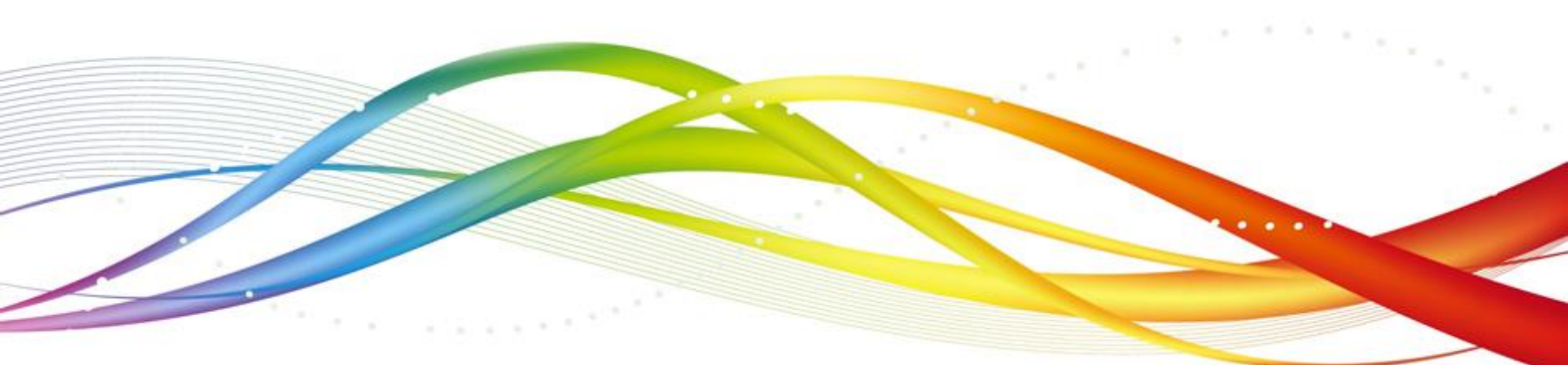




JDBC

Introduction



Introduction to JDBC



Agenda



Introduction to JDBC

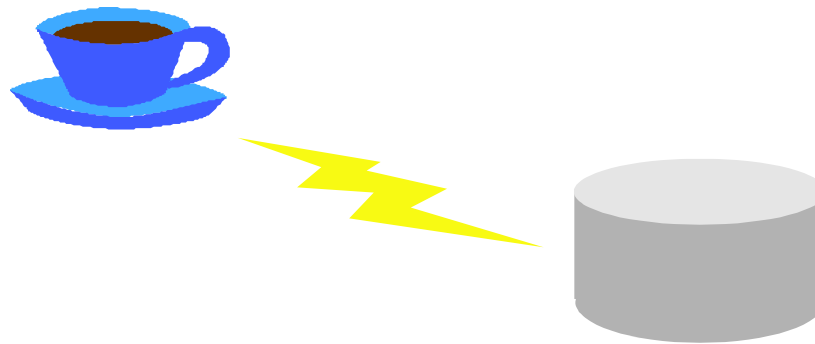
Objectives

At the end of this module, you will be able to:

- Examine the role of JDBC in data persistence

Introduction to JDBC

- JDBC is an API that helps a programmer to write java programs to connect to any database, retrieve the data from the database
- java.sql package contains a set of interfaces that specify the JDBC API



Introduction to JDBC

- Using JDBC, you can write code that:

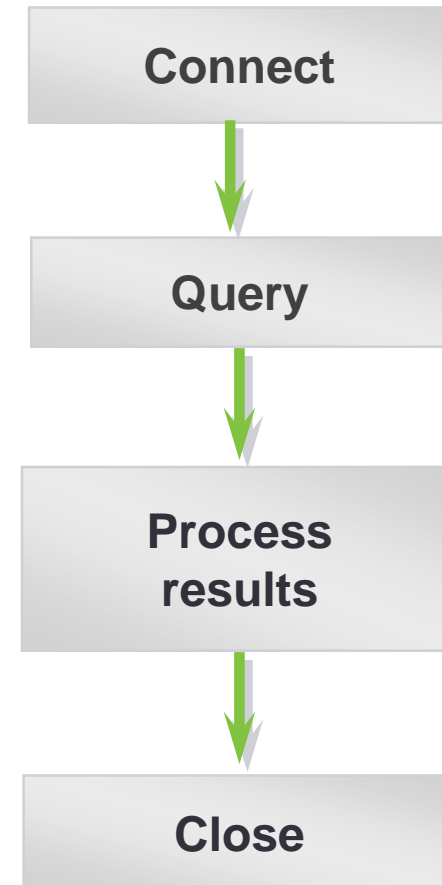
Connects to one or more data servers

Executes any SQL statement

Obtains a result set so that you can navigate through query results

Obtains metadata from the data server

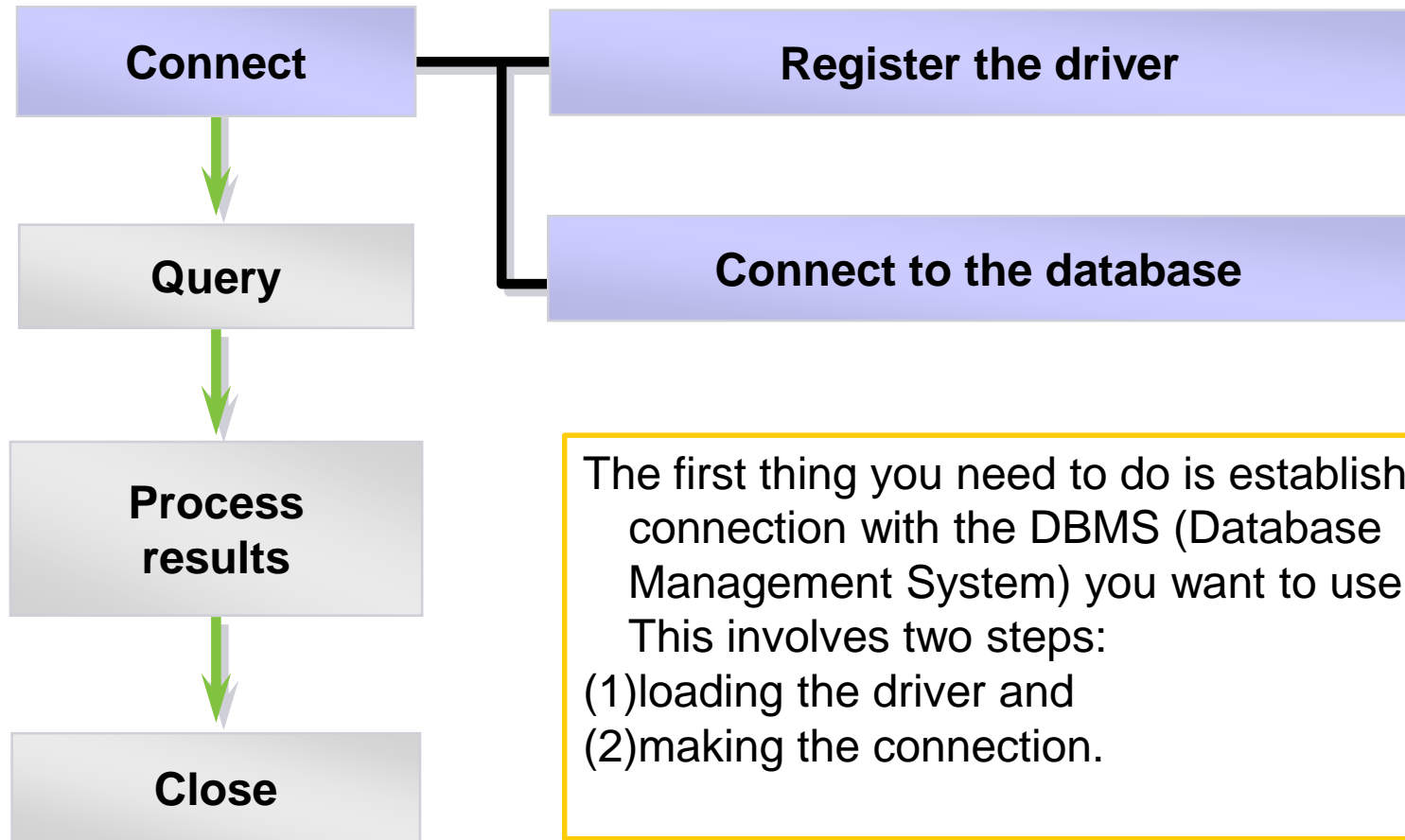
Architecture and Querying with JDBC



Architecture and Querying with JDBC

- The JDBC API consists of two major sets of interfaces:
- The first is the JDBC API for applications writers, and
- The second is the lower-level JDBC driver API for driver writers
- As seen from the previous diagram, the DriverManager class is the traditional management layer of JDBC, working between the user and the drivers
- It keeps track of the drivers that are available and handles establishing a connection between a database and the appropriate driver.
- In addition, the DriverManager class attends to things like driver login time limits and the printing of log and tracing messages

