



LGR Toolset (beta) User Guide

IDN Program | October 2016

Introduction to LGR Toolset (beta)

- ⦿ Label Generation Rulesets (LGRs) specify code point repertoire, variant rules and Whole Label Evaluation (WLE) rules, in addition to meta-data, to generated labels
- ⦿ [RFC 7940](#) describes how LGR can be specified using XML, a machine readable format
- ⦿ LGR can be used to generate domain name labels for use in the internet's root zone and other levels
- ⦿ LGR Toolset allows for the following:
 - ⦿ Create a LGR
 - ⦿ Use a LGR to validate a label and determine its variants
 - ⦿ Manage LGRs, by comparing or combining them
 - ⦿ Review possible impact of a new or revised LGR on existing labels
- ⦿ For further details, visit the [LGR Toolset webpage](#) or www.icann.org/idn

Availability of LGR Toolset (beta)

- ⦿ LGR Toolset is available with the following disclaimer:

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- ⦿ Online beta deployment
 - ⦿ Visit <https://lgrtool.icann.org/>
 - ⦿ If needed, username: lgr and password: 37zEfM2LyN3DmSzjLaYoA
- ⦿ Open source package(s) release with BSD license
 - ⦿ Released at github: [lgr-core](#), [lgr-django](#), [munidata](#)
- ⦿ For queries or feedback
 - ⦿ Email to IDNProgram@icann.org

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- ⦿ **View LGR as XML**
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 - ⦿ Compare LGRs
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 - ⦿ Select “Collisions”
 - ⦿ Enter Details
 - ⦿ Email Notification
 - ⦿ Download Results

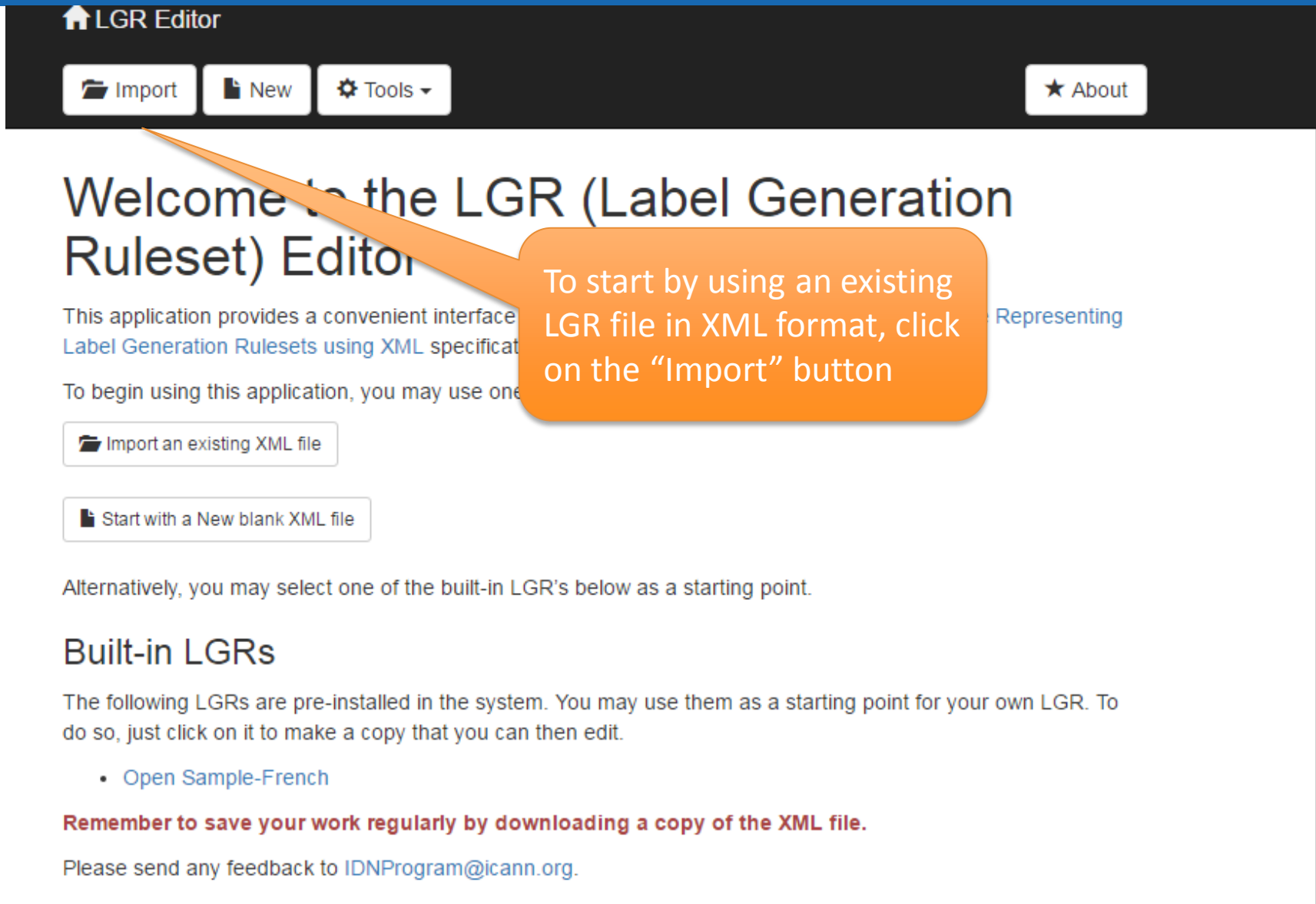
Agenda Details

- ⦿ **Validate Multiple Labels**
 - ⦿ Select “Annotate”
 - ⦿ Enter Details
 - ⦿ Email Notification
 - ⦿ Download Results

Import or Load LGR

Agenda Item #1

Import or Load LGR



The screenshot shows the LGR Editor interface. At the top, there is a dark navigation bar with a home icon and the text 'LGR Editor'. Below this, there are three buttons: 'Import' (with a folder icon), 'New' (with a document icon), and 'Tools' (with a gear icon and a dropdown arrow). On the right side of the navigation bar, there is a '★ About' button. The main content area has a large heading 'Welcome to the LGR (Label Generation Ruleset) Editor'. Below the heading, there is a paragraph of introductory text. An orange callout box with a pointer to the 'Import' button contains the text: 'To start by using an existing LGR file in XML format, click on the “Import” button'. Below the callout, there are two buttons: 'Import an existing XML file' and 'Start with a New blank XML file'. Further down, there is a paragraph about built-in LGRs and a list item 'Open Sample-French'. At the bottom, there is a reminder to save work and a feedback email address.

