

Summary of Syntax Validity of Instance Graphs

Concept	Code	Valid Syntax	Parser Output
rdfs:Resource	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . rdf:Resource a rdfs:Class .	True	None
rdfs:Literal	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . <http://example.com/example> rdf:type rdfs:Literal ; rdfs:label 'This is a literal value' .	True	None
rdfs:Class	@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . rdfs:Class a rdfs:Class ; rdfs:label 'A class' ; rdfs:comment 'This is an example of an RDFS class.' .	True	None
rdfs:Datatype	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . rdfs:Datatype rdf:type rdfs:Class .	True	None
rdfs:Container	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . <http://example.org/mycontainer> rdf:type rdfs:Container ; rdfs:label 'This is my container' ; rdfs:member <http://example.org/resource1> , <http://example.org/resource2> ; . <http://example.org/resource1> rdfs:label 'Resource 1' ; . <http://example.org/resource2> rdfs:label 'Resource 2' ; .	True	None
rdfs:label	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . <https://example.com/MyResource> a rdf:Resource ; rdfs:label 'My label' .	True	None
rdfs:comment	@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . @prefix ex: <http://www.example.org#> . ex:exampleResource rdfs:comment 'This is an example resource.' .	True	None
rdfs:domain	@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . @prefix ex: <http://example.org/> . ex:Person a rdfs:Class ; rdfs:label 'Person'@en ; rdfs:comment 'A human being.'@en ; rdfs:subClassOf ex:Animal ; rdfs:domain ex:hasName . ex:hasName a rdf:Property ; rdfs:domain ex:NamedEntity ; rdfs:range rdfs:Literal ; rdfs:label 'has name'@en ; rdfs:comment 'The name of something.'@en .	False	at line 10 of <>: Bad syntax (Prefix "rdf:" not bound) at ^ in: "...b"assOf ex:Animal ;\n rdfs:domain ex:hasName .\n\nnex:hasName a ^b"rdf:Property ;\n rdfs:domain ex:NamedEntity ;\n rdfs:range'..."
rdfs:range	@prefix ex: <http://example.com/> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . ex:Person a rdfs:Class ; rdfs:label 'Person' ; rdfs:comment 'A human being.' . ex:name a rdf:Property ; rdfs:label 'name' ; rdfs:comment 'The name of a person.' ;	False	at line 9 of <>: Bad syntax (Prefix "rdf:" not bound) at ^ in: "...b"bel 'Person' ;\n rdfs:comment 'A human being.' .\n\nnex:name a ^b"rdf:Property ;\n

	rdfs:domain ex:Person ; rdfs:range xsd:string .		rdfs:label 'name' ; in rdfs:comment 'The name' ...
rdfs:subClassOf	@prefix : <http://example.org/> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . :Animal rdfs:subClassOf :LivingThing . :Bird rdfs:subClassOf :Animal . :Fish rdfs:subClassOf :Animal .	True	None
skos:Concept	@prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.com/> . ex:cat a skos:Concept ; skos:prefLabel 'Cat' ; skos:altLabel 'Kitty' ; skos:related ex:domesticAnimal ; skos:broader ex:mammal . ex:dog a skos:Concept ; skos:prefLabel 'Dog' ; skos:altLabel 'Puppy' ; skos:related ex:domesticAnimal ; skos:broader ex:mammal . ex:mammal a skos:Concept ; skos:prefLabel 'Mammal' ; skos:altLabel 'Animal' ; skos:related ex:vertebrate ; skos:narrower ex:cat ; skos:narrower ex:dog . ex:domesticAnimal a skos:Concept ; skos:prefLabel 'Domestic animal' ; skos:altLabel 'Pet' ; skos:related ex:animal ; skos:broader ex:animal . ex:animal a skos:Concept ; skos:prefLabel 'Animal' ; skos:altLabel 'Creature' ; skos:related ex:nature . ex:vertebrate a skos:Concept ; skos:prefLabel 'Vertebrate' ; skos:altLabel 'Animal with backbone' ; skos:related ex:animal ; skos:broader ex:animal .	True	None
skos:Collection	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix skos: <http://www.w3.org/2004/02/skos/core#> . <http://example.com/myCollection> a skos:Collection ; skos:prefLabel 'My Collection' @en ; skos:member <http://example.com/myConcept1> , <http://example.com/myConcept2> .	True	None
skos:ConceptScheme	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.com/> . ex:myScheme a skos:ConceptScheme ; skos:prefLabel 'My SKOS Concept Scheme' ; skos:definition 'An example SKOS concept scheme' ; skos:hasTopConcept ex:myTopConcept ; skos:hasTopConcept ex:anotherTopConcept . ex:myTopConcept a skos:Concept ; skos:prefLabel 'My Top Concept' ; skos:definition 'An example top-level concept in my SKOS concept scheme' . ex:anotherTopConcept a skos:Concept ; skos:prefLabel 'Another Top Concept' ; skos:definition 'Another example top-level concept in my SKOS concept scheme' .	True	None
skos:OrderedCollection	@prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .	True	None

