Constraining structured data

Wikidata Lab XIII

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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

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 https://www.wikidata.org/wiki/Template:Complex_constraint

Stored in Wikidata property info

P373

Constraint type

Constraints

property constraint

Commons link constraint   edit
  namespace   Category
  ▾ 0 references
                                        + add reference

P2302

single value constraint   edit
  ▾ 0 references
                                        + add reference

conflicts-with constraint   edit
  property   instance of
  item of property constraint   Wikimedia template
  ▾ 0 references
                                        + add reference

Constraint parameters as qualifiers

format constraint   edit
  format as a regular   [^{}\\\|<>]+
  expression
  ▾ 0 references
                                        + add reference

                                        + add value

Constraint violations in Wikidata items

Q47616

P373

Constraint violation warning

Commons category

⬍ Incandescent light bulbs ••• [!]

▾ 0 references

✎ edit

+ add reference

⬍ Light bulbs ••• [!]

▾ 0 references

✎ edit

+ add reference

⬍ Light bulb ••• [!]

Constraints violated

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.

✎ edit

+ add reference

+ add value

topic's main category

✎ edit

+ add reference

+ add value

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	
	▼ 0 references		
			+ add reference
	item requires statement constraint		edit
	property	country	
	item of property constraint	Portugal	
		Portuguese Empire	
	group by	country	
	▼ 0 references		
			+ add reference
	item requires statement constraint		edit
	property	located in the administrative territorial entity	
	▼ 0 references		
			+ add reference
	item requires statement constraint		edit
	property	coordinate location	
	▼ 0 references		
			+ add reference

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/Complex_constraint_violations/P373

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

Difficulty levels

Some constraints are easy to resolve - a typo, or a mislink.

Others are more complex, and need detailed investigation.

Other relevant things

Statistics by class, e.g. at https://www.wikidata.org/wiki/Property_talk:P5094

Vandalism dashboard: https://tools.wmflabs.org/wdvd

Afternoon tasks

Identify new constraints to add to properties

- Recently-created authority control IDs?

Useful links:

- https://www.wikidata.org/wiki/Help:Property_constraints_portal
- https://www.wikidata.org/wiki/Wikidata:Vandalism (needs work!)

Use constraints to fix Wikidata content

- P373
- P301/P910 pair

What have I missed?

- Ask me anything about Wikidata?