

---

# Developing DITA Maps



---

Jen Linton  
Senior Consultant  
Comtech Services, Inc.  
[jennifer.linton@comtech-serv.com](mailto:jennifer.linton@comtech-serv.com)

---

# Agenda

- Purpose of DITA maps
- DITA map structure and elements
- DITA map attributes
- Extra DITA map features
- Relationship tables
- Questions

# DITA map purpose



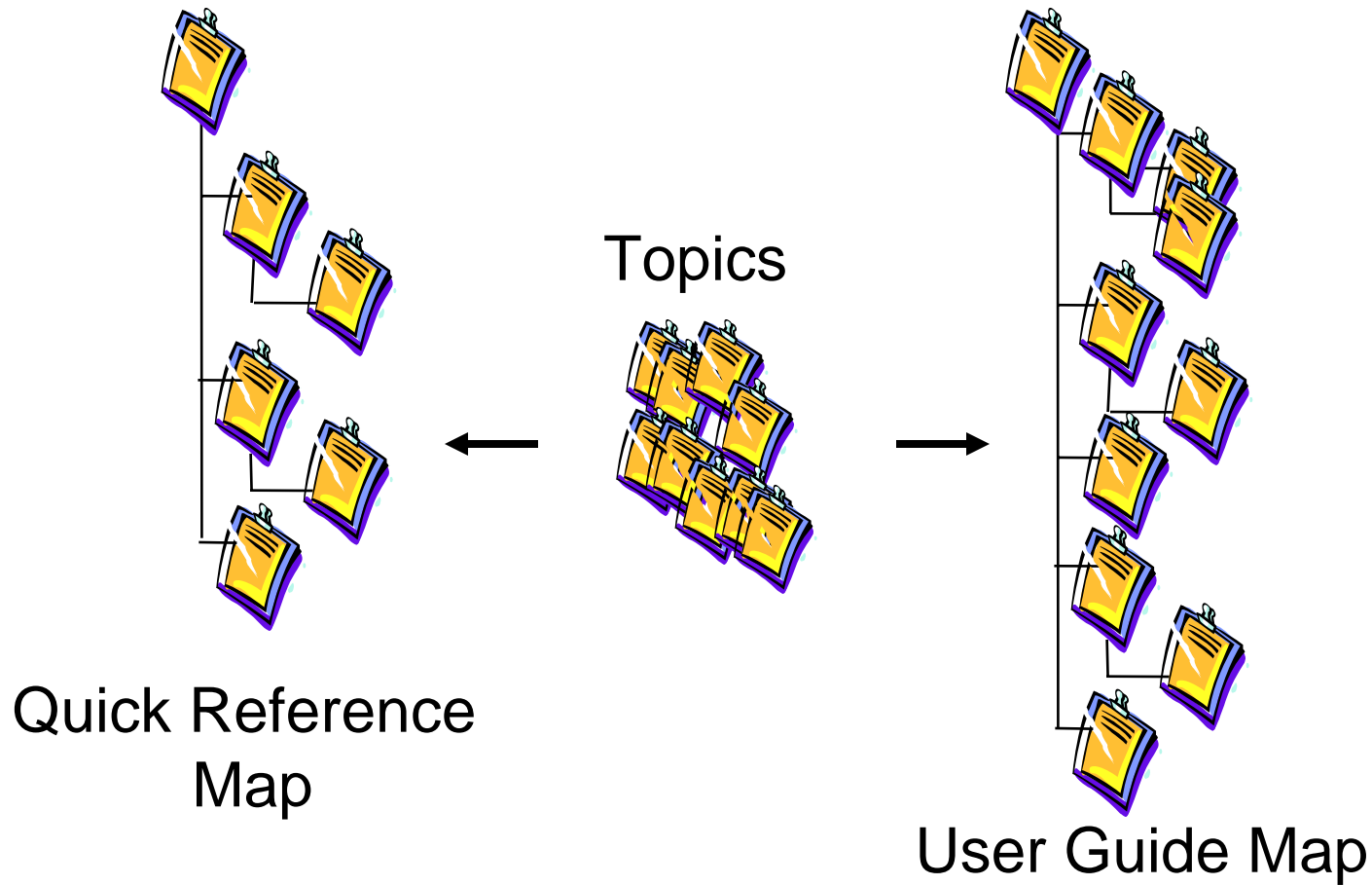
- DITA maps provide a mechanism for ordering topics and creating a topic hierarchy.
- Because DITA maps consist of lists of references to topics, you can reorganize the content in a deliverable simply by changing the order of the topic references.
- You can create different maps referencing the same source topics to create two deliverables to meet different users needs.

