Taverna Tutorial exercise 2: REST services from BioCatalogue

Stian Soiland-Reyes and Christian Brenninkmeijer
University of Manchester
materials by Katy Wolstencroft and Aleksandra Pawlik

http://orcid.org/0000-0001-9842-9718
http://orcid.org/0000-0002-2937-7819
http://orcid.org/0000-0002-1279-5133
http://orcid.org/0000-0001-8418-6735

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http://www.taverna.org.uk/
Start with the *Get Protein FASTA* workflow from Exercise 1.

Now we will find out what functional motifs the protein contains, but first we have to tell Taverna about some new services.
Taverna can invoke any WSDL and REST web services

The Service Catalogue [http://biocatalogue.org/](http://biocatalogue.org/) has registered over 1500 bioinformatics web services

Go to the **Service Catalogue** perspective of Taverna

- The Service Catalogue tab is included in the *Bioinformatics, Biodiversity and Enterprise* editions of Taverna Workbench.
- For other editions, install Service Catalogue plugin from **Advanced -> Updates and plugins -> Find new plugins**
- Note: *Biodiversity* edition is configured to use biodiversitycatalogue.org instead of biocatalogue.org and won’t find dbfetch. See **File -> Preferences -> Service Catalogue**.

Search for dbfetch
Searching for REST services

- In the **REST Service** tab, select **GET /dbfetch/{db}/{id}**
  Retrieve data from a database given a set of identifiers
- **Right-click** on the service and **Add to Service Panel**
Back in the **Design** perspective, in the **Available Services** search panel:

- Search for `dbfetch`
- Right-click on the `GET` service and choose "**Add to workflow with name**…"
- Enter a name such as `dbfetch` and click **OK**
The workflow now has a new REST service *dbfetch*

Click the **Display all service ports** button to see service inputs and outputs
Alternatively, you can add a REST service manually:

- Right-click on an empty area of the workflow and select “REST” from the “Insert” section.
- Enter the URL Template, (see below), click Close.
- A new REST service with inputs `db` and `id` is added.

http://www.ebi.ac.uk/Tools/dbfetch/dbfetch/{db}/{id}
Details about REST service

- For this service, we need to supply the input ports db and a protein id.
- We are not sure what database names to use, so let’s go back to Service Catalogue perspective
- Right-click on the dbfetch/{db}/{id} entry and Open in the Service Catalogue
This service has extensive documentation in BioCatalogue.

Input parameter db is described with example values.

We will pick uniprotkb.

https://www.biocatalogue.org/rest_methods/142
Right-click on the REST service input id to **Connect with output from** the Workflow Input Port id.

- Right-click on the `db` input port on the REST service and select ‘**Constant value**’.
- Add the constant value ‘uniprotkb’ and click **“OK”**
  - A new *Text Constant* service is added and connected
- Add a Workflow Output Port and connect it to the REST Output Port responseBody.
Finished workflow
Workflow results

- Save and run your workflow with the input value from exercise 1, P15409
- Now your Results will include the Uniprot entry for your protein on the **responseBody** output port.
  - Tip: Slide up the separator line above *Workflow Results* to see more of the values

Try also Value type *Text*