

Scan and Fix:

An Introduction to Indication Rules and Normalization Rules in Alma

Miriam C. Nauenburg
Serials and Electronic Resources Cataloger
University of West Georgia

nauen@westga.edu

GUGM 2019

Overview

- Scan and fix workflow
- Indication rules
 - Examples
- Normalization rules
 - Examples
- Normalization processes
- Summary

PART 1: SCAN AND FIX WORKFLOW

Scan & Fix Workflow

1. Create set of records to be changed



2. Create and test an indication rule; filter the set by that rule



3. Create and test your normalization rule

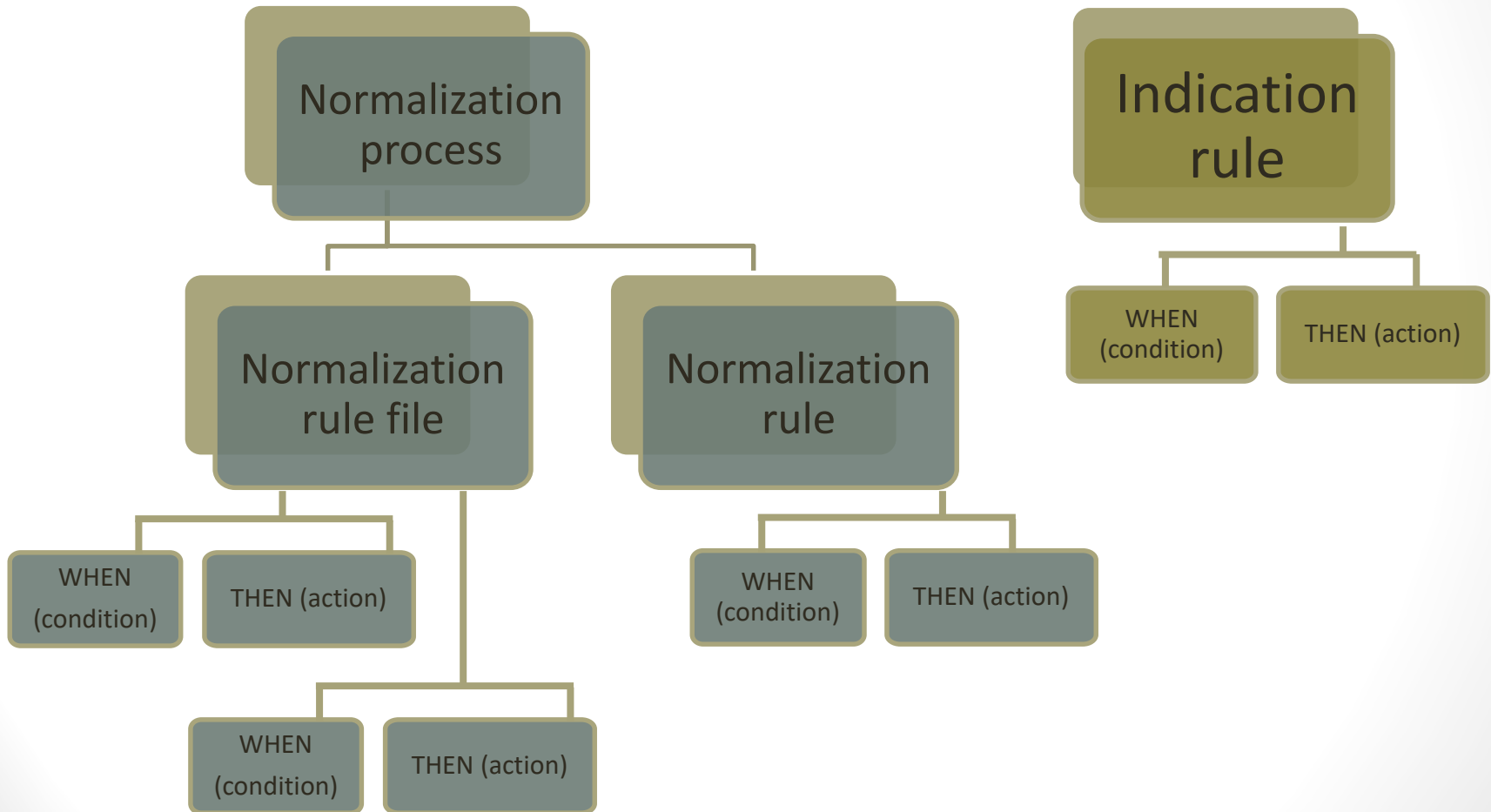


3. Add your normalization rule to a normalization process



4. Run job

Scan & Fix Hierarchy



Creating Indication & Normalization Rules

The image shows a screenshot of the MD Editor application interface. On the left, there is a sidebar with 'Templates' and 'Records' sections. The 'Records' section lists three items: 'Dublin Core', 'MARC21 Bibliographic', and 'MARC21 Holdings'. The main window displays a menu bar with 'File', 'Edit', and 'Tools'. The 'File' menu is open, showing a list of options. Two options, 'Normalization rules' and 'Indication rules', are circled in red. The 'File' menu also includes options like 'New', 'Save Draft', 'Save Record', 'Save and Release Record', 'Duplicate', 'Release Record', 'Assign Record to Another Cataloger', 'Release Assignment', 'Save as Template', 'Reload Original Record', 'Delete Record', 'Copy to catalog', 'Share with network', 'Options', and 'Exit'. The 'Tools' menu is also visible, containing icons for various functions.

