

RDF / JSON-LD Course Outline

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- Exercises.

Blurb

Embark on a transformative learning experience with our **RDF and JSON-LD for metadata** course. In just 120 minutes, this course unlocks the intricacies of RDF and JSON-LD, the fundamental elements underpinning the BIBFRAME standard for bibliographic description. Immerse yourself exploring the core concepts of RDF—triples, subject-predicate-object relationships—and unraveling the expressive capabilities of JSON-LD in semantic data representation through JSON syntax.

There will also be practical examples, walking through RDF instances in bibliographic descriptions and showcasing the application of JSON-LD to express RDF triplets. Solidify your skills in a concise exercise setup and engage in a comprehensive Q&A session for any lingering questions or discussions. Leave **RDF and JSON-LD for metadata** with a higher understanding of RDF and JSON-LD, setting the stage for further exploration in the dynamic world of linked data.

Live Session Outline

- Background information (15 minutes)
- Fundamental concepts of RDF, such as triples and subject-predicate-object.
- RDF Serialization: Turtle and N-Triple.
- Concepts of JSON-LD and how it is used to express RDF and linked data in a semantic way, through the use of JSON syntax.
(45 minutes)
- Walk through serialized RDF examples on elements of bibliographic description.
- Walk through JSON-LD use examples, for the expression of RDF triplets.
(30 minutes)
- Walk through a final exercise (10 minutes)
- Questions and further discussion and explanation. (10 minutes)
- Wrap-up – how to get feedback and next steps (10 minutes)

Total: 120 minutes

Exercises

RDF examples of bibliographic description (Graph construction and inferences)

1. Build a graph, and describe possible inferences, from the following code:

```
@prefix dc: <http://purl.org/dc/elements/1.1/>.
```

```
@prefix ex: <http://example.org/>.
```

```
ex:book1
```

```
  dc:title "The Great Gatsby";
```

```
  dc:creator "F. Scott Fitzgerald";
```

```
  dc:publisher "Scribner";
```

```
  dc:date "1925";
```

```
  dc:format "Hardcover";
```

```
  dc:language "en".
```

In which format is this code written? What does it describe?

Express the code as N-Triple.

Solution:

```
<http://example.org/book1> <http://purl.org/dc/elements/1.1/title> "The Great Gatsby" .  
<http://example.org/book1> <http://purl.org/dc/elements/1.1/creator> "F. Scott Fitzgerald" .  
<http://example.org/book1> <http://purl.org/dc/elements/1.1/publisher> "Scribner" .  
<http://example.org/book1> <http://purl.org/dc/elements/1.1/date> "1925" .  
<http://example.org/book1> <http://purl.org/dc/elements/1.1/format> "Hardcover" .  
<http://example.org/book1> <http://purl.org/dc/elements/1.1/language> "en" .
```

Express the code as JSON-LD.

Solution:

```
{  
  "@context": {  
    "dc": "http://purl.org/dc/elements/1.1/",  
    "ex": "http://example.org/"  
  },  
  "@id": "ex:book1",  
  "dc:title": "The Great Gatsby",  
  "dc:creator": "F. Scott Fitzgerald",  
  "dc:publisher": "Scribner",  
  "dc:date": "1925",  
  "dc:format": "Hardcover",  
  "dc:language": "en"  
}
```

2. Build a graph, and describe possible inferences, from the following code:

```
<http://example.org/book2> <http://purl.org/dc/elements/1.1/title> "The Beautiful and Damned" .  
<http://example.org/book2> <http://purl.org/dc/elements/1.1/creator> "F. Scott Fitzgerald" .  
<http://example.org/book2> <http://purl.org/dc/elements/1.1/publisher> "Scribner" .  
<http://example.org/book2> <http://purl.org/dc/elements/1.1/date> "1922" .  
<http://example.org/book2> <http://purl.org/dc/elements/1.1/format> "Paperback" .  
<http://example.org/book2> <http://purl.org/dc/elements/1.1/language> "en" .
```

In which format is this code written? What does it describe?

