



## Oracle JDBC -- Java Data Base Connection

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## What is JDBC?

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- An Application Programming Interface (API) that enables database access in Java
- Consists of a set of classes and interfaces written in Java
- Allows the programmer to send SQL statements to a database server for execution and to retrieve query results



## Advantages of using JDBC

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- Portability across database servers
  - resulted from the JDBC API
- Portability across hardware architectures
  - Resulted from the Java language
- Example: banking.java



## Developing JDBC Applications

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- Import the JDBC classes (java.sql.\*)
- Load the JDBC drivers
- Connect to the database
- Interact with the database using JDBC
- Disconnect from the database



## Preparing the Connection

- Loading the JDBC Drivers
- Connecting to the Database



## The Connection Object

- Statement, used for SQL statements without parameters
- PreparedStatement, used when the same statement to be executed multiple times with possibly different parameters
- CallableStatement, used for executing stored procedures



## Instantiation and Methods

- Three ways to create the instances of these classes:
  - createStatement
  - preparedStatement
  - prepareCall
- Useful methods
  - close, setAutoCommit, commit, rollback, getMetaData



## Nonquery SQL Statements

- createStatement
- preparedStatement
- prepareCall



## Executing SQL Queries

- `executeQuery()`



## Processing the Results

- `ResultSet` Class
- `ResultSet` Methods
  - `next`
  - `close`
  - `getString`
  - `getMetaData`
  - `findColumn`



## Processing the Results (cont'd)

- `ResultSetMetadata` class
  - Provides the ability to find out about the types and properties of columns in a `ResultSet` object