---

# You can use DITA maps to

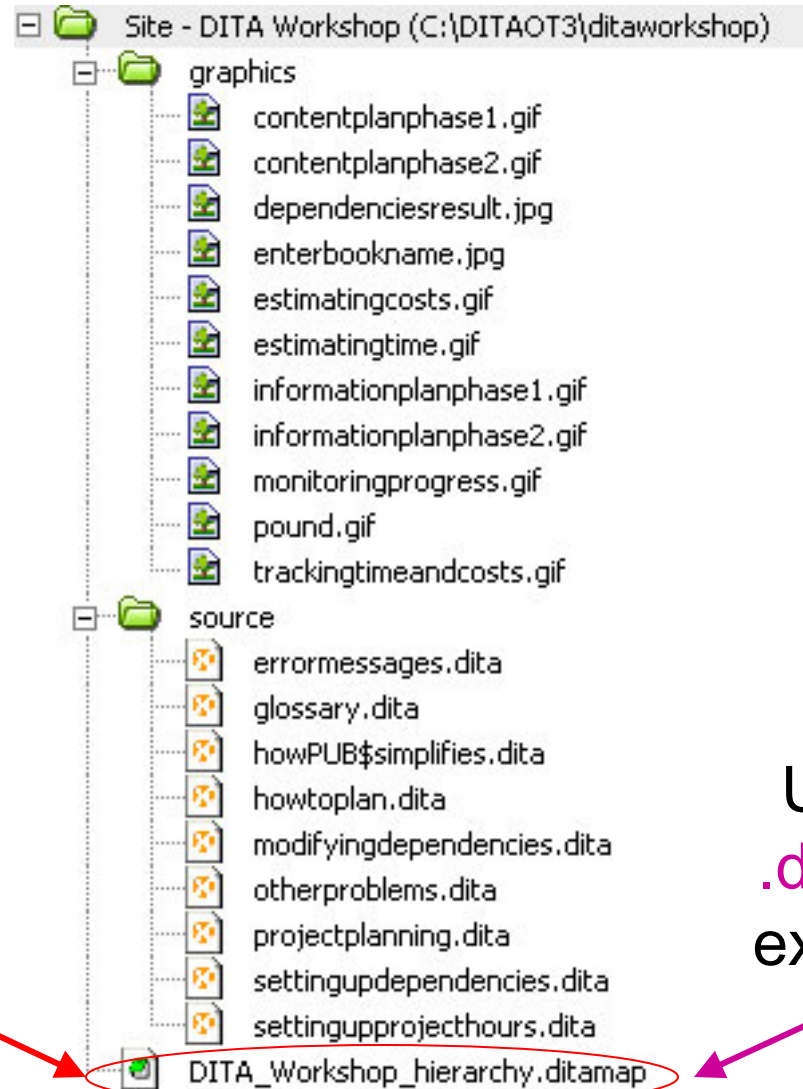
- plan your project
  - Create a DITA map before you begin writing to help plan the topics you need for your deliverable.
- build your deliverable
  - Referencing topics into a hierarchy, you can create a deliverable to produce to different media.
- build sections of your deliverable
  - Referencing topics in smaller maps, and using the smaller map in a master map allows you to build sections of your deliverable.
- customize your deliverable
  - Using metadata attributes in your DITA map allows you to create special deliverables for different users and different media.

# What is a DITA map?



# A DITA map is ...

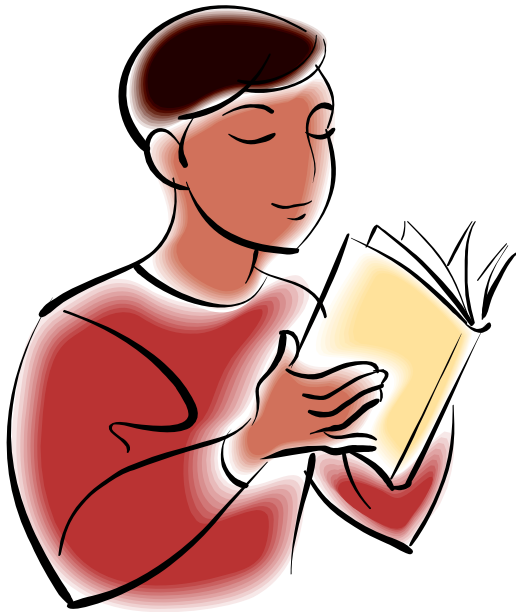
- an XML file created to build your deliverable hierarchy
- Because you can nest the topic folders to any level, you should position the map in a higher level folder that contains all the topics. This folder organization ensures that processing runs without errors.