Express the code as Turtle.

Solution:

```
@prefix dc: <http://purl.org/dc/elements/1.1/>.  
@prefix ex: <http://example.org/>.
```

```
ex:book2  
  dc:title "The Beautiful and Damned";  
  dc:creator "F. Scott Fitzgerald";  
  dc:publisher "Scribner";  
  dc:date "1922";  
  dc:format "Paperback";  
  dc:language "en".
```

Express the code as JSON-LD.

Solution:

```
{  
  "@context": {  
    "dc": "http://purl.org/dc/elements/1.1/",  
    "ex": "http://example.org/"  
  },  
  "@id": "ex:book2",  
  "dc:title": "The Beautiful and Damned",  
  "dc:creator": "F. Scott Fitzgerald",  
  "dc:publisher": "Scribner",  
  "dc:date": "1922",  
  "dc:format": "Paperback",  
  "dc:language": "en"  
}
```

3. Build a graph linking example 1 and example 2. Describe possible inferences.

Describe using JSON-LD, different aspects of a resource.

4. Given this information, represent it as JSON-LD:

Author: Isabel Allende
Title: The House of the Spirits
Publisher: Knopf
Publication Year: 1982
Format: Hardcover
Language: English

Solution:

```
{
  "@context": {
    "dc": "http://purl.org/dc/elements/1.1/",
    "ex": "http://example.org/"
  },
  "@id": "ex:book1",
  "dc:title": "The House of the Spirits",
  "dc:creator": "Isabel Allende",
  "dc:publisher": "Knopf",
  "dc:date": "1982",
  "dc:format": "Hardcover",
  "dc:language": "en"
}
```

5. Add a reference to Library of Congress Authorities (LCNAF) in the JSON-LD expression.

Let Isabel Allende's ID be <http://id.loc.gov/authorities/names/n79006906>

Let The House of the Spirits's ID be <http://id.loc.gov/authorities/names/n79006907>

Solution (only author):

```
{
  "@context": {
    "dc": "http://purl.org/dc/elements/1.1/",
    "ex": "http://example.org/",
    "lc": "http://id.loc.gov/authorities/names/"
  },
  "@id": "ex:book1",
  "dc:title": "The House of the Spirits",
  "dc:creator": {
    "@id": "lc:n79006906",
    "dc:identifier": "Isabel Allende"
  },
  "dc:publisher": "Knopf",
  "dc:date": "1982",
  "dc:format": "Hardcover",
  "dc:language": "en",
  "dc:identifier": "http://id.loc.gov/authorities/names/n79006906"
}
```

Author and Title:

```
{
  "@context": {
    "dc": "http://purl.org/dc/elements/1.1/",
    "ex": "http://example.org/",
    "lc": "http://id.loc.gov/authorities/names/"
  },
  "@id": "ex:book1",
  "dc:title": {
    "@id": "lc:n79006907",
    "dc:identifier": "The House of the Spirits"
  },
  "dc:creator": {
    "@id": "lc:n79006906",
    "dc:identifier": "Isabel Allende"
  },
  "dc:publisher": "Knopf",
  "dc:date": "1982",
  "dc:format": "Hardcover",
  "dc:language": "en",
  "dc:identifier": "http://id.loc.gov/authorities/names/n79006906",
  "dc:identifier": "http://id.loc.gov/authorities/names/n79006907"
}
```

6. Build a graph based in the example.

Understanding BIBFRAME Outline

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- Blurb.
- Live session outline.
- Exercises.

Blurb

Be part of an exciting journey into the world of bibliographic description in the digital age, with our course 'Understanding Bibframe.' We'll delve into the basics of Semantic Web and Linked Data, along with a brief history of BIBFRAME, setting the stage for an enriching learning experience.

The core of the course will go deeper into the conceptual framework and fundamental elements of BIBFRAME. Explore the depth of vocabularies, ontologies, and schemas, gaining insights into how BIBFRAME seamlessly integrates with Linked Data applications. This course empowers you to grasp the core principles of bibliographic description, equipping you with the knowledge needed to navigate and leverage the dynamic landscape of BIBFRAME effectively. Join us and unravel the foundations of bibliographic metadata in the digital age!

