Part I

Sparql Endpoint:

https://sparql.proconsortium.org/virtuoso/

1 Graphs research

1.1 Queries for graphs and results

```
graph all_graphs_included.sparql: 1 results
graph graphs_with_a_triple_min.sparql: 32 results
graph graphs_with_rdf_type.sparql: 26 results
The graphs_with_a_triple_min.sparql returns more results (32)
```

1.2 List of graphs selected

```
graph 1 - http://www.openlinksw.com/schemas/virtrdf#
graph 2 - b3sifp
graph 3 - http://purl.obolibrary.org/obo/pr
graph 4 - http://www.w3.org/2002/07/owl#
graph 5 - http://www.w3.org/ns/r2rml#OVL
graph 6 - http://www.openlinksw.com/schemas/oplweb#
graph 7 - http://pir.georgetown.edu/pro/paf
graph 8 - https://lod.proconsortium.org/uniprotkb-exactMatch
graph 9 - https://lod.proconsortium.org/uniprotkb-closeMatch
graph 10 - https://lod.proconsortium.org/hgnc-closeMatch
graph 11 - https://lod.proconsortium.org/mgi-closeMatch
graph 12 - https://lod.proconsortium.org/rgd-closeMatch
graph 13 - https://lod.proconsortium.org/ncbigene-closeMatch
graph 14 - https://lod.proconsortium.org/sgd-closeMatch
graph 15 - https://lod.proconsortium.org/wormbase-closeMatch
graph 16 - https://lod.proconsortium.org/ensembl-closeMatch
graph 17 - https://lod.proconsortium.org/reactome-closeMatch
graph 18 - https://lod.proconsortium.org/uniprotkbvar-exactMatch
graph 19 - https://lod.proconsortium.org/reactome-exactMatch
graph 20 - https://lod.proconsortium.org/uniprotkbvar-closeMatch
graph\ 21\ -\ https://lod.proconsortium.org/ensemblbacteria-closeMatch
graph 22 - https://proconsortium.org/pr extra
```

```
graph 23 - http://localhost:8890/DAV/
graph 24 - http://localhost:8890/sparql
graph 25 - https://sparql.proconsortium.org/.well-known/void
graph 26 - virtrdf-label
graph 27 - http://www.w3.org/ns/ldp#
graph 28 - facets
graph 29 - virtrdf-url
graph 30 - b3sonto
graph 31 - urn:rules.skos
graph 32 - urn:activitystreams-owl:map
```

2 Querying https://sparql.proconsortium.org/virtuoso/spar

2.1 Results by query

Query class.sparql - distinct results: 40092

Query property.sparql - distinct results: 476

Query label class.sparql - distinct results: 39221

Query label property.sparql - distinct results: 205

Query subclass.sparql - distinct results: 0

Query subproperty.sparql - distinct results : 5

Query property domain.sparql - distinct results: 312

Query property_range.sparql - distinct results : 200

Query indi range property.sparql - distinct results: 321

Query indi domain property.sparql - distinct results: 848

Query entity type.sparql - distinct results: 58232

Total of unique results found 139912 on https://sparql.proconsortium.org/virtuoso/sp

2.2 Error Log

• Error on graph http://www.openlinksw.com/schemas/virtrdf# query/subclass.sparql: EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph b3sifp query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph http://purl.obolibrary.org/obo/pr query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph http://www.w3.org/2002/07/owl# query/subclass.sparql: EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646

(sec) exceeds the limit of 400 (sec)

• Error on graph http://www.w3.org/ns/r2rml#OVL query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph http://www.openlinksw.com/schemas/oplweb# query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph http://pir.georgetown.edu/pro/paf query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/uniprotkb-exactMatch query/subclass.sparql: EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/uniprotkb-closeMatch query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/hgnc-closeMatch query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/mgi-closeMatch query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/rgd-closeMatch query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/ncbigene-closeMatch query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/sgd-closeMatch query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/wormbase-closeMatch query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/ensembl-closeMatch query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/reactome-closeMatch query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/uniprotkbvar-exactMatch query/subclass.sparql: EndPointInternalError: The endpoint returned

the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/reactome-exactMatch query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/uniprotkbvar-closeMatch query/subclass.sparql: EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://lod.proconsortium.org/ensemblbacteria-closeMatch query/subclass.sparql: EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://proconsortium.org/pr_extra query/subclass.sparql: EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph http://localhost:8890/DAV/ query/subclass.sparql: EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph http://localhost:8890/sparql query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph https://sparql.proconsortium.org/.well-known/void query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph virtrdf-label query/subclass.sparql: EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph http://www.w3.org/ns/ldp# query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph facets query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph virtrdf-url query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph b3sonto query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph urn:rules.skos query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Error on graph urn:activitystreams-owl:map query/subclass.sparql: EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 225646 (sec) exceeds the limit of 400 (sec)

• Number of errors : 32

3 Process before indexation

3.1 JSON results conversion after distinct operation

All string results were converted into valid json results

4 Partition in separated queries

The volume of 139912 results does not need query partition

5 Elastic Search Indexation

Index 'class' already exits and will be completed Storing 40092 results in index 'class' took 8.235 secs

Index 'property' already exits and will be completed Storing 476 results in index 'property' took 0.062 secs

Index 'label_class' already exits and will be completed Storing 39221 results in index 'label_class' took 10.674 secs

Index 'label_property' already exits and will be completed Storing 205 results in index 'label_property' took 0.028 secs

Index 'subproperty' already exits and will be completed Storing 5 results in index 'subproperty' took 0.031 secs

Index 'property_domain' already exits and will be completed Storing 312 results in index 'property_domain' took 0.047 secs

Index 'property_range' already exits and will be completed Storing 200 results in index 'property_range' took 0.047 secs

Index 'indi_range_property' already exits and will be completed Storing 321 results in index 'indi_range_property' took 0.053 secs

Index 'indi_domain_property' already exits and will be completed Storing 848 results in index 'indi_domain_property' took 1.053 secs

Index 'entity_type' already exits and will be completed Storing 58232 results in index 'entity type' took 31.094 secs

6 Getting results and indexing times

Getting results for https://sparql.proconsortium.org/virtuoso/sparql took 4 min (288.031 secs)

Indexation for https://sparql.proconsortium.org/virtuoso/sparql took 1 min (63.329 secs)