	<p>skos:myOrderedCollection rdf:type skos:OrderedCollection ; skos:member skos:concept1 , skos:concept2 , skos:concept3 .</p> <p>skos:concept1 rdf:type skos:Concept ; skos:prefLabel 'Concept 1' .</p> <p>skos:concept2 rdf:type skos:Concept ; skos:prefLabel 'Concept 2' .</p> <p>skos:concept3 rdf:type skos:Concept ; skos:prefLabel 'Concept 3' .</p>		
skos:CollectableProperty	<p>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix skos: <http://www.w3.org/2004/02/skos/core#> .</p> <p>skos:CollectableProperty a rdf:Class ; rdf:label 'Collectable Property'@en ; rdf:comment 'A concept property that can be used to group:'</p> <p>- concepts that may be collected (e.g. specimens);</p> <p>- concepts that are documented separately (e.g. manuscripts);</p> <p>- concepts that have a separate existence (e.g. coins).'@en .</p>	False	<p>at line 6 of <>: Bad syntax (newline found in string literal) at ^ in: "...b" rdf:comment 'A concept property that can be used to group:'^b\n\nconcepts that may be collected (e.g. specimens);\n\nconc'..."</p>
skos:topConceptOf	<p>@prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.com/> .</p> <p>ex:myConcept a skos:Concept ; skos:topConceptOf ex:myScheme .</p> <p>ex:myScheme a skos:ConceptScheme .</p>	True	None
skos:semanticRelation	<p>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.org/> .</p> <p>ex:term1 skos:semanticRelation ex:term2 .</p>	True	None
skos:memberList	<p>@prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.org/> .</p> <p>ex:myList a skos:Concept ; skos:prefLabel 'My List' ; skos:memberList (ex:item1 ex:item2 ex:item3) .</p> <p>ex:item1 a skos:Concept ; skos:prefLabel 'Item 1' .</p> <p>ex:item2 a skos:Concept ; skos:prefLabel 'Item 2' .</p> <p>ex:item3 a skos:Concept ; skos:prefLabel 'Item 3' .</p>	True	None
skos:member	<p>@prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.com/> .</p> <p>ex:book1 a ex:Book ; skos:member ex:collection .</p> <p>ex:collection a skos:Collection ; skos:member ex:book1, ex:book2 .</p> <p>ex:book2 a ex:Book ; skos:member ex:collection .</p>	True	None
skos:hasTopConcept	<p>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix skos: <http://www.w3.org/2004/02/skos/core#> .</p> <p><http://example.org/my-vocabulary> rdf:type skos:ConceptScheme ; skos:hasTopConcept <http://example.org/my-vocabulary#Foo> ;</p>	True	None

