Type:1= jsp:

<https://www.javatpoint.com/description.jsp?x=198&y=17>

Type:2=<https://www.geeksforgeeks.org/jdbc-drivers/>

1. **Type-1** driver or **JDBC-ODBC** bridge driver:

Type-1 driver is also called **Universal driver** because it can be used to connect to any of the databases. The ODBC bridge driver is needed to be installed in individual client machines.Type-1 driver isn’t written in java, that’s why it isn’t a portable driver.

1. **Type-2** driver or Native-API driver: Driver needs to be installed separately in individual client machines. Type-2 driver isn’t written in java, that’s why it isn’t a portable driver.
2. **Type-3** : In a Type 3 driver, a **three-tier approach** is used to access databases. The JDBC clients use standard network sockets to communicate with a middleware application server. The socket information is then translated by the middleware application server into the call format required by the DBMS, and forwarded to the database server.
3. **Thin driver**: n a Type 4 driver, a pure Java-based driver communicates directly with the vendor's database through socket connection.

you don't need to install special software on the client or server. Further, these drivers can be downloaded dynamically.

## **Which Driver should be Used?**

If you are accessing one type of database, such as Oracle, Sybase, or IBM, the preferred driver **type is 4.**

If your Java application is accessing multiple types of databases **at the same time**, **type 3** is the preferred driver.

**Type 2** drivers are useful in situations, where a type 3 or type 4 driver is not available yet for your database.

**The type 1** driver is not considered a deployment-level driver, and is typically used for development and testing purposes only.

Web Server and Web Applicatin

<https://www.geeksforgeeks.org/difference-between-web-server-and-application-server/>

**Hibernate:**

<https://www.javatpoint.com/hibernate-tutorial>

imp:-<http://www.naukrieducation.com/50-top-real-time-j2ee-multiple-choice-questions-and-answers-pdf/>

The SQL query is created with the help of the following syntax:

Session.createSQLQuery

The HQL query is created with the help of the following syntax:

Session.createQuery

For hibernate mapping, the file name should be like **filename.hbm.xml**.

For hibernate configuration, the file name should be like **hibernate.cfg.xml**.