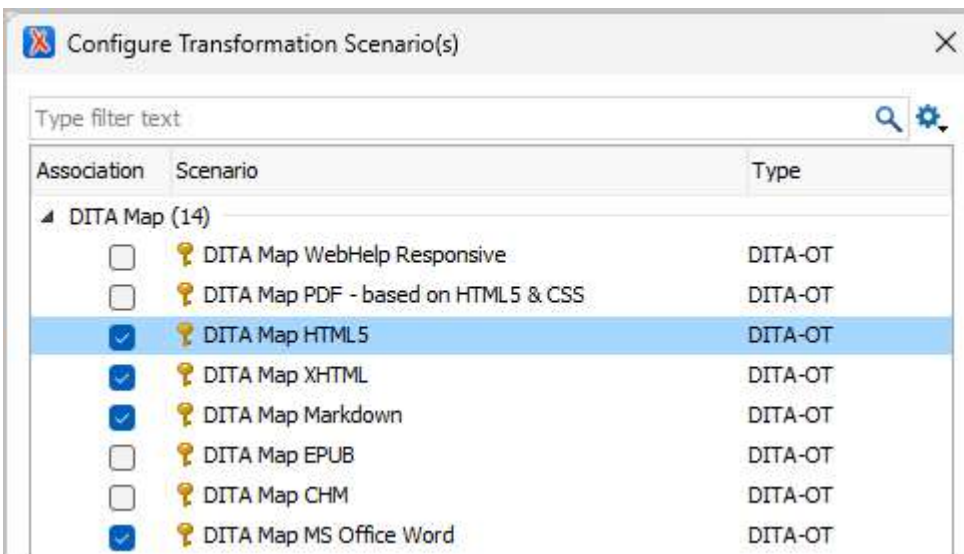
Acknowledgements

- Scot Marvin - editorial review
- JoAnn Hackos - technical review
- Carlos Evia - instructional review

Thank You!

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