MD Editor

Templates >

Records v

- Dublin Core
- MARC21 Bibliographic
- MARC21 Holdings

File Edit Tools

New ▶

- Save Draft *Ctrl+Alt+S*
- Save Record *Ctrl+S*
- Save and Release Record *Ctrl+Alt+R*
- Duplicate
- Release Record *Alt+Shift+R*
- Assign Record to Another Cataloger
- Release Assignment
- Save as Template
- Reload Original Record
- Delete Record *Ctrl+D*
- Copy to catalog
- Share with network
- Options *Ctrl+O*
- Exit *Ctrl+Q*

File menu options:

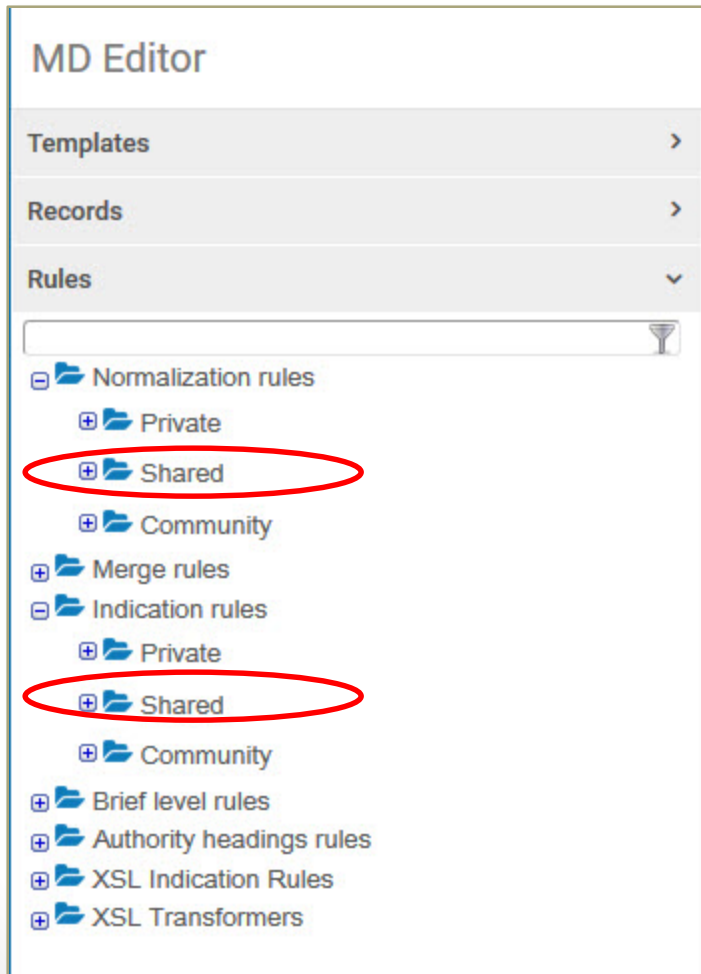
- Dublin Core
- MARC21 Bibliographic
- MARC21 Holdings *Ctrl+Alt+H*
- Normalization rules
- Merge rules
- Indication rules
- Brief level rules
- Authority headings rules
- XSL Indication Rules
- XSL Transformers

Private vs. Shared Indication & Norm Rules

When you create an indication rule or norm rule, you will be asked to specify whether the rule is private or shared.

	Private rule	Shared rule
Where is the rule saved?	In "Private" folder	In "Shared" folder
Who can use the rule?	Only you	All NZ catalogers
Can the rule be tested in the MD Editor?	Yes	Yes
Can the rule be applied to records?	No	Yes

Finding Indication & Normalization Rules



Rules within each folder are organized alphabetically.

