Part I

Sparql Endpoint:

https://genome.microbedb.jp/sparql

1 Graphs research

1.1 Queries for graphs and results

```
graph all_graphs_included.sparql: 1 results
graph graphs_with_a_triple_min.sparql: 7 results
graph graphs_with_rdf_type.sparql: 4 results
The graphs_with_a_triple_min.sparql returns more results (7)
```

1.2 List of graphs selected

```
graph 1 - http://www.openlinksw.com/schemas/virtrdf# graph 2 - http://localhost:8890/sparql graph 3 - http://ddbj.nig.ac.jp/ontologies/taxonomy graph 4 - http://genome.microbedb.jp/cyanobase/assembly graph 5 - http://www.w3.org/ns/ldp# graph 6 - urn:activitystreams-owl:map graph 7 - http://localhost:8890/DAV/
```

2 Querying https://genome.microbedb.jp/sparql

2.1 Results by query

Query class.sparql - distinct results : 23
Query property.sparql - distinct results : 183
Query label_class.sparql - distinct results : 3
Query label_property.sparql - distinct results : 21
Query subclass.sparql - distinct results : 0
Query subproperty.sparql - distinct results : 0
Query property_domain.sparql - distinct results : 35
Query property_range.sparql - distinct results : 35
Query indi_range_property.sparql - distinct results : 70
Query indi_domain_property.sparql - distinct results : 256
Query entity_type.sparql - distinct results : 11025

Total of unique results found 11651 on https://genome.microbedb.jp/sparql

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 3957944 (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 3957944 (sec) exceeds the limit of 400 (sec)

• Error on graph http://ddbj.nig.ac.jp/ontologies/taxonomy query/subclass.sparql: EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 3957944 (sec) exceeds the limit of 400 (sec)

• Error on graph http://genome.microbedb.jp/cyanobase/assembly query/subclass.sparql : EndPointInternalError: The endpoint returned the HTTP status code 500

Response: b'Virtuoso 42000 Error The estimated execution time 3957944 (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 3957944 (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 3957944 (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 3957944 (sec) exceeds the limit of 400 (sec)

• Number of errors: 7

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 11651 results does not need query partition

5 Elastic Search Indexation

Index 'class' already exits and will be completed Storing 23 results in index 'class' took 0.033 secs

Index 'property' already exits and will be completed Storing 183 results in index 'property' took 0.031 secs

Index 'label_class' already exits and will be completed Storing 3 results in index 'label_class' took 0.03 secs

Index 'label_property' already exits and will be completed Storing 21 results in index 'label_property' took 0.065 secs

Index 'property_domain' already exits and will be completed Storing 35 results in index 'property_domain' took 0.044 secs

Index 'property_range' already exits and will be completed Storing 35 results in index 'property_range' took 0.144 secs

Index 'indi_range_property' already exits and will be completed Storing 70 results in index 'indi_range_property' took 0.155 secs

Index 'indi_domain_property' already exits and will be completed Storing 256 results in index 'indi_domain_property' took 0.083 secs

Index 'entity_type' already exits and will be completed Storing 11025 results in index 'entity type' took 1.806 secs

6 Getting results and indexing times

Getting results for https://genome.microbedb.jp/sparql took 2 min (125.602 secs)

Indexation for https://genome.microbedb.jp/sparql took 0 min (7.871 secs)