



## **Milestone M4.31**

### **Webservice-Layer adapted for ViBRANT**

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## Introduction

Within the scope of the ViBRANT project we created several web services for collecting information from a CDM database. These web services have been employed in the web-based user interface that provides a means of searching the ViBRANT index database, a data warehouse consisting of several data sources, including data exported from Scratchpads.

## General Architecture

The CDM web services all have the same general architecture. They are fronted by a controller class that is part of the remote layer of the CDM. The controller passes its query to one or more service classes. The services use the functionality provided in the persistence layer to fetch the required information from a CDM database.

Third parties wishing to use the web services in their projects can do so by installing the CDM library. Instructions to do this are provided here:

<http://wp5.e-taxonomy.eu/cdmlib/getting-started.html>

We also provide developer documentation on the REST API and each web service on:

<http://wp5.e-taxonomy.eu/cdmlib/rest-api.html>

Individual links to the up-to-date web services documentation will be available after the next release of the CDM (11<sup>th</sup> February 2013):

<http://wp5.e-taxonomy.eu/cdmlib/rest-api-statistics.html>

<http://wp5.e-taxonomy.eu/cdmlib/rest-api-search.html>

## Web services

There are 3 types of CDM web services used in the ViBRANT project:

- Name search
- Full text search
- Statistics

The statistics service has been extended and improved since our last milestone report [3]. We now provide statistics for taxonomic classifications and have speeded up the performance. To do this we had to expand the persistence layer of the CDM with a new DAO that makes statistical queries.

The source code is available from EDIT's subversion repository.

Web application:

<http://dev.e-taxonomy.eu/trac/browser/trunk/cdmlib/cdmlib-remote-webapp>

Controller:

<http://dev.e-taxonomy.eu/trac/browser/trunk/cdmlib/cdmlib-remote>

Service classes:

<http://dev.e-taxonomy.eu/trac/browser/trunk/cdmlib/cdmlib-services>

At the publishing date of this report only the previous version is available.

The final version will be made available on 11th February 2013.

For example the new statistics web service can be called with the following parameters:

```
<host>/statistics.json?part=ALL&type=CLASSIFICATION&type=ALL_TAXA&type=ACCEPTED_TAXA&type=SYNONYMS&type=TAXON_NAMES&type=ALL_REFERENCES&type=NOMECLATORAL_REFERENCES&type=DESCRIPTIVE_SOURCE_REFERENCES
```

This gives the following response:

```
[
  {
    "class": "Statistics",
    "countMap": {
      "Taxon_names": 36618,
      "Synonyms": 30620,
      "Accepted_taxa": 16254,
      "Nomeclatural_references": 11969,
      "Classifications": 2,
      "Descriptive_source_references": 1304,
      "References": 19443,
      "All_taxa": 46874
    },
    "request": {
      "class": "StatisticsConfigurator",
      "filter": [
        null
      ],
      "type": [
        "CLASSIFICATION",
        "ALL_TAXA",
        "ACCEPTED_TAXA",
        "SYNONYMS",
        "TAXON_NAMES",
        "ALL_REFERENCES",
        "NOMECLATURAL_REFERENCES",
        "DESCRIPTIVE_SOURCE_REFERENCES"
      ]
    }
  }
]
]
```

Other example requests are provided in the user documentation.

### Further work

We will continue to improve the web services, for example for the statistics service we hope to include functionality to perform statistical requests on specific sub-trees of taxa.

### References

A demo version of the ViBRANT interface which uses these services is available at:

[http://dev.e-taxonomy.eu/vibrant\\_index/search/](http://dev.e-taxonomy.eu/vibrant_index/search/)

Further information is available in the following milestone reports:

1. [http://vbrant.eu/files/ViBRANT M4.18 %E2%80%94 Human Interface for CD M-ViBRANT index.pdf](http://vbrant.eu/files/ViBRANT_M4.18_%E2%80%94_Human_Interface_for_CD_M-ViBRANT_index.pdf)
2. [http://vbrant.eu/sites/vbrant.eu/files/ViBRANT M4 24.pdf](http://vbrant.eu/sites/vbrant.eu/files/ViBRANT_M4_24.pdf)
3. [http://vbrant.eu/sites/vbrant.eu/files/ViBRANT M4 28.pdf](http://vbrant.eu/sites/vbrant.eu/files/ViBRANT_M4_28.pdf)