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<http://www.xml.com/pub/2000/10/16/relax/quicref.html>

# RELAX Quick Reference

Your entire specification must be wrapped in a <module>

```
<module
  moduleVersion="1.2"
  relaxCoreVersion="1.0"
  targetNamespace=""
  xmlns="http://www.xml.gr.jp/xmlns/relaxCore">

  <interface>
    <export label="root-element" />
  </interface>

  <!-- specifications follow -->

</module>
```

In the tables below, items in gray like this are optional. Items in italics *like this* indicate values that depend upon your particular application.

## Specifying Elements

To specify:	RELAX
An empty element  Note: all element rules may have a label. If omitted, it has the same value as the role	<pre>&lt;elementRule role="<i>name</i>" label="<i>name2</i>"&gt;   &lt;empty/&gt; &lt;/elementRule&gt;</pre>
Element with no sub-elements	<pre>&lt;elementRule role="<i>name</i>" type="<i>datatype</i>" /&gt;</pre>

Element with constraints on content	<pre>&lt;elementRule role="name" type="datatype"&gt;   &lt;constraint value="constraint-value" /&gt; &lt;/elementRule&gt;</pre> <p>Example:</p> <pre>&lt;elementRule role="age" type="integer"&gt;   &lt;minInclusive value="18" /&gt;   &lt;maxInclusive value="65" /&gt; &lt;/elementRule&gt;</pre>
Element with a single sub-element	<pre>&lt;elementRule role="name"&gt;   &lt;ref label="sub-element" /&gt; &lt;/elementRule&gt;</pre>
Element with sub-elements that must occur in a particular order  The <code>occurs</code> = attribute can have one of the following values: * occurs zero or more times + occurs one or more times ? occurs zero or one times	<pre>&lt;elementRule role="name"&gt;   &lt;sequence occurs="n"&gt;     &lt;ref label="sub-element1" occurs="n" /&gt;     &lt;ref label="sub-element2" occurs="n" /&gt;   &lt;/sequence&gt; &lt;/elementRule&gt;</pre>
Element with sub-elements that may appear in any order	<pre>&lt;elementRule role="name"&gt;   &lt;choice occurs="n"&gt;     &lt;ref label="sub-element1" occurs="n" /&gt;     &lt;ref label="sub-element2" occurs="n" /&gt;   &lt;/choice&gt; &lt;/elementRule&gt;</pre>
Mixed content element (element can contain text that is not within any of the sub-elements)  The <code>&lt;mixed&gt;</code> element may enclose a <code>&lt;sequence&gt;</code> or <code>&lt;choice&gt;</code> as above.	<pre>&lt;elementRule role="name"&gt;   &lt;mixed&gt;     &lt;ref label="sub-element" /&gt;   &lt;/mixed&gt; &lt;/elementRule&gt;</pre>
A content model for re-use by other elements:  Hedge rules may refer to other hedge rules, but may not have mixed content or data types.	<pre>&lt;hedgeRule label="hedge-rule-label"&gt;   &lt;!-- content model as in elementRule --&gt; &lt;/hedgeRule&gt;</pre>
Reference to a <code>&lt;hedgeRule&gt;</code>  You may intersperse <code>&lt;ref&gt;</code> and <code>&lt;hedgeRef&gt;</code> as required when defining an element's content.	<pre>&lt;elementRule role="name"&gt;   &lt;hedgeRef label="hedge-rule-label" /&gt; &lt;/elementRule&gt;</pre>

## Specifying Tags

Each element in a document is associated with tag. The `role=` in an `<elementRule>` matches the tag name.

To specify:	RELAX
A tag with no attributes  All tags may have a <code>role</code> , which, if omitted, is given the same value as the <code>label</code>	<pre>&lt;tag label="name" role="tag-role"/&gt;</pre>
A tag with attributes  You may specify that an attribute is required, or that it has a particular data type, or both.	<pre>&lt;tag label="name"&gt;   &lt;attribute name="attr-name-1" /&gt;   &lt;attribute name="attr-name-2" required="true" /&gt;   &lt;attribute name="attr-name-3" type="datatype" /&gt;   &lt;attribute name="attr-name-4"     required="true"     type="datatype" /&gt; &lt;/tag&gt;</pre>
Constraint on an attribute	<pre>&lt;tag label="name"&gt;   &lt;attribute name="attr-name" type="datatype"&gt;     &lt;constraint value="constraint-value" /&gt;   &lt;/attribute&gt; &lt;/tag&gt;</pre> <p>Example:</p> <pre>&lt;tag label="water"&gt;   &lt;attribute name="temp" type="decimal"&gt;     &lt;minInclusive value="0" /&gt;     &lt;maxInclusive value="100" /&gt;   &lt;/attribute&gt; &lt;/tag&gt;</pre>
A set of attributes for re-use by other tags:	<pre>&lt;attPool role="pool-label"&gt;   &lt;!-- list of attributes as in tag--&gt; &lt;/attPool&gt;</pre>
Reference to an <code>&lt;attPool&gt;</code>  You may intersperse <code>&lt;ref&gt;</code> and <code>&lt;attribute&gt;</code> as required when defining a tag's attributes.	<pre>&lt;tag label="name"&gt;   &lt;ref role="pool-label" /&gt; &lt;/tag&gt;</pre>

## Context Sensitivity

To make an element's content model dependent upon the element in which it is nested:

1. Define two `<elementRule>` models with the same `role` but different `label`s.
2. Other `<elementRule>`s may now contain the desired sub-element by referring to the appropriate `label`.

To make an element's content model dependent upon the value of its tag's attribute:

1. Define two `<elementRule>` models with the same `label` but different `roles`.
2. Create `<tag>`s with identical names. Each of these will refer to the appropriate `role` defined in step one, and have an `<attribute>` to differentiate them.

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