Home LGR Editor

Import New Tools

★ About

Welcome to the LGR (Label Generation Ruleset) Editor

This application provides a convenient interface for editing and managing Label Generation Rulesets using XML specifications.

To begin using this application, you may use one of the following options:

- Import an existing XML file
- Start with a New blank XML file

Alternatively, you may select one of the built-in LGR's below as a starting point.

Built-in LGRs

The following LGRs are pre-installed in the system. You may use them as a starting point for your own LGR. To do so, just click on it to make a copy that you can then edit.

- [Open Sample-French](#)

Remember to save your work regularly by downloading a copy of the XML file.

Please send any feedback to IDNProgram@icann.org.

Select LGR with Validating Repertoire

The screenshot shows the LGR Editor interface. At the top, there is a navigation bar with a home icon and the text 'LGR Editor'. Below this are three buttons: 'Import' (with a folder icon), 'New' (with a document icon), and 'Tools' (with a gear icon and a dropdown arrow). On the right side of the navigation bar is an 'About' button (with a star icon). The main content area has a 'Select a file' section with a 'Choose File' button and a text input field containing 'Proposed-LGR-LaoScript-20160805.xml'. Below this is a 'Validating repertoire' section with a dropdown menu. The dropdown menu is open, showing two options: 'idna2008_6.3.0' and 'msr-2-wle-rules-13apr15-en', with the second option highlighted in blue. To the right of the dropdown menu is an 'Import' button. Below the dropdown menu is a red warning triangle icon followed by the text: 'Note that importing large LGR files may take significant time to load on your browser.' At the bottom left, there is a language selection dropdown set to 'English (en)' and a 'Go' button. A copyright symbol '©' is visible at the bottom right of the interface.

1. To import or load an existing LGR in XML file click on “Choose File”

2. Choose the “Validating repertoire” from the two given options

3. Click on the “Import” button

Imported LGR

🏠 LGR Editor / proposed-lgr-laoscript-20160805 - Proposed LGR for Lao

📁 Import

📄 New

⚙️ Tools ▾

✓ Validate label

📄 Summary

👁️ View XML

⬇️ Download

Expand range(s)

Add code point(s)

The screen looks like this after successful import of existing LGR file in XML format

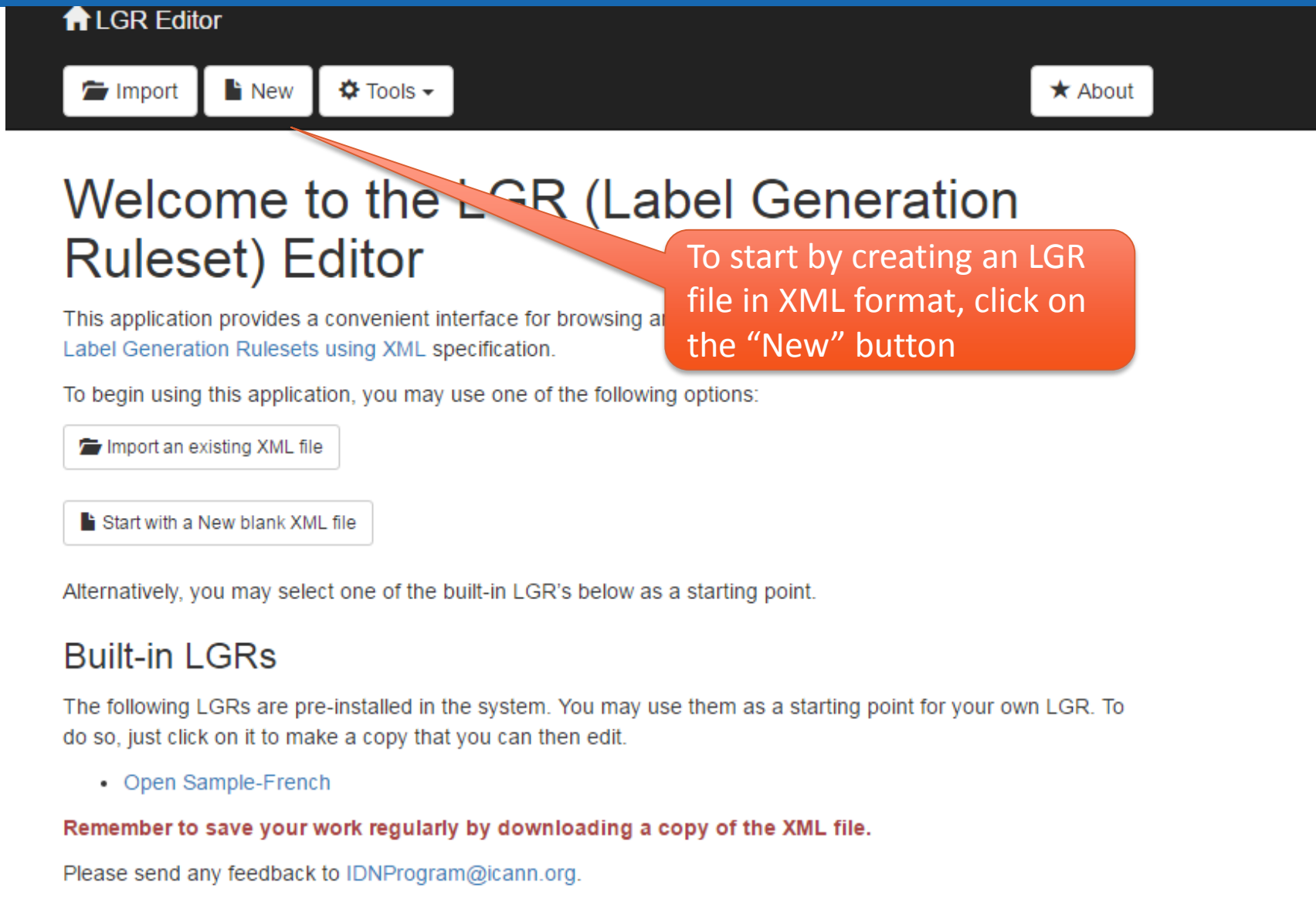
Code point	Character Name	Comments	Action
U+0E81 (ກ) 0 Variant(s)	LAO LETTER KO		See code point
U+0E82 (ຂ) 0 Variant(s)	LAO LETTER KHO SUNG		See code point
U+0E84 (ຄ) 0 Variant(s)	LAO LETTER KHO TAM		See code point
U+0E87 (ງ) 0 Variant(s)	LAO LETTER NGO		See code point
U+0E88 (ຈ) 0 Variant(s)	LAO LETTER CO		See code point
U+0E8A (ຊ) 0 Variant(s)	LAO LETTER SO TAM		See code point



