
DATA EXCHANGE MODEL USING WEB SERVICE FOR HETEROGENEOUS DATABASES

Prof. Rajan Datt

Assistant Professor, Nirma University

Dr. N.N. Jani

Director, MCA, Kadi SarvaVishawavidyalaya

Prof. Rasendu Mishra

Assistant Professor, Nirma University

Prof. Ajay Patel

Assistant Professor, Nirma University

ABSTRACT

In this paper, we have purpose method to exchange the data between the various databases that are not having a same formats, due to the heterogeneous structure of the databases. Now in the information technology field there is fast development is there, due to that people are using different network, operating system and applications of heterogeneous platforms. So in order to sharing of information between the various databases we have purposed model using web service to exchange the data between the heterogeneous databases. This model is used to exchange data of various databases using some functions of databases, SOAP, XML, WSDL and UDDI.

Key words: Web Service, SOAP, WSDL

1. INTRODUCTION

Service Oriented Architecture (SOA) is used by web service for exchanging of the data, which has 3 components like service consumer, service registry and service provider. Service Oriented Architecture use SOAP, XML, WSDL and UDDI for exchanging data from the various databases. Service consumer search the service in the service registry. Service registry is registered the service which can be access by the consumer and publish by the publisher. Service provider bind their service with service registry.

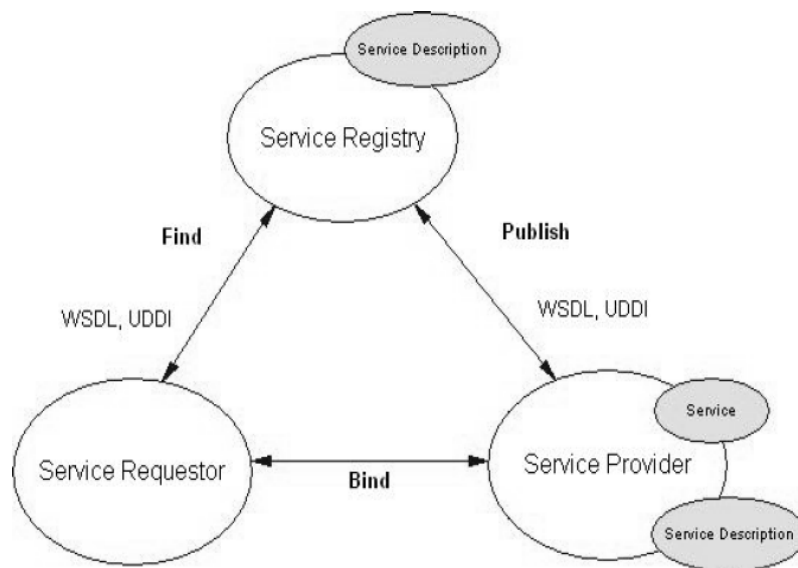


Fig. 1 Service Oriented Architecture

Web Service is an instances of Service Oriented Architecture which is used SOAP, WSDL an XML to transfer the data from the one database format to another database format. Web service play critical role in the integration of databases.

Web service use data exchange model that needs some data from another system, at the same time; also offers some data to another system. Web service is an interface that describes a collection of network accessible operations. It is described using a service description language, published by making this service description available to users, Found by sending queries to a registry matching service descriptions and bound-invoked by using the information contained in the service description. Finally we can say web service objective is to make applications accessible via standardized internet protocols using XML for exchange of data, describing services, discover and plan them to enable a service-oriented architecture

SOAP stands for **Simple Object Access Protocol**, standardizes a XML-based data exchange format for exchanging data, communication protocol, designed to communicate via internet, platform independent, and language independent, Client sends a valid SOAP XML request to a server and server processes the request invoking the requested service and send a SOAP response back to the client.

Universal Description, Discovery and Integration (UDDI) is a directory service where businesses can register and search for Web services,provides a simple framework for describing any kind of Web services, platform-independent framework for describing services and discovering, integrating business services by using the Internet, directory of web service interfaces described by WSDL and UDDI communicates via SOAP.

WSDL stands for **Web Services Description Language**, written in XML, is an XML document and is used to describe Web services.

2. PROBLEM OF DATA CONVERSION

In this section we mainly concentrate on explaining the problem of different format of databases. Here, we take example of different branches of organization which stored the data in the database which is having different format.

