**PNX JSON-LD Context**

|  |  |
| --- | --- |
| **Title:** | JSON-LD PNX Context |
| **Creator:** | Ex Libris |
| **Identifier:** | TBD <http://pnx.exlibrisgroup.com/documents/2014/04/29/PNX-Context/> |
| **Date Issued:** | 2014-04-29 |
| **Latest Version:** | TBD <http://pnx.exlibrisgroup.com/documents/PNX-Context/> |
| **Replaces:** | No previous version |
| **Translations:** | No translations |
| **Document Status:** | This is a recommendation. |
| **Description:** | This document is an up-to-date specification of metadata terms, properties, vocabulary encoding schemes, syntax encoding schemes, and classes need to describe an Ex Libris PNX record as JSON-LD.   The PNX record is the Primo Normalized XML record used to describe content of varied types and based on very varied source descriptions. The core data in the PNX is organized into sections. The important sections for external use are: Control, Display, Facets, Links and Additional Data.  Each record in the Primo repository has a unique identifier “PNX ID” and a URI based that identifier which retrieves the PNX JSON-LD described by the context described in this document. |

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# Basic Terms

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Source Name Space** | **JSON-LD Tag Name** | **Description** | **PNX source** | **Note** |
| JSON-LD | @id | <primo site>/PNX/<control/recordid>.rdf | control/recordid |  |
| JSON-LD | @TYPE |  | display/type |  |
| PNX | modified | http://purl.org/dc/terms/modified | PNX last mod date/time | Cassandra = Now [YYYY-MM-DDThh:mm:ssTZD](http://www.w3.org/TR/NOTE-datetime) |
| DC Terms | Source | <http://purl.org/dc/terms/source> | display/source | Or $$V if exists |
| DC Terms | type | http://purl.org/dc/terms/type | display/type |  |
| DC Terms | title | <http://purl.org/dc/terms/title> | display/title , addata/btitle, addata/atitle, display/vertitle |  |
| DC Terms | alternative | <http://purl.org/dc/terms/alternative> | addata/addtitle |  |
| DC Terms | creator | <http://purl.org/dc/terms/creator> | addata/au, addata/aucorp |  |
| DC Terms | contributor | <http://purl.org/dc/terms/contributor> | facets/creatorcontrib, addata/addau |  |
| DC Terms | date | http://purl.org/dc/terms/date | addata/date, display/creationdate | Year only |
| DC Terms | publisher | http://purl.org/dc/terms/publisher | addata/pub, display/publisher |  |
| DC Terms | format | http://purl.org/dc/terms/format | display/format |  |
| DC Terms | description | http://purl.org/dc/terms/description | display/description |  |
| DC Terms | abstract | http://purl.org/dc/terms/abstract | addata/abstract |  |
| DC Terms | language | http://purl.org/dc/terms/language | display/language | Will be turned into URI. If cannot create URI put value as-is |
| DC Terms | subject | http://purl.org/dc/terms/subject | facet/topic |  |
| DC Terms | LCSH | http://purl.org/dc/terms/LCSH | NOT USED |  |
| DC Terms | MESH | http://purl.org/dc/terms/MESH | NOT USED |  |
| DC Terms | isPartOf | http://purl.org/dc/terms/isPartOf | display/ispartof |  |
| DC Terms | coverage | http://purl.org/dc/terms/coverage | display/coverage |  |
| DC Terms | rights | http://purl.org/dc/terms/rights | display/rights |  |
| DC Terms | relation | http://purl.org/dc/terms/relation | display/relation | May be probably wrong |
|  |  |  |  |  |
| Bibo | note | http://purl.org/ontology/bibo/Note | addata/notes |  |
| Bibo | status | http://purl.org/ontology/bibo/status | NOT USED |  |
| Bibo | lccn | http://purl.org/ontology/bibo/lccn | addata/lccn, addata/lccid | Identifier(lccn) |
| Bibo | isbn | http://purl.org/ontology/bibo/isbn | addata/isbn |  |
| Bibo | Isbn10 | http://purl.org/ontology/bibo/isbn10 | addata/isbn | Created from isbn if length 10 without "-". Identifier(isbn) |
| Bibo | Isbn13 | http://purl.org/ontology/bibo/isbn13 | addata/isbn | Created from isbn if length 13 without "-" Identifier(isbn) |
|  |  |  |  |  |
| Bibo | series | http://purl.org/ontology/bibo/Series | addata/series, addata/seriestitle, addata/stitle |  |
| Bibo | collection | http://purl.org/ontology/bibo/Collection | facets/collection |  |
| Bibo | journal | http://purl.org/ontology/bibo/Journal | addata/jtitle |  |
| Bibo | volume | http://purl.org/ontology/bibo/volume | addata/volume |  |
| Bibo | issue | http://purl.org/ontology/bibo/issue | addata/issue |  |
| Bibo | pageStart | <http://purl.org/ontology/bibo/pageStart> | addata/spage |  |
| Bibo | pageEnd | http://purl.org/ontology/bibo/pageEnd | addata/epage |  |
| Bibo | pages | http://purl.org/ontology/bibo/pages | addata/pages, addata / tpages |  |
| Bibo | edition | http://purl.org/ontology/bibo/edition | addata/edition, display/edition |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Prism | issn | http://prismstandard.org/namespaces/1.2/basic/issn | addata/issn | Identifier (issn) |
| Prism | eissn | http://prismstandard.org/namespaces/1.2/basic/eissn | addata/eissn | Identifier (issn) |
| Bibo | doi | http://prismstandard.org/namespaces/1.2/basic/doi | addata/doi | Identifier (doi) |
|  |  | Not mapped to dedicated field | addata/hdlid | Identifier (hdlid) |
|  |  | Not mapped to dedicated field | addata/artnum | Identifier (artnum) |
|  |  | Not mapped to dedicated field | addata /bici | Identifier (bici) |
|  |  | Not mapped to dedicated field | addata/objectid | Identifier (SFXobjectID) |
|  |  | Not mapped to dedicated field | addata/ericid | Identifier (ericid) |
|  |  | Not mapped to dedicated field | addata/bibcode | Identifier (bibcode) |
| Bibo | pmid | http://purl.org/ontology/bibo/pmid | addata/pmid | Identifier |
| Bibo | coden | http://purl.org/ontology/bibo/coden | addata/coden | Identifier |
| Bibo | sici | http://purl.org/ontology/bibo/sici | addata/sici | Identifier |
| Bibo | oclcnum | <http://purl.org/ontology/bibo/oclcnum> | Addata/oclcid | Identifer(oclcnum) |
|  |  |  |  |  |
|  |  |  |  |  |
| Refines Bibo | peerReviewed | http://purl.org/ontology/bibo/status | NOT USED | Vocabulary:  Yes,  No |
| Refines Bibo | openAccess | http://purl.org/ontology/bibo/status | addata/oa | Vocabulary:  open\_access, gold\_open\_access, green\_open\_access |
|  |  |  |  |  |