Create LGR

Agenda Item #2

Create LGR



The screenshot shows the LGR Editor interface. At the top, there is a dark navigation bar with a home icon and the text 'LGR Editor'. Below this, there are three buttons: 'Import' (with a folder icon), 'New' (with a document icon), and 'Tools' (with a gear icon and a dropdown arrow). On the right side of the navigation bar, there is a '★ About' button. The main content area has a large heading 'Welcome to the LGR (Label Generation Ruleset) Editor'. Below the heading, there is a paragraph of text: 'This application provides a convenient interface for browsing and managing Label Generation Rulesets using XML specification.' Below this, there is another paragraph: 'To begin using this application, you may use one of the following options:'. There are two buttons: 'Import an existing XML file' (with a folder icon) and 'Start with a New blank XML file' (with a document icon). Below these buttons, there is a paragraph: 'Alternatively, you may select one of the built-in LGR's below as a starting point.' Below this, there is a section heading 'Built-in LGRs'. Below the heading, there is a paragraph: 'The following LGRs are pre-installed in the system. You may use them as a starting point for your own LGR. To do so, just click on it to make a copy that you can then edit.' Below this, there is a list item: '• Open Sample-French'. Below the list item, there is a bold red text: 'Remember to save your work regularly by downloading a copy of the XML file.' Below this, there is a paragraph: 'Please send any feedback to IDNProgram@icann.org.'

Home LGR Editor

Import New Tools

★ About

Welcome to the LGR (Label Generation Ruleset) Editor

This application provides a convenient interface for browsing and managing Label Generation Rulesets using XML specification.

To begin using this application, you may use one of the following options:

Import an existing XML file

Start with a New blank XML file

Alternatively, you may select one of the built-in LGR's below as a starting point.

Built-in LGRs

The following LGRs are pre-installed in the system. You may use them as a starting point for your own LGR. To do so, just click on it to make a copy that you can then edit.

- [Open Sample-French](#)

Remember to save your work regularly by downloading a copy of the XML file.

Please send any feedback to IDNProgram@icann.org.

Enter LGR Details

↑ LGR Editor

Import New Tools

★ About

Name

Validating repertoire

idna2008_6.3.0
msr-2-wle-rules-13apr15-en

Create

English (en) Go

1. Write name for the LGR being created

2. Select "Validating repertoire" from the given options for the "New" LGR

3. Click on the "Create" button

Add Code Points

🏠 LGR Editor / new-lgr

📁 Import 📄 New ⚙️ Tools ▾

✓ Validate label 📄 Summary 👁 View XML 📄 Download

Expand range(s) Add code point(s)

Code point	Character Name	Comments	Action
------------	----------------	----------	--------

English (en) ▾ Go

©

Click on “Add code points” to add code points to the newly created LGR

Add Code Points

LGR Editor / new-lgr

Imp

Add code point(s)

To add code points, there are three different ways

Code point

Code point range

Import from file

Code point

Code point 1780

Override repertoire

Add Code Point

1. Add code points one by one

2. Add code points by giving a range

3. Add code points by importing from a file

Add Code Points

🏠 LGR Editor / new-lgr

📁 Imp

Add code point(s)

✕

Code point

Code point range

Import from file

Code point

1780

Override repertoire

Add Code Point

1. Write the code point to be added

2. Click on the "Add Code Point" button

Add Code Points

🏠 LGR Editor / new-lgr

📁 Imp

Add code point(s)

✕

Code point

Code point range

Import from file

First code point

1781

1. Add the first code point of the range

Last code point

179A

2. Add the last code point of the range

Next

3. Click on "Next" button

Add Code Points

🏠 LGR Editor / new-lgr

📁 Imp

Add code point(s)

✕

Code point

Code point range

Import from file

Select a file

Choose File

Code Points.txt

1. Select the file containing code points

File type

RFC3743

2. Select the file type from the given options

Manual import

3. "Manual import" is optional – it lets you check each code point in the file before adding to the LGR

Next

4. Click on the "Next" button

Expand Ranges

🏠 LGR Editor / new-lgr

📁 Import

📄 New

⚙️ Tools ▾

✓ Validate label

📄 Summary

👁️ View XML

📄 Download

To expand all the code points in all the ranges of the LGR, click on “Expand range(s)”

Expand range(s)

Add code point(s)

Code point	Character Name	Comments	Action
U+1780 (𑀀) 0 Variant(s)	KHMER LETTER KA		See code point
U+1781 (𑀁) ... U+179A (𑀊) (ⁱ)	KHMER LETTER KHA ... KHMER LETTER RO		See code point Expand range
U+17B0 (𑀶) 0 Variant(s)	KHMER INDEPENDENT VOWEL QAI		See code point
U+17B1 (𑀷) 0 Variant(s)	KHMER INDEPENDENT VOWEL QOO TYPE ONE		See code point
U+17B3 (𑀹) 0 Variant(s)	KHMER INDEPENDENT VOWEL QAU		See code point

To expand all the code points in this range, click on “Expand range”

