



Report on ITM

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Year/Semester: II-II

Course: Java Programming

Adopted Teaching Methodology: Brain Storming

Date: 28-01-2021

Topic: JDBC

Description:

Brainstorms typically have three steps: idea capture, discussion and critique, and selection.

Brainstorming is a creative thinking technique for coming up with new ideas and solving problems. Teams use this ideation method to encourage new ways of thinking and collectively generate solutions.

The out come of the Methodology is to have The JDBC API is a Java API that can access any kind of tabular data, especially data stored in a relational database.

JDBC helps you to write Java applications that manage these three programming activities:

1. Connect to a data source, like a database
2. Send queries and update statements to the database
3. Retrieve and process the results received from the database in answer to your query

JDBC includes four components:

1. The JDBC API — The JDBC™ API provides programmatic access to relational data from the Java programming language. Using the JDBC API, applications can execute SQL statements, retrieve results, and propagate changes back to an underlying data source. The JDBC API can also interact with multiple data sources in a distributed, heterogeneous environment.

The JDBC API is part of the Java platform, which includes the Java Standard Edition (Java SE) and the Java Enterprise Edition (Java EE). The JDBC 4.0 API is



divided into two packages: `java.sql` and `javax.sql`. Both packages are included in the Java SE and Java EE platforms.

2. **JDBC Driver Manager** — The `JDBC DriverManager` class defines objects which can connect Java applications to a JDBC driver. `DriverManager` has traditionally been the backbone of the JDBC architecture. It is quite small and simple.

The Standard Extension packages `javax.naming` and `javax.sql` let you use a `DataSource` object registered with a Java Naming and Directory Interface (JNDI) naming service to establish a connection with a data source. You can use either connecting mechanism, but using a `DataSource` object is recommended whenever possible.

3. **JDBC Test Suite** — The JDBC driver test suite helps you to determine that JDBC drivers will run your program. These tests are not comprehensive or exhaustive, but they do exercise many of the important features in the JDBC API.
4. **JDBC-ODBC Bridge** — The Java Software bridge provides JDBC access via ODBC drivers. Note that you need to load ODBC binary code onto each client machine that uses this driver. As a result, the ODBC driver is most appropriate on a corporate network where client installations are not a major problem, or for application server code written in Java in a three-tier architecture.