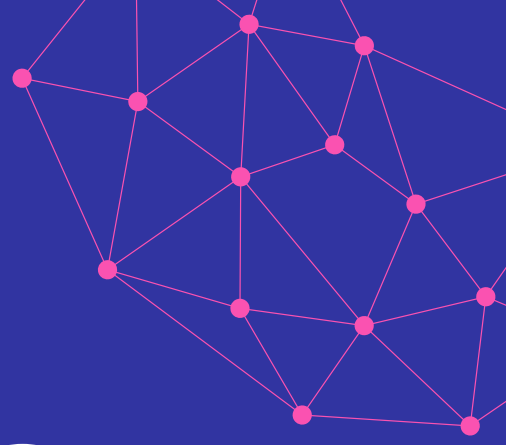
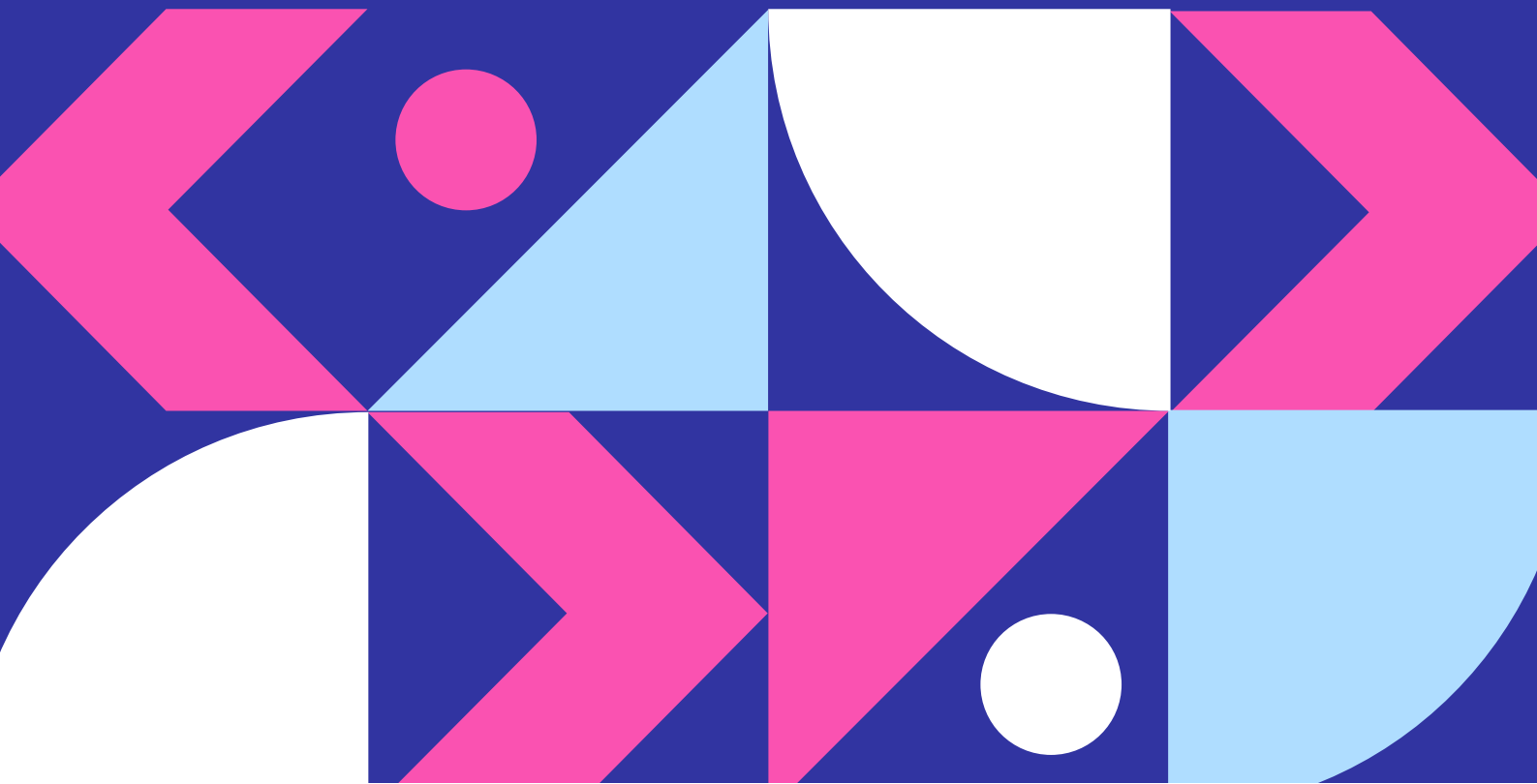


# SoCK Use Cases

Explore the use of completeness patterns

**Vol. 1**



# #1

## G20 Nations



Meet Lisa, a web developer who is working on a web development project for the G20 Presidency event in Indonesia. Lisa is responsible for creating a feature that displays all the countries which are members of the G20. Gradually, Lisa decided to use DBpedia's knowledge graph. However, Lisa is doubtful whether all the data she needs is available on DBpedia. Therefore, Lisa decided to do a validation check first to make sure all information related to the countries that are members of the G20 is in the knowledge graph.

