Hello and welcome to this overview on Normalization Rules in Primo.
1.2 Agenda

Notes:

In this session, we’ll begin by defining what normalization rules are, and why and when do we use them in Primo.

Then we’ll show in the Primo Back Office how to create and edit normalization rules.

1.3 What are Normalization Rules?
Notes:

So what are normalization Rules?

1.4 Definition

Primo harvests XML records from various source systems during the 'publishing platform' phase. These source records can come in many formats, such as digital, print and electronic. But, Primo requires a unified format to allow quick and efficient search; so each harvested record must be normalized, resulting in an identical format in Primo. **Normalization rules** define how records from a specific data source are converted from their source format to PNX, or Primo Normalized XML. The resultant Primo records are called PNX records. In other words, normalization rules are the “instructions” for converting records to PNX. Applying normalization rules is one of the final steps in the pipe process.
1.5 Input XML Types

Notes:
As mentioned, the input records can come from different XML formats, like: MARC XML, Dublin Core and MAB.
In order to handle each input XML type, a corresponding normalization rules set is used.
This allows Primo to create the same PNX structure for all records regardless of input type.

1.6 Conversion to PNX
Notes:

Let’s see how different sources require different normalization rules. Here we see two sample records, from two different data sources. The first, is the title field of a MARC record - the 245 field, from an Alma source system. Based on the normalization rules, Primo takes the data from 245 field and places it in the PNX field display-title. The second example shows the title field of a Dublin core record, the dc:title field from a DSpace source system. In this case too, Primo correctly populates the display-title field in the PNX., thanks to using the corresponding normalization rules set.

1.7 Out-of-the-Box Templates

Notes:

Primo includes out-of-the-box pre-defined templates of normalization rules; each for converting different source-data formats. These templates are hard-coded: you can see them but cannot update them. They are updated occasionally by Ex Libris upon Primo release.
1.8 Configuring Rules in the Back Office

Now that we know what normalization rules are, and why they are needed; let’s see how you can create and modify normalization rules in the Primo Back Office.

1.9 Navigation (from Advanced Config)

Now that we know what normalization rules are, and why they are needed; let’s see how you can create and modify normalization rules in the Primo Back Office.
There are three ways to navigate to the Normalization Rules menu in the Back Office:
The first is from Primo Home > Advanced Configuration > Full Normalization Rule Configuration

Advanced Configuration (Slide Layer)

1.10 From Ongoing Configuration

Notes:
The second is from Primo Home Ongoing Configuration Wizards > Pipe Configuration Wizard > Normalization Rules configuration.

### Pipe Configuration Wizard (Slide Layer)

**Navigation: Ongoing Configurations Menu**

![Pipe Configuration Wizard](image)

### Normalization Rules Configuration (Slide Layer)

**Navigation: Ongoing Configurations Menu**

![Normalization Rules Configuration](image)
1.11 From Quick-Links Menu

And the third and quickest way is from the quick-links menu: Go to Local Data > Normalization Sets.

1.12 Normalization Rules Sets

Notes:
We are now in the Normalization Rules menu, here you can see the list of the normalization rules sets, and edit the existing rules.

To see the out-of-the-box template Normalization Rules, click ‘Display Template NR’. To modify an existing rule set, click ‘edit’ for the desired set.

### 1.13 Create New Rule Set

![Normalization Rules Sets](image)

**Notes:**

At the bottom of the page we have the option to create a new normalization rules set.

Note that it is not possible to create a set from scratch. Rather, you begin by duplicating an existing set.
1.14 Manage Normalization Rules

[Image: Manage Normalization Rules]

Notes:

After clicking ‘edit’ for a set we get to the ‘Manage Normalization Rules’ menu. By default, it displays the set you clicked on, but you have the option to display a different set instead. Each set is composed of several PNX sections. Select the PNX section you wish to display from the PNX Section drop-down list.

1.15 PNX Section

[Image: Manage Normalization Rules – PNX Section]
Notes:

The ‘PNX section’ drop-down list shows all of the PNX sections. By navigating between the sections, we can edit the rules which create the various fields of each section. For example, under the ‘control’ section of the PNX, we can edit the rules which create the sourceid, and the recordid fields. Remember that there is no need to map every field of the PNX from scratch, since the normalization rules sets are duplicated from a template. So you mostly want to customize specific areas to fit the needs of your institution. Click Edit on the field you wish to modify.

