

Dublin Core Examples in RDF

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This document presents a series of examples of the use of RDF syntax in encoding Dublin Core metadata records.

It is advisable that the reader have some knowledge of the RDF Model and Syntax Working Draft at:

<http://www.w3.org/TR/WD-rdf-syntax/>

<ER:EXAMPLE-1> - Simple Description

The "Dublin Core Element Set" document, written by Stu and Eric, is described using the Dublin Core semantics in full RDF syntax. (*Note: this is not the preferred way to express this example - see Example-1B.*)

```
<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<RDF:RDF>
  <RDF:Description>
    <DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
    <DC:Creator>Stuart Weibel</DC:Creator>
    <DC:Creator>Eric Miller</DC:Creator>
    <DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
    <DC:Description>This document is the reference description of the
Dublin Core Metadata Element Set designed to facilitate resource
discovery.</DC:Description>
    <DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
    <DC:Identifier>http://purl.org/metadata/dublin_core_elements</DC:Identifier>
    <DC:Format>text/html</DC:Format>
    <DC:Type>Technical Report</DC:Type>
    <DC:Language>en</DC:Language>
    <DC>Date>1997-11-02</DC>Date>
  </RDF:Description>
</RDF:RDF>
```

<ER:EXAMPLE-1B> - HREF version of Example-1

The RDF specification provides a method to associate the properties describing a resource directly to the resource itself. The Description property allows a "HREF" to point to the resource via a URI. In this example, since the Dublin Core Identifier element has the same semantics as "RDF:HREF", we update the metadata (and remove the Identifier property). (*Note: This is the preferred way to encode Dublin Core metadata in RDF.*)

```
<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<RDF:RDF>
  <RDF:Description RDF:HREF="http://purl.org/metadata/dublin_core_elements">
```

```

<DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
<DC:Creator>Stuart Weibel</DC:Creator>
<DC:Creator>Eric Miller</DC:Creator>
<DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
<DC:Description>This document is the reference description of the
Dublin Core Metadata Element Set designed to facilitate resource
discovery.</DC:Description>
<DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
<DC:Format>text/html</DC:Format>
<DC:Type>Technical Report</DC:Type>
<DC:Language>en</DC:Language>
<DC>Date>1997-11-02</DC>Date>
</RDF:Description>
</RDF:RDF>

```

<ER:EXAMPLE-1C> - Abbreviated Version of Example-1

The metadata from <ER:EXAMPLE-1> is now presented in abbreviated RDF syntax. This abbreviated syntax is useful for inclusion in existing HTML documents. Note: In this case, the DC:Creators are collapsed into one attribute due to the non-repeatability of attributes associated with elements in XML.

```

<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<RDF:RDF>
  <RDF:Description RDF:HREF="http://purl.org/metadata/dublin_core_elements"
    DC:Title = "Dublin Core Metadata Element Set: Reference Description"
    DC:Creator = "Stuart Weibel, Eric Miller"
    DC:Subject = "Metadata, Dublin Core element, resource description"
    DC:Description = "This document is the reference description of the Dublin
    Core Metadata Element Set designed to facilitate resource discovery."
    DC:Publisher = "OCLC Online Computer Library Center, Inc."
    DC:Format = "text/html"
    DC:Type = "Technical Report"
    DC:Language = "en"
    DC>Date = "1997-11-02" />
</RDF:RDF>

```

<ER:EXAMPLE-2> - Resource in Two Formats - HTML and PS

A postscript version of the same document from <ER:EXAMPLE-1> is now created. The metadata is updated to reflect the availability of 2 different formats of the same document. Since we now have two URIs for the resource, the RDF:Description now reverts to an anonymous resource (ie: no RDF:HREF).

```

<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<RDF:RDF>
  <RDF:Description>
    <DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
    <DC:Creator>Stuart Weibel</DC:Creator>
    <DC:Creator>Eric Miller</DC:Creator>
    <DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
    <DC:Description>This document is the reference description of the
    Dublin Core Metadata Element Set designed to facilitate resource
    discovery.</DC:Description>
    <DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
    <DC:Type>Technical Report</DC:Type>
  </RDF:Description>