PART 2: INDICATION RULES

Indication Rules - Overview

- Use Drools logic
 - Basic rule syntax: WHEN [condition], THEN [action]
- Used on sets to find records that are not able to be located with a repository search
 - Examples: indicator search; records lacking a particular MARC tag
- Can be used to filter bib records only
 - We cannot use indication rules on holding records because it is currently not possible to create a set of holding records in Alma
- This presentation will discuss MARC record indication rules in the context of filtering managed sets

Sample Indication Rule

```
rule "records with LDR pos 05 d"
```

Rule name

```
when  
(existsControl "LDR.{05,1}.d")
```

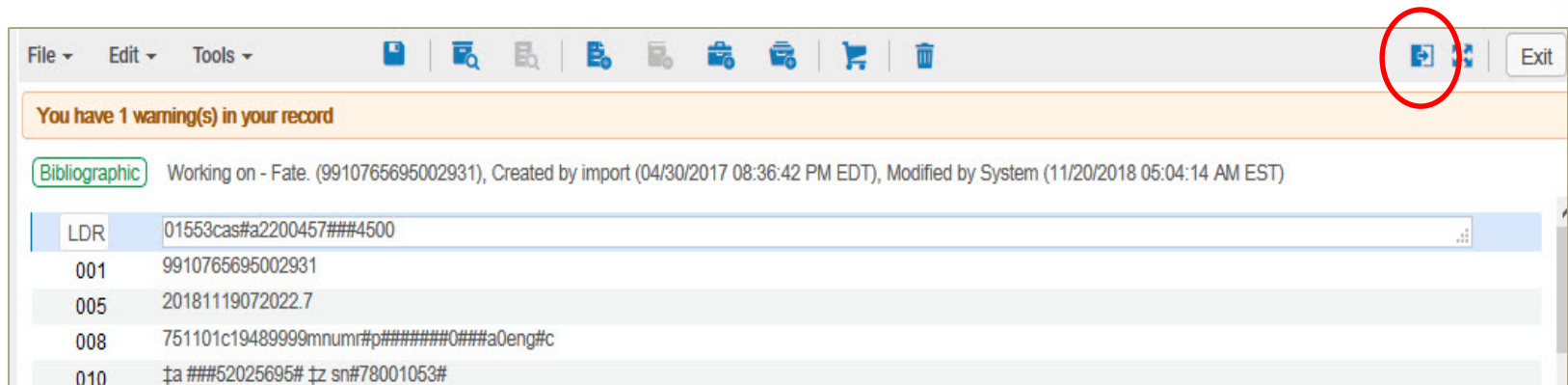
Rule condition

```
then  
set indication."true"  
end
```