Add References

🏠 LGR Editor / new-lgr

📁 Import 📄 New ⚙️ Tools ▾

✓ Validate label 📄 Summary 👁️ View XML 📄 Download

Code points **References** Meta data Rules

To add references to your LGR, click on “References” tab

Existing references

Reference id	Description	URL	Action
			Save

1. Add detailed reference

New reference

Description	URL
<input type="text" value="PRIMARY SCHOOL GRADE 1, MOEYS, ISBN 9-789-995-001-674, Publication"/>	<input type="text" value="Any code point cited are fo"/>
Add	

2. Add comments to the added reference

3. Click on the “Add” button

English (en) ▾ Go

©

Add References

🏠 LGR Editor / new-lgr

📁 Import 📄 New ⚙️ Tools ▾

✓ Validate label 📄 Summary 👁 View XML ⬇ Download

New reference created

Code points **References** Meta data Rules

“Existing references” tab shows the added references

Existing references

Reference id	Description	URL	Action
0	PRIMARY SCHOOL GRADE 1, MOEYS, ISBN 9-789-995-001-674, Publication	Any code point cited are for diacritics	🗑

Save

New reference

Description	URL
PRIMARY SCHOOL GRADE 1, MOEYS, ISBN 9-789-995-001-674, Publication	Any code point cited are fo

Add

Define Meta Data

Click on “Meta data” tab to add meta information about the LGR

The compulsory items have been filled in this picture whereas optional items have been left empty

LGR Editor / new-lgr

Import New Tools

Validate label Summary View XML Download

Code points References **Meta data** Rules

Version	1
Version comment	
Date	2016-08-16
Language	und-Khmr
Scope	.
Scope type	domain
Validity start	
Validity end	

Define Meta Data

Second half of the “Meta data” tab

Unicode version

6.3.0

Description

```
<h1>Label Generation Rules for Khmer</h1>
<h2>Overview</h2>
<p>For more details on this proposal see "[Proposal Link]" </p>
<h2>Repertoire</h2>
<p>According to Section 5 "Repertoire", in "Proposal for a Khmer Script Root Zone LGR".</p>
<h2>Variants</h2>
<p>According to Section 6 "Variants", in "Proposal for Khmer Script Root Zone LGR", two Khmer consonants are variants of each other in their subscript form only. This is captured by a variant relation between the two subscript sequences, which are listed explicitly in the repertoire.</p>
<h2>Character Classes</h2>
<p>TBD: Some consonants are "base only"; these do not take subscript form. The character U+17C9 KHMER SIGN MUUSIKATOAN is used
```

Add any text for describing the LGR

Description type

text/html

Validating repertoire

msh-2-wle-rules-13apr15-en

Cancel

Save

Select “Description type” from the given options

“Validating repertoire” is the same as selected in the beginning

After filling every detail, click on the “Save” button

Define Classes, Rules & Actions

Click on “Rules” tab to add certain rules to the LGR

🏠 LGR Editor / new-lgr

📁 Import 📄 New ⚙️ Tools ▾

✓ Validate label 📄 Summary 👁️ View XML 📄 Download

Code points References Meta data **Rules**

Click on “New class” button to add classes to the LGR

Click on “New rule” button to add rules to the LGR

Click on “New action” button to add actions to the LGR

Classes

+ New class

Rules

+ New rule

Actions

+ New action

English (en) ▾ Go

©

Define Classes

🏠 LGR Editor / new-lgr

📁 Import 📄 New ⚙️ Tools ▾

✓ Validate label 📄 Summary 👁 View XML 📄 Download

Classes

Save Cancel

```
<class name="consonant" comment="Khmer letter">1781</class>
```

2. Click on the "Save" button

1. Add classes in the relevant box

Rules

Actions

Define Rules

🏠 LGR Editor / new-lgr

📁 Import 📄 New ⚙️ Tools ▾

✓ Validate label

📄 Summary

👁️ View XML

📄 Download

Rules

💾 Save ✕ Cancel

```
<rule name="test-rule" comment="It must have 1781 before it">
  <look-behind>
    <char cp = "1781" />
  </look-behind>
  <anchor/>
</rule>
```

2. Click on the "Save" button

1. Add the rule in the relevant box

Define Actions

Home LGR Editor / new-lgr

Import New Tools

Validate label Summary View XML Download

```
<anchor/>  
</rule>
```

Actions

Save Cancel

```
<action disp="blocked" any-variant="blocked" />
```

English (en) Go

1. Add action in the relevant box

2. Click on the "Save" button

Define Code Point Properties

🏠 LGR Editor / new-lgr

📁 Import 📄 New ⚙️ Tools ▾

✓ Validate label 📄 Summary 👁 View XML 📄 Download

Click on the “See code point” button to add code point details/properties

Expand range(s) Add code point(s)

Code point	Character Name	Comments	Action
U+1780 (ក) 0 Variant(s)	KHMER LETTER KA		See code point
U+1781 (ខ) ... U+179A (ឃ) (ឃ)	KHMER LETTER KHA ... KHMER LETTER RO		See code point Expand range
U+17B0 (ឡ) 0 Variant(s)	KHMER INDEPENDENT VOWEL QAI		See code point
U+17B1 (ហ) 0 Variant(s)	KHMER INDEPENDENT VOWEL QOO TYPE ONE		See code point
U+17B3 (ឡ) 0 Variant(s)	KHMER INDEPENDENT VOWEL QAU		See code point

Define Code Point Properties - 1

Variants

Code point: Override repertoire:

Code point	Type	Comments	When	Not When	Action
U+1781 (≡) KHMER LETTER KHA Age: 3.0.0.0	<input type="text" value="block"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Delete variant Edit references References

Tags

space-separated tags

When

Not-When

Comment

1. Add variant for the code point

2. Click on the "Add variant button"

3. Add details for the added variant – type, comment, when-rule, not-when rule and some action

4. Add tags for the code point

5. Add when-rule/not-when rule from the list of rules it provides

6. Add any description for the code point


Define Code Point Properties - 2

Save variants, tags, context rules and comment


7. Click on “Save variants, tags, context rules and comment” button

References

No references associated with code point.