```

NOTE: THIS RDF:ALT IS INCORRECT

```

<RDF:Alt>
  <RDF:LI>
    <DC:Format>text/html</DC:Format>
    <DC:Identifier>http://purl.org/metadata/dublin_core_elements</DC:Identifier>
  </RDF:LI>
  <RDF:LI>
    <DC:Format>application/postscript</DC:Format>
    <DC:Identifier>http://purl.org/metadata/dublin_core_elements.ps</DC:Identifier>
  </RDF:LI>
</RDF:Alt>
<DC:Language>en</DC:Language>
<DC>Date>1997-11-02</DC>Date>
</RDF:Description>
</RDF:RDF>

```

<ER:EXAMPLE-2B> - Shorthand Version of Example-2

The below example is a short-hand version of <ER:EXAMPLE-2>. In this case the format information has been compressed into the single "Alternative" tag - meaning that either one of the URIs listed is an alternate version of the document. We have also decided to remove the Format property.

```

<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<RDF:RDF>
  <RDF:Description>
    <DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
    <DC:Creator>Stuart Weibel</DC:Creator>
    <DC:Creator>Eric Miller</DC:Creator>
    <DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
    <DC:Description>This document is the reference description of the
Dublin Core Metadata Element Set designed to facilitate resource
discovery.</DC:Description>
    <DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
    <DC:Type>Technical Report</DC:Type>
    <DC:Identifier>
      <RDF:Alt>
        <RDF:LI RDF:HREF="http://purl.org/metadata/dublin_core_elements"/>
        <RDF:LI RDF:HREF="http://purl.org/metadata/dublin_core_elements.ps"/>
      </RDF:Alt>
    </DC:Identifier>
    <DC:Language>en</DC:Language>
    <DC>Date>1997-11-02</DC>Date>
  </RDF:Description>
</RDF:RDF>

```

<ER:EXAMPLE-3> - DDC Subject

The same document is now described more formally by referencing and external subject-taxonomy. In this case the DDC system. A new namespace (DDC) is used to indicate that certain elements of the Dublin Core are further refined based on another standard. Note: In this specific example, we are assuming that there will be a DDC namespace.

```

<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<?xml:namespace href="http://fp.oclc.org/DDC/" as="DDC"?>
<RDF:RDF>
  <RDF:Description RDF:HREF="http://purl.org/metadata/dublin_core_elements">

```

```

<DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
<DC:Creator>Stuart Weibel</DC:Creator>
<DC:Creator>Eric Miller</DC:Creator>
<DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
<DC:Subject>
  <RDF:Description>
    <DDC:Class>025.484</DDC:Class>
    <DDC:Header>Machine Readable Catalog Record Formats</DDC:Header>
  </RDF:Description>
</DC:Subject>
<DC:Description>This document is the reference description of the
Dublin Core Metadata Element Set designed to facilitate resource
discovery.</DC:Description>
<DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
<DC:Format>text/html</DC:Format>
<DC:Type>Technical Report</DC:Type>
<DC:Language>en</DC:Language>
<DC:Date>1997-11-02</DC:Date>
</RDF:Description>
</RDF:RDF>

```

<ER:EXAMPLE-4> - ISO8601 Date

As in <ER:EXAMPLE-3>, we now use a new namespace to refer to an external standard for Date encoding - ISO8601.

```

<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<?xml:namespace href="http://iso.ch/8601/" as="ISO"?>

<RDF:RDF>
  <RDF:Description RDF:HREF="http://purl.org/metadata/dublin_core_elements">
    <DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
    <DC:Creator>Stuart Weibel</DC:Creator>
    <DC:Creator>Eric Miller</DC:Creator>
    <DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
    <DC:Description>This document is the reference description of the
Dublin Core Metadata Element Set designed to facilitate resource
discovery.</DC:Description>
    <DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
    <DC:Format>text/html</DC:Format>
    <DC:Type>Technical Report</DC:Type>
    <DC:Language>en</DC:Language>
    <DC:Date>
      <RDF:Description>
        <ISO:date>1997-11-02</ISO:date>
      </RDF:Description>
    </DC:Date>
  </RDF:Description>
</RDF:RDF>

```

<ER:EXAMPLE-5> - Ordered Creators

Eric realises that Stu was really the primary author of the document. He modifies the metadata (using an RDF Sequence) to ensure that Stu's name always appears first.

```

<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>

<RDF:RDF>