Rule action

Testing Indication Rules

1. Open a test record in the Metadata Editor.
2. Open split editor view:

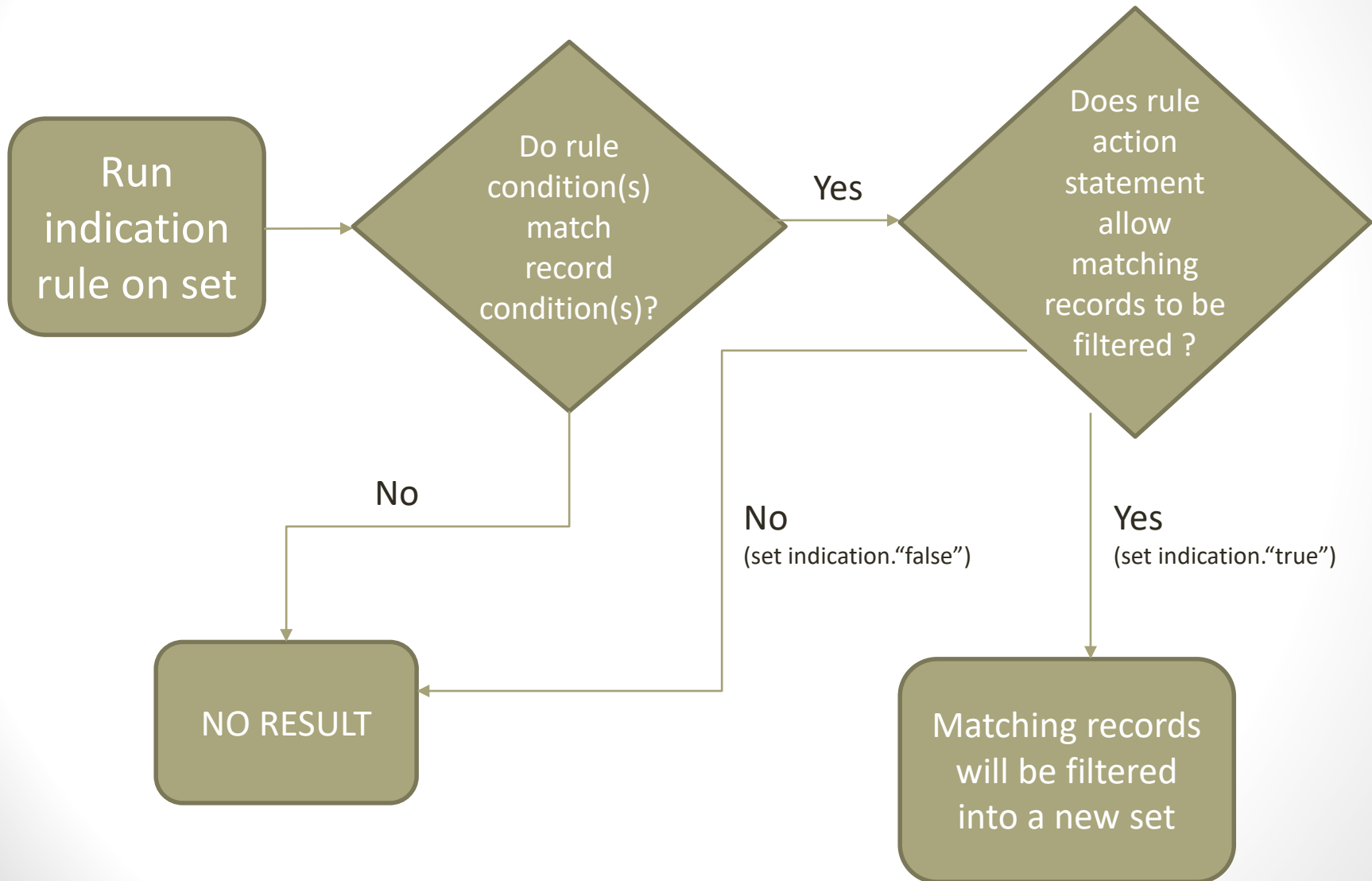


3. Open Rules > Indication Rules > Private.
4. Highlight your rule and click "Edit" to open it in the split editor.
5. Select "Try It" to see if the record meets the Drool logic of the rule (true) or if the record does not meet the Drool logic of the rule (false).
6. If you want to use the rule to filter a set, you'll need to share it first: Highlight the rule in the Rules pane, select "Properties," and click the "Shared" button.

Indication Rule Logic

- When testing your rule in the MD Editor, the system will return a value of either "true" and "false"
 - True = record meets drool logic in rule
 - False = record does **not** meet drool logic in rule
- When writing an indication rule, your action statement must set indication to "true"
 - Otherwise no records will be filtered from set

Set Filtering Process



Applying Indication Rules

- Find the set you want to filter, click on its action menu, and choose "Filter Set"
- On the next page, select your rule from the drop-down menu (highlighted in green) and hit "Submit"
- The filtered records will be copied to a new set (name highlighted in yellow)

Set Details Cancel Submit

General Information ▼

Set name * **MN TEST: Musical sound recordings - filtered - 05/13/2019 12:23:36 PM EDT**

Description

Note

Set content type **Physical titles** Set type **Itemized**

Private Yes No Status Active Inactive

Creation date **09/20/2018 01:02:49 PM EDT** Created by **917373969**

Updated by **917373969** Content Origin **Institution only**

Set ID -

Filter set ▼

Indication Rule * **008/06=d (ceased serial)**

PART 2A:
INDICATION RULE EXAMPLES

Find Subfield

```
rule "952 boyd"  
when  
exists "952.a.Boyd, James E*"  
then  
set indication."true"  
end
```

Find Subfields

```
rule "contains 590.c and 590.d"
```

```
when
```

```
    ( (exists "590.c") AND (exists "590.d") )
```

```
then
```

```
    set indication."true"
```

```
end
```

Find Fixed Field Value

```
rule "microfilm 008/23=a"  
when  
    existsControl "008.{23,1}.a"  
then  
    set indication."true"  
end
```

Find Blank Fixed Field

```
rule "physical print bib 008/23=blank"  
when  
    existsControl "008.{23,1}. "  
then  
    set indication."true"  
end
```

Tip: The blank space in this rule will find the number sign (#) in a record's MARC view, which is simply Alma's way of noting that no information has been provided.

