The DataMiner Manager Web Interface

Giancarlo Panichi, Gianpaolo Coro
Istituto di Scienza e Tecnologie dell'Informazione A. Faedo
{panichi,coro}@isti.cnr.it

In this document we describe the DataMiner Manager Web interface that allows interacting with the gCube DataMiner service.

Overview

DataMiner is a cross-usage service that provides users and services with tools for performing data mining operations. Specifically, it offers a unique access to perform data mining and statistical operations on heterogeneous data, which may reside either at client side, in the form of comma-separated values files, or be remotely hosted, possibly in a database. The DataMiner service is able to take inputs and execute the operation requested by a client or a user, by invoking the most suited computational facility from a set of available computational resources. Executions can run either on multi-core machines or on different computational platforms, such as D4Science and other different private and commercial Cloud providers.

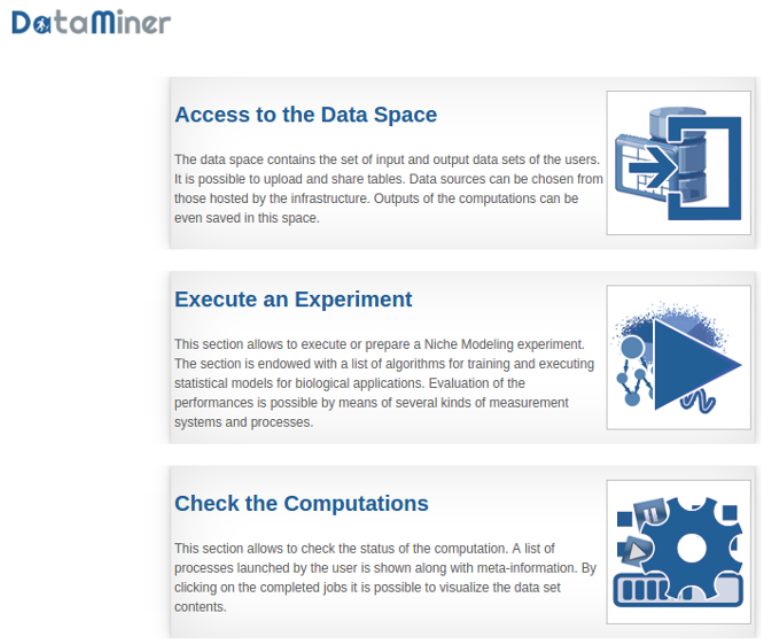


Figure 1: DataMiner Manager portlet. Main interface.

DataSpace

The DataSpace section of the Web interface shows the overall inputs and outputs data of the computations. It is the main entry point to upload new inputs for the computations.

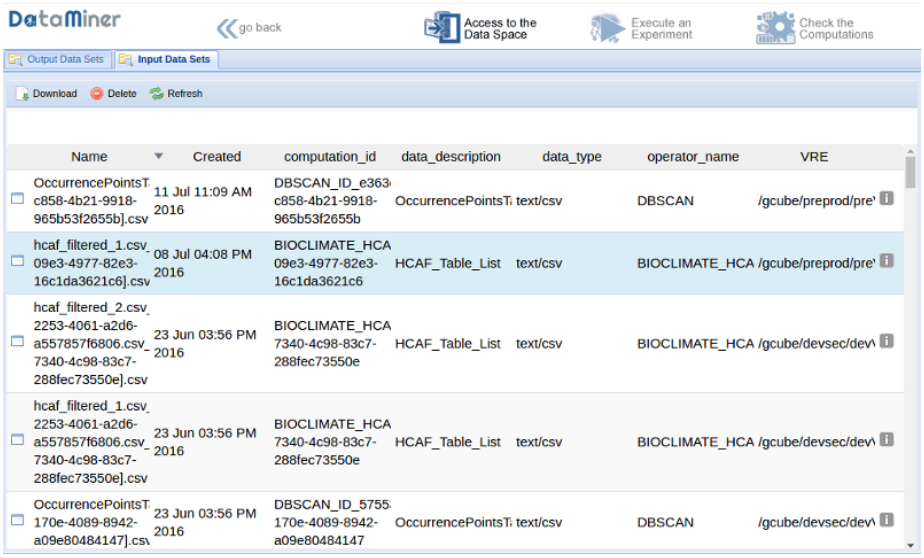


Figure 2: DataMiner Manager portlet. DataSpace panel.