The screenshot shows the SoCK web application interface. At the top, there are navigation tabs: Home, Patterns, Instances, and Use Cases. The 'Instances' tab is active. A modal window titled 'Create a New Pattern Instance' is open. It contains the following fields and sections:

- Name:** A text input field containing 'Population Completeness on G20 Nations - DBpedia KG'.
- Creator:** A text input field containing 'anonymous'.
- Description:** A text area containing 'This SHACL shape will check if there are 20 countries included in the entity of G20 nations in DBpedia'.
- SHACL pattern:** A dropdown menu showing 'Population Completeness - POC01'.
- SHACL pattern description:** A text area containing 'The shapes check the number of instances of a class which is the population of that instance.'
- SHACL shapes:** A text area containing SHACL code. The code starts with '@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .', '@prefix wd: <http://www.wikidata.org/entity/> .', and '@prefix wdt: <http://www.wikidata.org/prop/direct/> .'. It then defines 'ex:G20NationsShape' as a 'sh:NodeShape' with 'sh:targetNode dbc:G20\_nations', 'sh:property' containing 'sh:path [ sh:inversePath dct:subject ]', and 'sh:minCount 20'.

At the bottom of the modal, there are 'Cancel' and 'Create' buttons.

Figure 1 form to create completeness pattern instance



**SoCK** Home Patterns **Instances** Use Cases

## Population Completeness on G20 Nations – DBpedia KG

**Description**  
The SHACL shape will check if there are 20 countries included in the entity of G20 Nations in DBpedia

**Creator**  
anonymous

**Date Created**  
Tuesday June, 7th 2022

**SHACL Pattern**  
Population Completeness - POC01

**SHACL Shapes**

```
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@prefix wd: <http://www.wikidata.org/entity/> .
@prefix wdt: <http://www.wikidata.org/prop/direct/> .

ex:G20NationsShape
  a sh:NodeShape ;
  sh:targetNode dbc:G20_nations ;
  sh:property [
    sh:path [ sh:inversePath dct:subject ] ;
    sh:minCount 20 ;
  ] .
```

[Copy](#) [Download as TTL](#)

**Figure 2** Instance pattern for G20 nations

Through the SoCK website, Lisa looked for patterns of completeness that matched the case she was facing. Finally, Lisa found that the completeness pattern that fits her case is the **population completeness** pattern. Through this pattern, it creates an instance that will check whether the `dbc:G20_nations` entity has 20 countries belonging to the G20 entity. The process of creating an instance of the pattern can be seen in Figure 1. After completing the instance, Lisa can check the results by first searching for the name of the instance that was just created. Then, Lisa can view the instance in Figure 2 and can download the SHACL shape to use as validation against the `dbc:G20_nations` entity on DBpedia.


#2

# American Film

Meet Max, a freelancer who recently landed a film website development project. In particular, all films shown on the website are from the United States of America. At first, Max was confused about where he got the film data. Eventually, Max discovers that Wikidata has the movie data he needs. He has the idea to display the title of the film along with a brief description or synopsis of the film. Max needs to check if each entity from a movie on Wikidata contains a label and a description.



Using the SoCK website, Max was able to find a pattern of completeness that fits his case. Max chooses the **label and description completeness**. Through this pattern, Max creates an instance that checks whether the entities from "American Film" have property labels and descriptions in English according to their country of origin. In the process of creating the instance, Max customizes the target section so that it fits into the structure of the Wikidata. The result of creating an instance by Max can be seen in Figure 3.

 **SoCK** [Home](#) [Patterns](#) [Instances](#) [Use Cases](#)

---

## Label Description Completeness on American Film - Wikidata

**Description**  
The SHACL shape will check the entities of American film has a label and description in English.

**Creator**  
anonymous

**Date Created**  
Monday June, 13th 2022

**SHACL Pattern**  
Label & Description Completeness - LDC01

**SHACL Shapes**

```
ex:AmericanFilmLabelDescriptionShapes
a sh:NodeShape ;
sh:target [
  a ex:WikidataCustomTarget ;
  ex:instanceOf wd:Q11424 ;
  ex:countryOfOrigin wd:Q30 ;
];
sh:property [
  sh:path rdfs:label ;
  sh:qualifiedMinCount 1 ;
  sh:qualifiedValueShape [
    sh:languageIn ("en") ;
```

[Copy](#) [Download as TTL](#)

**Figure 3** Instance pattern for American film label and description