Unit 7 Working with XML & Web Service

1.Explain Reading datasets with XML.

- You can read XML file / XML Data and store it into DataSet or DataTable.
- Fot reading XML into DataSet or DataTable , both have two important methods to read.
- ReadXml() method:
    - This method is used to read XML data from any XML file to dataset or datatable
    - It treats all main elements under root element as different tables.if your are using DataSet to read the data.
    - It automatically stores data in XML way,because you are already reading a file which is in XML format.
- ReadXmlSchema() method:

Before reading XML data into dataset, if you want to specify some schema rules before writing XML data to DataSet . You can user ReadXmlSchema() which allows you to specify XSD file and it restricts the data being copied into DataSet / DataTable

2. Explain Writing Datasets with XML.

- You can write DataSet or DataTable as XML file.
- For writing DataSet or DataTable as XML , both have two important methods.
- WriteXml() method:
    - This method is used to read data from DataSet and write data as XML data.
    - All Tables of DataSets are treated as Main Elements.
    - All Rows of Tables are treated as Sub Elements.
    - All Colums of Tables are treated as Data Elements which has actual data of table.
    - Of cource there is only one root element as per XML rule.
- WriteXmlSchema() method:
    - In above method only data is written as Xml,but along with data if you also want to write data if you also want to write schema information, you can use WriteXmlSchema method.

3. Explain Web Service in details.

- Web Services are group of Web Methods where each Web Methods where each Web Method gives you some particular functionality.
- You have already developed many methods in C# / VB.NET.
- Web Methods are same as those methods, but all web methods are combined under a single Web Service is uploaded / kept on Web Server so that you can use its functionality through various Web Methods.
- Web Services has no. of web methods that provide different functionality which can be accessed by different types of application. You can use web services under your Windows Application as well as Web Application too.
- Web Services can be used by different applications regardless of programming languages, operating systems, hardware platformd which uses them.
- An application which uses Web Services is called Web Service Client as it is used particular web service.
- You may not use all methods of web services. it depends on your requirements which web method you want to use from web service.

4. Which protocols are used for webservices?

- Various standards or protocols that work behind web service :
    - HTTP (Hyper Text Trasport Protocol)
    - XML (eXtensible Markup Language)
    - SOAP (Simple Object Access Protocol)
    - WSDL (Web Services Description Language)

UDDI (Universal Description Discovery and Integration)

5.Explain HTTP Protocol in Webservice.

- HTTP is used over the internet as internet protocol.
- Using HTTP we can send and resouces over the internet.
- Using Http Request obj we can send resources over server.
- Using Http Response obj we can receive response from server.
- When we use web service, we need to use resources that web services used / consumed.

6.Why we need XML in Webservice?

- Web methods are like normal methods you can using any programming language.
- Web methods takes arguments and returns the values.
- The arguments and return values uses XML language so that they can be platform independent
- XML contains standard data representation format that can be used on any platform.

