



Web Technology (KCS-602) Unit 4

Prepared By

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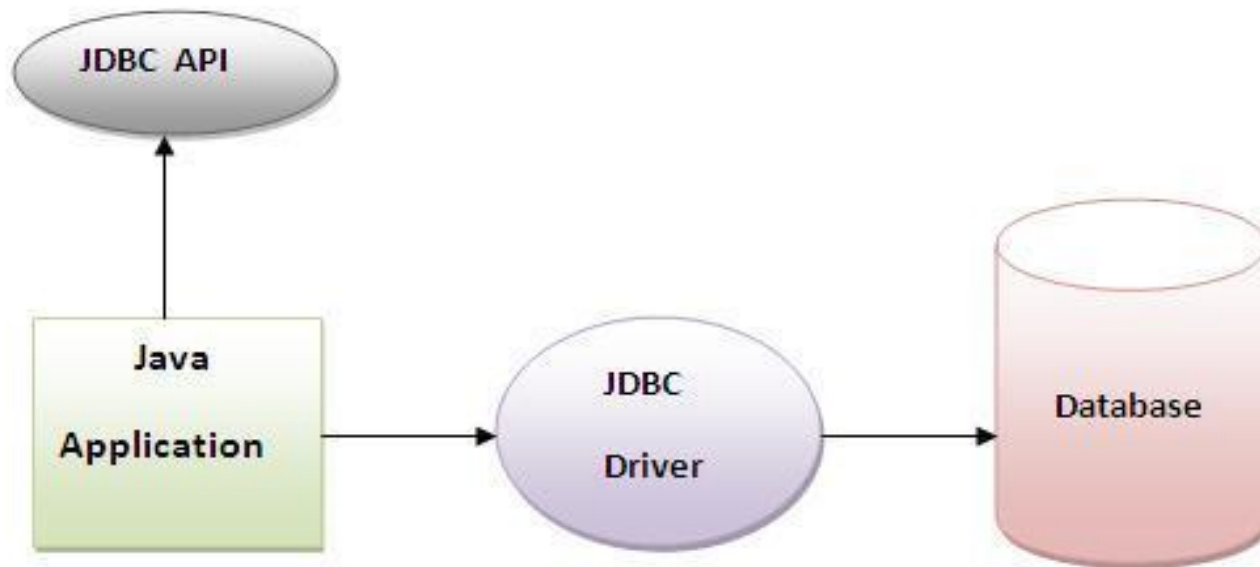
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JDBC

- Java JDBC is a java API to connect and execute query with the database. JDBC API uses jdbc drivers to connect with the database.



JDBC Driver

JDBC Driver is a software component that enables java application to interact with the database.

There are 4 types of JDBC drivers:

- JDBC-ODBC bridge driver
- Native-API driver (partially java driver)
- Network Protocol driver (fully java driver)
- Thin driver (fully java driver)

1) JDBC-ODBC bridge driver

- The JDBC-ODBC bridge driver uses ODBC driver to connect to the database.
- The JDBC-ODBC bridge driver converts JDBC method calls into the ODBC function calls.
- This is now discouraged because of thin driver.