Uses a  
.ditamap  
extension

# A DITA map ...

- consists of references to topics organized into hierarchies and tables



DITA map

topic reference

topic reference

topic reference

topic reference

topic reference

topic reference

topic reference

topic reference

# Map structure and elements

- Because a DITA map is an XML file, it starts with an XML declaration and a DTD declaration
- Start with the basic map structure using the <map> and <topicref> elements

```
<?xml version="1.0" encoding="utf-8"?>  
<!DOCTYPE map PUBLIC "-//OASIS//DTD  
DITA Map//EN"  
"../../dtd/map.dtd">  
<map>  
    <topicref></topicref>  
    <topicref></topicref>  
    <topicref></topicref>  
</map>
```



---

# Adding map element attributes

- Add a DITA map title and ID attribute

```
<map title="DITA User Guide" id="DITAuserguide">  
  <topicref></topicref>  
  <topicref></topicref>  
  <topicref></topicref>  
</map>
```

# Adding the href attribute

- The href attribute is the most important part of a DITA map. The href attribute points to your topics you want to reference. They can include DITA topics, XML files, HTML files, PDFs, and more.
- Add an href attribute to each topicref element

```
<map title="DITA User Guide" id="DITAuserguide">  
  <topicref href="topics/aboutDITAtopics.dita"> </topicref>  
  <topicref href="processing/usingDITAtoolkit.xml"></topicref>  
</map>
```

# Building the hierarchy

- Nest <topicref> elements within each other to create the hierarchy for your deliverable

```
<map title="DITA User Guide" id="DITAuserguide">  
  <topicref href="topics/aboutDITAtopics.dita">  
    <topicref href="processing/usingDITAtoolkit.xml">  
    </topicref>  
  </topicref>  
</map>
```

# DITA map attributes

- Type attribute
- Format attribute
- Scope attribute
- Collection-type attribute
- Linking attribute
- Processing attributes (toc, print)



# Type attribute

- The type attribute allows you to indicate what type of topic you are referencing.
- The values you can use are concept, task, reference, topic, figure, table, other, and more.

```
<map title="DITA User Guide" id="DITAuserguide">  
  <topicref href="topics/aboutDITAtopics.dita" type="concept">  
    <topicref href="processing/usingDITAtoolkit.xml"  
      type="task">  
    </topicref>  
  </topicref>  
</map>
```

# Format attribute

- The format attribute allows you to indicate what the format is of your topic reference.
- The values you can use are dita, html, xml, pdf, zip, and any other file format you may reference.

```
<map title="DITA User Guide" id="DITAuserguide">
  <topicref href="topics/aboutDITAtopics.dita" type="concept"
    format="dita">
    <topicref href="processing/usingDITAtoolkit.xml"
      type="task" format="xml">
    </topicref>
  </topicref>
  <topicref href="http://www.comtech-serv.com"
    format="html"></topicref>
</map>
```

# Scope attribute



- The scope attribute allows you to indicate where the file is located that you are referencing. Use the scope attribute if you have common topics used in many deliverables such as boiler plate information.
- The values you can use are local, peer, or external.

```
<map title="DITA User Guide"
id="DITAuserguide">
  <topicref href="topics/aboutDITAtopics.dita"
type="concept" format="dita" scope="local">
    <topicref
      href="processing/usingDITAtoolkit.xml"
      type="task" format="xml" scope="peer">
    </topicref>
  </topicref>
  <topicref href="http://www.comtech-serv.com"
format="html" scope="external"></topicref>
</map>
```

# Collection-type attribute



- Use the collection-type attribute to create relationships among topics that are closely associated.
- The values you can use are family, sequence, unordered, or choice.
- In this example, the usingDITAtoolkit.xml topic links to the processingDITA.dita topic.

```
<map title="DITA User Guide"
id="DITAuserguide">
  <topicref href="topics/aboutDITAtopics.dita"
type="concept" format="dita" scope="local"
collection-type="family">
    <topicref
href="processing/usingDITAtoolkit.xml"
type="task" format="xml" scope="peer">
    </topicref>
  <topicref
href="processing/processingDITA.dita"
type="task" format="dita"
scope="local">
  </topicref>
</topicref>
  <topicref href="http://www.comtech-serv.com"
format="html" scope="external"></topicref>
</map>
```



# Collection-type family

- If you set the attribute collection-type="family", sibling topics will link to other siblings.