More Than One Occurrence of Field

```
rule "Multiple 590"  
when  
    existsMoreThanOnce "590"  
then  
    set indication."true"  
end
```

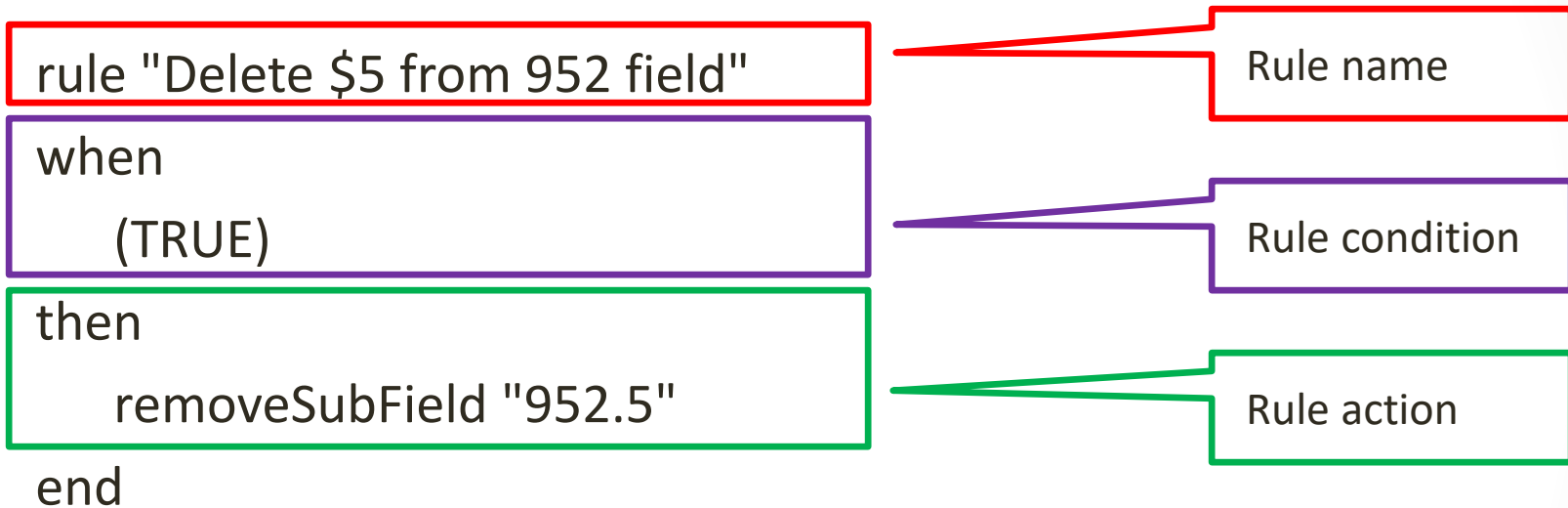
PART 3: NORMALIZATION RULES

Normalization Rule Overview

- Use Drools logic, same as indication rules
 - Basic rule syntax: WHEN [condition], THEN [action]
- Norm rules can be combined with other rules in a rule file; rule files or rules are then added to a *normalization process*
- Can be used on bibliographic records, local authority records, GND* authority records in the CZ, holding records, and Dublin Core records
- This presentation will discuss norm rules as applied to bibliographic and holding records in managed sets

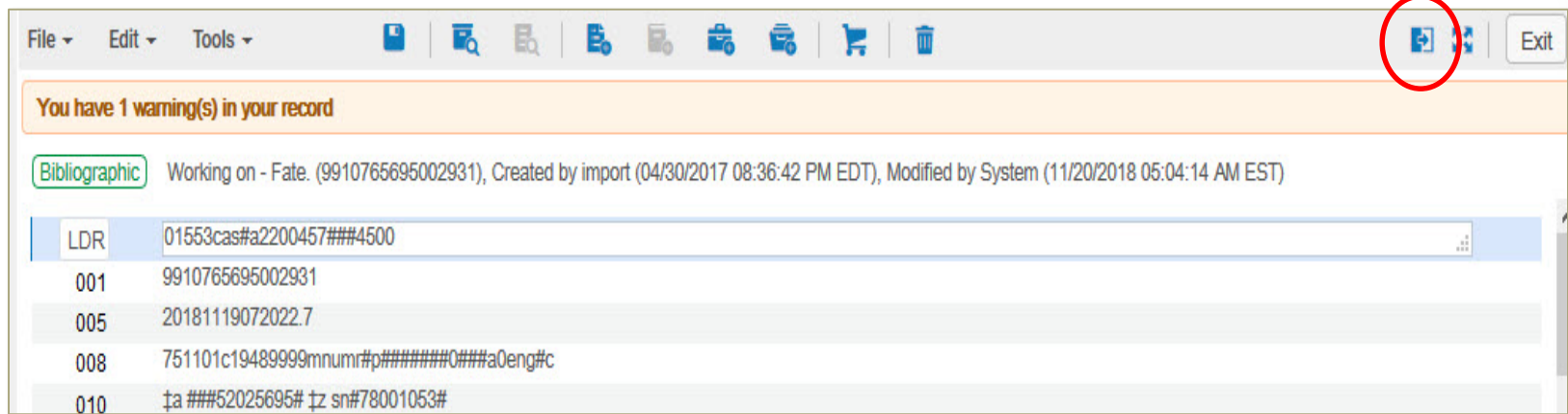
*Gemeinsame Normdatei, the Integrated Authority File of the Deutsche Nationalbibliothek

Sample Normalization Rule



Testing Normalization Rules

1. Open a test record in the Metadata Editor.
2. Open split editor view:



3. Open Rules > Normalization Rules > Private.
4. Highlight your rule and click "Edit" to open it in the split editor.
5. Select "Preview" to see the changes your rule would make.
6. Make any needed changes and save the rule.
7. If you want to add the rule to a process, you'll need to share it first: Highlight the rule in the Rules pane, select "Properties," and click the "Shared" button.