New files can be added by selecting the Input Data Sets tab and using drag and drop from Desktop computer. The files will be automatically saved on the cloud storage named D4Science e-Infrastructure Workspace.

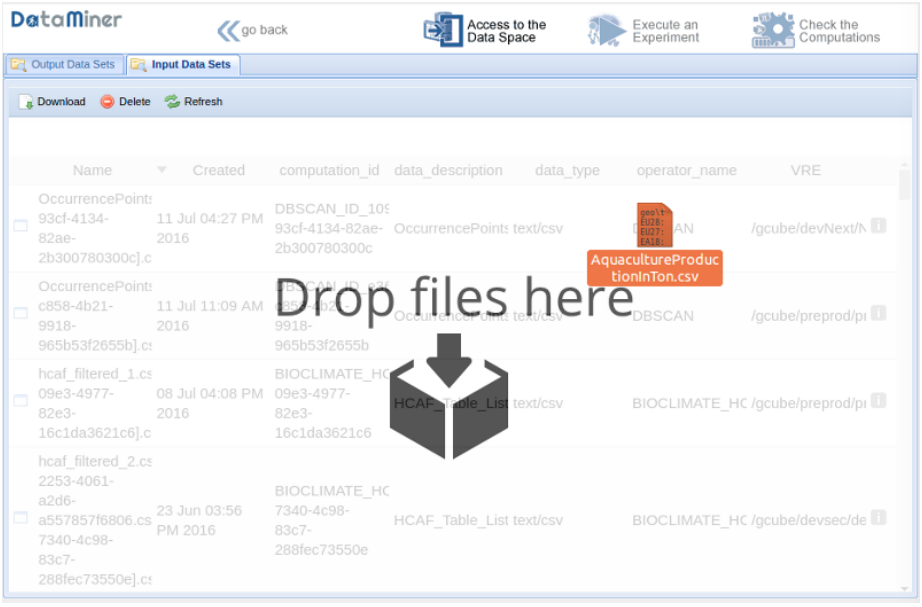


Figure 3: DataMiner Manager portlet. Input data importing.

Execute an Experiment

In the *Execute an Experiments* section, a list of algorithms grouped by category can be found. By clicking on one of the algorithms categories on the left hand side, a list of algorithms belonging to the category appears. By clicking on the arrow next to the algorithm description, the parameters of the selected algorithm are displayed. The parameters must be filled and the *Start computation* button should be pressed in order to start the computation.

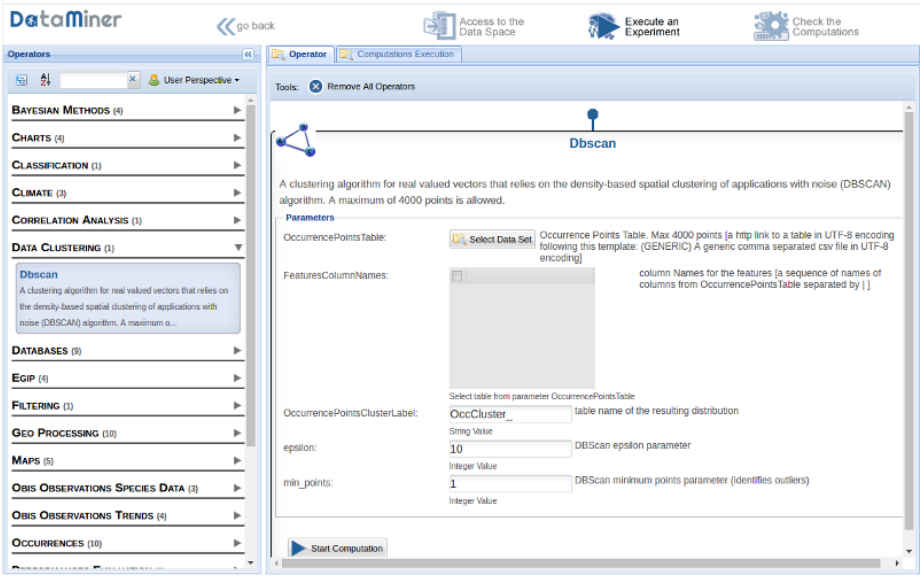


Figure 4: DataMiner Manager portlet. Executing an experiment.

By clicking on the Computations Execution tab the computations results are accessed.

