**ADO.Net Interview Question and Answers**

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| **1.** | What is Ado.NET? |
|  | * ADO.NET is an object-oriented set of libraries that allows you to interact with data sources. * ADO.NET is a set of classes that expose data access services to the .NET programmer. * ADO.NET is also a part of the .NET Framework. * ADO.NET is used to handle data access. |

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| **2.** | What are the two fundamental objects in ADO.NET? |
|  | There are two fundamental objects in ADO.NET. **Datareader** - connected architecture and **Dataset** - disconnected architecture. |

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| **3.** | What are the data access namespaces in .NET? |
|  | The most common data access namespaces :   * System.Data * System.Data.OleDb * System.Data.SQLClient * System.Data.SQLTypes * System.Data.XML |

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| **4.** | What are major difference between classic ADO and ADO.NET? |
|  | In **ADO** the in-memory representation of data is the recordset.A Recordset object is used to hold a set of records from a database table. In **ADO.NET** we have dataset.A DataSet is an in memory representation of data loaded from any data source. |

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| **5.** | what is the use of connection object in ado.net? |
|  | The ADO Connection Object is used to create an open connection to a data source. Through this connection, you can access and manipulate a database. |

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| **6.** | What are the benefits of ADO.NET? |
|  | * Scalability * Data Source Independence * Interoperability * Strongly Typed Fields * Performance |
| **7.** | What is a Clustered Index? | |
|  | The data rows are stored in order based on the clustered index key. Data stored is in a sequence of the index. In a clustered index, the physical order of the rows in the table is the same as the logical (indexed) order of the key values. A table can contain only one clustered index. A clustered index usually provides faster access to data than does a non-clustered index. | |

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| **8.** | What is a Non-Clustered Index? |
|  | The data rows are not stored in any particular order, and there is no particular order to the sequence of the data pages. In a clustered index, the physical order of the rows in the table is not same as the logical (indexed) order of the key values. |

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| **9.** | Whate are different types of Commands available with DataAdapter ? |
|  | The SqlDataAdapter has   * SelectCommand * InsertCommand * DeleteCommand * UpdateCommand |

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| **10.** | What is the difference between an ADO.NET Dataset and an ADO Recordset? |
|  | * Dataset can fetch source data from many tables at a time, for Recordset you can achieve the same only using the SQL joins. * A DataSet can represent an entire relational database in memory, complete with tables, relations, and views, A Recordset can not. * A DataSet is designed to work without any continues connection to the original data source; Recordset maintains continues connection with the original data source. * DataSets have no current record pointer, you can use For Each loops to move through the data. Recordsets have pointers to move through them. |

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| **11.** | Which method do you invoke on the DataAdapter control to load your generated dataset with data? |
|  | DataAdapter’ fill () method is used to fill load the data in dataset. |

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| **12.** | What are the different methods available under sqlcommand class to access the data? | |
|  | * **ExecuteReader** - Used where one or more records are returned - SELECT Query. * **ExecuteNonQuery** - Used where it affects a state of the table and no data is being queried - INSERT, UPDATE, DELETE, CREATE and SET queries. * **ExecuteScalar** - Used where it returns a single record. | |
| **13.** | What is a DataSet? |
|  | A DataSet is an in memory representation of data loaded from any data source. |

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| **14.** | What is a DataTable? |
|  | A DataTable is a class in .NET Framework and in simple words a DataTable object represents a table from a database. |

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| **15.** | What is the data provider name to connect to Access database? |
|  | Microsoft.Access |

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| **16.** | Which namespaces are used for data access? |
|  | * System.Data * System.Data.OleDB * System.Data.SQLClient |

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| **17.** | What is difference between Dataset. clone and Dataset.copy? |
|  | **Clone**: - It only copies structure, does not copy data. **Copy**: - Copies both structure and data. |

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| **18.** | What is difference between dataset and datareader? |
|  | * DataReader provides forward-only and read-only access to data, while the DataSet object can hold more than one table (in other words more than one rowset) from the same data source as well as the relationships between them. * Dataset is a disconnected architecture while datareader is connected architecture. * Dataset can persist contents while datareader can not persist contents, they are forward only. |
| **19.** | What is DataAdapter? |
|  | A data adapter represents a set of methods used to perform a two-way data updating mechanism between a disconnected DataTable and the database. It aggregates four commands: select, update, insert and delete command. One adapter can only generate and fill one table in a DataSet. |

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| **20.** | What is a Command Object? |
|  | The ADO Command object is used to execute a single query against a database. The query can perform actions like creating, adding, retrieving, deleting or updating records. |

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| **21.** | What is basic use of DataView? |
|  | “DataView” represents a complete table or can be small section of rows depending on some criteria. It is best used for sorting and finding data with in “datatable”. |

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| **22.** | What is the use of Connection Object? |
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| **23.** | What are the advantage of ADO.Net? |
|  | * Database Interactions Are Performed Using Data Commands * Data Can Be Cached in Datasets * Datasets Are Independent of Data Sources * Data Is Persisted as XML. |

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| **24.** | What is a stored procedure? |
|  | A stored procedure is a precompiled executable object that contains one or more SQL statements.  A stored procedure may be written to accept inputs and return output |
| **25.** | What is the difference between OLEDB Provider and SqlClient ? |
|  | SQLClient .NET classes are highly optimized for the .net / sqlserver combination and achieve optimal results. The SqlClient data provider is fast. It's faster than the Oracle provider, and faster than accessing database via the OleDb layer. |

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| **26.** | What is the use of Parameter Object? |
|  | In ADO Parameter object provides information about a single parameter used in a stored procedure or query. |

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| **27.** | What is DataAdapter? |
|  | DataSet contains the data from the DataAdapter which is the bridge between the DataSet and Database. DataAdapter provides the way to retrieve and save data between the DataSet and Database. It accomplishes this by means of request to the SQL Commands made against the database. |