Stage 1: Connect

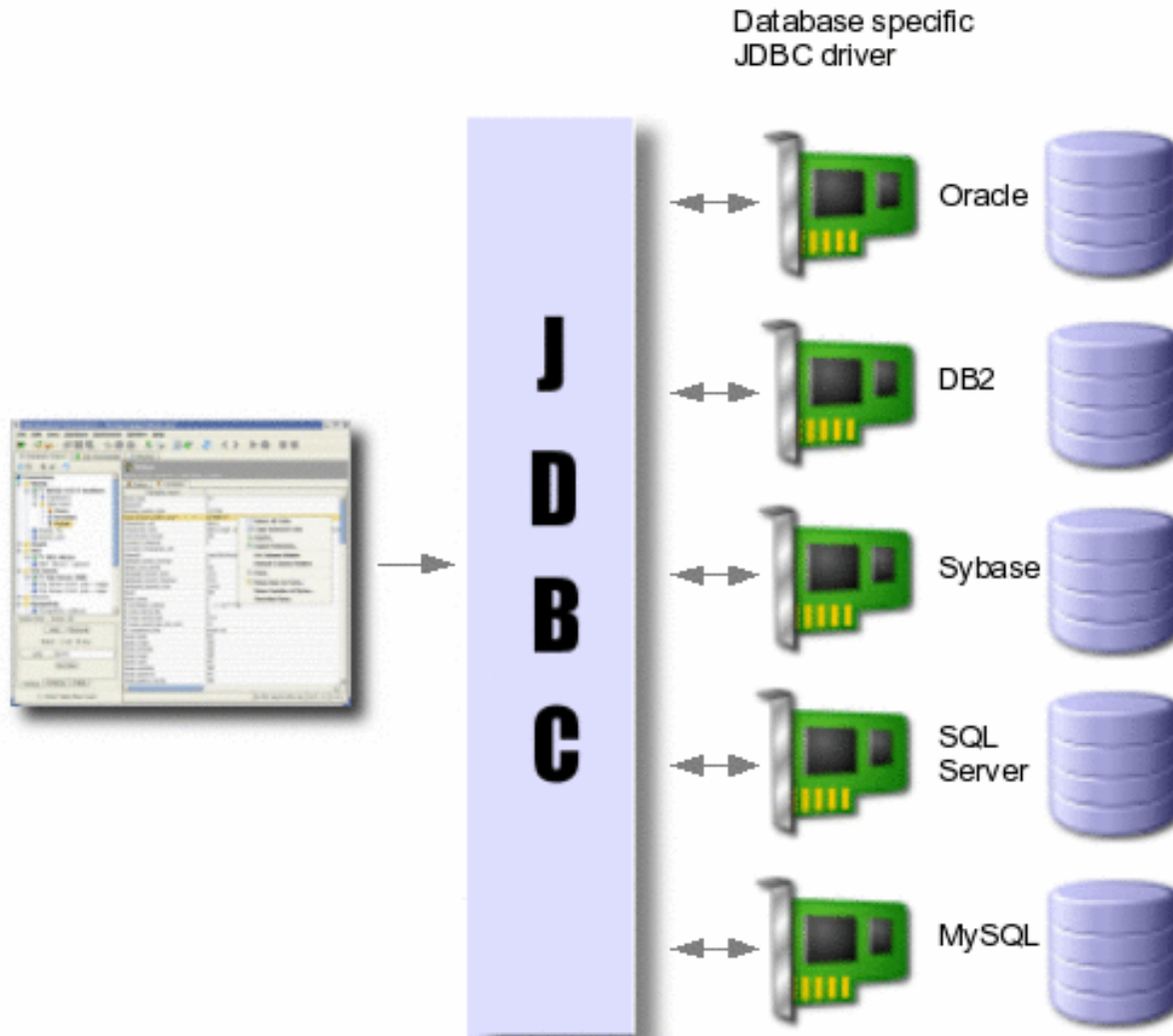


Connect: A JDBC Driver

Is a set of classes and interfaces, written according to JDBC API to communicate with a database.



Connect: A JDBC Driver



A JDBC Driver

- The JDBC API defines a set of interfaces that encapsulate major database functionality like
 - running queries
 - processing results
 - determining configuration information
- A database vendor or third-party developer writes a JDBC driver, which is a set of classes that implements these interfaces for a particular database system
- An application can use a number of drivers interchangeably
- JDBC drivers are available for most database platforms, from a number of vendors and in a number of different flavors

Types of JDBC Drivers

- Sun Microsystems has identified 4 types of drivers. Each of these types meets a different application need and also differs in its performance
- Type 1 driver – JDBC-ODBC bridge.
- Type 2 driver – Native-API driver.
- Type 3 driver – Network-Protocol driver (middleware driver)
- Type 4 driver – Database-Protocol driver (Pure Java driver)
- Type 4 driver is widely used by most vendors nowadays as it provides better performance and direct access to DBMS features

QUIZ

1. All the classes and interfaces used in jdbc programs are found within the inbuilt package
- a) java.sql
 - b) java.net
 - c) java.jdbc
 - d) java.dbms

Answers :
1) a.

Summary

- In this module, you were able to:
- Examine the role of JDBC in data persistence



Thank You

