

# RZ-LGR Demo

Pitinan Kooarmornpatana  
IDN Program, Senior Manager

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# LGR Tool Interface

- ◉ Access the LGR tool at <https://lgrtool.icann.org/>
- ◉ Current design is for managing LGRs, and for IDN Table Review. Interface will be redesigned for Sub Pro application.

The screenshot shows the LGR Tools interface. At the top, there is a dark navigation bar with a home icon and the text 'LGR Tools' on the left, and a '★ About' button on the right. Below the navigation bar, the main heading reads 'Welcome to the LGR (Label Generation Ruleset) Tools'. Underneath, the text 'Select your mode:' is followed by five tool options arranged in a grid. The first two options are 'Validate label(s) against an LGR' (with a checkmark icon) and 'Review IDN table(s)' (with a document icon). The third option, 'Advanced LGR Tools' (with a wrench icon), is highlighted with a red rectangular border. The fourth option is 'Generate ICANN IDN report' (with a padlock icon), and the fifth is 'Manage IDN review tool' (with a padlock icon).

- ◉ User manual and more information, please visit this [page](#).

# Demo Cases

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- ⦿ Case 1: Original label is valid.
- ⦿ Case 2: Original label is invalid.
  - 2.1 Label contains code point disallowed for TLDs.
  - 2.2 Label contains excluded code point for security reason.
  - 2.3 Label contains excluded code point due to no language support.
  - 2.4 Label is invalid as per the Whole Label Evaluation (WLE) rules
- ⦿ Case 3: Original label is valid with various scenarios for variant labels.
  - 3.1 No allocatable variant label.
  - 3.2 Original label is valid with allocatable variant label(s).
  - 3.3 Original label is valid with too many allocatable variant labels.

# Validating the Original Label

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- ⦿ Case 1: Original label is valid.
  - ASCII label: bbt  
Unicode code point: U+0062 (b) U+0062 (b) U+0074 (t)
  - U-label: café  
Unicode code point: U+0063 (c) U+0061 (a) U+0066 (f) U+00E9 (é)

Note: Latin script RZ-LGR ([XML](#), [HTML](#)) used in this demo is the proposal published for the on-going public comment [proceeding](#).

# Result for 'bbt'

### Validate label

Label

Maximum length: 63 code points

Validate

**✓ VALID**

U-label	Disposition	Code point sequence	
bbt bbt	valid	U+0062 (b) U+0062 (b) U+0074 (t)	Show / hide log

**[Action index: 9]** <action disp="valid" comment="catch all; default action from MSR-5 @"/>

**Variant labels (including original as last)**

1 variant label(s) generated.  
By disposition: valid: 1

bbt bbt	valid	U+0062 (b) U+0062 (b) U+0074 (t)	Show / hide log
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# Result for 'café'

### Validate label

Label:

Maximum length: 63 code points

**Validate**

**✓ VALID**

U-label	Disposition	Code point sequence	
café xn--caf- dma	valid	U+0063 (c) U+0061 (a) U+0066 (f) U+00E9 (é)	Show / hide log

[Action index: 9] <action disp="valid" comment="catch all; default action from MSR-5 @"/>

#### Variant labels (including original as last)

30 variant label(s) generated.  
By disposition: blocked: 29, valid: 1

café xn--ca-cia98d	blocked	U+0063 (c) U+0061 (a) U+0192 (f) U+00E9 (é)	Show / hide log
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# Validating the Original Label


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- ⦿ Case 2: Original label is invalid.
  - 2.1 Label contains code point disallowed for TLDs.
    - ASCII label: bb1  
Unicode code point: U+0062 (b) U+0062 (b) U+0031 (1)
  - 2.2 Label contains excluded code point for security reason.
    - U-label: bb'  
Unicode code point: U+0062 (b) U+0062 (b) U+02BC (')
  - 2.3 Label contains excluded code point due to no language support.
    - U-label: bb̄  
Unicode code point: U+0062 (b) U+0062 (b) U+018C (̄)

# Validating the Original Label (Cont.)

- Case 2: Original label is invalid.