```

```

<RDF:Description RDF:HREF="http://purl.org/metadata/dublin_core_elements">
  <DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
  <DC:Creator>
    <RDF:Seq>
      <RDF:LI>Stuart Weibel</RDF:LI>
      <RDF:LI>Eric Miller</RDF:LI>
    </RDF:Seq>
  </DC:Creator>
  <DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
  <DC:Description>This document is the reference description of the
  Dublin Core Metadata Element Set designed to facilitate resource
  discovery.</DC:Description>
  <DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
  <DC:Format>text/html</DC:Format>
  <DC:Type>Technical Report</DC:Type>
  <DC:Language>en</DC:Language>
  <DC>Date>1997-11-02</DC>Date>
</RDF:Description>
</RDF:RDF>

```

<ER:EXAMPLE-6> - Resource in Two Languages

The original english version fo the document is now translated into German (by Diann). Stu and Eric update their metadata to recognise the existence of the same intellectual resource in a different language.

```

<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<RDF:RDF>
  <RDF:Description RDF:HREF="http://purl.org/metadata/dublin_core_elements">
    <DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
    <DC:Creator>Stuart Weibel</DC:Creator>
    <DC:Creator>Eric Miller</DC:Creator>
    <DC:Contributor>Translated to German by Diann Rusch-Feja</DC:Contributor>
    <DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
    <DC:Description>This document is the reference description of the
    Dublin Core Metadata Element Set designed to facilitate resource
    discovery.</DC:Description>
    <DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
    <DC:Format>text/html</DC:Format>

```

NOTE: THIS RDF:ALT IS INCORRECT

```

  <RDF:Alt>
    <RDF:LI>
      <DC:Language>en</DC:Language>
      <DC:Identifier>http://purl.org/metadata/dublin_core_elements</DC:Identifier>
    </RDF:LI>
    <RDF:LI>
      <DC:Language>de</DC:Language>
      <DC:Identifier>http://www.mpib-berlin.mpg.de/DOK/metatagd.htm</DC:Identifier>
    </RDF:LI>
  </RDF:Alt>
  <DC>Date>1997-11-02</DC>Date>
</RDF:Description>
</RDF:RDF>

```

<ER:EXAMPLE-7> - Externally Referenced Creator Details

Eric and Stu are busy document writers. They realise that they should not have to repeat their personal details over and over again. They setup some metadata to describe themselves, then reference this

metadata in their document descriptions.

Resource dereferenced by the URL <http://purl.net/people/eric>

```
<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://virtual.person.org/BIB/" as="VP"?>
<RDF:RDF>
  <RDF:Description>
    <VP:Firstname>Eric</VP:Firstname>
    <VP:Lastname>Miller</VP:Lastname>
    <VP:Affiliation>OCLC Online Computer Library Center</VP:Affiliation>
    <VP:Email>emiller@oclc.org</VP:Email>
    <VP:URL>http://purl.org/net/eric</VP:URL>
  </RDF:Description>
</RDF:RDF>
```

Resource dereferenced by the URL <http://purl.net/people/stu>

```
<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://virtual.person.org/BIB/" as="VP"?>
<RDF:RDF>
  <RDF:Description>
    <VP:Firstname>Stuart</VP:Firstname>
    <VP:Lastname>Weibel</VP:Lastname>
    <VP:Affiliation>OCLC Online Computer Library Center</VP:Affiliation>
    <VP:Email>weibel@oclc.org</VP:Email>
    <VP:URL>http://purl.org/net/weibel</VP:URL>
  </RDF:Description>
</RDF:RDF>
```

The Creator elements now references the resources associated with the authors of this work.

```
<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<RDF:RDF>
  <RDF:Description RDF:HREF="http://purl.org/metadata/dublin_core_elements">
    <DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
    <DC:Creator RDF:HREF="http://purl.net/people/eric"/>
    <DC:Creator RDF:HREF="http://purl.net/people/stu"/>
    <DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
    <DC:Description>This document is the reference description of the
    Dublin Core Metadata Element Set designed to facilitate resource
    discovery.</DC:Description>
    <DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
    <DC:Format>text/html</DC:Format>
    <DC:Type>Technical Report</DC:Type>
    <DC:Language>en</DC:Language>
    <DC>Date>1997-11-02</DC>Date>
  </RDF:Description>
</RDF:RDF>
```