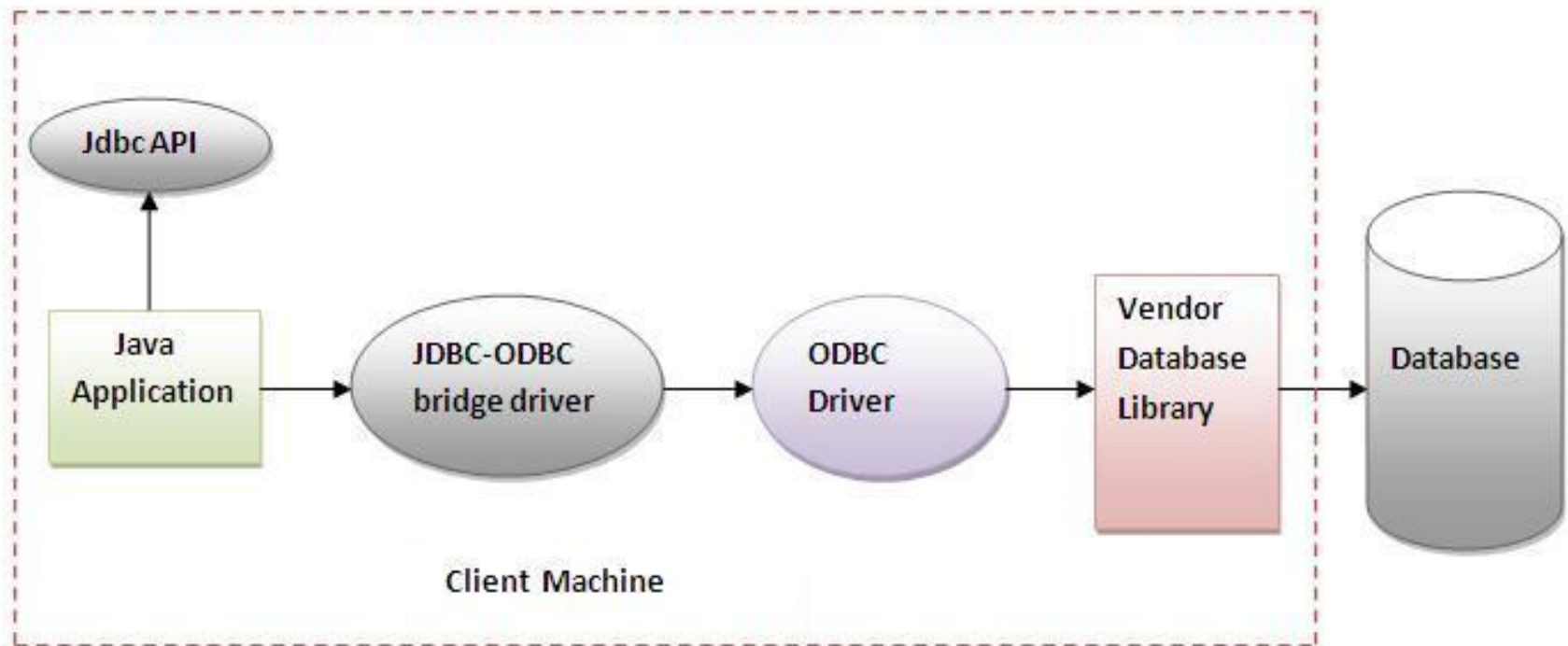


Figure- JDBC-ODBC Bridge Driver

Advantages:

- easy to use.
- can be easily connected to any database.

Disadvantages:

- Performance degraded because JDBC method call is converted into the ODBC function calls.
- The ODBC driver needs to be installed on the client machine.

Native-API driver

- The Native API driver uses the client-side libraries of the database.
- The driver converts JDBC method calls into native calls of the database API.
- It is not written entirely in java.

