Database vendors typically provide the set of API for accessing the data and manage the database server. popular database vendor such as Oracle, sybase provide proprietary API for client access

client application written in the native language such as C/c++ can use this API to get Direct Access to the data.

the JDBC API provides alternate to using the vendor specific API

A JDBC driver is a middleware layer that translates the JDBC call to the vendor specific API’s and these are the classes which are implementing JDBC interface and generally are made by the database vendor

JDBC drivers are classified into 4 categories

**Type 1 JDBC ODBC Bridge**

open database connection (ODBC) originally created to provide an API standard for SQL on Microsoft Windows platform and was later enhanced to provide SDK for the other platform

ODBC define a set of function for Direct Access to the data without the need of embedded SQL client application

these functions are written in C language. only the prototype of the function is given by Microsoft.

the body of functions are given by the vendor of database like Oracle.

The first category of JDBC driver provides a bridge between JDBC and ODBC API. the bridge translates the standard JDBC call to the corresponding ODBC call and send them to the ODBC data call with ODBC libraries.

**Type 2 Native Driver**

JDBC database call at translated into vendor specific API calls. the database will process the request and send the result back through the API which will in turn forward them back to the JDBC driver.

the JDBC driver will translate to the result to JDBC standard and return them to the JAVA application.

**Type 3 Intermediate Database Access Server**

type 3 driver use an intermediate database server that has the ability to connect multiple Java client to multiple database servers.

Java client application sends a call through JDBC driver to the intermediate data access server room which completes the request to the data source using another driver

the driver uses the database independent protocol to communicate database request to a server component which then translate the request into a database with waterfall iPod driver

**Type 4 Thin Driver**

is a pure Java library that translates JDBC request directly to a database specific protocol.