1.16 Editing Rules of a Set

Now we are in the "Normalization Set Editor" page. Here too we can navigate between the rules the PNX sections, and the different fields of each section. We can switch between basic and advanced mode of the editor page; In the list of rules, we can modify the existing rules and add new ones.
1.17 Editing a Rule

Notes:

Let’s take a look at how you modify a specific rule.

Each rule has 4 main elements: the rule group, the rule source, the conditions for the rule, and the transformation routines.
1.18 Rule Elements

Rule Elements

- Rule Group: where to create
- Source: from what to create it
- Conditions: when to create it
- Transformation: how to create it

Notes:

Let’s look at the elements:

The Rule Group is the PNX field to be created, in other words - Where to create. A single PNX field can be created from one or more rules, hence a group.

The Source refers to the data that is being normalized in the rule, or in other words - What to create it from. In most cases it will be a field from the source record, but not necessarily.

Conditions can be added to define in what cases the field should or shouldn’t be created, in other words - when to create it. This element is not mandatory and can remain empty.

The last element is the Transformation: this is what needs to be done to the source data so it is converted to the target PNX field, in other words - how to create it.
1.19 Rules Source

Notes:

Let’s see the available source types for populating a field, as you can select them from the Source drop-down list:
When MARC is the source, the data will be taken from the source XML fields, in this case the 008 field.
When the source is PNX, the data will be taken from the PNX record field. PNX fields are identified by an X-path, that is section and field separated by a slash.
For example, to denote the Resource Type field in the Display section, enter display/type.
If you select Constant as the source, that means the target field will be filled in by a constant value that you supply in the parameter field (in other words that bit of data will not come from the input record, it will come from what you fill in here).
And finally, selecting Config as a source, the input value is a field from a configuration file or table. Here again the X-path of the field is required.
1.20 Rules Conditions

Notes:

Let’s go over the different parameters that make up, a rule’s conditions:

Conditions Logic = This first parameter allows you to assign conditional logic to all conditions in a group. Is this rule-group positive or negative: a positive condition is satisfied if it is true, a negative condition is satisfied if it is false.

The next field, Conditions Relation = appears when there is more than 1 condition defined. The available values are:

• AND - which indicates that all conditions must be met for the condition group to be true
• OR - which indicates that at least one of the conditions must be met for the condition group to be true

Condition - Logic = This parameter allows you to assign condition logic on the condition level, similar to what we’ve seen on the group level.

Condition - Source = The source field tested by the condition. Any source can be selected.

The Success if field defines the rule behavior when there are several occurrences of the input field. It can have one of four values:

• Match any - must be true for any occurrences of the source field
• Match current - must be true in the current source field
• Match all - must be true for all occurrences of the source field
• Match last - must be true for the last occurrence of the source field. This is the default.

Next section is Condition - Routines = this is a list of routines that perform the actual checking of the condition. (Note that the General Parameter field is not in use.) Under Routine you select the validating routine from a hard-coded list of options, for example to compare the input field with a certain string, select the “Check string equals string” routine.

Under Parameter = you can add an optional parameter, when one is needed for the routine, for example, the string to compare.

You can create a new condition or create new fields within a condition by clicking the ‘+’ icon next to a condition or field to duplicate it.

To delete a condition, click the ‘-’ icon next to the condition or field you want to delete.
1.21 Rules Transformations

Notes:

As for the rules transformation, you can define many possible manipulations to the input data. For example, ‘copy as is’ which is the default transformation, transfers the data from the source field to the PNX field with no changes. Additional transformations include Move and Delete. Another example is, ‘remove characters from end’ which truncates any one of the characters specified in the parameter field from the end of the field. Note that only some transformations require filling in the parameter field.
1.22 Handling Recurring Fields

Notes:

Another important element of transformations, is how to apply them when the input contains several instances of the same field - for this we have the Action parameter.