<ER:EXAMPLE-8> - Mirrored Resource

Renato contacts Eric and tells him that he has put a copy of the Dublin Core document on his server in Australia. Eric updates the metadata to indicate that there are now two locations of the resource.

```
<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<RDF:RDF>
  <RDF:Description RDF:HREF="http://purl.org/metadata/dublin_core_elements">
```



```

<DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
<DC:Creator RDF:Href="http://purl.net/people/eric"/>
<DC:Creator RDF:Href="http://purl.net/people/stu"/>
<DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
<DC:Description>This document is the reference description of the
Dublin Core Metadata Element Set designed to facilitate resource
discovery.</DC:Description>
<DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
<DC:Identifier>
  <RDF:Bag>
    <RDF:LI RDF:Href="http://purl.org/metadata/dublin_core_elements"/>
    <RDF:LI RDF:Href="http://www.dstc.edu.au/metadata/dc.html"/>
  </RDF:Bag>
</DC:Identifier>
<DC:Format>text/html</DC:Format>
<DC:Type>Technical Report</DC:Type>
<DC:Language>en</DC:Language>
<DC>Date>1997-11-02</DC>Date>
</RDF:Description>
</RDF:RDF>

```

<ER:EXAMPLE-9> - IsBasisFor Relation

Later, John, Stu, and Carl use the Dublin Core document as a basis for their IETF Internet RFC on the Dublin Core elements. Eric updates his metadata to indicate the relationship between the two documents and adds some DC elements describing the Internet RFC.

```

<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<RDF:RDF>
  <RDF:Description RDF:Href="http://purl.org/metadata/dublin_core_elements">
    <DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
    <DC:Creator RDF:Href="http://purl.net/people/eric"/>
    <DC:Creator RDF:Href="http://purl.net/people/stu"/>
    <DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
    <DC:Description>This document is the reference description of the
Dublin Core Metadata Element Set designed to facilitate resource
discovery.</DC:Description>
    <DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
    <DC:Format>text/html</DC:Format>
    <DC:Type>Technical Report</DC:Type>
    <DC:Language>en</DC:Language>
    <DC>Date>1997-11-02</DC>Date>
    <DC:Relation>
      <RDF:Description>
        <DC:Relation.Type>IsBasisFor</DC:Relation.Type>
        <DC:Relation.Identifier>
          ftp://ftp.ietf.org/internet-drafts/draft-kunze-dc-02.txt
        </DC:Relation.Identifier>
      </RDF:Description>
    </DC:Relation>
  </RDF:Description>
</RDF:RDF>

```

NOTE: Consensus needed here for below repeated DC elements:

```

  <DC:Title>Dublin Core Metadata for Simple Resource Discovery</DC:Title>
  <DC:Creator>Stuart L. Weibel, John A. Kunze, Carl Lagoze</DC:Creator>
  <DC:Type>Internet RFC</DC:Type>
</RDF:Description>
</DC:Relation>
</RDF:Description>
</RDF:RDF>

```

<ER:EXAMPLE-9B> - IsBasisFor Relation - Pointing to metadata

The IETF begins to publish RDF metadata on all Internet RFCs. Stu updates their metadata to point to the the RDF description of the Dublin Core Internet RFC.

```
<?xml:namespace href="http://www.w3c.org/RDF/" as="RDF"?>
<?xml:namespace href="http://purl.org/RDF/DC/" as="DC"?>
<RDF:RDF>
  <RDF:Description RDF:HREF="http://purl.org/metadata/dublin_core_elements">
    <DC:Title>Dublin Core Metadata Element Set: Reference Description</DC:Title>
    <DC:Creator RDF:HREF="http://purl.net/people/eric"/>
    <DC:Creator RDF:HREF="http://purl.net/people/stu"/>
    <DC:Subject>Metadata, Dublin Core element, resource description</DC:Subject>
    <DC:Description>This document is the reference description of the
Dublin Core Metadata Element Set designed to facilitate resource
discovery.</DC:Description>
    <DC:Publisher>OCLC Online Computer Library Center, Inc.</DC:Publisher>
    <DC:Format>text/html</DC:Format>
    <DC:Type>Technical Report</DC:Type>
    <DC:Language>en</DC:Language>
    <DC>Date>1997-11-02</DC>Date>
    <DC:Relation>
      <RDF:Description>
        <DC:Relation.Type>IsBasisFor</DC:Relation.Type>
        <DC:Relation.Identifier>
          ftp://ftp.ietf.org/internet-drafts/draft-kunze-dc-02.rdf
        </DC:Relation.Identifier>

```

NOTE: Consensus needed here for if/how to point to metadata not the resource

```
      </RDF:Description>
    </DC:Relation>
  </RDF:Description>
</RDF:RDF>
```