**Notes**

1. If more than one value exists in the PNX (e.g. from display, facet or addata fields then the union of distinct values will appear in the JSON-LD representation. Examples of such fields include:
   1. contributor
   2. date
   3. publisher
2. Identifiers create in addition to a dedicated field an instance of the Identifier class

# Link Class

The Link class describes a typed link from the current object to a resources. Instances of the link class will be created from standard PNX fields in the links section and only if a valid URL can be created from a PNX link field using standard Primo link resolution.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source Name Space** | **JSON-LD Tag Name** | | **Description** | | **PNX source** | | **Note** |
| PNX | Link | | http://purl.org/pnx/link | |  | |  |
| JSON-LD | @id | \_:lxx | |  | |  | |
|  |  | |  | |  | |  |
| Refines DC Terms | linkType | | http://purl.org/pnx/linkType  refines http://purl.org/dc/terms/type | | link/<tagname> | | Vocabulary:  openurl  backlink  **linktorsrc**  thumbnail  linktotoc  linktoabstract  openurlfulltext  openurlservice  linktoholdings  linktorequest  **linktoreview**  **linktoprice**  addlink  linktoholdsavail  linktoholdsunavail  linktoholdsnotexist  linktouc  **linktofa**  linktoexcerpt  gbsabout  gbsfull  gbsaboutnofull |
| Bibo | linkURL | | http://purl.org/ontology/bibo/uri | | $$U or resolved $$T subfields | | Standard resolution of $$U sub-field |
| Refines DC Terms | displayLabel | | http://prismstandard.org/namespaces/1.2/pcv/label | | $$D or resolved $$E subfields | | Label that can be used when displaying this  Standard resolution of $$D and $$E sub-field resolution |

