**Assessment of the ADO.net**

**Ques1. Describe all the data provider objects with sample code**

Ans. Data provider is used to connect to the database, execute commands and retrieve the record.It also allows us to place the data into DataSet.

The .NET Framework provides the following data providers:

Data Provider for SQL Server - It requires the **System.Data.SqlClient** namespace.

Data Provider for OLE Db - It requires the **System.Data.OleDb** namespace.

Data Provider for ODBC - It requires the **System.Data.Odbc** namespace.

Data provide for oracle - It uses the **System.Data.OracleClient** namespace.

.net framework data providers data objects:

**Connection-** Connection object in ADO.NET is the basic object that enables you to connect with database. Connection object contains the information about connection string. It always works with other objects as Command, or DataReader object. It does not fetch or update data but it helps to do this task.

For Sql server connection

Sqlconnection con=new SqlConnection(“data source=.; database=database\_name, integrated security=sspi”); ----it is for windows authentication.

Sqlconnection con=new SqlConnection(“data source=.; database=database\_name, user id=sa,password=123456”); ----It is for sql server authentication.

For Oracle server Connection;

OracleConnection con=new OracleConnection(“data source=.; database=database\_name, integrated security=sspi”); ----it is for windows authentication.

OracleConnection con=new OracleConnection(“data source=.; database=database\_name, user id=sa,password=123456”); ----It is for oracle server authentication.

For ODBC connection:

OdbcConnection con=new OdbcConnection(“data source=.; database=database\_name, integrated security=sspi”); ----it is for window authentication.

OdbcConnection con=new OdbcConnection(“data source=.; database=database\_name, user id=sa,password=123456”); ----It is for odbc server authentication.

For OleDb connection:

OleDbConnection con=new OdbcConnection(“data source=.; database=database\_name, integrated security=sspi”); ----it is for window authentication.

OleDbConnection con=new OdbcConnection(“data source=.; database=database\_name, user id=sa,password=123456”); ----It is for oledb server authentication.

COMMAND OBJECTS:

It is used to execute the queries to perform database operations.

For Sql server:

SqlCommand cmd=new SqlCommand(“query “, connection\_object);

For Oracle server:

OracleCommand cmd=new OracleCommand(“query “, connection\_object);

For Odbc:

OdbcCommand cmd=new OdbcCommand(“query “, connection\_object);

For Oledb:

OleDbCommand cmd=new OleDbCommand(“query “, connection\_object);

Command class of any server is used to prepare an sql statement or stored procedure.

Methods of SqlCommand class-

1.ExecuteReader - It is used when the query result return multiple values.

2.ExecuteNonQuery- It is used to perform DML operation like insert,update,delete.

After execution it will return only int type values.

3.ExecuteScalar- It is used to return the single value.

It can return any one type of value then we can perform typecasting here.

DATA READER OBJECTS:

It is used to read the data from the data source.

Before the reading of the data .We need to open the connection using the connection objects.

Syntax: Connection\_objects.open();

SqlDataReader rdr=command\_object.Executereader();

SqlDataReader rdr=command\_object.ExecuteNonQuery();

SqlDataReader rdr=command\_object.ExecuteScalar();

DATA ADAPTER OBJECTS:

Data Adapter object to establish the connection to the data source and manage the movement of date to and from the database.

A data adapter a object serves as a bridge between a data set object and Data Source such as a database to retrieve and save the data.

Data adapter contains a set of database commands and a database connection, which we use to fill a dataset object and update the Data Source.

Syntax:

SqlDataAdapter da = new SqlDataAdapter(commandString, connectionString);

DataSet ds = new DataSet();

DataAdapter.Fill(ds);

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**Ques 4: What are the two architecure in ado .net for connection?**

Ans.The two architecture of the ado.net for connection is

1.connected architecture

2.Disconnected architecture

*Connected architecture:*

In connected architecture ,we have need to open and close the connection explictly.

In connected architecture,we can use using keyword to avoid close the connection explictly.

steps are:

1.Connect with the database by using connection object.

2.Perform the query using the command object.

3.Open the connection

4.Read the data from the data source using the data reader object.

5.Bind the data

6.Close the connection.

*Disconnected Architecture:*

In Disconnected architecture ,we don't have need to open and close the connection explictly.It automatically open and close the connection implictly.

Step are:

1.Connect with the database by using connection object.

2.Transfer the data between the database and the dataset using the object of the data adapter.

3.by default dataadapter contains only the select command and it doesn’t contain insert, update and delete commands. To create insert, update and delete commands for the dataadapter, commandbuilder is used.

4.Dataset is used to store the data retrieved from database by dataadapter

To fill data in to dataset fill() method of dataadapter is used

syntax.

Da.Fill(Ds,”TableName”);

5.DataView is a view of table available in DataSet. It is used to find a record, sort the records and filter the records. By using dataview, you can also perform insert, update and delete as in case of a DataSet.

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**Ques.8 What are the difference between DataReader, DataAdapter and DataSet?**

Ans.

**DataReader:**

DataReader is used to read the data from database and it is a read and forward only connection oriented architecture during fetch the data from database.

DataReader will fetch the data very fast when compared with dataset.

**DataAdapter:**

Dataadapter is a disconnected oriented architecture.

DataAdapter will acts as a Bridge between DataSet and database.

This dataadapter object is used to read the data from database and bind that data to dataset.

**DataSet:**

DataSet is a disconnected orient architecture that means there is no need of active connections during work with datasets and it is a collection of DataTables and relations between tables.

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**Ques 9: What are the methods of XML dataset objects**

Ans: There are seven methods of XML dataset:

1.GetXml()- It retrieves the xml representation of the data in the dataset as a single string.

2.GetXmlSchema()-Retrieves the XSD schema for the DataSet XML as a single string. No data is returned.

3.ReadXml()-Reads XML data from a file or a TextReader, XmlReader, or Stream object, and uses it to populate the DataSet. The XML document can include an inline schema.

4.ReadXmlSchema()-Reads an XML schema from a file or a TextReader, XmlReader, or Stream object, and uses it to configure the DataSet.

5.WriteXml( )- Writes the contents of the DataSet to a file or a TextWriter, XmlWriter, or Stream object. You can choose to write the schema inline.

6.WriteXmlSchema( )- Writes just the XSD schema describing the contents of the DataSet to a file or a TextWriter, XmlWriter, or Stream object.

7.InferXmlSchema( )- Infers the XML schema and applies it to the DataSet by reading through an XML document supplied by a file or a TextReader, XmlReader, or Stream object.