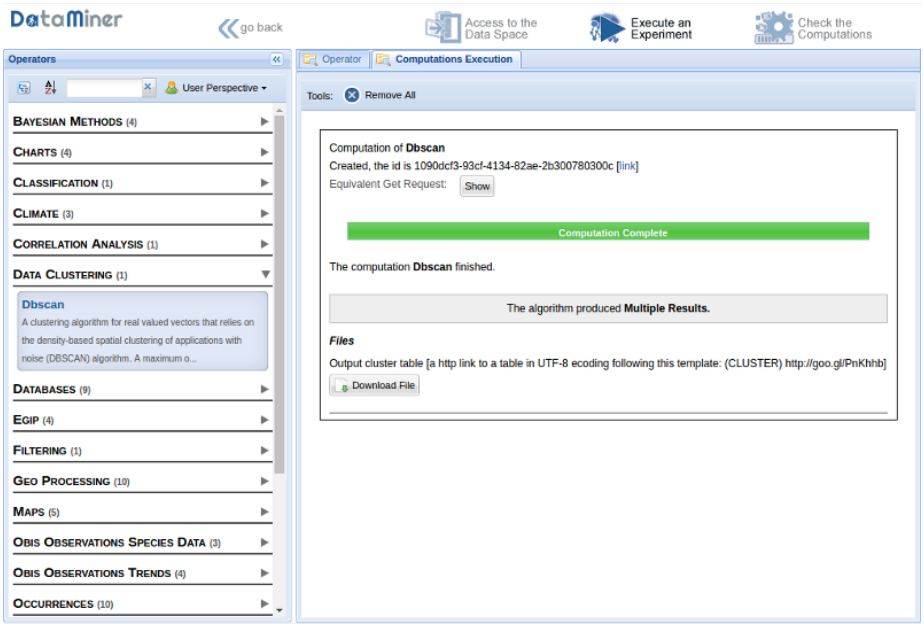


Figure 5: DataMiner Manager portlet. View of a computation result.

By clicking on the Show button, the "Equivalent Http Get Request" is retrieved. This Http link can be pasted in a Web browser or used by a program client to execute the same experiment and retrieve the output in Web Processing Service format. The Http link is itself a Web Processing Service compliant call.

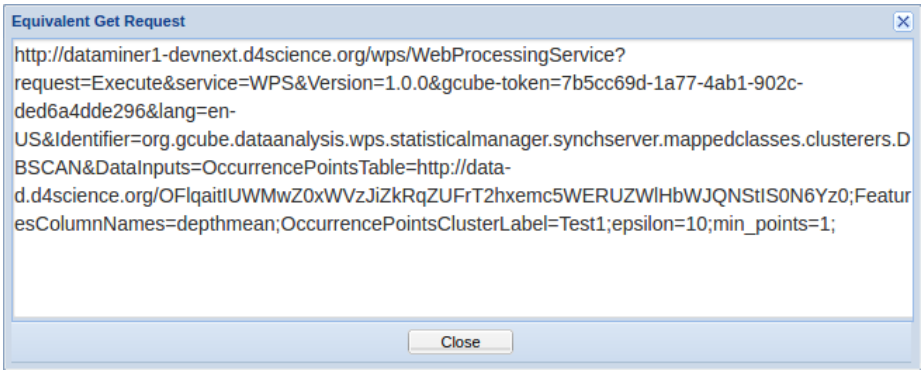
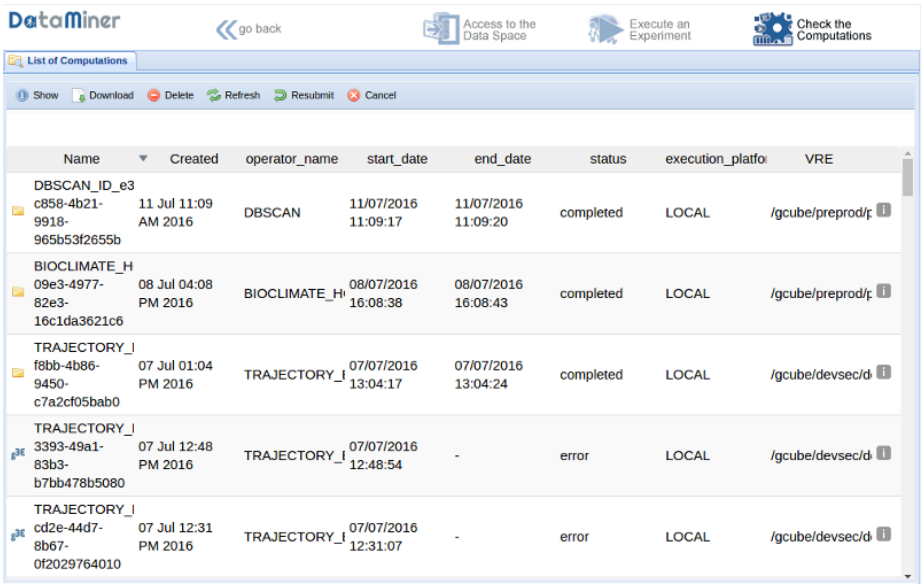