# Identifier Class

The Identifier class describes a typed identifier created from the PNX display/identifier field and from various name fields. See PNX source below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Source Name Space** | **JSON-LD Tag Name** | **Description** | **PNX source** | **Note** |
| PNX | identifier | http://purl.org/pnx/identifier |  | class |
| JSON-LD | @id | \_:idxx |  |  |
| Refines DC Terms | idType | <http://purl.org/dc/terms/type>  refines http://purl.org/dc/terms/type | display/identifier $$C subfield  control/recorded (appears as type “pnx”.  facets/frbrgroupid  addata/isbn  addata/eisbn  addata/issn  addata/eissn  addata/pmid  addata/ericid  addata/doi  addata/lccn addata/hdlid  addata/artnum  addata /bici  addata/objected  addata/ericid  addata/bibcode | Vocabulary:  pnx  frbrgroupid  isbn  issn  pmid  doi  lccn  urn  lccn  hdlid  artnum  bici  SFXobjectID  ericid  bibcode    $$C from the identifier is resolved using standard Primo value resolution. |
| DC | id | http://purl.org/dc/elements/1.1/identifier | display/identifier $$V subfield  For other fields the field value | Standard resolution of $$V |

# Holding Class

The Availability class describes the availability of items. It consists of the Library\_Location class and various fields describing the availability.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Source Name Space** | **JSON-LD Tag Name** | **Description** | **PNX source** | **Note** |
| PNX | holding | <http://pnx.exlibrisgroup.com/terms/holding> | display/availlibrary | class |
| JSON-LD | @id | \_:<control/record id>/$$I/$$L |  |  |
| PNX | organization | http://xmlns.com/foaf/0.1/Organization | subfield $$I | Use $$X? |
| PNX | libraryCode | http://pnx.exlibrisgroup.com/terms/library  Refines <http://purl.org/dc/elements/1.1/identifier>  Or organization? | subfield $$L | Use $$Y? |
| PNX | subLocation | http://pnx.exlibrisgroup.com/terms/subLocation | subfield $$1 | Use $$Z? |
| PNX | callNumber | http://purl.org/ontology/daia/label | subfield $$2 |  |
| Refines Bibo | availabilityStatus | http://pnx.exlibrisgroup.com/terms/availabilityStatus  Refines http://purl.org/ontology/bibo/status | RTA or $$S | Vocabulary: available, unavailable, check\_holdings  Based on RTA or if no answer (more than 0.5 second) then $$S |
| Refines DC | availabilityDate | <http://pnx.exlibrisgroup.com/terms/> availabilityDate  Refines http://purl.org/dc/terms/date |  | Now (if RTA) or date of PNX record  [YYYY-MM-DDThh:mm:ssTZD](http://www.w3.org/TR/NOTE-datetime) |
| Refines Bibo | numberOfItems | http://pnx.exlibrisgroup.com/terms/numberOfItems  Refines http://purl.org/ontology/bibo/number | $$3 |  |

# Detailed Description of Extensions

## Term name: openAccess

|  |  |
| --- | --- |
| **URI:** | http://pnx.exlibrisgroup.com/ terms/status |
| **Label:** | Status |
| **Definition:** | The nature or genre of the resource. |
| **Comment:** | Currently restricted to Open\_Access, Gold, Green |
| **Type of Term:** | [Property](http://www.w3.org/1999/02/22-rdf-syntax-ns#Property) |
| **Refines:** | http://purl.org/dc/terms/status |
| **Vocabulary:** | Open\_Access, Gold, Green |
| **Version:** | None |

