Java 12-Week Boot Camp
Week 5: JDBC

PCWorkshops

Java Course : JDBC
Including practical, illustrative coding examples

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Java 12-Week Boot Camp

JDBC

Course Notes and Exercises

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JDBC

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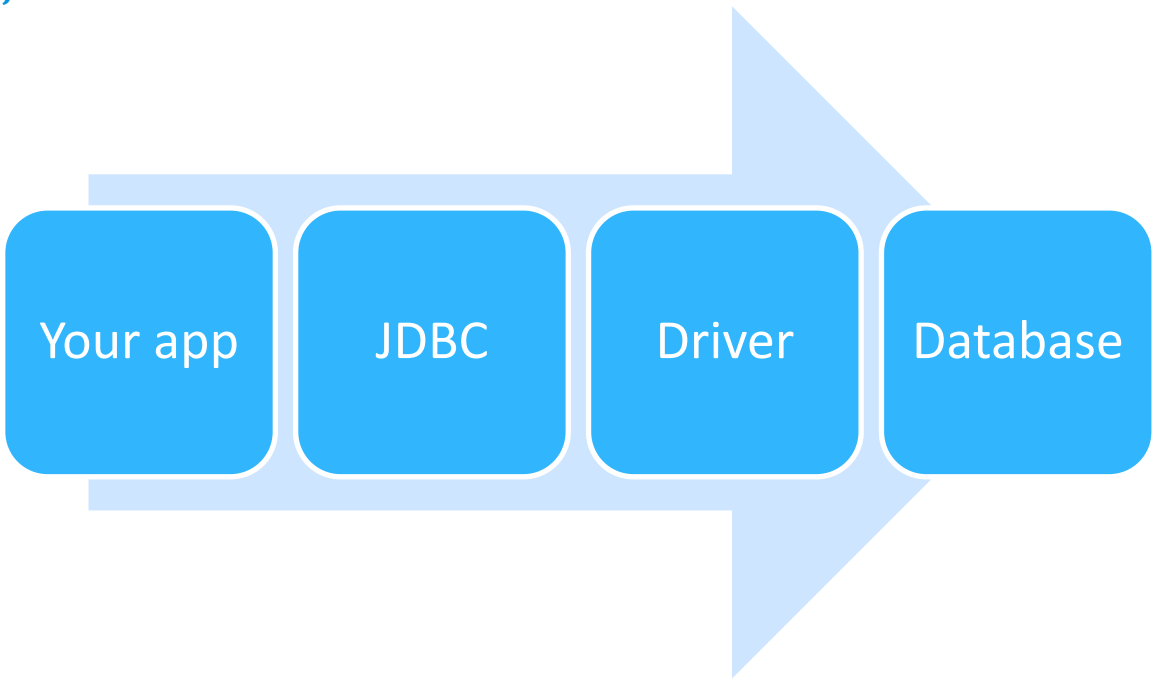

JDBC Driver Downloads:

Database	JDBC Driver Provider	JAR file name	Download
MySQL	*Oracle Corporation*	mysql-connector-java-VERSION.jar	Download JDBC Driver for MySQL
SQL Server	*Microsoft Corporation*	sqljdbc41.jar, sqljdbc42.jar	Download JDBC Driver for SQL Server
Oracle	*Oracle Corporation*	ojdbc6.jar, ojdbc7.jar, ojdbc8.jar	Download JDBC Driver for Oracle (login required)
PostgreSQL	*The PostgreSQL Global Development Group*	postgresql-VERSION.jar	Download JDBC Driver for PostgreSQL
Apache Derby	*Apache Software Foundation*	derby.jar, derbyclient.jar	Download JDBC Driver for Apache Derby
SQLite	*Xerial.org*	sqlite-jdbc-VERSION.jar	Download JDBC Driver for SQLite
Microsoft Access	*UCanAccess.com*	ucanaccess-VERSION.jar	Download JDBC Driver for Microsoft Access

Create Database

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.sql.Statement;

public class exDBCreateDB {
	static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";
 // go to runtime config and add new external jar
	static final String DB_URL = "jdbc:mysql://localhost/sakila";
 // test is the name of the database
	static final String USER = “pwd”;
//tab_createT a new connection without password
	static final String PASS = "";


	public static void main(String[] args) {
		System.out.println("The Start");

		Connection conn = null;
		Statement stmt = null;

		try{
		    // connect
		     Class.forName("com.mysql.jdbc.Driver");
		     // put this in it's own try / catch
		     conn = DriverManager.getConnection(DB_URL,USER,PASS);
		     stmt = conn.createStatement();  // can be in it's own try/catch

		     System.out.println("Creating statement 1...");

		     // what to do
		     System.out.println("Create Database...");
		     String sql = "create database javabootcamp" ;
		     stmt.executeUpdate(sql);

		     //close
		        stmt.close();
		        conn.close();

		      }catch(SQLException se){
		                      System.out.println("ex 1");
		                    se.printStackTrace();
		   }catch(Exception e){
		                        System.out.println("ex 2");
		                        e.printStackTrace();
		      }