	skos:hasTopConcept <http://example.org/my-vocabulary#Bar> . <http://example.org/my-vocabulary#Foo> rdf:type skos:Concept ; skos:prefLabel 'Foo'@en . <http://example.org/my-vocabulary#Bar> rdf:type skos:Concept ; skos:prefLabel 'Bar'@en .		
foaf:Agent	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . foaf:Agent rdf:type rdf:Class .	True	None
foaf:Person	@prefix foaf: <http://xmlns.com/foaf/0.1/> . <http://example.com/person/Jane> a foaf:Person ; foaf:name 'Jane Doe' ; foaf:age 35 ; foaf:gender 'female' . <http://example.com/person/John> a foaf:Person ; foaf:name 'John Smith' ; foaf:age 42 ; foaf:gender 'male' .	True	None
foaf:Document	@prefix foaf: <http://xmlns.com/foaf/0.1/> . @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . foaf:Document rdf:type rdf:Class .	True	None
foaf:Group	@prefix foaf: <http://xmlns.com/foaf/0.1/> . <http://example.com/my-group> a foaf:Group ; foaf:name 'My Group' ; foaf:member <http://example.com/john-doe> , <http://example.com/jane-doe> ; foaf:homepage <http://example.com/my-group-page> .	True	None
foaf:OnlineAccount	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . foaf:AccountOwner a rdf:Class . foaf:OnlineAccount a rdf:Class ; rdfs:subClassOf foaf:OnlineChatAccount . foaf:account a rdf:Property ; rdfs:domain foaf:AccountOwner ; rdfs:range foaf:OnlineAccount . foaf:homepage a rdf:Property ; rdfs:domain foaf:OnlineAccount ; rdfs:range rdfs:Resource . foaf:accountName a rdf:Property ; rdfs:domain foaf:OnlineAccount ; rdfs:range xsd:string . foaf:accountServiceHomepage a rdf:Property ; rdfs:domain foaf:OnlineAccount ; rdfs:range rdfs:Resource .	False	at line 7 of <>: Bad syntax (Prefix "rdfs:" not bound) at ^ in: "...b'ntOwner a rdf:Class .\n\nfoaf:OnlineAccount a rdf:Class ;\n\n'^b'rdfs:subClassOf foaf:OnlineChatAccount .\n\nfoaf:account a rdf..."
foaf:name	@prefix foaf: <http://xmlns.com/foaf/0.1/> . <http://example.org/person1> foaf:name 'John Doe' .	True	None
foaf:knows	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . <http://example.org/person1> a foaf:Person ; foaf:name 'John Doe' ; foaf:knows <http://example.org/person2> . <http://example.org/person2> a foaf:Person ; foaf:name 'Jane Smith' .	True	None

foaf:based_near	<pre>@prefix foaf: <http://xmlns.com/foaf/0.1/> . @prefix geo: <http://www.w3.org/2003/01/geo/wgs84_pos#> . <http://example.org/person1> foaf:name 'John Doe' ; foaf:based_near [geo:lat '37.7749' ; geo:long '-122.4194'] .</pre>	True	None
foaf:accountName	<pre>@prefix foaf: <http://xmlns.com/foaf/0.1/> . @prefix ex: <http://example.org/> . ex:person1 foaf:name 'John Doe' ; foaf:accountName 'john DOE' .</pre>	True	None
foaf:holdsAccount	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . @prefix ex: <http://example.org/> . ex:person1 foaf:holdsAccount [rdf:type foaf:OnlineAccount ; foaf:accountName 'user@example.org' ; foaf:accountServiceHomepage <http://www.example.org/>] .</pre>	True	None
prov:Agent	<pre>@prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://www.example.com/> . ex:person1 a prov:Agent ; prov:name 'John Doe' ; prov:hadActivity ex:activity1 . ex:activity1 a prov:Activity ; prov:wasAssociatedWith ex:person1 .</pre>	True	None
prov:Activity	<pre>@prefix prov: <http://www.w3.org/ns/prov#> . <http://example.org/activity1> a prov:Activity ; prov:label 'Activity 1' ; prov:startTime '2021-01-01T00:00:00Z'^xsd:dateTime ; prov:endTime '2021-01-01T01:00:00Z'^xsd:dateTime .</pre>	False	at line 6 of <>: Bad syntax (Prefix "xsd:" not bound) at ^ in: "...b"bel 'Activity 1' ;\n prov:startTime '2021-01-01T00:00:00Z'^^^^b"x sd:dateTime ;\n prov:endTime '2021-01-01T01:00:00Z'^^xsd: da"..."
prov:Entity	<pre>@prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://example.com/> . ex:entity1 a prov:Entity ; prov:wasDerivedFrom ex:data1 ; prov:wasGeneratedBy ex:process1 .</pre>	True	None
prov:Collection	<pre>@prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://example.com/> . ex:collection1 a prov:Collection ; rdfs:label 'My Collection'@en ; prov:hadMember ex:item1, ex:item2, ex:item3 ; prov:wasGeneratedBy ex:process1 ; prov:wasDerivedFrom ex:sourceDataset ; . ex:item1 a prov:Entity ; rdfs:label 'Item 1'@en ; prov:wasGeneratedBy ex:process1 ; . ex:item2 a prov:Entity ; rdfs:label 'Item 2'@en ; prov:wasGeneratedBy ex:process1 ; . ex:item3 a prov:Entity ; rdfs:label 'Item 3'@en ; prov:wasGeneratedBy ex:process1 ; .</pre>	False	at line 5 of <>: Bad syntax (Prefix "rdfs:" not bound) at ^ in: "...b'ttp://example.co m/> .\n\n nex:collection1 a prov:Collection ;\n '^b"rdfs:label 'My Collection'@en ;\n prov:hadMember ex:item1, e"..."

