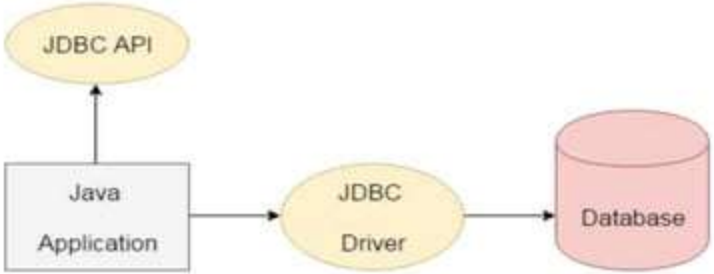
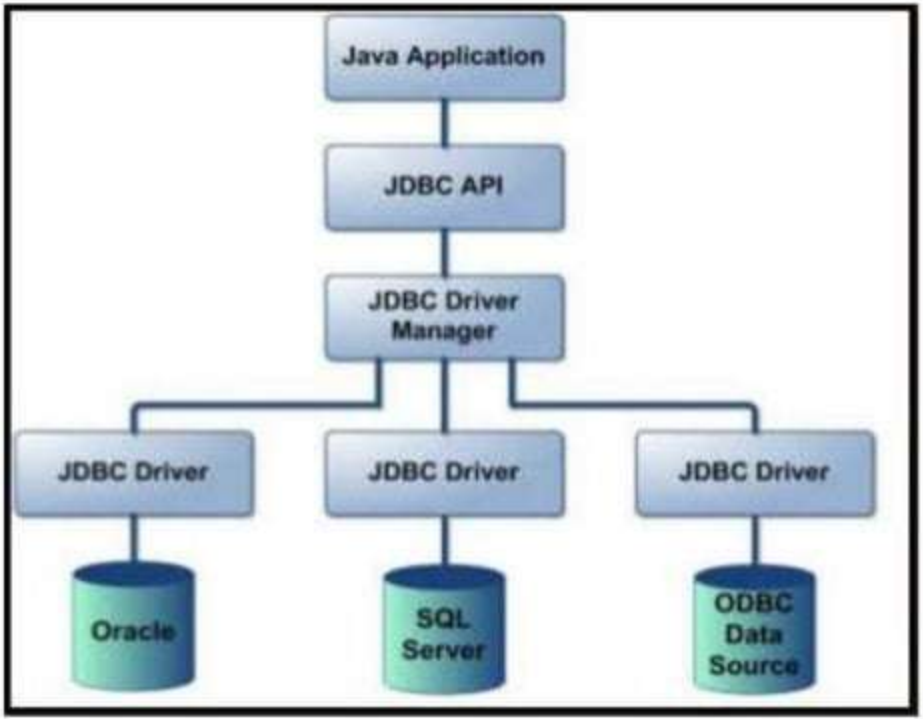
# What is JDBC

Java Database Connectivity (**JDBC**) is an application programming interface (API) for the programming language Java, which defines how a client may access a database. It is a Java-based data access technology used for Java database connectivity. It is part of the Java Standard Edition platform, from Oracle Corporation.



# Architecture of JDBC



# Types of JDBC driver

- Type 1; jdbc-odbc bridge driver
- Type 2; native API partly java driver.
- Type 3; net protocols all java driver.
- Type 4; native protocols all java driver.

# Steps to Connect..

- First do the Driver Registration
- Define the Connection URL
- Established The Connection
- Create Statement Object
- Execute a Query
- Process the Results
- Close the Connection

# Steps to Connect..

- **Define the Driver Registration URL:**
  Class.forName();

- **Example to register the OracleDriver class**

  Class.forName("oracle.jdbc.driver.OracleDriver");

- **Example to register the MySqlDriver class**

  Class.forName("com.mysql.jdbc.Driver");

- **Example to register the DerbyClient**

  Class.forName("org.apache.derby.jdbc.ClientDriver ");

# Steps to Connect..

- **Established the Connection:-**

  **Connection con=DriverManager.getConnection( "URL","username","password");**

- **Example to Established the Connection using MySql:-**

  Connection con=DriverManager.getConnection( "jdbc:mysql://localhost:3306/sandeep","root","root");

# Steps to Connect..

- Create a Statement Object:

```
Statement stmt=con.createStatement();
```

# Steps to Connect..

- **Execute the Query:**

❖ **For the SELECT Query:**

- String sql="Select * from emp";
- stmt.executeQuery(sql);

❖ **For Insert/Update Query:**

- String sql="Insert into emp values(101,'sandeep');
- stmt.executeUpdate(sql);

# Steps to Connect..

- **Process the Result:-**

```
ResultSet rs=stmt.executeQuery(sql);

 while(rs.next())
 {
System.out.println(rs.getInt(1)+" "+rs.getString(2));
}
```

# Steps to Connect..

- **Close the Connection:**

release all the resources that the Connection is holding.

```
stmt.close();
con.close();
```

**Summarizing the Connection steps**

- Step-1 Driver Registration

```
Class.forName("com.mysql.jdbc.Driver");
```

- Step-2 Database Connection

```
Connectioncon=DriverManager.getConnection
("jdbc:mysql://localhost:3306/cbs","root","root");
//here cbs  is the database name, root is the username and root is the password
```

- Step-3 Creating statement

```
Statement stmt=con.createStatement();
```

- Step-4 Creating result statement

```
ResultSet rs=stmt.executeQuery("select * from emp");
```

- Step-5 Process the result

```
while(rs.next())
System.out.println(rs.getInt(1)+"\t"+rs.getString(2));
```

- Step-6 Close the Connection

```
con.close();
```

# Thank You