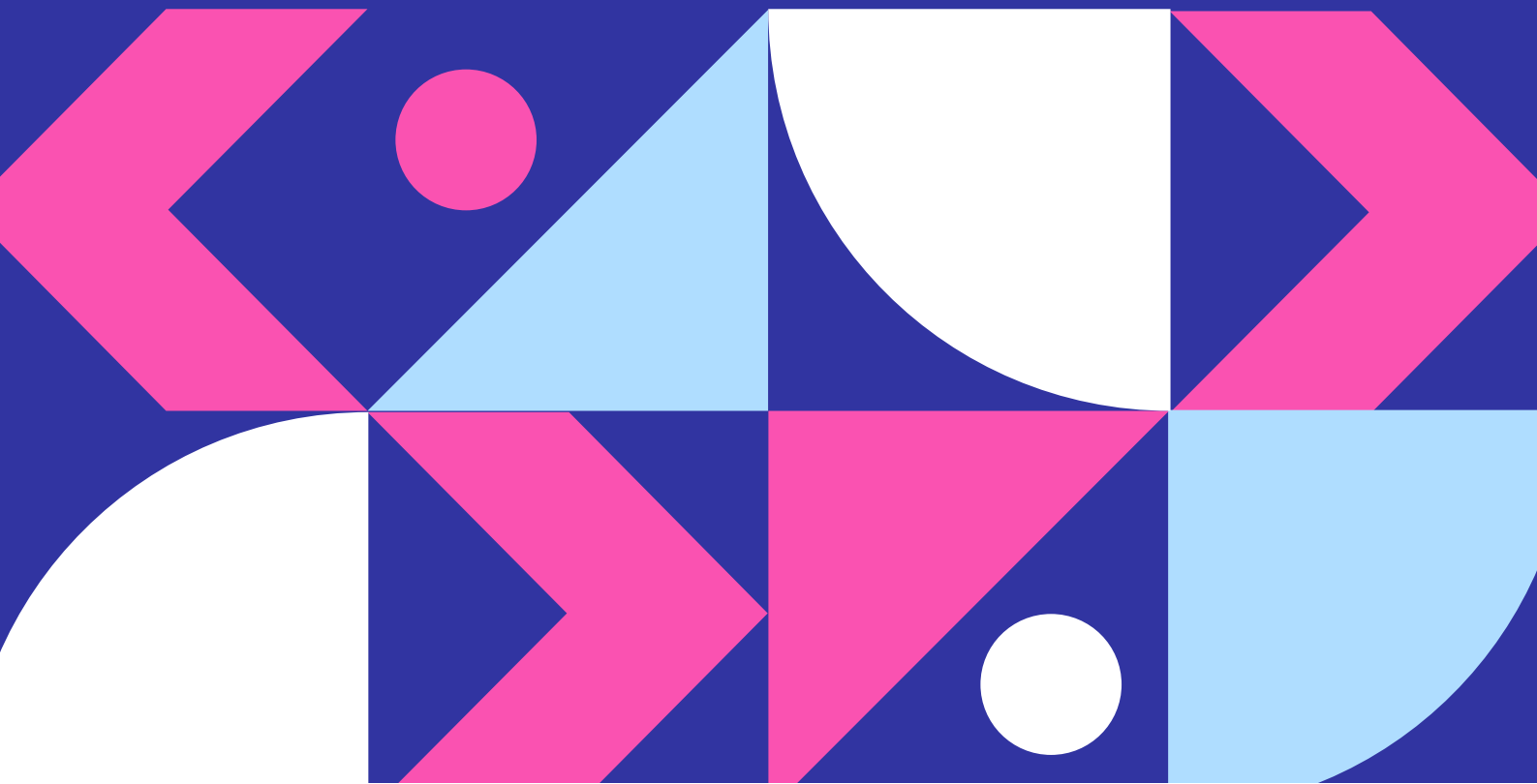
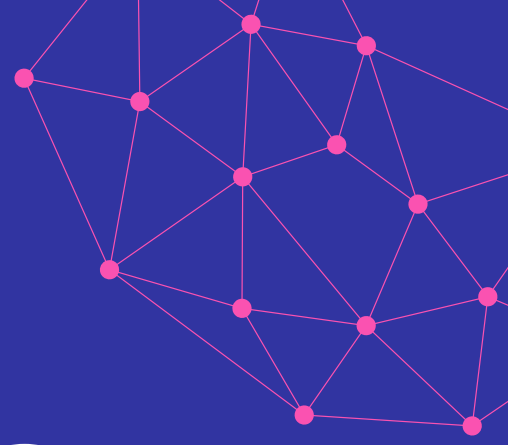


SoCK Use Cases

Explore the use of completeness patterns



#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 decides to use the DBpedia knowledge graph. However, Lisa is doubtful whether all the data she needs is available on DBpedia. Therefore, Lisa decides 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.

SoCK Home Patterns Instances Use Cases

Create a New Pattern Instance

Name
Population Completeness on G20 Nations - DBpedia KG

Creator
anonymous

Description
This SHACL shape will check if there are 20 countries included in the entity of G20 nations in DBpedia

SHACL pattern
Population Completeness - POC01

SHACL pattern description
The shapes check the number of instances of a class which is the population of that instance.

SHACL shapes
Press Shift + Tab for indentation

```
@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 ;
  ] .
```

Cancel **Create**

Figure 1 Form to create completeness pattern instance



The image shows a screenshot of the SoCK website. The navigation bar at the top includes 'Home', 'Patterns', 'Instances', and 'Use Cases'. The main heading is 'Population Completeness on G20 Nations - DBpedia KG'. The page is divided into two columns. The left column contains metadata: 'Description' (The SHACL shape will check if there are 20 countries included in the entity of G20 Nations in DBpedia), 'Creator' (anonymous), and 'Date Created' (Tuesday June, 7th 2022). The right column is titled 'SHACL Pattern' and 'SHACL Shapes'. It displays the SHACL pattern for 'Population Completeness - POC01'. The pattern is as follows:

```
@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 ;
  ] .
```

At the bottom right of the SHACL Shapes section, there are two buttons: 'Copy' and 'Download as TTL'.

Figure 2 Instance pattern for G20 nations

Through the SoCK website, Lisa looks for a pattern of completeness that matches the case she is facing. Finally, Lisa finds that the completeness pattern which 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 result by searching for the name of the instance that was just created. Then, Lisa can view the instance in Figure 2 and download the SHACL shape to use as validation against the `dbc:G20_nations` entity on DBpedia.


#2

American Films

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 is 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" class have label and description properties 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.

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

Label Description Completeness on American Films – Wikidata

Description

The SHACL shape will check the entities of American films have a label and description property in English.

Creator

anonymous

Date Created

Monday June, 13th 2022

SHACL Pattern

Label & Description Completeness - LDC01

SHACL Shapes

```
@prefix : <http://example.org/ns#> .
@prefix dash: <http://datashapes.org/dash#> .
@prefix dbc: <http://dbpedia.org/resource/Category:> .
@prefix dbo: <http://dbpedia.org/ontology/> .
@prefix dbp: <http://dbpedia.org/property/> .
@prefix dbr: <http://dbpedia.org/resource/> .
@prefix dct: <http://purl.org/dc/terms/> .
@prefix ex: <http://example.org/ns#> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix geo: <http://www.opengis.net/ont/geosparql#> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
```



 Copy  Download as TTL

Figure 3 Instance pattern for American films label and description