

Web Services and Related Works at CDS

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Abstract. Started at CDS in 2002, the work around Web Services is in a full exploitation phase. Several services are now available via SOAP: the *Sesame* name resolver for Simbad-NED-VizieR, a GLU tag resolver, a UCD resolver, the UCD tag list, Aladin image Access, VizieR catalogue access, etc. A portal is available to publish all information about how to use CDS XML Webservices and also hints on how to start to use XML Web Services (tutorial, links, etc.). Other works around XML Web Services are also ongoing at CDS and are described in this article.

1. The CDS XML Web Services Portal

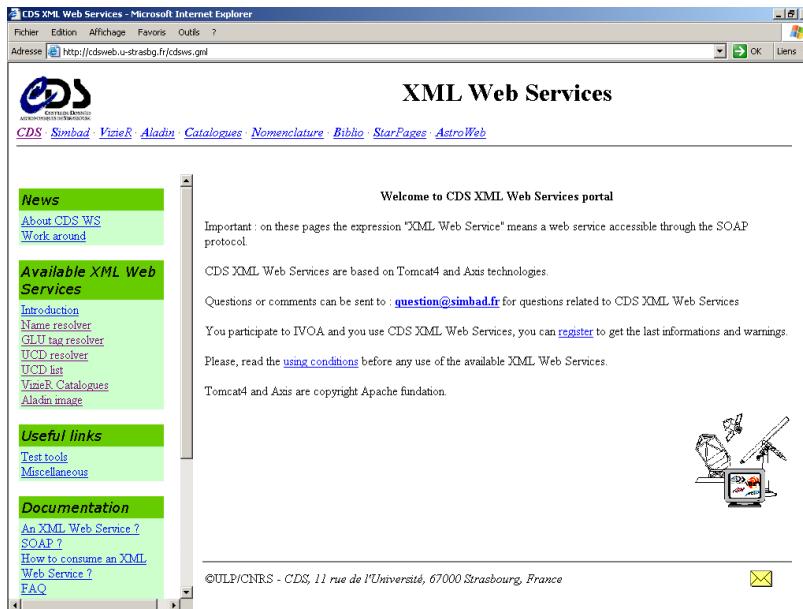


Figure 1. The CDS Web Service Portal at
<http://cdsweb.u-strasbg.fr/cdsws.gml>

CDS XML Web services are easy to consume but it is very important to show users how to use a *SOAP** architecture in one of their programming languages. The CDS XML Web Services portal has been designed in this way and

it gives a lot of useful information. For those who need a very high availability of the services, it is possible to register. Registered users are informed about technical and software maintenance which may cause short interruptions. Support is also provided through the *question@simbad.u-strasbg.fr* mailbox, as are the other CDS online services.

2. Available XML Web Services at CDS

Our goal is not to publish an increasing list of XML Web Services but to take into account the user real needs. In a first step, XML Web Services like the Sesame¹ name resolver and the UCD resolver were interesting for testing the *Axis*^{*}/ *Tomcat*^{*} server reliability and for developing the portal. In a second step other services like the VizieR Access² (which may increase severely the load on our XML Web Services server) have been implemented. We are currently developing other services like coordinate transformation or unit conversion.

3. Example of use

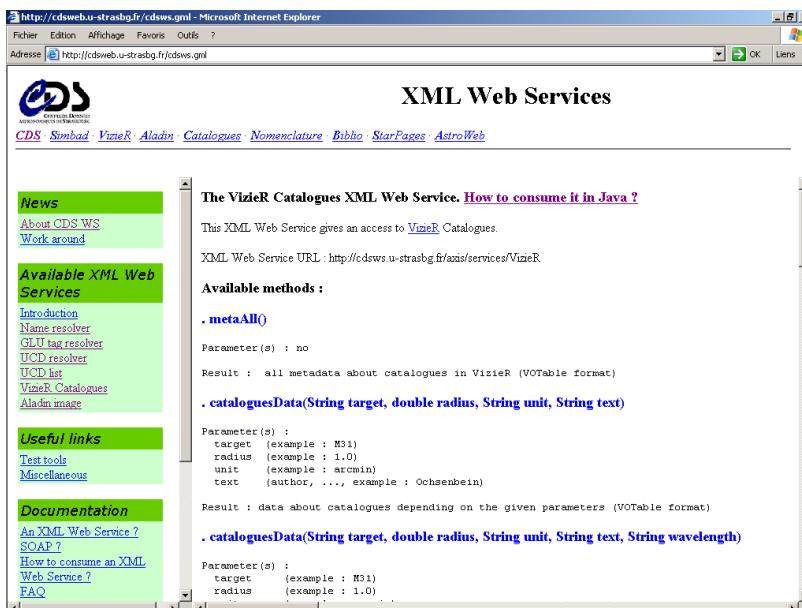


Figure 2. The VizieR catalogues Access use case at
<http://cdsweb.u-strasbg.fr/cdsws.gml>

How-to pages (Figure 2) are available for the CDS XML Web Service. For each service, the existing methods are listed, like **metaAll** which gives all the meta

¹<http://vizier.u-strasbg.fr/viz-bin/Sesame>

²<http://vizier.u-strasbg.fr/>

information about VizieR catalogues, `cataloguesData` which gives the results of a query to VizieR, etc... These operations are detailed (input parameters and results) with examples. Examples of client source code are also given in Java or Perl. Direct access to the `WSDL*` file, and examples of SOAP requests and answers are also provided. Note that it is not necessary to deal with the contents of a SOAP file to have client access to the CDS XML Web Services.

4. Other ongoing works around XML Web Services

The availability and the reliability of our XML Web Services are major points of our activity. One solution is the creation of mirrors to minimize the access failure rate. We have also created *XWSEA* (XML Web Service Easy Access), a light client-side *Java** or *C#** SOAP API which provides a very easy way to use SOAP in Java standalone applications as well as in applets. This API is not restricted to CDS XML Web Services and is user friendly since it requires only very basic skills in XML Web Services technologies. XWSEA has not been created from scratch but is an overlay on *kSOAP** which is small, fast and free. Other works related to Web Services are ongoing at CDS and will be published on the XML Web Service portal³ (information, examples, help, etc.).

5. Conclusions

CDS XML Web Services are now in a full exploitation phase and will be developed in the Virtual Observatory framework depending on the user needs. Development of additional tools and mirroring of the services are among the most important ongoing activities.

References of the quoted* packages and services

Axis	- http://ws.apache.org/axis/
C#	- http://msdn.microsoft.com/vcsharp/
Java	- http://java.sun.com
kSOAP	- http://ksoap.enhydra.org/
SOAP	- http://www.w3.org/2000/xp/Group/
Tomcat	- http://jakarta.apache.org/tomcat/
WSDL	- http://www.w3.org/2002/ws/

³<http://cds.ws.u-strasbg.fr/>