The image shows two overlapping windows. The top window is a web browser displaying the 'PUB\$ Estimator User Guide'. The bottom window is an 'EditPad Lite' editor showing the XML source code for a DITA family map. A red circle highlights the attribute 'collection-type="family"' in the XML code, with an arrow pointing to the rendered output in the browser window. The rendered output shows a list of links under the heading 'Parent topic: The two-phase method of project planning'. The links are: 'How PUB\$ Estimator simplifies project planning', 'Related tasks' (with sub-links: 'Setting up the dependencies worksheet', 'Modifying up the dependencies worksheet', 'Setting up the projected hours worksheet'), and 'Related reference' (with sub-links: 'Error messages', 'Other problems', 'Glossary').

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <!DOCTYPE map PUBLIC "-//IBM//DTD DITA Map//EN" ".\..\dtd\map.dtd">
3 <map title="PUB$ Estimator User Guide" id="PUB$userguide" toc="yes">
4   <topicref href="source/projectplanning.dita" navtitle="Why project planning is important" collection-type="family">
5     <topicref href="source/howtoplan.dita" navtitle="How to plan for a project"></topicref>
6     <topicref href="source/howPUB$simplifies.dita" navtitle="How PUB$ Estimator simplifies project planning"></topicref>
7     <topicref href="source/settingdependencies.dita" navtitle="Setting up the dependencies worksheet"></topicref>
8     <topicref href="source/modifyingdependencies.dita" navtitle="Modifying the dependencies worksheet"></topicref>
9     <topicref href="source/settingupprojecthours.dita" navtitle="Setting up the projected hours worksheet"></topicref>