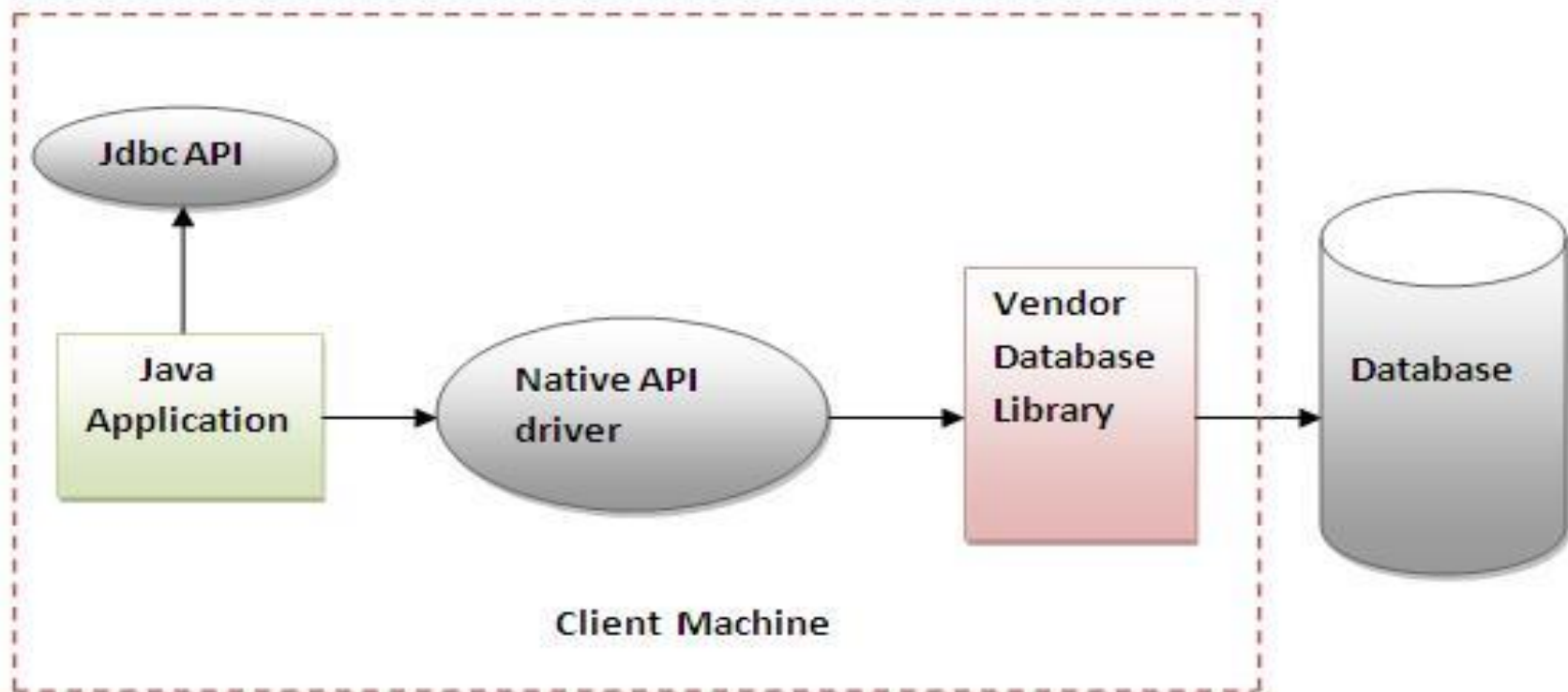


Figure- Native API Driver

Advantage:

- performance upgraded than JDBC-ODBC bridge driver.

Disadvantage:

- The Native driver needs to be installed on the each client machine.
- The Vendor client library needs to be installed on client machine.

3) Network Protocol driver

- The Network Protocol driver uses middleware (application server) that converts JDBC calls directly or indirectly into the vendor-specific database protocol.
- It is fully written in java.