2.4 Label is invalid as per the Whole Label Evaluation (WLE) rules.

- U-label:  (it can be rendered differently in other software or platform)  
Unicode code point: U+0E01 (๑) U+0E49 (๐̎) U+0E49 (๐̏) U+0E49 (๐̑)

Code Point	Glyph	Script	Name	Ref	Tags	Required Context	Comment
U+0E49		Thai	THAI CHARACTER MAI THO	[0], [100], [101]	tone	follows-consonant-av-bv	Thai
follows-consonant-av-bv	<code>([:c-av-bv:])-</code> 		✓	C		WLE 7.7, 7.8: A tone-mark, THANTHAKHAT, NIKAHIT can only follow a consonant, above-vowel or below-vowel	

Note: Thai script RZ-LGR ([XML](#), [HTML](#)) used in this demo is the version integrated in RZ-LGR-4.



# Result for 'bb1'

The screenshot shows a 'Validate label' dialog box with a close button (X) in the top right corner. The 'Label' input field contains 'bb1' and has a character count icon (⊗) on the right. Below the input field, it says 'Maximum length: 63 code points'. A blue 'Validate' button is positioned below the text. The result is displayed as a large red 'X' followed by the word 'INVALID' in red. Below this, a table provides a detailed breakdown of the validation failure.

U-label	Disposition	Code point sequence	
bb1 bb1	invalid	U+0062 (b) U+0062 (b) U+0031 (1)	Show / hide log

# Result for 'bb'

### Validate label

Label

Maximum length: 63 code points

Validate

**✗ INVALID**

U-label	Disposition	Code point sequence	
bb' xn--bb-dob	invalid	U+0062 (b) U+0062 (b) U+02BC (!)	Show / hide log

# Result for 'bbā'

The screenshot shows a 'Validate label' dialog box with a text input field containing 'bbā'. Below the input field, it states 'Maximum length: 63 code points'. A blue 'Validate' button is present. The result is displayed as a red 'X' followed by the word 'INVALID'. Below this, a table provides the details of the validation failure.

U-label	Disposition	Code point sequence	
bbā xn--bb-bxa	invalid	U+0062 (b) U+0062 (b) U+018C (ā)	Show / hide log

# Result for 'ñ̄̄̄̄'

### Validate label

Label

Maximum length: 63 code points

Validate

**✗ INVALID**

U-label	Disposition	Code point sequence
ñ̄̄̄̄ xn- -12c8laaa	invalid	U+0E01 (ñ) U+0E49 (̄) U+0E49 (̄) U+0E49 (̄) U+0E49 (̄)

Show / hide log

# Generating Allocatable Variant Labels

- ⦿ Case 3: Original label is valid with various scenarios for variant labels.
  - 3.1 No allocatable variant label.
    - U-label: dés  
Unicode code point: U+0064 (d) U+00E9 (é) U+0073 (s)
  - 3.2 Original label is valid with allocatable variant label(s).
    - U-label: straÙe  
Unicode code point: U+0073 (s) U+0074 (t) U+0072 (r) U+0061 (a)  
U+00DF (ß) U+0065 (e)
  - 3.3 Original label is valid with many allocatable variant labels.
    - U-label: شبكه  
Unicode code point: U+0634 (ش) U+0628 (ب) U+0643 (ك) U+0629(ة)

Note: Arabic script RZ-LGR ([XML](#), [HTML](#)) used in this demo is the version integrated in RZ-LGR-4.

# Result for 'dés'

### Validate label

**✓ VALID**

U-label	Disposition	Code point sequence	
dés xn--ds-bja	valid	U+0064 (d) U+00E9 (é) U+0073 (s)	Show / hide log
<b>[Action index: 9]</b> <action disp="valid" comment="catch all; default action from MSR-5 ☺"/>			
<b>Variant labels (including original as last)</b>			
3 variant label(s) generated. By disposition: blocked: 2, valid: 1			
dés xn--d-bga24x	blocked	U+0064 (d) U+00E9 (é) U+0455 (s)	Show / hide log
<b>[Action index: 2]</b> <action disp="blocked" any-variant="blocked" comment="any variant label containing blocked variants is blocked ☺"/>			
dés xn--d-bga294g	blocked	U+0064 (d) U+00E9 (é) U+0D1F (s)	Show / hide log
<b>[Action index: 2]</b> <action disp="blocked" any-variant="blocked" comment="any variant label containing blocked variants is blocked ☺"/>			
dés xn--ds-bja	valid	U+0064 (d) U+00E9 (é) U+0073 (s)	Show / hide log
<b>[Action index: 9]</b> <action disp="valid" comment="catch all; default action from MSR-5 ☺"/>			