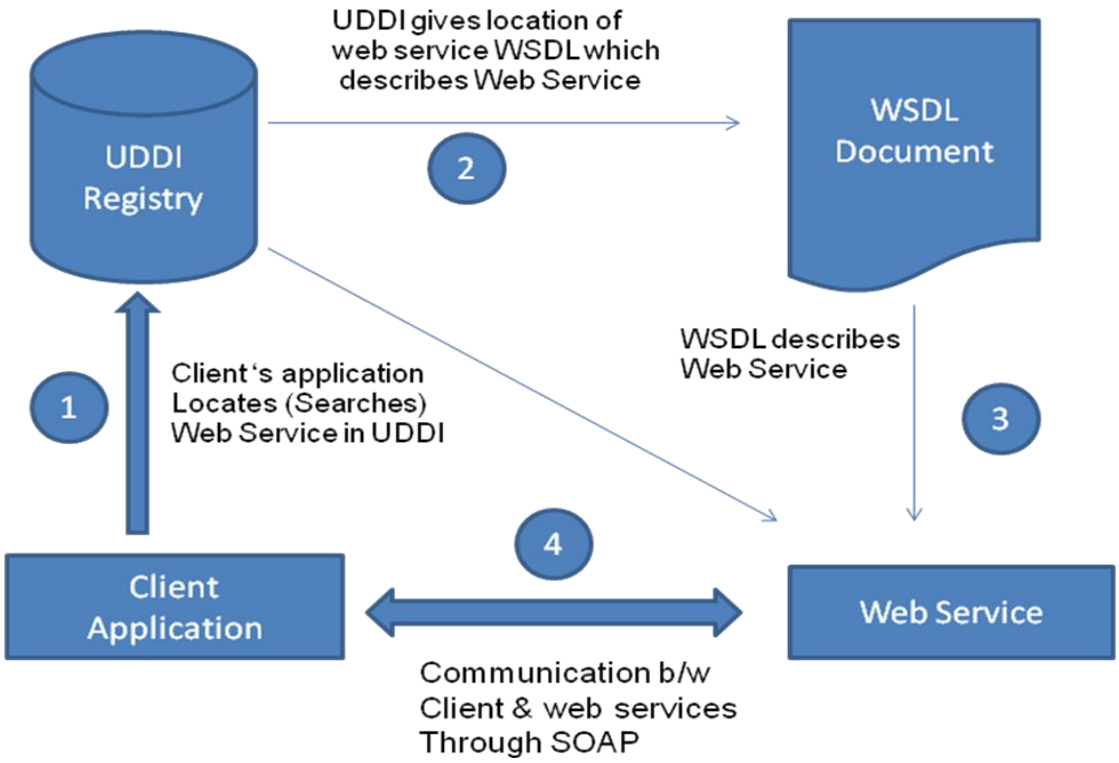
7.Explain WSDL protocol.

- To able to use Web Service , the developers need to know the methods exposed by Web Service and parameters to be passed to these methods.
- As we have already discussed that Web Services are platform independent .
- so, explanation of Web Methods i.e. its parameters, return values and body, everything should also be in standard format so that it can be shared among all platforms.
- This is achieved by using XML based description language called WSDL.
- WSDL is language which is used to describe Web Service and its Methods.
- WSDL is a markup language that describes a Web Services and all its Web Methods.
- WSDL contains following information about particular web services and its methods:
    - All the Web Services which are specified / created under particular Website.
    - The purpose of each Web Service.
    - The types of parameters and return values for each Web Method under Web Service.
    - The format to access each web service method.
    - Most importantly, URL at which a Web Service can be accessed.
- Finally you can see that WSDL is used to describe and locate Web Services.

8. Explain UDDI Protocol.

- UDDI is a directory service where different companies can register and search for their web services.
- UDDI provides standard mechanism to register and discover a Web Service.
- UDDI is a place (directory) for storing information about Web Services. The client who wants to access some web service, need to first find the particular web service and then need to use it. The place where you can find all the registered web services , is UDDI.
- When you register Web Service under UDDI, its registered and the URL of Web Service is stored under UDDI, which can be accessed by client after searching it.
- UDDI communicates via SOAP.

9. how each standards communication with each other to access Web Service?



- First of all client application searches for the web application. we have already discussed that after creating services, they are registered under UDDI. So when any client's application wants to access any web service, it searches for web service under UDDI.
- If Web Service is registered , UDDI gives its location in a format of WSDL document. We have already discussed that WSDL is XML based descriptor which describes web application. Location of WSDL is given by UDDI.
- WSDL describes Web Service and its embedded Web Methods. WSDL describes argument list(parameters) and returns values of each web method within web service. So that client can get the list of each of web methods.
- We discussed that UDDI gives location of web service ad description in form of WSDL. Now finally when client gets physical location of WSDL, client can access Web Service via SOAP. SOAP is communication protocol which allows you to access web service and its Web Methods.