	<p>ex:process1 a prov:Activity ; rdfs:label 'My Process'@en ; prov:used ex:inputDataset .</p> <p>ex:inputDataset a prov:Entity ; rdfs:label 'Input Dataset'@en .</p> <p>ex:sourceDataset a prov:Entity ; rdfs:label 'Source Dataset'@en ; prov:wasGeneratedBy ex:sourceProcess .</p> <p>ex:sourceProcess a prov:Activity ; rdfs:label 'Source Process'@en ; prov:used ex:rawData .</p> <p>ex:rawData a prov:Entity ; rdfs:label 'Raw Data'@en .</p>		
prov:Location	<p>@prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://example.com/> .</p> <p>ex:location1 a prov:Location ; prov:atLocation 'New York' .</p>	True	None
prov:wasGeneratedBy	<p>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix prov: <http://www.w3.org/ns/prov#> .</p> <p><http://example.org/document> prov:wasGeneratedBy <http://example.org/tool> .</p> <p><http://example.org/tool> rdf:type prov:Software ; prov:wasAttributedTo <http://example.org/developer> .</p>	True	None
prov:generatedAtTime	<p>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix prov: <http://www.w3.org/ns/prov#> . @prefix xsd: <http://www.w3.org/2001/XMLSchema#> .</p> <p><http://example.com/document> rdf:type prov:Entity ; prov:generatedAtTime '2021-08-10T12:00:00Z'^'^xsd:dateTime .</p>	True	None
prov:atLocation	<p>@prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://example.org/> .</p> <p>ex:entity1 a prov:Entity ; prov:atLocation ex:location1 .</p> <p>ex:location1 a prov:Location ; prov:latitude '51.5072' ; prov:longitude '-0.1276' .</p>	True	None
prov:hadMember	<p>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://example.org/> .</p> <p>ex:Collection1 a prov:Collection ; prov:hadMember ex:Entity1 ; prov:hadMember ex:Entity2 ; prov:hadMember ex:Entity3 .</p>	True	None
prov:used	<p>@prefix prov: <http://www.w3.org/ns/prov#> .</p> <p><http://example.com/activity/123> a prov:Activity ; prov:used <http://example.com/resource/456> .</p> <p><http://example.com/resource/456> a prov:Entity .</p>	True	None
rdf:List	<p>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix ex: <http://example.com/> .</p> <p>ex:myList rdf:type rdf:List; rdf:first 'apple'; rdf:rest [rdf:first 'banana'; rdf:rest [rdf:first 'cherry'; rdf:rest rdf:nil</p>	True	None