Priority (Salience)

- Use when applying multiple rules, in a single rule file, **to the same MARC field**
 - Higher priority rules are performed first
- If multiple rules in a single rule file apply to different MARC fields, you don't need to use salience
 - Rules will be performed in order from top to bottom

Priority Example:

852x and 852ℓ → 852z

Change the following text:

852 ... \$x Shelved as: \$l Learning today

to

852 ... \$z Shelved as: Learning today

The rule needs to be applied regardless of the text in 852 \$x and \$ℓ.

Priority Example:

What Changes are Required?

- The rule needs to
 - Add the 852 \$ℓ to the end of the 852 \$x
 - Add a space after the colon in the 852 \$x
 - Change the 852 \$x to 852 \$z
 - Delete the 852 \$ℓ
 - This field is no longer needed, as it has been copied to the end of the 852 \$x

Priority Example: Final Rule File

Rule created with the assistance of Steve McDonald.

McDonald, S. (2018, Sept. 27). Re: Removing subfield delimiter from field [Electronic mailing list message]. Retrieved from <https://exlibrisusers.org/cgi-bin/mailman/private/alma/2018-September/039307.html>

```
rule "suffix 852.l to end of 852.x"  
priority 7  
when  
(TRUE)  
then  
suffixSubField "852.x" with "852.l"  
end
```

```
rule "add space after colon in 852x"  
priority 5  
when  
(TRUE)  
then  
replaceContents "852.x.:" with ": " if (exists "852.x.*:*")  
end
```

```
rule "change 852x to 852z"  
priority 4  
when  
(TRUE)  
then  
changeSubField "852.x" to "z"  
end
```

```
rule "delete 852l"  
priority 3  
when  
(TRUE)  
then  
removeSubField "852.l"  
end
```

Conditional vs. Unconditional Rules

- An unconditional rule will apply the action/consequence in the rule regardless of record content
 - Caveat: If you attach a condition to your action, the action will be performed only if the condition is satisfied
- A conditional rule first checks the record to see if the condition in the rule matches a condition in the record
 - If so, the rule will apply the action specified in the rule *so long as the action's condition (if any) is satisfied*

Example:

Change 866 First Indicator

```
rule "change 866 first indicator - unconditional"  
when  
(TRUE)  
then  
changeFirstIndicator "866" to "4" if (exists  
"866.{3,*}")  
end
```

This rule will unconditionally change the first indicator of 866 fields with a first indicator of 3.

```
rule "change 866 first indicator - conditional"  
when  
exists "866.{3,*}"  
then  
changeFirstIndicator "866" to "4"  
end
```

This rule will conditionally change the first indicator of **ALL** 866 fields if the record contains an 866 field with a first indicator of 3.

Rule "change 866 first indicator - unconditional"

Before

Record saved at 5:51:52 PM. You have 2 warning(s) in your record

Holdings

Working on - test record 1(999491 (22131266340002961),
Created by System (04/16/2019 04:23:32 PM EDT), Modified
by 917373969 (05/13/2019 05:51:52 PM EDT)

LDR	00292cy##a22001334##4500
001	648439
004	463397
005	20190513175152.0
007	ta
008	0701222p####8###3001uueng0901128
852 0	‡b INGRAM ‡c permf ‡h G1019 ‡i .R22
866 2 1	‡8 0 ‡a 138th (2008)
866 3 1	‡8 0 ‡a 141st (2011)
866 3 1	‡8 0 ‡a 144th (2014)

After

LDR	00292cy##a22001334##4500
001	648439
004	463397
005	20190513175152.0
007	ta
008	0701222p####8###3001uueng0901128
852 0	‡b INGRAM ‡c permf ‡h G1019 ‡i .R22
866 2 1	‡8 0 ‡a 138th (2008)
866 4 1	‡8 0 ‡a 141st (2011)
866 4 1	‡8 0 ‡a 144th (2014)

Problem!
Invalid
first
indicator
of 2
remains.