10    <topicref href="source/errormessages.dita" navtitle="Error Messages"></topicref>
11    <topicref href="source/otherproblems.dita" navtitle="Other Problems"></topicref>
12    <topicref href="source/glossary.dita" navtitle="Glossary"></topicref>
13  </topicref>
14 </map>
15
```

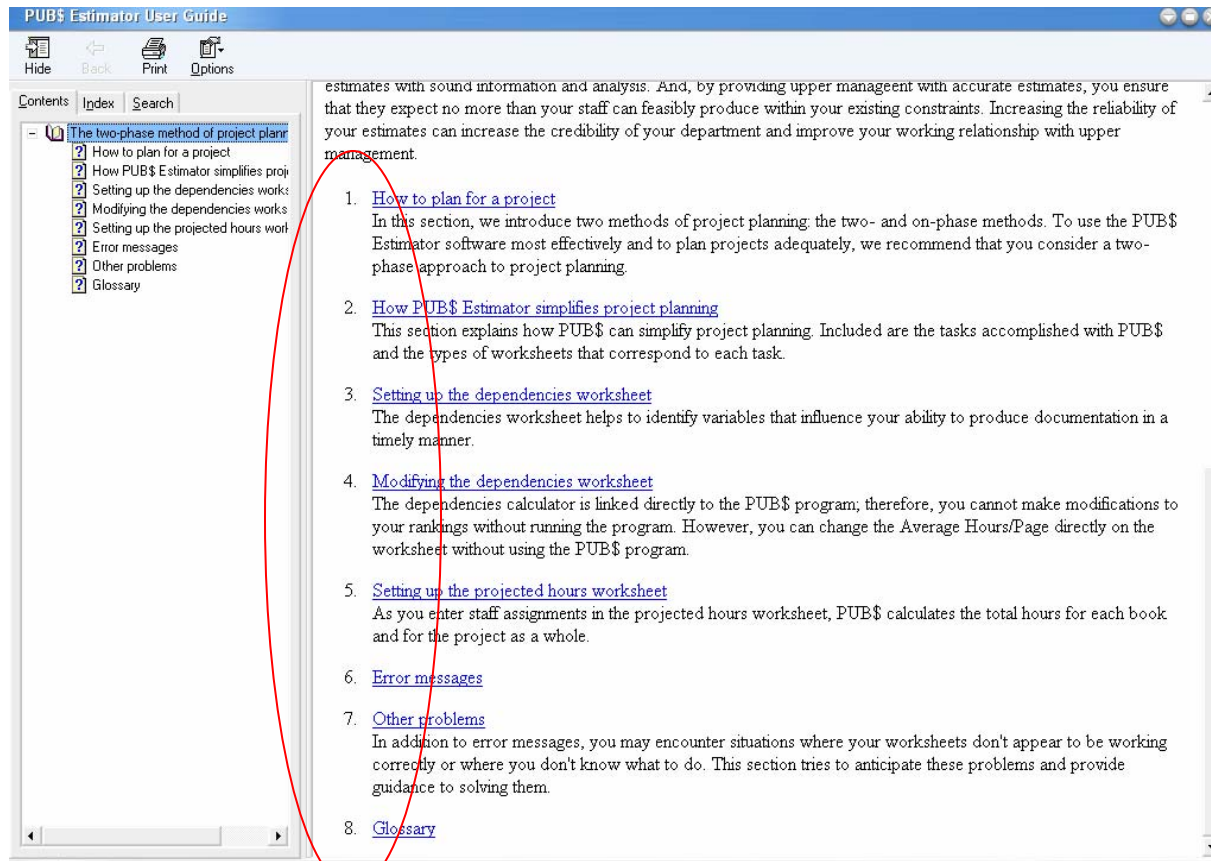
# Collection-type sequence

- If you set the attribute collection-type="sequence", siblings topics will link to previous and next topics.

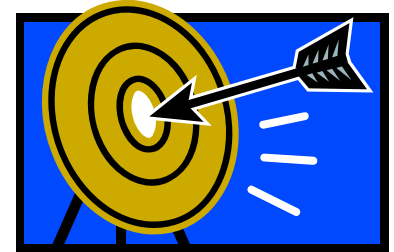
The screenshot illustrates the implementation of a collection-type sequence in DITA. On the left, the EditPad Life editor shows the DITA map structure for 'PUB\$ Estimator User Guide'. The map includes a sequence of topics, with the attribute `collection-type="sequence"` highlighted in red. On the right, the rendered user guide page shows the resulting navigation links: 'Parent topic: [The two-phase method of project planning](#)' and 'Next topic: [Setting up the dependencies worksheet](#)', both also circled in red. A diagram titled 'Figure 4. Monitoring progress' shows a flow from 'Progress Worksheet' and 'Progress Report' to 'Project Progress'.

# Collection-type sequence

- Using the collection-type="sequence" also arranges links to children topic in order in the parent topic.



# Linking attribute



- Use the linking attribute to control how links perform among topics. You can create one-way links using the linking attribute.
- The values you can use are targetonly, sourceonly, normal, or none.
- In this example, the processingDITA.dita topic can only be linked to by usingDITAtoolkit.xml and doesn't contain a link to the usingDITAtoolkit.xml.

