

JDBC PART-1

JDBC:

JDBC stands for Java DataBase Connectivity.

JDBC is a specification for developing database applications with Java programming language.

Database Application:

An application that communicates with database is known as database application.

Application:

An application is a program in which we interact with on the desktop.

Database:

A database is a software and it is an organized collection of data.

Data organized in a database in the form of tables.

Each table contains fields and records.

Application is a front end & database is a back end.

Application uses SQL to communicate with database.

SQL:

SQL stands for Structured Query Language.

It is used by an application to communicate with database.

Database software contains two parts:

- 1) Database Application(Example: SQL*Plus)
- 2) Database(Example: Oracle)

List of databases:

- 1) Oracle
- 2) MySQL
- 3) MS-SQL Server
- 4) MS-Access
- 5) DB2
- 6) Derby
- 7) Sybase
- 8) DBase
- 9) FoxPro
- 10) Visual FoxPro .. etc.,

Application is called as client and database is called as server.

Client:

A client is a software that sends the request to server to get the response.

Server:

A server is a software that receives request from the client, process the request, constructs the response and sends the response back to a client.

Driver:

A driver is a software and it is used to connect application & database.

Specification:

A specification is a set of rules & guidelines that are used to develop environments & applications.

JDBC specification used by vendors to develop drivers.

JDBC specification also used by Java programmers to develop database applications.

There are four types of JDBC drivers:

- 1) Type-I Driver(JDBC ODBC Bridge Driver)
- 2) Type-II Driver(JDBC Native API Driver)
- 3) Type-III Driver(JDBC Network Protocol Driver)
- 4) Type-IV Driver(JDBC 100% Pure Java Driver)

1) Type - I Driver(JDBC ODBC Bridge Driver):

Driver Class Name:

sun.jdbc.odbc.JdbcOdbcDriver

Driver Location:

rt.jar file in JDK 1.7 & below versions.

Note: This driver removed from JDK1.8 & above versions.

rt=> Run Time jar=> Java ARchive

JDK=> Java Development Kit(It is a Java Software)

JAR file location:

C:\Program Files\Java\jdk1.7\jre\lib

Driver Vendor:

Sun Microsystems

Uniform Resource Locator(URL) to access the driver:

jdbc:odbc:dsn

jdbc=> protocol odbc=> sub protocol dsn=> data source name

Note: Type-I Driver developed in C language

Type - I Driver Functionality:

It converts Java instructions into odbc understandable format

Advantages of Type-I Driver:

- 1) It is very easy to connect.
- 2) Only one driver that supports all ODBC enabled databases.

Disadvantages of Type-I Driver:

- 1) Performance overhead since Java calls should go through via jdbc & odbc drivers.
- 2) Database client software(ODBC) needs to be installed on local system.
- 3) Type 1 driver is a platform dependant.

By

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