## Term name: peerReviewed

|  |  |
| --- | --- |
| **URI:** | http://pnx.exlibrisgroup.com/ terms/peerReviewed |
| **Label:** | Status |
| **Definition:** | The nature or genre of the resource. |
| **Comment:** | Currently restricted to Yes, No |
| **Type of Term:** | [Property](http://www.w3.org/1999/02/22-rdf-syntax-ns#Property) |
| **Refines:** | http://purl.org/dc/terms/status |
| **Vocabulary:** | Open\_Access, Gold, Green |
| **Version:** | None |

## Term name: type (Link class)

|  |  |
| --- | --- |
| **URI:** | http://pnx.exlibrisgroup.com/ terms/status |
| **Label:** | Link type |
| **Definition:** | Type of link |
| **Comment:** | Restricted vocabulary |
| **Type of Term:** | [Property](http://www.w3.org/1999/02/22-rdf-syntax-ns#Property) |
| **Refines:** | http://purl.org/dc/terms/status |
| **Vocabulary:** | openURL,  backlink  linktorsrc  thumbnail  linktotoc  linktoabstract  openurlfulltext  openurlservice  linktoholdings  linktorequest  linktoreview  linktoprice  addlink  ~~linktoholdsavail~~  ~~linktoholdsunavail~~  ~~linktoholdsnotexist~~  linktouc  linktofa  linktoexcerpt  gbsabout (Google Books About)  gbsfull (Google Books - full text)  gbsnofull (Google Books - full text preview)  url |
| **Version:** | None |

## Term name: type (Identifier class)

|  |  |
| --- | --- |
| **URI:** | http://pnx.exlibrisgroup.com/ terms/type |
| **Label:** | Link type |
| **Definition:** | Type of link |
| **Comment:** | Restricted vocabulary |
| **Type of Term:** | [Property](http://www.w3.org/1999/02/22-rdf-syntax-ns#Property) |
| **Refines:** | http://purl.org/dc/terms/type |
| **Vocabulary:** | pnx ~~frbrgroupid~~ isbn issn ~~eissn~~ pmid doi lccn hdlid artnum bici SFXobjectID ericid bibcode  May be extended to other Ids as needed |
| **Version:** | None |

## Term name: availabilityStatus

|  |  |
| --- | --- |
| **URI:** | http://pnx.exlibrisgroup.com/ terms/availabilityStatus |
| **Label:** | Availability Status |
| **Definition:** | Availability Status. |
| **Comment:** |  |
| **Type of Term:** | [Property](http://www.w3.org/1999/02/22-rdf-syntax-ns#Property) |
| **Refines:** | http://purl.org/ontology/bibo/status |
| **Vocabulary:** | available, unavailable, check\_holdings |
| **Version:** | None |

## Term name: numberOfItems

|  |  |
| --- | --- |
| **URI:** | http://pnx.exlibrisgroup.com/ terms/numberOfItems |
| **Label:** | Number of Items |
| **Definition:** | Number of items |
| **Comment:** |  |
| **Type of Term:** | [Property](http://www.w3.org/1999/02/22-rdf-syntax-ns#Property) |
| **Refines:** | http://purl.org/ontology/bibo/number |
| **Vocabulary:** | None |
| **Version:** | None |

## Term name: library

|  |  |
| --- | --- |
| **URI:** | http://pnx.exlibrisgroup.com/ terms/library |
| **Label:** | Library Code |
| **Definition:** | Primo Library code |
| **Comment:** |  |
| **Type of Term:** | [Property](http://www.w3.org/1999/02/22-rdf-syntax-ns#Property) |
| **Refines:** | <http://xmlns.com/foaf/0.1/Organization> |
| **Vocabulary:** | None |
| **Version:** | None |

## Term name: subLocation

|  |  |
| --- | --- |
| **URI:** | http://pnx.exlibrisgroup.com/ terms/subLocation |
| **Label:** | Sub Location |
| **Definition:** | Location within the library (e.g. Stacks) |
| **Comment:** |  |
| **Type of Term:** | [Property](http://www.w3.org/1999/02/22-rdf-syntax-ns#Property) |
| **Refines:** |  |
| **Vocabulary:** | None |
| **Version:** | None |