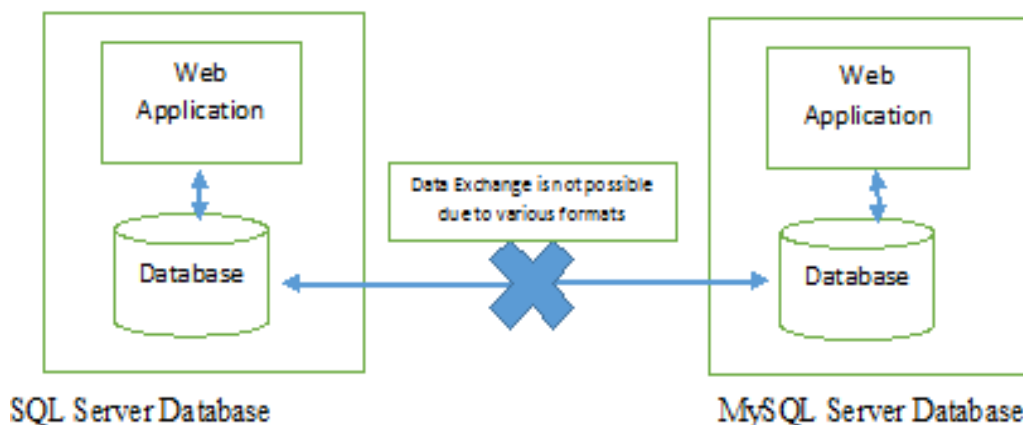


Fig. 2 Problem in Database Exchange

In the Fig. 2 we see the various organization stored the data in different databases format, so due to heterogeneous database we are not able to exchange the data from the one format two another format.

So in order to solve the problem of heterogeneous database we have purposed web service model which is used to convert the one data base format to another database format. In this model we have used web service which is use for exchanging database of different format.

3. PURPOSED WEB SERVICE MODEL

We have purposed web service model for data exchange between the heterogeneous databases Our purpose model perform the following steps to exchange the data of different database.

- 1) It will ask you to select the database which you are going to convert in to specified format.
- 2) Window will display dialog box form which you can select database that you want to convert in a specific format.
- 3) You have to select existing database.
- 4) Select the format of the new database.
- 5) Press Convert button to process the conversion of database.