Let's see an example. The display/subject field, can contain multiple PNX fields:
If the rule is flagged with the action “ADD”, a new PNX field will created even if the field already exists.
If the rule is flagged with the action “OR” and the PNX field has already been created, then the rule will not create another PNX field.
If the rule is flagged with the action “MERGE”, the PNX field that it creates will be merged with the PNX field that was created before it.
1.23 Example Rule

Now that we've seen all the elements, let's look at an example of a rule:

This is a rule which creates the title field in the display section of the PNX. The source for this field is the MARC 130 field, including the subfields mentioned. Our condition checks if the leader field in the source record, has a format equaling SE. If so, the data in the 130 field is ‘copied as is’, as can be seen in the transformation.
### 1.24 Session Review and Quiz

#### Agenda

- What are Normalization Rules?
- Configuring Rules in the Back Office
- **Session Review and Quiz**

**Notes:**

Session Review and Quiz

### 1.25 Session Review

#### Session Review

**In this session we covered:**

- What normalization rules are
- How to modify normalization rules in the Primo Back Office

**Next Steps:**

- Review the recommended articles
- Take the quiz
- Continue to the next training session

**Notes:**

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Published by Articulate® Storyline www.articulate.com
In this session we covered what normalization rules are, and how to modify normalization rules in the Primo Back Office.

Please refer to the Recommended Articles section for additional information. After the brief quiz that begins on the next page, you can continue on to the next training session in this series.

1.26 Question 1

(Multiple Choice, 10 points, 1 attempt permitted)

**Quiz: Normalization Rules Overview**

Please select the correct response. If the rule is flagged with the action “ADD”

- A new PNX field will created even if the field already exists
- The rule will not create another PNX field
- The PNX field that it creates will be merged with the PNX field that was created before it
- A new PNX field will created as long as the field does not exist already
- Nothing happens

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<th>Choice</th>
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<th>The rule will not create another PNX field</th>
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<td></td>
<td>The PNX field that it creates will be merged with the PNX field that was created before it</td>
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<tr>
<td></td>
<td>A new PNX field will created as long as the field does not exist already</td>
</tr>
<tr>
<td></td>
<td>Nothing happens</td>
</tr>
</tbody>
</table>

Feedback when correct:
If the rule is flagged with the action ‘ADD’, a new PNX field will be created even if the field already exists.

Feedback when incorrect:

If the rule is flagged with the action ‘ADD’, a new PNX field will be created even if the field already exists.

Notes:

Correct (Slide Layer)
Incorrect (Slide Layer)

1.27 Question 2

(Multiple Response, 10 points, 1 attempt permitted)

Correct Choice

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<th>Choice</th>
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<td>Rule group</td>
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</table>
Feedback when correct:
The rule elements are rule group, source, conditions, and transformation.

Feedback when incorrect:
The rule elements are rule group, source, conditions, and transformation.

Correct (Slide Layer)
Incorrect (Slide Layer)

1.28 Question 3

(True/False, 10 points, 1 attempt permitted)

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<th>Choice</th>
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<tbody>
<tr>
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<td>True</td>
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</table>

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Feedback when correct:
Normalization rules define how records from a specific data source are converted from their source format to PNX, or Primo Normalized XML

Feedback when incorrect:
Normalization rules define how records from a specific data source are converted from their source format to PNX, or Primo Normalized XML

Notes:
Incorrect (Slide Layer)

Quiz: Normalization Rules Overview

Normalization rules define how records from a specific data source are converted from their source format to PNX, or Primo Normalized XML.

True
False

Incorrect
Continue

1.29 Thank You!

Thank You!

Visit the Ex Libris Knowledge Center
http://knowledge.exlibrisgroup.com

Notes:
Thank you for joining this session!
1.30 About this Training

Notes:

1 (Slide Layer)

This presentation assumes that you have viewed these training sessions:
- Primo Getting Started Sessions
- Primo Back Office Overview
- Primo Administrative Structure
- Primo Publishing Platform
- Primo Pipes Configuration
- Primo Normalized XML
2 (Slide Layer)

About this Training

- Prerequisites
- Lesson Objectives
- Target Audience
- Copyright

By the end of this training session, you will be able to:

- Modify Normalisation Rules in the Primo Back Office

3 (Slide Layer)

About this Training

- Prerequisites
- Lesson Objectives
- Target Audience
- Copyright

Target Audience:

- Staff implementing and maintaining Primo
About this Training

Prerequisites

Lesson Objectives

Target Audience

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