# Book Example PNX

<?xml version="1.0" encoding="UTF-8"?><record xmlns="http://www.exlibrisgroup.com/xsd/primo/primo\_nm\_bib" xmlns:sear="http://www.exlibrisgroup.com/xsd/jaguar/search">  
 <control>  
 <sourcerecordid>001523674</sourcerecordid>  
 <sourceid>Demo</sourceid>  
 <recordid>Demo001523674</recordid>  
 <originalsourceid>Demo01</originalsourceid>  
 <ilsapiid>Demo01001523674</ilsapiid>  
 <sourceformat>MARC21</sourceformat>  
 <sourcesystem>Aleph</sourcesystem>  
 </control>  
 <display>  
 <type>book</type>  
 <title>Water / by Paul Younger.</title>  
 <creator>Banens, Hans</creator>  
 <publisher>[S.l. : s.n.]</publisher>  
 <creationdate>2000</creationdate>  
 <format>XIV, 262 p. : ill. ; 24 cm + bijl. (149 p.)</format>  
 <description>Water, water, everywhere...? -- H2O: the molecular marvel -- The miracle of the Blue Planet -- Water: the universal solvent -- "Wildness and wet": hyrdoecology -- Moisture in motion: the fundamentals of hydraulics -- Use, abuse, lose? Water as a resource -- Water management in a changing climate -- Water wars and hydrological peace-making -- Water as a commodity -- Water is not an island -- 100 ideas.</description>  
 <subject>Water; Water-supply; Water-supply -- Political aspects</subject>  
 <language>eng</language>  
 <availlibrary>$$IDemo$$LIWO$$Savailable$$32$$40$$5N$$60$$XDemo50$$YIWO</availlibrary>  
 <availlibrary>$$IDemo$$LPRB$$Savailable$$32$$40$$5N$$60$$XDemo50$$YPRB</availlibrary>  
 <availinstitution>$$IDemo$$Savailable</availinstitution>  
 <availpnx>available</availpnx>  
 </display>  
 <links>  
 <openurl>$$Topenurl\_journal</openurl>  
 <backlink>$$Taleph\_backlink$$Ebacklink</backlink>  
 <openurlfulltext>$$Topenurlfull\_journal</openurlfulltext>  
 <linktoholdings>$$Taleph\_holdings</linktoholdings>  
 </links>

<facets>  
 <language>dut</language>  
 <creationdate>2000</creationdate>  
 <topic>Water</topic>   
 <topic>Water-supply</topic>   
 <topic>Water-supply–Political aspects</topic> <toplevel>available</toplevel>  
 <prefilter>books</prefilter>  
 <rsrctype>books</rsrctype>  
 <creatorcontrib>Banens, Hans</creatorcontrib>  
 <genre>Proefschriften (vorm)</genre>  
 <genre>Casestudies (vorm)</genre>  
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 <library>PRB</library>  
 <frbrgroupid>255910480</frbrgroupid>  
 <frbrtype>6</frbrtype>  
 </facets>  
 <addata>  
 <aulast>Banens</aulast>  
 <aufirst>Hans</aufirst>  
 <au>Banens, Hans</au>  
 <btitle>Water / by Paul Younger.</btitle>  
 <date>2000</date>  
 <risdate>2000</risdate>  
 <format>dissertation</format>  
 <genre>book</genre>  
 <ristype>THES</ristype>  
 <notes>Proefschrift Universiteit van Amsterdam ; Met lit. opg., reg. - Met samenvatting in het Engels</notes>  
 <cop>S.l</cop>  
 <pub>s.n.]</pub>  
 </addata>  
</record>