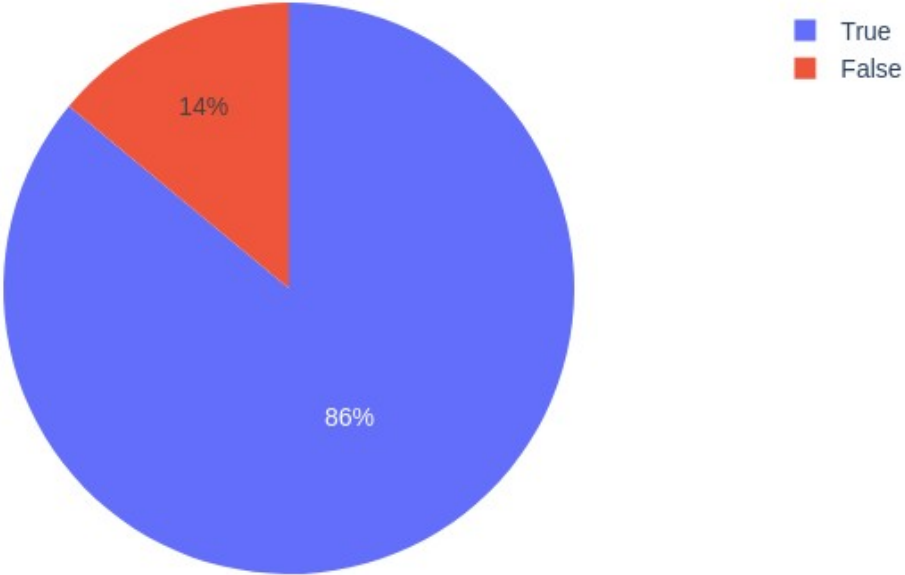
	<pre>]]. </pre>		
rdf:Bag	<pre> @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix ex: <http://example.com/ns#> . ex:Collection rdf:type rdf:Bag ; rdf:_1 ex:item1 ; rdf:_2 ex:item2 ; rdf:_3 ex:item3 ; rdf:_4 ex:item4 . </pre>	True	None
rdf:Statement	<pre> @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix ex: <http://example.com/> . ex:subject1 ex:predicate1 ex:object1 . ex:subject2 ex:predicate2 ex:object2 . ex:statement1 a rdf:Statement ; rdf:subject ex:subject1 ; rdf:predicate ex:predicate1 ; rdf:object ex:object1 . ex:statement2 a rdf:Statement ; rdf:subject ex:subject2 ; rdf:predicate ex:predicate2 ; rdf:object ex:object2 . </pre>	True	None
rdf:Property	<pre> @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . # Define a custom property @prefix ex: <http://example.org/> . ex:hasColor rdf:type rdf:Property ; rdfs:label 'has color' ; rdfs:comment 'Relates an object to its color' . </pre>	False	at line 7 of <>: Bad syntax (Prefix "rdfs:" not bound) at ^ in: "...b"://example.org/> . \n\nex:hasColor rdf:type rdf:Property ;\ n ^b"rdfs:label 'has color' ;\ rdfs:comment 'Relates an object'..."
rdf:HTML	<pre> @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix ex: <http://example.org/> . ex:myWebpage rdf:type rdf:HTML . </pre>	True	None
rdf:first	<pre> @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix ex: <http://example.org/> . ex:myList rdf:type rdf:List ; rdf:first 'apple' ; rdf:rest _:b0 . _:b0 rdf:type rdf:List ; rdf:first 'banana' ; rdf:rest _:b1 . _:b1 rdf:type rdf:List ; rdf:first 'cherry' ; rdf:rest rdf:nil . </pre>	True	None
rdf:type	<pre> @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . <http://example.org/person1> rdf:type foaf:Person . <http://example.org/person1> foaf:name 'John Doe' . </pre>	True	None
rdf:subject	<pre> @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . <http://example.org/myresource> rdf:subject <http://example.org/mysubject> . </pre>	True	None
rdf:value	<pre> @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . <http://example.org/resource1> rdf:value 'example' . <http://example.org/resource2> rdf:value 42 </pre>	True	None

	.		
rdf:rest	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . rdf:nil rdf:rest rdf:nil .	True	None

The table below shows the occurrences of each category for the tested ontologies.

Ontology Prefix	True Count	False Count	No Response Count
rdfs	8	2	0
skos	9	1	0
foaf	9	1	0
prov	8	2	0
rdf	9	1	0

Figure 1: Occurences of each category of response ('True', 'False', 'None')



Type of Code	Valid Syntax	Invalid Syntax
sparql_queries	0	0
instance_graphs	43	7
shacl_shapes	0	0