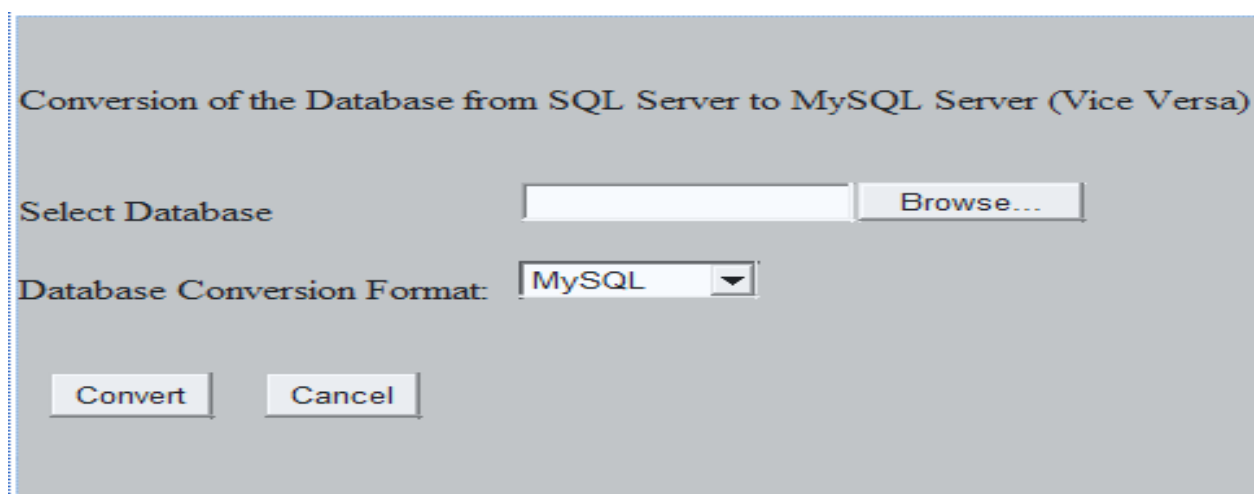


Fig.3 Database Conversion Form

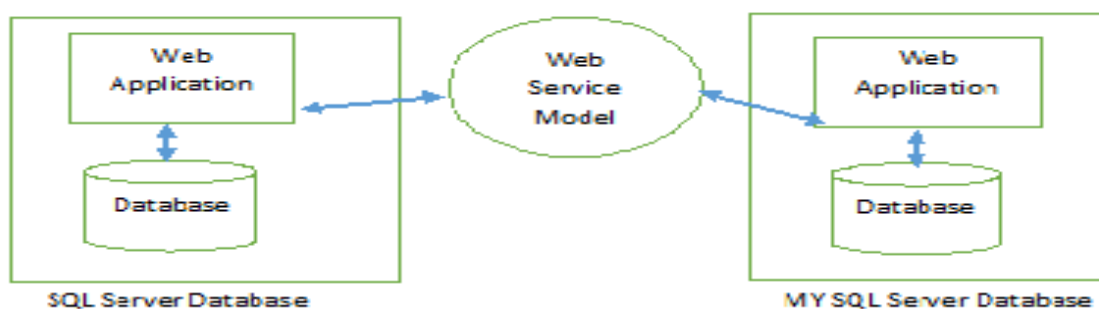


Fig. 4 Web Service Model for Data Exchange

In our web service model we are going to develop the interface in Visual Studio using C# and back-end database as SQL Server. The data of schema database is extracted from system tables of SQL Server.

Also we are going to use the some of the system table of the database as well as functionalities that are available in visual studio. Our purpose model also going to preserved the constraint that are available in the database.

4. CONCLUSION

Data exchange between the heterogeneous databases is recent issue because people are using various platforms, operating system and applications. So in this paper we have purposed one web service model which is going to use to exchange the data between the databases. First we are going to implement only with SQL Server and MySQL databases then after it will implement for the other database. Once it will exchange the database we are also going to maintain the constraint of the database. Our work is going to formulate web service model which is used for data exchange.

REFERENCES

1. Research and Design of Heterogeneous Data Exchange System in E-Government Based on XML, Springer-Verlag Berlin Heidelberg 2012, D. Jin and S. Lin (Eds.): Advances in CSIE, Vol. 2, AISC 169, pp. 361–366.springerlink.com
2. Research on Heterogeneous Data Integration of Management Information System, ICCP proceedings 2012 - IEEE
3. Semantic Web Services and its Challenges, International Journal of Computer Engineering and Technology, 2010
4. A comparison of Web service technologies for smart meter data exchange, 2012 3rd IEEE PES Innovative Smart Grid Technologies Europe (ISGT Europe), Berlin
5. Higher level of inter operability through an architectural paradigm shift, 2011 4th International Conference on Biomedical Engineering and Informatics (BMEI) - 978-1-4244-9352-4/11/\$26.00 ©2011 IEEE
6. Research on a Data Exchange Center of Land Resources based on SOA, 978-1-4244-5265-1/10/\$26.00 ©2010 IEEE.
7. The Design and Implementation of a SOA-based Data Exchange Middleware, 2010 International Conference on Service Sciences - 2010

8. Customizable Data Exchange based on Web Service, 2009 IEEE International Conference on e-Business Engineering
9. Educational Resources Public Service Platform based on Heterogeneous Data Exchange, 2008 International Symposiums on Information Processing - IEEE
10. Efficient Web Services Message Exchange by SOAP Bundling Framework, 11th IEEE International Enterprise Distributed Object Computing Conference 1541-7719/07 \$25.00 © 2007 IEEE
11. Using Web Services to exchange power plant process data, 2007 - IEEE
12. A Web Services Based Platform for Exchange of Procedural CAD Models, The 9th International Conference on Computer Supported Cooperative Work in Design Proceedings - IEEE 2005
13. A Web-Services Architecture for Efficient XML Data Exchange, Proceedings of the 20th International Conference on Data Engineering (ICDE'04)
14. Ms. A. Suganthy, G.S.Sumithra, J.Hindusha, A.Gayathri, S.Girija, "Semantic Web Services and Its Challenges" International journal of Computer Engineering & Technology (IJCET), Volume 1, Issue 2, 2010, pp. 26 - 37, ISSN Print: 0976 – 6367, ISSN Online: 0976 – 6375.
15. Houda El Bouhissi, Mimoun Malki and Djamila Berramdane, "Applying Semantic Web Services" International journal of Computer Engineering & Technology (IJCET), Volume 4, Issue 2, 2013, pp. 108 - 113, ISSN Print: 0976 – 6367, ISSN Online: 0976 – 6375.
16. P.Mangai and Mrs.M.Priya, "Personalized User And Query Dependent Ranking For Web Databases" International journal of Computer Engineering & Technology (IJCET), Volume 5, Issue 12, 2014, pp. 234 - 239, ISSN Print: 0976 – 6367, ISSN Online: 0976 – 6375.