# Result for 'straße'

### Validate label

Label

Maximum length: 63 code points

Validate

✓ VALID

U-label	Disposition	Code point sequence	
straße	valid	U+0073 (s) U+0074 (t) U+0072 (r)	Show / hide log
xn--strae-		U+0061 (a) U+00DF (ß) U+0065 (e)	
oqa			

[Action index: 3] <action disp="valid" all-variants="r-eszett r-dotless" comment="any original label is valid"/>

**Variant labels (including original as last)**

300 variant label(s) generated.  
By disposition: allocatable: 1, blocked: 298, valid: 1

Too many variant labels to be displayed in the browser. Please download the results in .csv instead.

Download results in CSV

# Result for 'straße' (.csv file)

#	Type	U-label	A-label	Disposition	Code point sequence
1	original	straße	xn--strae-oqa	valid	U+0073 U+0074 U+0072 U+0061 U+00DF U+0065
2	varlabel	strasse	strasse	allocatable	U+0073 U+0074 U+0072 U+0061 U+0073 U+0073 U+0065
3	varlabel	strasse	xn--strass-8of	blocked	U+0073 U+0074 U+0072 U+0061 U+0073 U+0073 U+0435
4	varlabel	straße	xn--stra-yna832c	blocked	U+0073 U+0074 U+0072 U+0061 U+00DF U+0435
5	varlabel	straße	xn--strae-m9d	blocked	U+0073 U+0074 U+0072 U+0061 U+03B2 U+0065
6	varlabel	straße	xn--stra-8ld00f	blocked	U+0073 U+0074 U+0072 U+0061 U+03B2 U+0435
7	varlabel	strasse	xn--strae-k2ea	blocked	U+0073 U+0074 U+0072 U+0061 U+0455 U+0455 U+0065
8	varlabel	strasse	xn--stra-y4d5qa	blocked	U+0073 U+0074 U+0072 U+0061 U+0455 U+0455 U+0435
9	varlabel	straSSe	xn--strae-92pa	blocked	U+0073 U+0074 U+0072 U+0061 U+0D1F U+0D1F U+0065
10	varlabel	straSSe	xn--stra-y4d508ka	blocked	U+0073 U+0074 U+0072 U+0061 U+0D1F U+0D1F U+0435
11	varlabel	strásse	xn--strsse-rta	blocked	U+0073 U+0074 U+0072 U+00E1 U+0073 U+0073 U+0065
12	varlabel	strásse	xn--strss-zqa080d	blocked	U+0073 U+0074 U+0072 U+00E1 U+0073 U+0073 U+0435
13	varlabel	stráße	xn--stre-xnal	blocked	U+0073 U+0074 U+0072 U+00E1 U+00DF U+0065
14	varlabel	stráße	xn--str-7kaj722c	blocked	U+0073 U+0074 U+0072 U+00E1 U+00DF U+0435
15	varlabel	stráße	xn--stre-7na044b	blocked	U+0073 U+0074 U+0072 U+00E1 U+03B2 U+0065
16	varlabel	stráße	xn--str-gla917aqwa	blocked	U+0073 U+0074 U+0072 U+00E1 U+03B2 U+0435
17	varlabel	strásse	xn--stre-7na814ca	blocked	U+0073 U+0074 U+0072 U+00E1 U+0455 U+0455 U+0065
18	varlabel	strásse	xn--str-gla473bqfa	blocked	U+0073 U+0074 U+0072 U+00E1 U+0455 U+0455 U+0435
19	varlabel	stráSSe	xn--stre-7na819pa	blocked	U+0073 U+0074 U+0072 U+00E1 U+0D1F U+0D1F U+0065
20	varlabel	stráSSe	xn--str-gla473bgxqa	blocked	U+0073 U+0074 U+0072 U+00E1 U+0D1F U+0D1F U+0435
...					
300					