Live Session Outline

- Background information: Semantic Web, Linked Data, RDF and a brief history of BIBFRAME (15 minutes)
- Conceptual framework and fundamental elements of BIBFRAME.
 - Vocabularies, Ontologies and Schemas.
 - BIBFRAME and Linked Data applications. (45 minutes)
- Walk through Bibframe practical exercises. (30 minutes)
- Walk through a final exercise (10 minutes)
- Questions and further discussion and explanation. (10 minutes)
- Wrap-up – how to get feedback and next steps (10 minutes)

Total: 120 minutes

Exercises

1. Given this MARC record, build a graph, taking in account Work, Instance and Item, as well as the following categories as minimum: agent, subject and event.

000 02244cam a2200409 i 4500
001 20907431
005 20220517005258.0
008 190328s2018 nyua 000 1 eng d
010 ___ |a 2019295662
015 ___ |a GBB8G3061 |2 bnb
016 7_ |a 019039942 |2 Uk
020 ___ |a 9781435166882 |q (hbk.)
020 ___ |a 1435166884 |q (hbk.)
035 ___ |a (OCoLC)on1063620545
040 ___ |a UKMGB |b eng |c UKMGB |e rda |d OCLCO |d OCLCF |d XY4 |d OCLCO |d
DLC
050 00 |a PS2612 |b .A1 2018
082 04 |a 813.3 |2 23
100 1_ |a Poe, Edgar Allan, |d 1809-1849, |e author.
240 10 |a Short stories. |k Selections
245 10 |a Edgar Allan Poe : |b illustrated tales / |c Edgar Allan Poe ; illustrations by
Harry Clarke.
264 _1 |a New York : |b Fall River Press, |c 2018.
300 ___ |a 295 pages : |b illustrations (some color) ; |c 24 cm.
336 ___ |a text |2 rdacontent
336 ___ |a still image |2 rdacontent
337 ___ |a unmediated |2 rdamedia
338 ___ |a volume |2 rdacarrier
490 0_ |a Illustrated classic editions
520 ___ |a "Sprung from the shadowed recesses of Edgar Allan Poe's imagination,
these nineteen tales of mystery and the macabre testify to the brilliance of their author's dark
artistry. Each story is colorfully illustrated by the classic artwork of Harry Clarke, in whom Poe
found one of his most sensitive and sympathetic interpreters."--p. [4] of cover.
650 _0 |a Short stories, American.
650 _0 |a Horror tales, American.
700 1_ |a Clarke, Harry, |d 1889-1931, |e illustrator.

2. Given the following collection of information, organize it and assign possible categories (for instance, belonging to publication information, responsibility/agents, etc.), and possible belonging to Work, Instance or Item. Also write down observations about usefulness and redundancy/repetition of information.

1	0	nyu	481 pages	863/.64	2015	c
New York	Allende, Isabel,	Epic fiction.	Online version:	rdacontent	PQ8098.1.L54	a
FICTION / Historical	translator	1	The house of the spirits	Atria Paperback	FICTION / Literary	m
C313 2015	22 cm	text	author	0	unmediated	Bogin, Magda,
author	a	0	9781501117015 (paperback)	(DLC) 2015042306	eng	rda
2015	rdacarrier	eng	DLC	4	a novel	Casa de los espíritus
spa	DLC	rda	First Atria paperback edition.	Isabel Allende ; translated from the Spanish by Magda Bogin.	2015042295	20151230123114.0

Source:

<https://catalog.loc.gov/vwebv/staffView?searchId=1921&recPointer=1&recCount=25&bibId=18833930>

3. Return to exercise 1. Consider the information contained in the MARC record, and list which external resources could be linked to this record, in order to appear at the user interface, and what would be the likely source for it (for instance, audio clips from Archive.org)