 Edit

8. Click on the “Edit” button to add references to the code point

 Delete code point

To delete code point & its details, click on the “Delete code point” button

Download LGR

🏠 LGR Editor / new-lgr

📁 Import 📄 New ⚙️ Tools ▾

✓ Validate label 📄 Summary 👁 View XML ⬇️ Download

Code points References Meta data Rules

Click on “Download” button to download the created LGR. Always download before closing the browser as the LGRs are not saved on the server

Expand range(s) Add code point(s)

Code point	Character Name	Action
U+1780 (𑜀) 1 Variant(s)	KHMER LETTER KA	See code point
U+1781 (𑜁) ... U+179A (𑜊)	KHMER LETTER KHA ... KHMER LETTER RO	See code point Expand range
U+17B0 (𑜀្ក) 0 Variant(s)	KHMER INDEPENDENT VOWEL QAI	See code point
U+17B1 (𑜀្ខ) 0 Variant(s)	KHMER INDEPENDENT VOWEL QOO TYPE ONE	See code point
U+17B3 (𑜀្ឃ) 0 Variant(s)	KHMER INDEPENDENT VOWEL QAU	See code point



Validate Label

Agenda Item #3

Validate Label

🏠 LGR Editor / proposed-lgr-laoscript-20160921 - Proposed LGR for Lao

Import

New

Tools

✓ Validate label

Summary

View XML

Download

Code References Meta data Rules

1. Click on "Import" to load an existing LGR file. See "Import" for details

2. Always view "Summary" as the tool checks the loaded LGR during this process

3. For validating labels, click on "Validate label" button

Code	Character Name	Code	
U+0E81 (ກ) 0 Variant(s)	LAO LETTER KO		See code point
U+0E82 (ຂ) 0 Variant(s)	LAO LETTER		See code point
U+0E84 (ຄ) 0 Variant(s)	LAO LETTER		See code point
U+0E87 (ງ) 0 Variant(s)	LAO LETTER NGO		See code point
U+0E88 (ຈ) 0 Variant(s)	LAO LETTER CO		See code point
U+0E8A (ຊ) 0 Variant(s)	LAO LETTER SO TAM		See code point

Validate Label

🏠 LGR Editor / proposed-lgr-laoscript-20160921 - Proposed LGR for Lao

Validate label

✕

Label

ທ໐໑໘

Validate

maximum length: 63 code points

1. Enter the label to be validated

2. Click on the "Validate" button

Validate Label

LGR Editor / proposed-igr-laoscript-20160921 - Proposed LGR for Lao

Validate label

Label

ທວາຍ

maximum length: 63 code points

✓ VALID

U-label	Disposition	Code point sequence	
ທວາຍ xn--16ct2c2b	valid	U+0E97 (ທ) U+0EA7 (ວ) U+0EB2 (າ) U+0E8D (ຍ)	Show / hide rule

Variant labels (including original as last)

1 variant label(s) generated.
By disposition: Counter({'valid': 1})

ທວາຍ xn--16ct2c2b	valid	U+0E97 (ທ) U+0EA7 (ວ) U+0EB2 (າ) U+0E8D (ຍ)	Show / hide rule
----------------------	-------	---	------------------

Download results in CSV

Result given by “Validate label” shows whether the label is valid and also lists its variants and their dispositions. If the variant label file is too large, the results are not displayed by only available through download

Results can also be downloaded

Summarize LGR

Agenda Item #4

Summarize LGR

🏠 LGR Editor / proposed-lgr-laoscript-20160921 - Proposed LGR for Lao

📁 Import 📄 New ⚙️ Tools ✓ Validate label 📄 Summary 👁 View XML 📄 Download

Code points References Meta data Rules

Click on “Summary” button to get summary of the entire LGR. It is important to note that when summary is generated, LGR check is also performed. Therefore, this function should also be used for checking an LGR before use, e.g., when it is created or imported

Expand range(s) Add code point(s)

Code point		Action
U+0E81 (ກ) 0 Variant(s)		See code point
U+0E82 (ຂ) 0 Variant(s)		See code point
U+0E84 (ຄ) 0 Variant(s)	LAO LETTER KHO TAM	See code point
U+0E87 (ງ) 0 Variant(s)	LAO LETTER NGO	See code point
U+0E88 (ຈ) 0 Variant(s)	LAO LETTER CO	See code point
U+0E8A (ຊ) 0 Variant(s)	LAO LETTER SO TAM	See code point

Summarize LGR

LGR Summary

Summarized LGR

Testing XML validity

RNG validation OK

Testing XML validity done

Testing symmetry

Symmetry test done

Testing transitivity

Transitivity test done

Testing conditional variants

Conditional variants test done

Rebuilding LGR 'proposed-lgr-laoscript-20160921' with Unicode version 6.3.0 and Validating Repertoire 'msr-2-wle-rules-13apr15-en'

Rebuilding LGR 'proposed-lgr-laoscript-20160921' done

General summary:

Number of code points: 52.

Number of ranges: 0.

Largest range: (length: 0).

Number of sequences: 1.

Largest sequence: U+0EB2 U+0EB0 (length: 2).

Variants:


Total number of variants: 0.

Average number of variants per code point: 0.

Summary of checks performed, including symmetry and transitivity

Save summary

Close



View LGR as XML

Agenda Item #5

View LGR as XML

🏠 LGR Editor / lgr-1-arabic-script-24feb16-en - Root Zone LGR

📁 Import

📄 New

⚙️ Tools ▾

✓ Validate label

📄 Summary

👁️ View XML

📄 Download

Code points

References

Meta data

Rules

Click on “View XML” to get an XML view of the LGR

Expand range(s)

Add code point(s)

Code point	Character Name	Comments	Action
U+0620 (□) 0 Variant(s)	ARABIC LETTER KASHMIRI YEH		See code point
U+0621 (◌)	ARABIC LETTER HAMZA		See code point
U+0622 (◌̇) 4 Variant(s)	ARABIC LETTER ALEF WITH MADDA ABOVE		See code point
U+0623 (◌̈) 4 Variant(s)	ARABIC LETTER ALEF WITH HAMZA ABOVE		See code point
U+0624 (◌̉) 1 Variant(s)	ARABIC LETTER WAW WITH HAMZA ABOVE		See code point
U+0625 (◌̋) 4 Variant(s)	ARABIC LETTER ALEF WITH HAMZA BELOW		See code point
U+0626 (◌̌) 7 Variant(s)	ARABIC LETTER YEH WITH HAMZA ABOVE		See code point
U+0627 (◌̍) 4 Variant(s)	ARABIC LETTER ALEF		See code point