Rule "change 866 first indicator - conditional"

Before

Record saved at 5:51:52 PM. You have 2 warning(s) in your record

Holdings

Working on - test record 1(999491 (22131266340002961),
Created by System (04/16/2019 04:23:32 PM EDT), Modified
by 917373969 (05/13/2019 05:51:52 PM EDT)

LDR	00292cy##a22001334##4500
001	648439
004	463397
005	20190513175152.0
007	ta
008	0701222p####8###3001uueng0901128
852 0	‡b INGRAM ‡c permf ‡h G1019 ‡i .R22
866 2 1	‡8 0 ‡a 138th (2008)
866 3 1	‡8 0 ‡a 141st (2011)
866 3 1	‡8 0 ‡a 144th (2014)

After

LDR	00292cy##a22001334##4500
001	648439
004	463397
005	20190513175152.0
007	ta
008	0701222p####8###3001uueng0901128
852 0	‡b INGRAM ‡c permf ‡h G1019 ‡i .R22
866 4 1	‡8 0 ‡a 138th (2008)
866 4 1	‡8 0 ‡a 141st (2011)
866 4 1	‡8 0 ‡a 144th (2014)

Success!
All of the
866 first
indicators
have been
changed.

Lessons Learned

- Be careful when using conditional statements in normalization rules
 - In the first example, the change was conditional, but the rule was not
 - Only certain 866 fields were changed, but this change was applied to all records in the set
 - In the second example, the rule was conditional, but the change was not
 - All the 866 fields in the record were changed, but the change was only applied to certain records in the set
- What if you want to apply a change across a record, and across all records in a set? The way to do that is...

To Unconditionally Change the 866 First Indicator...

```
rule "change 866 first indicator - unconditional"  
when  
(TRUE)  
then  
changeFirstIndicator "866" to "4" if (exists  
"866.{3,*}")  
end
```

The rule is unconditional, i.e., it is applied to all records in the set.

```
rule "change 866 first indicator - conditional"  
when  
exists "866.{3,*}"  
then  
changeFirstIndicator "866" to "4"  
end
```

The action or consequence is unconditional, i.e., it is applied across the record.

PART 3A:
NORMALIZATION RULE EXAMPLES

Add Field (Conditional)

```
rule "Add field 952 to Jourard collection"  
when  
    (not exists "952.a.Jourard, Sidney M.,")  
then  
    addField "952.a.Jourard, Sidney M.,"  
    addSubField "952.e.former owner\\\\\\\\."  
    addSubField "952.5.GCarrWG"  
    addSubField "952.9.LOCAL"  
    changeFirstIndicator "952" to "1"  
end
```

Tip: Backslashes, asterisks, and full stops have special meanings in norm rules. To use the literal characters in your rule, escape them with four backslashes.

Add Subfield and Change Indicator (Conditional)

```
rule "Add field 852 $h MEMBERSHIP"  
when  
    (not exists "852.h")  
then  
    addSubField "852.h.MEMBERSHIP"  
    changeFirstIndicator "852" to "8"  
end
```

Change Subfield

```
rule "Update 300e for laptops"
```

```
when
```

```
    (TRUE)
```

```
then
```

```
    replaceContents "300.e.1 AC adapter and*" with "1 AC  
adapter"
```

```
end
```

Tip: An asterisk (*) can be used to match a string of any length. See the KB article for usage guidelines: [https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_\(English\)/040Resource_Management/040Metadata_Management/070Working_with_Normalization_Rules#Wild_cards_and_Special_Characters](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/040Resource_Management/040Metadata_Management/070Working_with_Normalization_Rules#Wild_cards_and_Special_Characters)

Change Fixed Field (Conditional)

```
rule "Change holding 008/07 to d, add 852 note"
```

```
#Used to change acq method of old govdocs from purchase to  
deposit
```

```
when
```

```
    existsControl "008.{7,1}.p"
```

```
then
```

```
    replaceControlContents "008.{7,1}" with "d"
```

```
    addSubField "852.x.Old govdoc"
```

```
end
```

Tip: Comments can be added to a rule if they are preceded by a number sign (#).

Copy Field and Change Indicators

```
rule "copy 245 to 976"  
when  
    (TRUE)  
then  
    copyField "245" to "976"  
    changeFirstIndicator "976" to " "  
    changeSecondIndicator "976" to " "  
end
```

Tip: If you need to specify indicator values as part of your rule condition, use a hyphen (-) for an empty indicator and an asterisk (*) for any indicator value.

Delete Field

```
rule "remove 014 field from holding record"  
when  
  (TRUE)  
then  
  removeField "014"  
end
```

Delete Subfield

```
rule "Remove 852t Copy 1"  
when  
    (TRUE)  
then  
    removeSubField "852.t" if (exists "852.t.Copy 1")  
end
```

PART 4:
NORMALIZATION PROCESSES
FOR MARC21 BIBLIOGRAPHIC AND HOLDING PROFILES

Normalization Processes and Set Content Types

Bibliographic and holding normalization processes can only be run on certain kinds of sets.