# Result for 'شبكة'

LGR Tools /lgr-4-arabic-script-05nov20-en - Root Zone LGR for Arabic

Import

## Validate label

Label

شبكة

Maximum length: 63 code points

Validate

**✓ VALID**

U-label	Disposition	Code point sequence
شبكة xn-- ngbx0cq	valid	U+0634 (ش) U+0628 (ب) U+0643 (ك) U+0647 (ة)

Show / hide log

[Action index: 20] <action disp="valid" comment="catch all (default action) @"/>

### Variant labels (including original as last)

24 variant label(s) generated.  
By disposition: blocked: 18, allocatable: 5, valid: 1

About

point(s)

point

point

point

point

# Result for 'شبكة'

#	Type	U-label	A-label	Disposition	Code point sequence
1	original	شبكة	xn--ngbc5azd	valid	U+0634 U+0628 U+0643 U+0629
2	varlabel	شبكة	xn--ngbx0cq	allocatable	U+0634 U+0628 U+0643 U+0647
3	varlabel	شبكة	xn--ngbx0c15a	blocked	U+0634 U+0628 U+0643 U+06BE
4	varlabel	شبكة	xn--ngbx0c95a	blocked	U+0634 U+0628 U+0643 U+06C0
5	varlabel	شبكة	xn--ngbx0cy6a	blocked	U+0634 U+0628 U+0643 U+06C1
6	varlabel	شبكة	xn--ngbx0c26a	blocked	U+0634 U+0628 U+0643 U+06C2
7	varlabel	شبكة	xn--ngbx0c66a	allocatable	U+0634 U+0628 U+0643 U+06C3
8	varlabel	شبكة	xn--ngbx0c31b	blocked	U+0634 U+0628 U+0643 U+06D5
9	varlabel	شبكة	xn--ngbc5az1b	allocatable	U+0634 U+0628 U+06A9 U+0629
10	varlabel	شبكة	xn--ngbx2d5u	allocatable	U+0634 U+0628 U+06A9 U+0647
11	varlabel	شبكة	xn--ngbx66ayc	blocked	U+0634 U+0628 U+06A9 U+06BE
12	varlabel	شبكة	xn--ngbx66a6c	blocked	U+0634 U+0628 U+06A9 U+06C0
13	varlabel	شبكة	xn--ngbx66agd	blocked	U+0634 U+0628 U+06A9 U+06C1
14	varlabel	شبكة	xn--ngbx66akd	blocked	U+0634 U+0628 U+06A9 U+06C2
15	varlabel	شبكة	xn--ngbx66aod	allocatable	U+0634 U+0628 U+06A9 U+06C3
16	varlabel	شبكة	xn--ngbx66a0f	blocked	U+0634 U+0628 U+06A9 U+06D5
17	varlabel	شبكة	xn--ngbc5a31b	allocatable	U+0634 U+0628 U+06AA U+0629
18	varlabel	شبكة	xn--ngbx2d9u	allocatable	U+0634 U+0628 U+06AA U+0647
19	varlabel	شبكة	xn--ngbx96asc	blocked	U+0634 U+0628 U+06AA U+06BE
20	varlabel	شبكة	xn--ngbx96a0c	blocked	U+0634 U+0628 U+06AA U+06C0
21	varlabel	شبكة	xn--ngbx96a4c	blocked	U+0634 U+0628 U+06AA U+06C1
22	varlabel	شبكة	xn--ngbx96a8c	blocked	U+0634 U+0628 U+06AA U+06C2
23	varlabel	شبكة	xn--ngbx96ahd	allocatable	U+0634 U+0628 U+06AA U+06C3
24	varlabel	شبكة	xn--ngbx96arf	blocked	U+0634 U+0628 U+06AA U+06D5