{  
 "@context": {  
 "xsd": "http://www.w3.org/2001/XMLSchema#",

"source": "http://purl.org/dc/terms/source",  
 "type": <http://purl.org/dc/terms/type>  
 "title": "http://purl.org/dc/terms/title",   
 "creator": "http://purl.org/dc/elements/1.1/creator",  
 "contributor": "http://purl.org/dc/elements/1.1/contributor",  
 "date": "http://purl.org/dc/terms/date",  
 "publisher": "http://purl.org/dc/terms/publisher",  
 "format": "http://purl.org/dc/terms/format",  
 "description": "http://purl.org/dc/terms/description",  
 "abstract": "http://purl.org/dc/terms/abstract",   
 "language": { ""@id":, http://purl.org/dc/terms/language", "@type": "@id" },  
 "subject": "http://purl.org/dc/terms/subject",  
 "LCSH": "http://purl.org/dc/terms/LCSH",  
 "MESH": "http://purl.org/dc/terms/MESH",  
 "isPartOf": "http://purl.org/dc/terms/isPartOf",

"note": "http://purl.org/ontology/bibo/Note",  
 "status": "http://purl.org/ontology/bibo/status",  
 "lccn": "http://purl.org/ontology/bibo/lccn",  
 "isbn": "http://purl.org/ontology/bibo/isbn",  
 "isbn10": "http://purl.org/ontology/bibo/isbn10",  
 "isbn13": "http://purl.org/ontology/bibo/isbn13",  
 "pmid": "http://purl.org/ontology/bibo/pmid",   
 "series": "http://purl.org/ontology/bibo/Series",   
 "collection": "http://purl.org/ontology/bibo/Collection",  
 "journal": "http://purl.org/ontology/bibo/Journal",  
 "volume": "http://purl.org/ontology/bibo/volume",  
 "issue": "http://purl.org/ontology/bibo/issue",   
 "pageStart": "http://purl.org/ontology/bibo/pageStart",  
 "pageEnd": "http://purl.org/ontology/bibo/pageEnd",  
 "pages": "http://purl.org/ontology/bibo/pages",

"issn": "http://prismstandard.org/namespaces/1.2/basic/issn",  
 "eissn": "http://prismstandard.org/namespaces/1.2/basic/eIssn",  
 "doi": "http://prismstandard.org/namespaces/1.2/basic/doi",  
   
 "label": "http://pnx.exlibrisgroup.com/terms/label",  
 "institutionCode": "http://pnx.exlibrisgroup.com/terms/institutionCode",  
 "libraryCode": "http://pnx.exlibrisgroup.com/terms/libraryCode",  
 "subLoccation": "http://pnx.exlibrisgroup.com/terms/libraryCode",  
 "callNumber": "http://purl.org/ontology/daia/callNumber",  
 "url": "http://pnx.exlibrisgroup.com/terms/url",   
 "availabilityStatus": "http://pnx.exlibrisgroup.com/terms/availabilityStatus",  
 "numberOfItems": {"id": "http://pnx.exlibrisgroup.com/terms/numberOfItems", "type": "xsd:integer”},  
 "numberOfUnavailableItems": {"id"”: " <http://pnx.exlibrisgroup.com/terms/numberOfUnavailableItems>", "type": "xsd:integer”}  
 },

{  
 "@id": "<your PNX URI>",   
 "@type": "book",   
 "source": "Demo",  
 "type": "book",  
 "title": "Water / by Paul Younger.",  
 "creator": "Banens, Hans",  
 "date": "2000",  
 "isPartOf": "Tijdschrift voor economische en sociale geografie (ISSN:0040-747X), Vol.88 (2), pp.158-168",  
 "publisher": "s.n.]",  
 "language": "http://id.loc.gov/vocabulary/iso639-2/dut",   
 "format": "XIV, 262 p. : ill. ; 24 cm + bijl. (149 p.)",  
 "format": "dissertation"  
 "description": Water, water, everywhere...? -- H2O: the molecular marvel -- The miracle of the Blue Planet -- Water: the universal solvent -- "Wildness and wet": hyrdoecology -- Moisture in motion: the fundamentals of hydraulics -- Use, abuse, lose? Water as a resource -- Water management in a changing climate -- Water wars and hydrological peace-making -- Water as a commodity -- Water is not an island -- 100 ideas.",  
 "note": "Proefschrift Universiteit van Amsterdam ; Met lit. opg., reg. - Met samenvatting in het Engels",  
 "subject": " Water ",   
 "subject": " Water-supply ",   
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