View LGR as XML

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
▼ <lgr xmlns="urn:ietf:params:xml:ns:lgr-1.0">
  ▼ <meta>
    <version comment="Root Zone LGR">1</version>
    <date>2016-02-24</date>
    <unicode-version>6.3.0</unicode-version>
    <language>und-Arab</language>
    <scope type="domain">.</scope>
  ▼ <description type="text/html">
    ▼ <![CDATA[
      <h1>Root Zone Label Generation Ruleset for the Arabic Script</h1> <h2>Overview</h2> <p>This
        document specifies an element LGR for a specific script that forms part of an integrated set of
        Label Generation Rules for the Root Zone. F
      ]>
    ▼ <![CDATA[
      or more details on the Root Zone LGR and their development see "Root Zone Label Generation Rules
        - LGR-1: Overview and Summary", Integration Panel, 24 February 2016 [LGR-1].</p> <p>For more
        details on this element LGR and its development see TF-AI
      ]>
    ▼ <![CDATA[
      DN, "Proposal for Arabic Script Root Zone LGR", Version 3.4, 2015 November 18 [Proposal].</p>
      <h2>Repertoire</h2> <p>The repertoire for this element LGR for the Arabic script is based on
        Section 3.2 in [Proposal] and only includes code points use
      ]>
    ▼ <![CDATA[
      d by languages that are actively written in the Arabic script. It excludes code points for
        which TF-AIDN was unable to find sufficient evidence of use (see Appendix F in [Proposal]). The
        repertoire is based on [MSR-2], which is a subset of Unicode 6.3 [Unicode 6.3].</p> <p>This LGR
        does not include combining marks or code point sequences. All combining marks have been
        excluded for these reasons:</p> <ul> <li><p>First, they can significantly overproduce and would
        require additional rules to contain them effectively, complicating the design.</p></li> <li>
        <p>Second, even where they are required for some languages, they are optional for others. </p>
        </li> <li><p>Third, this also circumvents the issue raised by [IAB].</p></li> </ul> <p>As part
        of the Root Zone, this LGR includes neither digits nor the HYPHEN-MINUS.</p> <p>For further
        details, see Section 3.2 "Code point repertoire included", in [Proposal].</p> <p>Each code
        point or range is tagged with the script or scripts that the code point is used with, and one or
        more references documenting sufficient justification for inclusion in the repertoire, see
        "References" below.</p> <h2>Variants</h2> <p>This LGR includes "blocked" and "allocatable"
        variants, assigned according to Section 4 "Final recommendation of variants for Top Level
        Domains (TLDs)" in [Proposal]. These recommendations balance the desire to minimize the number
```

XML view of the LGR

Compare LGR

Agenda Item #6

Compare LGR

🏠 LGR Editor / proposed-lgr-laoscript-20160805 - Proposed LGR for Lao

📁 Import

📄 New

⚙️ Tools ▾

✓ Validate label

📄 Summary

👁️ View XML

📄 Download

Code points

Reference

↔️ Compare

↔️ Diff

⚡ Collisions

📄 Annotate

Rules

Click on "Compare" under the "Tools" tab for comparing LGRs

Expand range(s)

Add code point(s)

Code point	Name	Comments	Action
U+0E81 (᧑) 0 Variant(s)	LAO LETTER KO		See code point
U+0E82 (᧒) 0 Variant(s)	LAO LETTER KHO SUNG		See code point
U+0E84 (᧔) 0 Variant(s)	LAO LETTER KHO TAM		See code point
U+0E87 (᧗) 0 Variant(s)	LAO LETTER NGO		See code point
U+0E88 (᧘) 0 Variant(s)	LAO LETTER CO		See code point
U+0E8A (᧚) 0 Variant(s)	LAO LETTER SO TAM		See code point
U+0E8D (᧝) 0 Variant(s)	LAO LETTER NYO		See code point

Union, Intersection or Diff(erenc)

🏠 LGR Editor / proposed-lgr-laoscript-20160805 - Proposed LGR for Lao

📁 Import

📄 New

⚙️ Tools ▾

✓ Validate label

📄 Summary

👁️ View XML

⬇️ Download

First LGR

proposed-lgr-laoscript-20160805

First LGR to use in comparison

1. Select first LGR

Second LGR

proposed-lgr-laoscript-20160921

Second LGR to use in comparison

2. Select second LGR

Action to perform
on LGRs

Union

Choose the action to perform on selected LGRs

3. Select "Union",
"Intersection" or
"Diff" to perform
relevant function
on the two LGRs

Compare

English (en) ▾

Go

4. Click on the
"Compare" button

Results of Comparison

🏠 LGR Editor / proposed-lgr-laoscript-20160805 - Proposed LGR for Lao

📁 Import

📄 New

⚙️ Tools ▾

✓ Validate label

📄 Summary

👁️ View XML

⬇️ Download

The union of **proposed-lgr-laoscript-20160805** with **proposed-lgr-laoscript-20160921** need editing to be valid.

Please download and edit it manually before importing it in LGR Toolset.

⬇️ Download

English (en) ▾

Go

Important Note: These operations only provide provisional results which must be manually reviewed and finalized

Click on the “Download” button to get the result

Diff(erence)

```
** Compare Metadata **
```

```
Compare Version
```

```
Same version value for both LGR: '2'.
```

```
Same version comment value for both LGR: 'Proposed LGR for Lao'.
```

```
Compare Description
```

```
Same description type value for both LGR: 'text/html'.
```

```
Same description value for both LGR: '
```

```
<h1>Label Generation Rules for LAO</h1>
```

```
<h2>Overview</h2>
```

```
<p>For more details on this proposal see "Proposal for a Lao Script Root Zone LGR [Proposal]"</p>
```