```
<map title="DITA User Guide"
id="DITAuserguide">
  <topicref href="topics/aboutDITAtopics.dita"
type="concept" format="dita" scope="local"
collection-type="family">
    <topicref
href="processing/usingDITAtoolkit.xml"
type="task" format="xml" scope="peer">
    </topicref>
  <topicref
href="processing/processingDITA.dita"
type="task" format="dita"
scope="local" linking="targetonly">
  </topicref>
</topicref>
<topicref href="http://www.comtech-serv.com"
format="html" scope="external"></topicref>
</map>
```

# Processing attributes

- Use the toc and print attribute to control what topics you want to include in the table of contents and what topics you want to deliver to a print or PDF media.
- The values you can use for each are yes or no.
- In this example, the [www.comtech-serv.com](http://www.comtech-serv.com) topic reference will not be included in the table of contents and the first three topic references will be used in the print output also. The first three topic references are assigned the print attribute because you set on the parent allowing the child attributes to inherit the value.

```
<map title="DITA User Guide"
id="DITAuserguide">
  <topicref href="topics/aboutDITAtopics.dita"
type="concept" format="dita" scope="local"
collection-type="family" print="yes">
    <topicref
href="processing/usingDITAtoolkit.xml"
type="task" format="xml" scope="peer">
    </topicref>
  <topicref
href="processing/processingDITA.dita"
type="task" format="dita"
scope="local" linking="targetonly">
  </topicref>
</topicref>
  <topicref href="http://www.comtech-serv.com"
format="html" scope="external"
toc="no"></topicref>
</map>
```



# Adding a topicgroup element

- Add a <topicgroup> element to create a collection of topic references that you want to inherit a particular attribute value.
- In this example, neither the aboutDITAtopics.dita topic nor the usingDITAtoolkit.xml topic will be included in the table of contents.

```
<map title="DITA User Guide" id="DITAuserguide">  
  <topicgroup toc="no">  
    <topicref href="topics/aboutDITAtopics.dita"></topicref>  
    <topicref href="processing/usingDITAtoolkit.xml"></topicref>  
  </topicgroup>  
</map>
```

# Adding a topichead element

- Add a <topichead> element to provide a heading to a group of topic references without needing to reference an entire topic.
- A topic heading element doesn't require an href attribute.
- A topic heading element does require a navtitle attribute.
- You can also use the locktitle attribute to ensure the navtitle is used in your table of contents. You can use navtitle and locktitle on each topic reference to create an alternative title to the one provided in your topic.

```
<map title="DITA User Guide" id="DITAuserguide">  
  <topichead navtitle="Introduction to DITA" locktitle="yes">  
    <topicref href="topics/aboutDITAtopics.dita"></topicref>  
    <topicref href="processing/usingDITAtoolkit.xml"></topicref>  
  </topichead>  
</map>
```

---

# What is a relationship table?

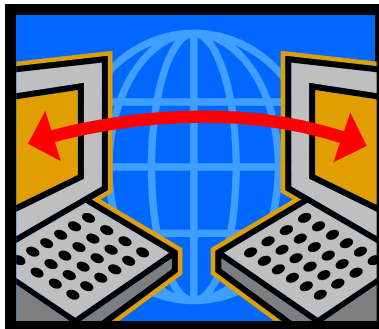
- Using columns and rows, a relationship table outlines the relationships or links among topics
- Relationship tables define links among topics that are not related by hierarchical, sequential, or family links in the hierarchical part of the DITA map



---

# Relationship table specifics

- Relationship tables are created in DITA maps
- Each row represents a relationship, each cell represents a participant in the relationship



# A visual representation

- Each topic reference in a cell links to the topic references in all the other cells in the same row

CONCEPT	TASK	REFERENCE
aboutDITAtopics.dita		glossary.dita
aboutDITA.dita	processingDITA.dita	glossary.dita errors.dita
	usingDITAtoolkit.dita	errors.dita www.comtech-serv.dita

# Starting a relationship table

- Add a reltable element to a DITA map
- Each reltable must have at least one row

```
<map>  
  <reltable>  
    <relrow>  
    </relrow>  
  </reltable>  
</map>
```

# Add the table header elements

- Add the relheader and relcolspec elements to assign column headings
- The relheader element contains relcolspec elements that define a column for each information type

```
<reltable>  
  <relheader>  
    <relcolspec>  
  </relcolspec>  
  </relheader>  
</reltable>
```

# Add the table header values

- Set the type attribute on the relcolspec elements to identify the column subject

```
<relheader>  
  <relcolspec type="concept">  
  </relcolspec>  
  <relcolspec type="task">  
  </relcolspec>  
  <relcolspec type="reference">  
  </relcolspec>  
</relheader>
```

# Add table rows

- In the first relrow element, add three relcell elements. The three element containers define the next single row of the table.

```
<relrow>  
    <relcell>  
    </relcell>  
    <relcell>  
    </relcell>  
    <relcell>  
    </relcell>  
</relrow>
```

# Add topic references

- Relcell – add topics to each relcell. Topic references may include tasks, concepts, references, or other types of topics.
- Add concept topic references (<topicref>) inside the first relcell element. Tasks go in the second relcell element, and references go in the third relcell element.