# Index Variant Label

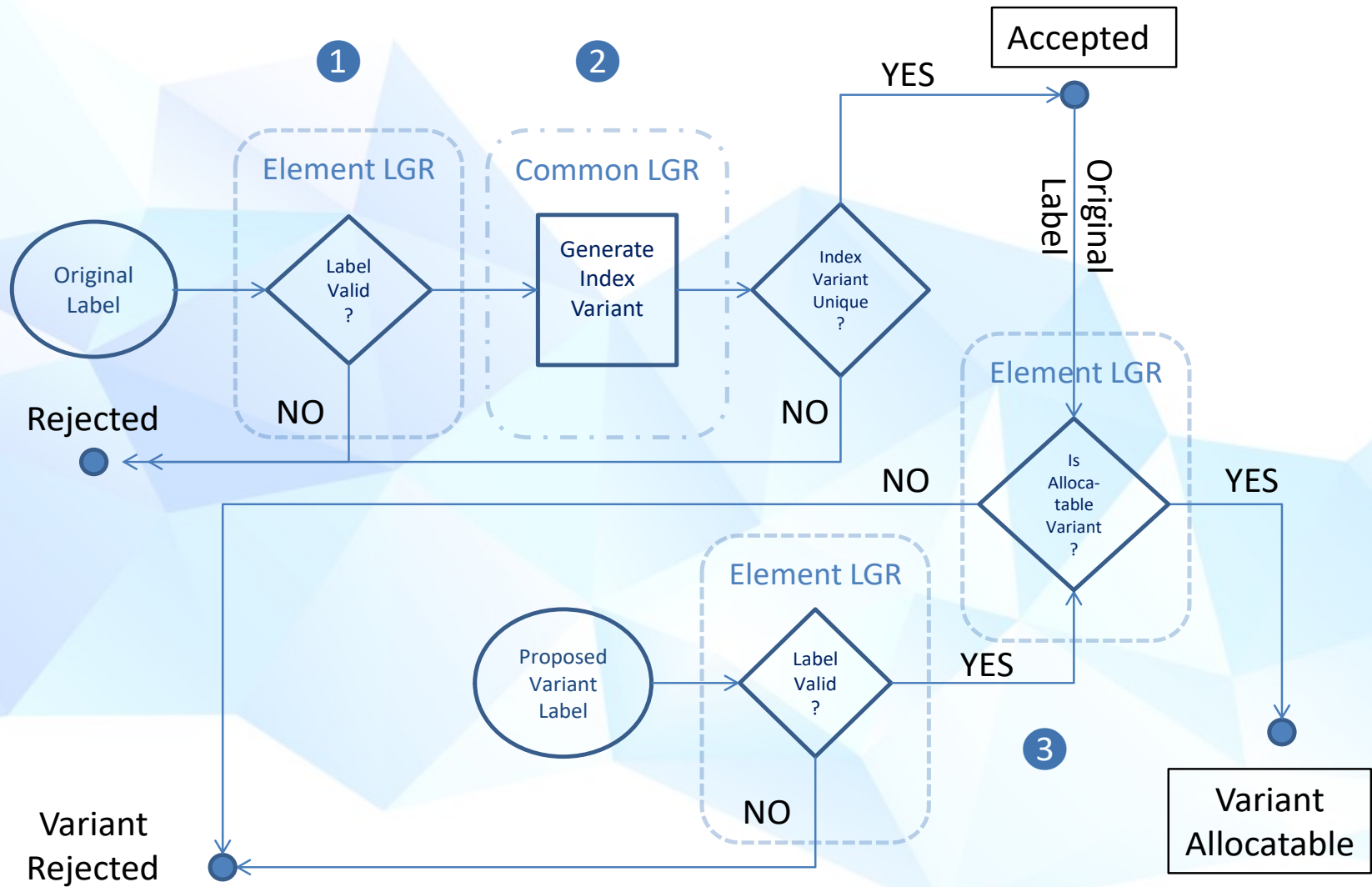
- “Index variant label” is the variant label with lowest code point values in all positions. All labels in the same variant label sets have the same Index Variant Value.

Index variant label →

#	Type	U-label	A-label	Disposition	Code point sequence
1	original	dés	xn--ds-bja	valid	U+0064 (d) U+00E9 (é) <b>U+0073 (s)</b>
2	varlabel	dés	xn--d-bga24x	blocked	U+0064 (d) U+00E9 (é) <b>U+0455 (s)</b>
3	varlabel	déS	xn--d-bga294g	blocked	U+0064 (d) U+00E9 (é) <b>U+0D1F (S)</b>

- Index variant label is used for
  - Checking if the original label collides with any existing TLDs and their variant TLDs.
  - Checking if the desired variant label is the variant of the original label

# Schematic for Processing a Label



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