Figure 6: DataMiner Manager portlet. Equivalent Http Get Request.

Check the Computations

Once an algorithm has been executed, a user can disconnect from the portal and check for the computation completion after a while. In order to check the status of a computation, the "Check the computations" button should be pressed. The list of computations along with their status appears.



Name	Created	operator_name	start_date	end_date	status	execution_platfo	VRE
DBSCAN_ID_e3 c858-4b21- 9918- 965b53f2655b	11 Jul 11:09 AM 2016	DBSCAN	11/07/2016 11:09:17	11/07/2016 11:09:20	completed	LOCAL	/gcube/preprod/p
BIOCLIMATE_H 09e3-4977- 82e3- 16c1da3621c6	08 Jul 04:08 PM 2016	BIOCLIMATE_H	08/07/2016 16:08:38	08/07/2016 16:08:43	completed	LOCAL	/gcube/preprod/p
TRAJECTORY_I f8bb-4b86- 9450- c7a2cf05bab0	07 Jul 01:04 PM 2016	TRAJECTORY_I	07/07/2016 13:04:17	07/07/2016 13:04:24	completed	LOCAL	/gcube/devsec/d
TRAJECTORY_I 3393-49a1- 83b3- b7bb478b5080	07 Jul 12:48 PM 2016	TRAJECTORY_I	07/07/2016 12:48:54	-	error	LOCAL	/gcube/devsec/d
TRAJECTORY_I cd2e-44d7- 8b67- 0f2029764010	07 Jul 12:31 PM 2016	TRAJECTORY_I	07/07/2016 12:31:07	-	error	LOCAL	/gcube/devsec/d

Figure 7: DataMiner Manager portlet. "Check the Computations" panel.

By clicking on a computation and then on the Show button, the complete provenance information is retrieved.

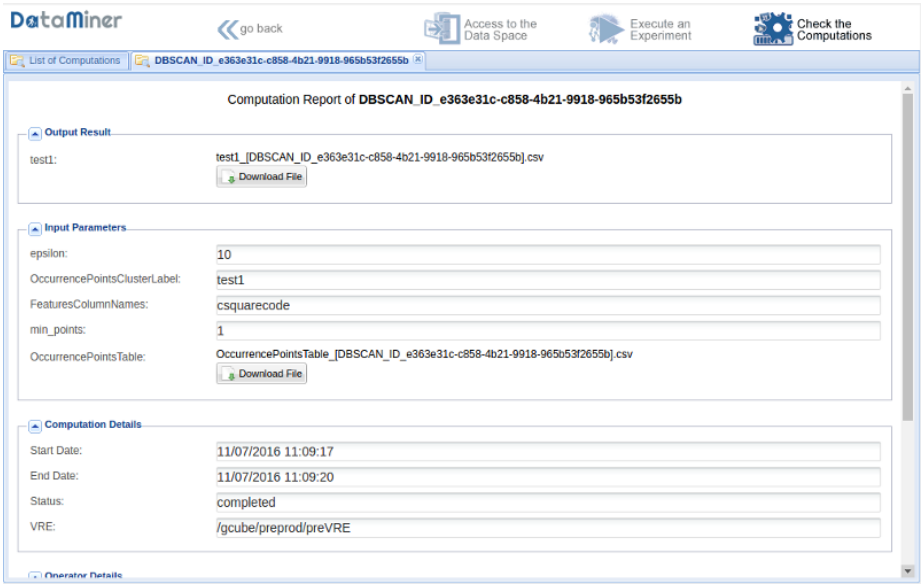


Figure 8: DataMiner Manager portlet. Computation provenance view.

By double-clicking on a computation folder, the set of inputs and outputs of the computation can be retrieved, along with an XML description of the Provenance information, following the PROV-O standard.