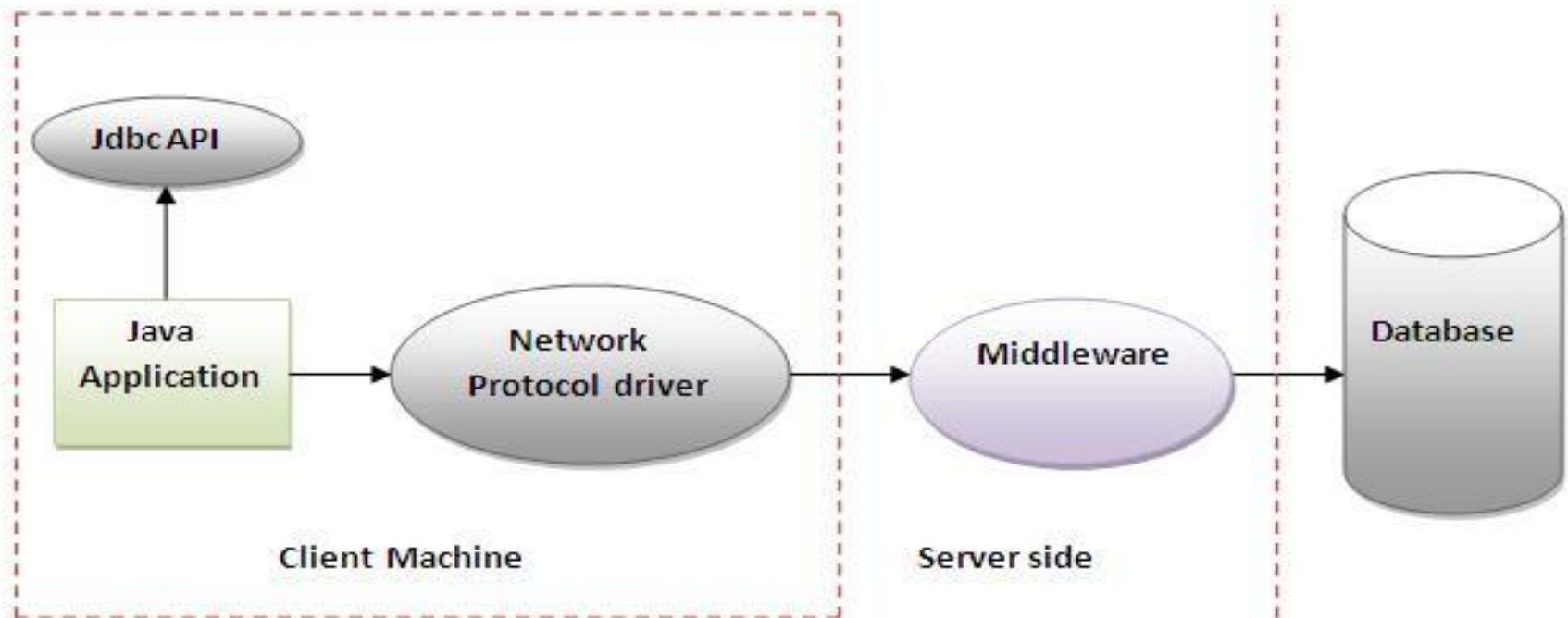


Figure- Network Protocol Driver

Advantage:

- No client side library is required because of application server that can perform many tasks like auditing, load balancing, logging etc.

Disadvantages:

- Network support is required on client machine.
- Requires database-specific coding to be done in the middle tier.

4) Thin driver

- The thin driver converts JDBC calls directly into the vendor-specific database protocol.
- That is why it is known as thin driver. It is fully written in Java language.

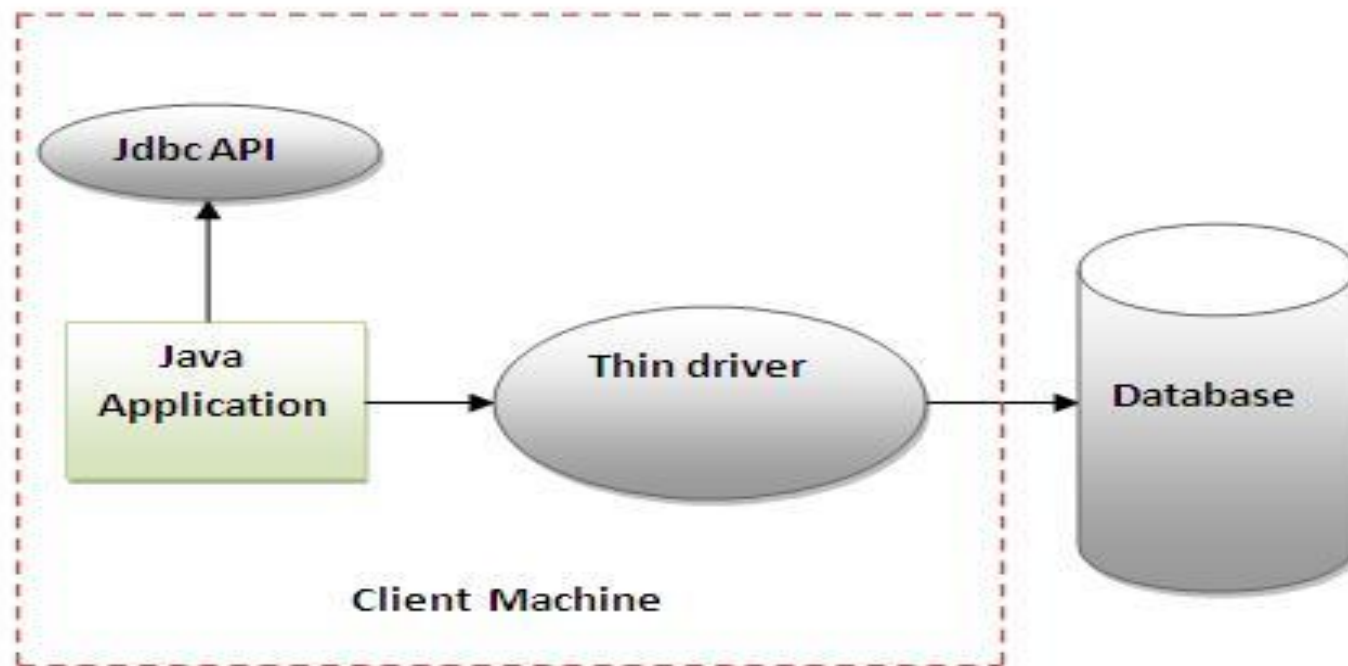


Figure- Thin Driver

Advantage:

- Better performance than all other drivers.
- No software is required at client side or server side.

Disadvantage:

- Drivers depends on the Database.

AKTU Semester Questions

- What is JDBC? Explain the drivers used in JDBC. Write a JDBC program for insert and display the record of employees using Prepared Statement.(2018-19)
- What do you mean by JDBC driver in Java? Explain web database. How do you manage a database through web? Explain with the help of example.(2016-17)