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| **28.** | What does ADO mean? |
|  | ADO stands for ActiceX Data Objects.It was introduced few years ago as a solution to accessing data that can be found in various forms, not only over a LAN but over the internet. It replaced the data access technologies RDO(Remote Data Objects) and DAO (Data Access Objects). |

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| **29.** | Name some ADO.NET Objects? |
|  | * Connection Object * DataReader Object * Command Object * DataSet Object * DataAdapter Object |

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| **30.** | What is Data Provider? |
|  | A set of libraries that is used to communicate with data source. Eg: SQL data provider for SQL, Oracle data provider for Oracle, OLE DB data provider for access, excel or mysql. |
| **31.** | What is the DataTableCollection? |
|  | An ADO.NET DataSet contains a collection of zero or more tables represented by DataTable objects. The DataTableCollection contains all the DataTable objects in a DataSet. |

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| **32.** | What are the benefits of ADO.NET? |
|  | ADO.NET offers several advantages over previous versions of ADO and over other data access components. These benefits fall into the following categories:   * Interoperability * Maintainability * Programmability * Performance * Scalability |

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| **33.** | How to creating a SqlConnection Object? |
|  | SqlConnection conn = new SqlConnection("Data Source=DatabaseServer;Initial Catalog=Northwind;User ID=YourUserID;Password=YourPassword"); |

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| **34.** | How to creating a SqlCommand Object? |
|  | It takes a string parameter that holds the command you want to execute and a reference to a SqlConnection object. SqlCommand cmd = new SqlCommand("select CategoryName from Categories", conn); |

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| **35.** | How to load multiple tables into dataset? |
|  | SqlDataAdapter da = new SqlDataAdapter("Select \* from Id; Select \* from Salry", mycon); da.Fill(ds); ds.Tables[0].TableName = "Id"; ds.Tables[1].TableName = "Salary"; |

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| **36.** | What is the provider and namespaces being used to access oracle database? |
|  | system.data.oledb |
| **37.** | What is the difference between SqlCommand and SqlCommandBuilder? | |
|  | SQLCommand is used to retrieve or update the data from database. SQLCommandBuilder object is used to build & execute SQL (DML) queries like select insert update& delete. | |

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| **38.** | What is the use of SqlCommandBuilder? |
|  | SQL CommandBuilder object is used to build & execute SQL (DML) queries like select insert update& delete. |

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| **39.** | What are managed providers? |
|  | A managed provider is analogous to ODBC driver or OLEDB provider. It performs operation of communicating with the database. ADO.NET currently provides two distinct managed providers. The SQL Server managed provider is used with SQL server and is a very efficient way of communicating with SQL Server. OLEDB managed provider is used to communicate with any OLEDB compliant database like Access or Oracle. |

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| **40.** | How do I delete a row from a DataTable? |
|  | ds.Tables("data\_table\_name").Rows(i).Delete dscmd.update(ds,"data\_table\_name") |

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| **41.** | What inside in DataSet? |
|  | Inside DataSet much like in Database, there are tables, columns, constraints, relationships, views and so forth. |

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| **42.** | Explain ADO.Net Architecture? | |
|  | ADO.NET provides the efficient way to manipulate the database. It contains the following major components. 1. DataSet Object 2. Data Providers :   * Connection Object * Command Object * DataReader Object * DataAdapter Object. | |
| **43.** | What is the difference between int and int32? |
|  | Both are same. System.Int32 is a .NET class. Int is an alias name for System.Int32. |

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| **44.** | What is the role of the DataReader class in ADO.NET connections? |
|  | It returns a read-only, forward-only rowset from the data source. A DataReader provides fast access when a forward-only sequential read is needed. |

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| **45.** | What are advantages and disadvantages of Microsoft-provided data provider classes in ADO.NET? |
|  | SQLServer.NET data provider is high-speed and robust, but requires SQL Server license purchased from Microsoft. OLE-DB.NET is universal for accessing other sources, like Oracle, DB2, Microsoft Access and Informix. OLE-DB.NET is a .NET layer on top of the OLE layer, so it’s not as fastest and efficient as SqlServer.NET. |

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| **46.** | What are acid properties? |
|  | * Atomicity * Consistency * Isolation * Durability |

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| **47.** | What is DataRowCollection? |
|  | Similar to DataTableCollection, to represent each row in each Table we have DataRowCollection. |

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| **48.** | What is the use of Ado.net connection? | |
|  | Establishes a connection to a specific data source. | |
| **49.** | What are basic methods of Dataadapter? |
|  | * Fill * FillSchema * Update |

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| **50.** | What are the various methods provided by the dataset object to generate XML? |
|  | **ReadXML** : Read’s a XML document in to Dataset. **GetXML** : This is a function which returns the string containing XML document. **WriteXML** : This writes a XML data to disk. |

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| **51.** | What is DataSet Object? |
|  | Dataset is a disconnected, in-memory representation of data. It can contain multiple data table from different database. |

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| **52.** | What is difference between Optimistic and Pessimistic locking? |
|  | In **Pessimistic** locking when user wants to update data it locks the record and till then no one can update data. Other user’s can only view the data when there is pessimistic locking In **Optimistic** locking multiple users can open the same record for updating, thus increase maximum concurrency. Record is only locked when updating the record. |
| **53.** | What is Execute Non Query? |
|  | The ExecuteNonQuery() is one of the most frequently used method in SqlCommand Object, and is used for executing statements that do not return result sets (ie. statements like insert data , update data etc.). |

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| **54.** | What providers does Ado.net uses? |
|  | The .NET Framework provides mainly three data providers, they are Microsoft SQL Server, OLEDB, ODBC. |