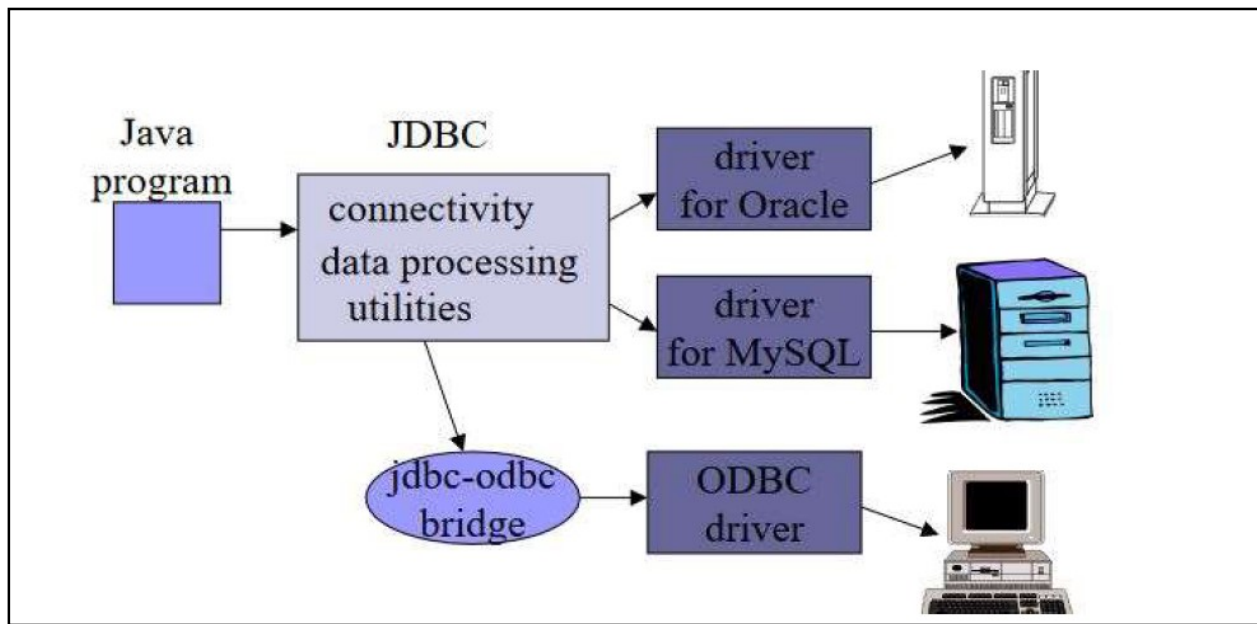


Course Name: A Level (2nd Sem)
Topic: JDBC

Subject: JAVA
Date: 22-06-20

JDBC

JDBC, often known as **Java Database Connectivity**, provides a Java API for updating and querying relational databases using Structured Query Language. JDBC is an interface which allows Java code to execute SQL statements inside relational databases. We can switch easily from one database to another using JDBC.



JDBC Driver

A JDBC driver is a set of Java classes that implement the JDBC interfaces, targeting a specific database. To connect with individual databases, JDBC requires drivers for each database. Each database will have their own JDBC driver. This driver is supplied by the database vendor along with the database.

For example Oracle will have different driver such as `ojdbc14.jar` while MySQL will have different driver such as `mysql.jar`.

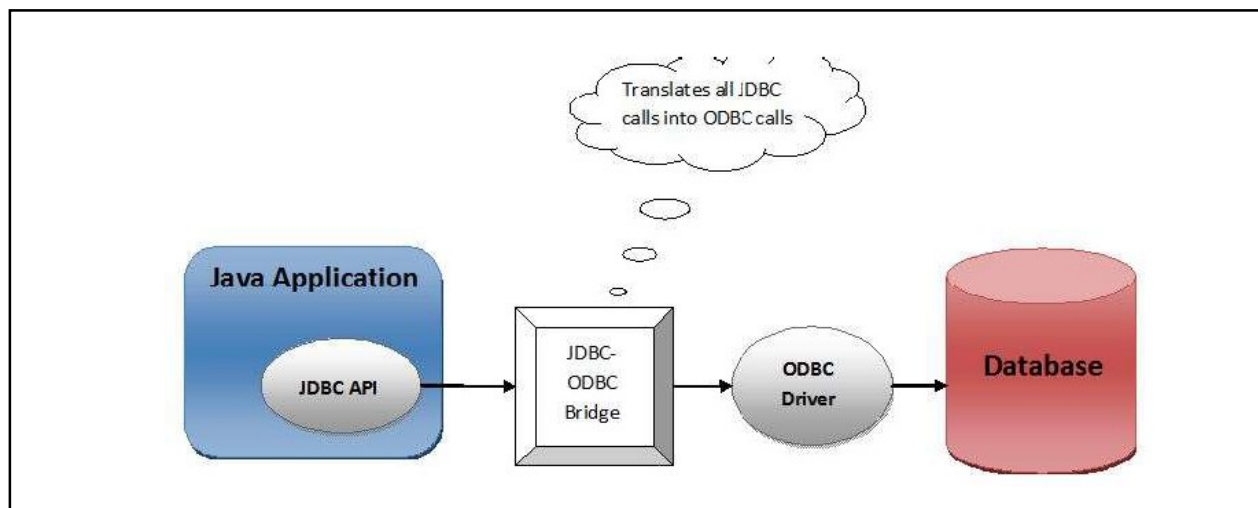
These drivers (jar files) need to be imported properly in order to do database related tasks.

Types of JDBC Drivers

There are 4 types of JDBC drivers:

Type 1 JDBC Driver(JDBC-ODBC bridge driver)

A type 1 JDBC driver consists of a Java part that translates the JDBC interface calls to ODBC calls. An ODBC bridge then calls the ODBC driver of the given database. Type 1 JDBC Drivers provide the bridge between JDBC and ODBC API and hence the name 'JDBC-ODBC. Bridge Drivers'. This type of drivers translate all JDBC calls into ODBC calls and sends them to ODBC driver which interacts with the database. These types of drivers are slowest of all types. Because, all JDBC calls will go to the ODBC driver through the bridge and then to database.



Type 2 JDBC Driver(The Native API driver)

Type 2 JDBC Driver translates all JDBC method calls into database specific calls using native API of the database. Its performance is slightly better than the Type 1 driver as communication layer is reduced in this driver. But, like Type 1 Driver, it is **also not entirely written in java language**. This causes the portability issues and as this driver is database specific.