```
<relrow>  
  <relcell> topicref concepts </relcell>  
  <relcell> topicref tasks </relcell>  
  <relcell> topicref references </relcell>  
</relrow>
```

# More rows = more relationships

- Create additional <relrow> elements with <relcell> and <topicref>s to show more relationships among topics



```
<relrow>
  <relcell> topicref concepts </relcell>
  <relcell> topicref tasks </relcell>
  <relcell> topicref references </relcell>
</relrow>
<relrow>
  <relcell> topicref concepts </relcell>
  <relcell> topicref tasks </relcell>
  <relcell> topicref references </relcell>
</relrow>
```



# Merging rows

- If there are tasks that share the same related concepts and related reference topics, they can be considered part of the same pattern and stored in a single row

```
<relrow>
```

```
<relcell> topicref concept </relcell>
```

```
<relcell> topicref task1
```

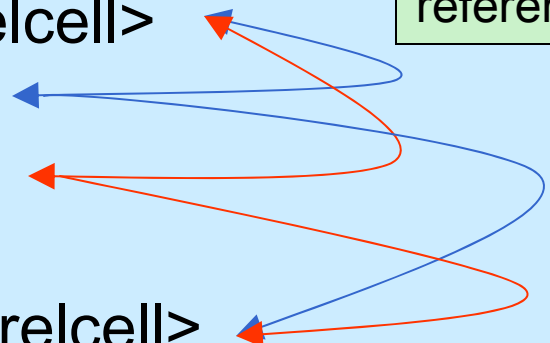
```
topicref task2
```

```
</relcell>
```

```
<relcell> topicref reference </relcell>
```

```
</relrow>
```

task1 and task2  
both link to this  
concept and this  
reference



# Simple relationship table

```
<map>
<reltable>
  <relheader>
    <relcolspec type="concept"/>
    <relcolspec type="task"/>
    <relcolspec type="reference"/>
  </relheader>
  <relrow>
    <relcell>
      <topicref href="A.dita"/>
    </relcell>
    <relcell>
      <topicref href="B.dita"/>
    </relcell>
    <relcell>
      <topicref href="C1.dita"/>
      <topicref href="C2.dita"/>
    </relcell>
  </relrow>
</reltable>
</map>
```

A  
links to B, C1, C2

B  
links to A, C1, C2

C1, C2  
link to A, B

concept	task	reference
A	B	C1 C2

# Grouping topics

- Add a topicgroup element to apply relationships among topics in the same cell.
- If you want to show a relationship between two topics in the same column, use the topicgroup element and set its collection-type="family"

```
<relrow>
```

```
<relcell> topicref concept </relcell>
```

```
<relcell><topicgroup collection-type="family">
```

```
<topicref href="settingupdependencies.dita"></topicref><topicref  
href="modifyingdependencies.dita"></topicref></topicgroup>
```

```
</relcell>
```

```
<relcell> topicref reference </relcell>
```

```
</relrow>
```

These two tasks link to each other.

# One-way relationships

- Add the linking attribute to topic references you want to have only one-way linking
- Set the linking="sourceonly" or linking="targetonly" to customize your topic linking relationships

```
<relrow>
  <relcell></relcell>
  <relcell> <topicref href="projectplanning.dita"
linking="sourceonly"></topicref></relcell>
  <relcell>
    <topicref href="glossary.dita"></topicref>
  </relcell>
</relrow>
```

projectplanning links to glossary, but glossary does not link back to projectplanning

---

# DITA map benefits

- In DITA, your deliverable isn't tied to the structure you author the topics in. You can
  - place topics in more than one position in a DITA map. For example, a task can occur in more than one place in a task flow.
  - create solutions-oriented maps that answer the question "how do these products work together?" You can also create task-oriented maps to answer the question "how do I accomplish my goals?" And, you can create feature-oriented maps to answer the question "what does this product do?"
  - create maps to deliver information to specific audiences
  - create hierarchies of topics depending on the way you format your output
  - include topics in your navigation from different information sets, such as external web sites and other content your staff or another department may have created

# Helpful resources



- [www.comtech-serv.com](http://www.comtech-serv.com)
  - Order the *DITA User Guide*
  - DITA map articles
  - Additional articles and links
- [dita.xml.org](http://dita.xml.org)
  - Collections of resources
  - Ideas to help you get started
  - Places for you to add your own DITA ideas
- [xml.coverpages.org/dita.html](http://xml.coverpages.org/dita.html)
- [sourceforge.net/projects/dita-ot](http://sourceforge.net/projects/dita-ot)
- [www-128.ibm.com/developerworks/xml/library/x-dita1/](http://www-128.ibm.com/developerworks/xml/library/x-dita1/)
- [www.oasis-open.org/committees/tc\\_home.php?wg\\_abbrev=dita](http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=dita)

---

# Questions