Norm process profile:	Can be run on these set content types...	...and these records will be changed:
MARC21 Bibliographic	Bibliographic title sets: <ul style="list-style-type: none">• All Title• Physical Title• Electronic Title• Digital Title	All bib records in the set
MARC21 Holding	<ul style="list-style-type: none">• Physical Item	The parent holding records of the items in the set

Creating a Normalization Process

Alma Configuration > Resources > Cataloging > Metadata Configuration

1. Click the profile for the type of records that you want to change (i.e., MARC21 Bibliographic or Holding)
2. Select the “Normalization Processes” tab
3. Click “Add Process”
 1. Screen 1 - General Information: Choose a name and description for your norm process
 2. Screen 2 - Add Tasks: Check the “MarcDroolNormalization” option for each norm rule you will be adding to the process
 3. Screen 3 - Task Parameters: Select your norm rule(s) from the drop-down menu(s)
4. Click “Save”

Running a Normalization Process

- MARC21 **Bibliographic** norm processes can be run as manual jobs
 - Admin > Manage Jobs and Sets > Run a Job
- MARC21 **Holding** norm processes can be run as part of the Change Holding Information manual job
 - Select your norm process in step 3. Don't forget to check the box on the far left:

<input checked="" type="checkbox"/>	Correct the data using normalization rules	MN TEST: Add 690 local chess note
<input type="checkbox"/>	Tag records for publishing	Suppress

Summary

- Indication and normalization rules must first be shared in order to be used
- Indication rules only work on bib records, and you must always set indication to "true"
- To simplify your norm rules, use indication rules to scan your records first, then use unconditional normalization rules to fix your data
- If you'd rather avoid filtering sets via indication rules, use conditional normalization rules
 - Proceed with caution, as the system will scan and fix your data in one step
- Always test indication and norm rules in the MD Editor before running them on a set

Resources:

Ex Libris Documentation

Ex Libris Alma Indication Rules:

[https://knowledge.exlibrisgroup.com/Alma/Product Documentation/010Alma Online Help \(English\)/040Resource Management/040Metadata Management/020Navigating the MD Editor Page/Working with Indication Rules](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/040Resource_Management/040Metadata_Management/020Navigating_the_MD_Editor_Page/Working_with_Indication_Rules)

Indication rule examples:

[https://knowledge.exlibrisgroup.com/Alma/Product Documentation/010Alma Online Help \(English\)/040Resource Management/040Metadata Management/020Navigating the MD Editor Page/Working with Indication Rules#Indication Rules Syntax Examples](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/040Resource_Management/040Metadata_Management/020Navigating_the_MD_Editor_Page/Working_with_Indication_Rules#Indication_Rules_Syntax_Examples)

Ex Libris Alma Normalization Rules:

[https://knowledge.exlibrisgroup.com/Alma/Product Documentation/010Alma Online Help \(English\)/040Resource Management/040Metadata Management/070Working with Normalization Rules](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/040Resource_Management/040Metadata_Management/070Working_with_Normalization_Rules)

Normalization rule examples:

[https://knowledge.exlibrisgroup.com/Alma/Product Documentation/010Alma Online Help \(English\)/040Resource Management/040Metadata Management/070Working with Normalization Rules#Normalization Rule Examples](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/040Resource_Management/040Metadata_Management/070Working_with_Normalization_Rules#Normalization_Rule_Examples)

Ex Libris Alma Normalization Processes:

[https://knowledge.exlibrisgroup.com/Alma/Knowledge Articles/How to implement a normalization rule](https://knowledge.exlibrisgroup.com/Alma/Knowledge_Articles/How_to_implement_a_normalization_rule)

Resources:

Ex Libris Community

ALMA-L discussion list archive: <https://exlibrisusers.org/private/alma/>

Jones, J., and Wynne, S. (2019). Alma normalization rules: The basics and beyond. ELUNA 2019 Annual Meeting (April 30-May 3, 2019), Atlanta, Georgia. Retrieved from <https://elunadevelopersdayandannual2019.sched.com/event/M8Pz/alma-normalization-rules-the-basics-and-beyond>

- Access restricted to conference attendees; presentation should be added to ELUNA Document Repository soon

McDonald, S. (2018). How to write Alma normalization rules. ELUNA 2018 Annual Meeting (May 1-4, 2018), Spokane, Washington. Retrieved from <http://documents.el-una.org/1643/>

- Site is password protected for ELUNA members

QUESTIONS?