

# Data Quality Days

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# Constraint -a- thon



# Overview

“Property constraints are rules on properties that specify how properties should be used.”

“Constraints are hints, not firm restrictions, and are meant as a help or guidance to the editor. They can have exceptions”

[https://www.wikidata.org/wiki/Help:Property\\_constraints\\_portal](https://www.wikidata.org/wiki/Help:Property_constraints_portal)

# Types of constraints

Single value	One Wikidata item shouldn't have two property values
Distinct value	Two Wikidata items should not have the same property value
Formatting	The property value should be formatted in a certain way
Inverse	Two Wikidata items should link to each other using a property pair
...	
Complex constraints	It's complex, see <a href="https://www.wikidata.org/wiki/Template:Complex_constraint">https://www.wikidata.org/wiki/Template:Complex_constraint</a>

# Stored in Wikidata property info

P373

Constraint type

## Constraints

property constraint

Commons link constraint

namespace

Category

edit

0 references

+ add reference

single value constraint

0 references

edit

+ add reference

conflicts-with constraint

property

instance of

item of property constraint

Wikimedia template

edit

0 references

+ add reference

format constraint

format as a regular expression

`[^0-9-@>]+`

edit

0 references

+ add reference

+ add value

P2302

Constraint parameters as qualifiers

# Constraint violations in Wikidata items

Q47616

P373

Constraint violation warning

Constraints violated

The screenshot displays the Wikidata interface for item Q47616. On the left, a grey sidebar contains the label 'Commons category' and 'topic's main category'. The main content area lists three instances of property P373: 'Incandescent light bulbs ...', 'Light bulbs ...', and 'Light bulb ...'. Each instance has an 'edit' button, a '+ add reference' button, and a '+ add value' button. A red warning icon is present next to each instance label. A 'Potential issues' dialog box is open over the 'Light bulb ...' instance, showing two violations: 'single value constraint' (This property is generally expected to contain only a single value.) and 'Commons link constraint' (Commons link should exist.).

Property	Value	Warning	Actions
P373	Incandescent light bulbs ...	!	edit, + add reference
P373	Light bulbs ...	!	edit, + add reference
P373	Light bulb ...	!	edit, + add reference, + add value

**Potential issues**

**single value constraint** [Help](#) [Discuss](#)  
This property is generally expected to contain only a single value.

**Commons link constraint** [Help](#) [Discuss](#)  
Commons link should exist.

# Constraint violation exceptions

P649

property constraint



single value constraint

 edit



exception to constraint

Cape Henry Light

University of Maine

Fort Monroe

Woodlawn

Harvard Square

Nevada Northern Railway Museum

Grand Circus Park Historic District

Newport Southbank Bridge

North Entrance Road Historic  
District

Oakleigh Garden Historic District

Perry's Victory and International  
Peace Memorial

Vizcaya Museum and Gardens













Hassel Island Historic District

Martin Luther King, Jr., National  
Historic Site

Chalker High School

# Require other properties to be set

P1700

property constraint	 type constraint  edit 
	class geographic location
	relation instance of
	<a href="#">▼ 0 references</a> <a href="#">+ add reference</a>
 item requires statement constraint  edit 	
property country	
item of property constraint Portugal	
group by Portuguese Empire	
group by country	
<a href="#">▼ 0 references</a> <a href="#">+ add reference</a>	
 item requires statement constraint  edit 	
property located in the administrative territorial entity	
<a href="#">▼ 0 references</a> <a href="#">+ add reference</a>	
 item requires statement constraint  edit 	
property coordinate location	
<a href="#">▼ 0 references</a> <a href="#">+ add reference</a>	

# Constraint reports

Bot-updated pages at, e.g.:

[https://www.wikidata.org/wiki/Wikidata:Database\\_reports/Constraint\\_violations/P373](https://www.wikidata.org/wiki/Wikidata:Database_reports/Constraint_violations/P373)

[https://www.wikidata.org/wiki/Wikidata:Database\\_reports/Complex\\_constraint\\_violations/P373](https://www.wikidata.org/wiki/Wikidata:Database_reports/Complex_constraint_violations/P373)

Updated every few days. Can also run them using SPARQL to see latest results.



# Editing tasks

Identify new constraints to add to properties

- Recently-created authority control IDs?

Use constraints to fix Wikidata content

- P373
- P301/P910 pair

Useful links:

- [https://www.wikidata.org/wiki/Help:Property\\_constraints\\_portal](https://www.wikidata.org/wiki/Help:Property_constraints_portal)
- <https://www.wikidata.org/wiki/Wikidata:Vandalism> (needs work!)
- [https://www.wikidata.org/wiki/Wikidata:2020\\_report\\_on\\_Property\\_constraints](https://www.wikidata.org/wiki/Wikidata:2020_report_on_Property_constraints)