```
<h2>Repertoire</h2>
```

```
<p>The 51 code points are according to Section 5 "Repertoire" in [Proposal]. In addition, the sequence 0EB2 0EB0 has been defi
```

```
<h2>Variants</h2>
```

```
<p>This LGR defines no variants</p>
```

```
<h2>Character Classes</h2>
```

```
<p>Some consonants have been given the tag of C2 and Cf. C2 is a set of those consonants that are used in main consonant clust
```

```
<h2>Whole Label Evaluaton (WLE) rules</h2>
```

```
<h3>Default Whole Label Evaluation Rules</h3>
```

```
<p>The LGR includes the set of required default WLE rules and actions applicable to the Root Zone
```

```
<h3>Lao-specific Rules</h3>
```

```
<p>Rules provided in the LGR as described in Section 7 of [Proposal] reasonably restrict labels so that they conform to Lao syllab  
Where possible these constraints are presented as context rules. </p>
```

```
<p>The rules are: </p>
```

```
<ul>
```

Differences of two LGRs

Review of Impact on Existing Labels by Revision of Existing LGR

Agenda Item #7

Select Diff

🏠 LGR Editor / proposed-lgr-laoscript-20160805 - Proposed LGR for Lao

📁 Import

📄 New

⚙️ Tools ▾

✓ Validate label

📄 Summary

👁️ View XML

📄 Download

Code points

Refere

↔️ Compare

↔️ Diff

✂️ Collisions

📄 Annotate

Rules

Click on "Diff" button to determine label collisions caused by changing a LGR with a later version

Expand range(s)

Add code point(s)

Code point

U+0E81 (᧑) 0 Variant(s)

LAO LETTER KO

Action

See code point

U+0E82 (᧒) 0 Variant(s)

LAO LETTER KHO SUNG

See code point

U+0E84 (᧔) 0 Variant(s)

LAO LETTER KHO TAM

See code point

U+0E87 (᧗) 0 Variant(s)

LAO LETTER NGO

See code point

U+0E88 (᧘) 0 Variant(s)

LAO LETTER CO

See code point

U+0E8A (᧚) 0 Variant(s)

LAO LETTER SO TAM

See code point

U+0E8D (᧝) 0 Variant(s)

LAO LETTER NYO

See code point

Enter Details

First LGR

proposed-lgr-laoscript-20160927

First LGR to use in dif

1. Select first LGR

Second LGR

proposed-lgr-laoscript-20160921

Second LGR to use in dif

2. Select second LGR

Labels

Choose File Test File.txt

List of labels to use in dif. File must be encoded in UNIX format.

3. Select file containing labels

As the computing may be very long, we will warn by e-mail once the result can be downloaded. Please provide a valid e-mail address:

E-mail

██████████@icann.org

Provide your e-mail address

4. Enter your email address where you want to receive results

5. Check collisions if you want to check label collisions as well

Check collisions

Also check for collision of labels in both LGR

Output rules

Show rules in output (this can be very verbose)

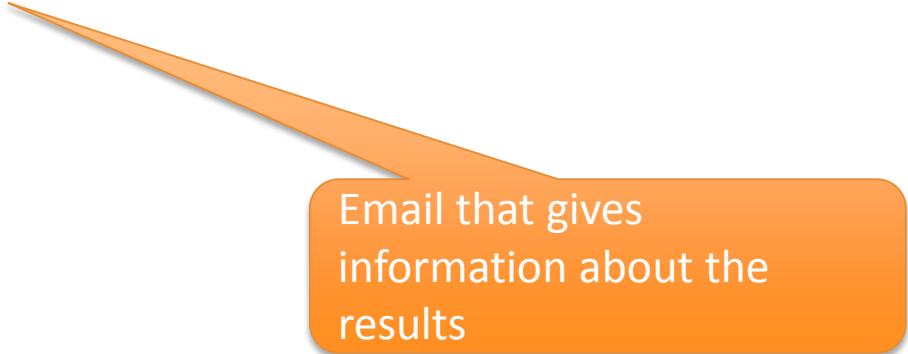
6. Check "Output rules" if you want to check output rules for each label

7. Click on "Get diff" button

Get diff

Email Notification

Hi,
The processing of diff from labels provided in the attached file 'Test File.txt' between LGR 'proposed-lgr-laoscript-20160927' and LGR 'proposed-lgr-laoscript-20160921' has been successfully completed.
You should now be able to download it from your home screen under the name: 'diff_proposed-lgr-laoscript-20160927_proposed-lgr-laoscript-20160921_20160928_075526.txt.gz'.
Please refresh the home page if you don't see the link.
Best regards



Email that gives information about the results

Download Results

1. Click on Home link for LGR Editor to get to this page

🏠 LGR Editor

📁 Import

📄 New

⚙️ Tools ▾

★ About

⚠️ Note that importing large LGR files may take significant time to load on your browser.

- [View proposed-igr-laoscript-20160921](#) 🗑️
- [View proposed-igr-laoscript-20160927](#) 🗑️

You may also use one of the following options:

📁 Import an existing XML file

📄 Start with a New blank XML file

Alternatively, you may select one of the built-in LGR's below as a starting point.

Built-in LGRs

The following LGRs are pre-installed in the system. You may use them as a starting point for your own LGR. To do so, just click on it to make a copy that you can then edit.

- [Open Sample-French](#)

Remember to save your work regularly by downloading a copy of the XML file.

2. Click on the download link on the homepage to get the “Diff” results

Your saved results

The following files contains your tools computation results.

⚠️ Note that these files could be cleaned up regularly.

- [Download diff_proposed-igr-laoscript-20160927_proposed-igr-laoscript-20160921_20160928_075526.txt.gz](#) 🗑️



Review of Impact on Existing Labels by Introduction of New LGR

Agenda Item #8

Select Collisions

🏠 LGR Editor / proposed-lgr-laoscript-20160805 - Proposed LGR for Lao

📁 Import 📄 New ⚙️ Tools ▼ ✓ Validate label 📄 Summary 👁 View XML 📄 Download

Code points Refere Rules

Expand range(s) Add code point(s)

🔄 Compare
🔄 Diff
✂ Collisions
📄 Annotate

Code point	Label	Comments	Action
U+0E81 (ᨁ) 0 Variant(s)	LAO LETTER KO		See code point
U+0E82 (ᨂ) 0 Variant(s)	LAO LETTER KHO SUNG		See code point
U+0E84 (ᨄ) 0 Variant(s)	LAO LETTER KHO TAM		See code point
U+0E87 (ᨇ) 0 Variant(s)	LAO LETTER NGO		See code point
U+0E88 (ᨈ) 0 Variant(s)	LAO LETTER CO		See code point
U+0E8A (ᨊ) 0 Variant(s)	LAO LETTER SO TAM		See code point
U+0E8D (ᨍ) 0 Variant(s)	LAO LETTER NYO		See code point

Click on “Collisions” button to determine label collisions from an existing file if an LGR is introduced – for example, two unique labels become variants of each other

Enter Details

Import New Tools Validate label Summary View XML Download

LGR proposed-lgr-laoscript-20160927

LGR to use for collisions

1. Select LGR

Labels Choose File Test File.txt

List of labels to use in diff. File must be encoded in UNIX format.

2. Select label file

As the computing may be very long, we will warn by e-mail once the result can be downloaded. Please provide a valid e-mail address:

E-mail [redacted]@icann.org

Provide your e-mail address

3. Enter your email address where you want result link notification

4. Check "Full Dump" to get summary of each operation done on the labels

Full dump
Print a full dump

5. Check "Output rules" to get rules that the label has gone through


Output rules
Show rules in output (this can be very verbose)

Get collisions

7. Click on "Get collisions"

Email Notification

Hi,
The processing of collisions from labels provided in the attached file 'Test File.txt' in LGR 'proposed-lgr-laoscript-20160927' has been successfully completed.
You should now be able to download it from your home screen under the name: 'collisions_proposed-lgr-laoscript-20160927_20160928_082947.txt.gz'.
Please refresh the home page if you don't see the link.
Best regards



Email that gives information about the results

Download Results

Import New Tools


About

Previously, you edited the following LGR file(s). Click on its title to resume your editing session.

⚠ Note that importing large LGR files may take significant time to load on your browser.

- [View proposed-lgr-laoscript-20160927](#) 

You may also use one of the following options:

 Import an existing XML file

 Start with a New blank XML file

Click on Home link for LGR Editor to get to this page

Alternatively, you may select one of the built-in LGR's below as a starting point.

Built-in LGRs

The following LGRs are pre-installed in the system. You may use them as a starting point for your own LGR. To do so, just click on it to make a copy that you can then edit.

- [Open Sample-French](#)


Remember to save your work regularly by downloading a copy of the XML file.

Click on the download link to get the "Collisions" results

Your saved results

The following files contains your tools computation results.

⚠ Note that these files could be cleaned up regularly.

- [Download collisions_proposed-lgr-laoscript-20160927_20160928_082947.txt.gz](#) 



Validate Multiple Labels

Agenda Item #9

Select Annotate

🏠 LGR Editor / proposed-lgr-laoscript-20160805 - Proposed LGR for Lao

Import New Tools Validate label Summary View XML Download

Code points Refer...

1. Click on "Import" to load an existing LGR file. See "Import" for details

2. Click on "Annotate" button to validate labels given in a text file

Expand range(s) Add code point(s)

Code point	Label	Comments	Action
U+0E81 (᧑) 0 Variant(s)	LAO LETTER KO		See code point
U+0E82 (᧒) 0 Variant(s)	LAO LETTER KHO SUNG		See code point
U+0E84 (᧔) 0 Variant(s)	LAO LETTER KHO TAM		See code point
U+0E87 (᧗) 0 Variant(s)	LAO LETTER NGO		See code point
U+0E88 (᧘) 0 Variant(s)	LAO LETTER CO		See code point
U+0E8A (᧚) 0 Variant(s)	LAO LETTER SO TAM		See code point
U+0E8D (᧝) 0 Variant(s)	LAO LETTER NYO		See code point

Enter Details

🏠 LGR Editor / proposed-igr-laoscript-20160927 - Proposed LGR for Lao

Import New Tools

Validate label Summary View XML Download

LGR proposed-igr-laoscript-20160927
LGR to use for annotation

Labels Choose File Test File.txt
List of labels to use in diff. File must be encoded in UNIX format.

As the computing may be very long, we will warn by e-mail once the result can be downloaded. Please provide a valid e-mail address:

E-mail [redacted]@icann.org
Provide your e-mail address

Annotate

English (en) Go

1. Select LGR

2. Select Label file for validation

3. Enter your email address where you want to receive results

4. Click on "Annotate" button

Email Notification


Hi,

The processing of annotation from labels provided in the attached file 'Test File.txt' in LGR 'proposed-lgr-laoscript-20160927' has been successfully completed.

You should now be able to download it from your home screen under the name: 'annotation_proposed-lgr-laoscript-20160927_20160928_083613.txt.gz'.

Please refresh the home page if you don't see the link.

Best regards



Email that gives information about the results

Download Results

🏠 LGR Editor

📁 Import

📄 New

⚙️ Tools ▾

★ About

Welcome to the LGR (Label Generation Ruleset) Editor

This application provides a convenient interface for browsing and editing LGR's conforming to the [Representing Label Generation Rulesets using XML](#) specification.

To begin using this application, you may use one of the following options:

📁 Import an existing XML file

📄 Start with a New blank XML file

Alternatively, you may select one of the built-in LGR's below as a starting point.

Built-in LGRs

The following LGRs are pre-installed in the system. You may use them as a starting point for your own LGR. To do so, just click on it to make a copy that you can then edit.

- [Open Sample-French](#)

Remember to save your work regularly by downloading a copy of the XML file.

Click on the download link to get the "Annotate" results

Your saved results

The following files contains your tools computation results.

⚠️ **Note that these files could be cleaned up regularly.**

- [Download annotation_proposed-lgr-laoscript-20160927_20160928_083613.txt.gz](#) 🗑️

Engage with ICANN



Thank You

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