		System.out.println("The End");
	}

}
```

Create table

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.sql.Statement;

public class exDBCreateTable {
          static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";

          static final String DB_URL = "jdbc:mysql://localhost/javabootcamp";

          static final String USER = “pwd”;
          static final String PASS = "";

       public static void main(String[] args) {
                Connection conn = null;
                Statement stmt = null;

                try{
                    Class.forName("com.mysql.jdbc.Driver");
                    conn = DriverManager.getConnection(DB_URL,USER,PASS);
                    stmt = conn.createStatement();

                    System.out.println("Creating statement 1...");

                   //
                    System.out.println(" statement create table ...");
                    String sql = "CREATE TABLE movieProgram " +
                           "(moviename VARCHAR(255), " +
                           " genre VARCHAR(255), " +
                           " dayShowing VARCHAR(255), " +
                           " ageAllowed INTEGER, " +
                           " price decimal(5,2))";

                       stmt.executeUpdate(sql);
                      // create table, insert, delete, update

                      // Close
                      stmt.close();
                      conn.close();

                     }catch(SQLException se){
                                    System.out.println("ex 1");
                                  se.printStackTrace();
                  }catch(Exception e){
                                      System.out.println("ex 2");
                                      e.printStackTrace();
                    }

                     System.out.println("The End");

       }

}
```

Insert Records

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.Statement;

public class exDBInsert {
          static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";

          static final String DB_URL = "jdbc:mysql://localhost/javabootcamp";
          static final String USER = "pwd";
          static final String PASS = "";

       public static void main(String[] args) {
              System.out.println("The start");
              Connection conn = null;
              Statement stmt = null;

              try{
                     // connect
                   Class.forName("com.mysql.jdbc.Driver");
                   conn = DriverManager.getConnection(DB_URL,USER,PASS);
                   stmt = conn.createStatement();  // can be in it's own try/catch

                   System.out.println("Creating statement 1...");

                   // what to do
                   System.out.println("Inserting...");
                   String sql = "insert into  movieProgram (moviename, price )
values ('rocky', 15)" ;
                   stmt.executeUpdate(sql);
                   sql = "insert into  movieProgram (moviename, price ) values
('scarface', 15)" ;
                   stmt.executeUpdate(sql);
                   sql = "insert into  movieProgram (moviename, price ) values
('rambo', 15)" ;
                   stmt.executeUpdate(sql);

                   // close
                   stmt.close();
                   conn.close();
               }catch(Exception e){
                      System.out.println("ex 2");
                      e.printStackTrace();
               }

               // the end
               System.out.println("The end");
       }

}
```

Select Records

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;

public class exDBSelect {
	static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";
	static final String DB_URL = "jdbc:mysql://localhost/javabootcamp";
	static final String USER = “pwd”;
	static final String PASS = "";


	public static void main(String[] args) {
		System.out.println("The Start");
		 Connection conn = null;
		 Statement stmt = null;
		 try{
			// connect
		      Class.forName("com.mysql.jdbc.Driver");
		      conn = DriverManager.getConnection(DB_URL,USER,PASS);
		      stmt = conn.createStatement();  // can be in it's own try/catch

		      System.out.println("Creating statement 1...");

		      // what to do
		      System.out.println("Select ...");
		      String sql = "SELECT moviename, price FROM movieProgram";
		      // exactly like in sql with exact field and table names
		      ResultSet rs = stmt.executeQuery(sql);
			while(rs.next()) {
			   String mName = rs.getString("moviename");
			    // field names in the brackets
			   double price = rs.getDouble("price");
		        System.out.println("MovieName: " + mName + " " + price) ;
		      }
		     //close
			stmt.close();
			conn.close();

		    }catch(SQLException se){
				System.out.println("ex 1");
				se.printStackTrace();
		    }catch(Exception e){
					System.out.println("ex 2");
					e.printStackTrace();
		    }

		 System.out.println("The End");
	}
}
```

Update Records

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.sql.Statement;

public class exDBUpdate {

	static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";
	static final String DB_URL = "jdbc:mysql://localhost/javabootcamp";
	static final String USER = “pwd”;
	static final String PASS = "";

	public static void main(String[] args) {
		System.out.println("the start");
		Connection conn = null;
		Statement stmt = null;

		try{
			// connect
			Class.forName("com.mysql.jdbc.Driver");

			conn = DriverManager.getConnection(DB_URL,USER,PASS);
			stmt = conn.createStatement();
			System.out.println("Creating statement 1...");

			// what to do
			System.out.println("update statement  ...");
			String sql = "update movieProgram set price = 30" ;
			stmt.executeUpdate(sql);

			//close
			   stmt.close();
			   conn.close();

		   }catch(SQLException se){
				System.out.println("ex 1");
				se.printStackTrace();
		   }catch(Exception e){
					System.out.println("ex 2");
					e.printStackTrace();
		   }


			System.out.println("the end");
	}

}
```

Delete Records

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.sql.Statement;

public class exDBDelete {
	static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";
	static final String DB_URL = "jdbc:mysql://localhost/javabootcamp";
	static final String USER = "pwd";
	static final String PASS = "";

	public static void main(String[] args) {
		System.out.println("The Start");

		 Connection conn = null;
		 Statement stmt = null;

		 try{
			// connect
			Class.forName("com.mysql.jdbc.Driver");

			conn = DriverManager.getConnection(DB_URL,USER,PASS);
			stmt = conn.createStatement();  // can be in it's own try/catch

			System.out.println("Creating statement 1...");

			// what to do
			System.out.println("Delete Records...");
		  String sql = "delete from movieProgram where moviename='bambi' " ;
			stmt.executeUpdate(sql);

			//close
			   stmt.close();
			   conn.close();

		    }catch(SQLException se){
					System.out.println("ex 1");
					se.printStackTrace();
		    }catch(Exception e){
						System.out.println("ex 2");
						e.printStackTrace();
		    }

		System.out.println("The End");
	}

}
```

Drop Table

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.sql.Statement;

public class exDBDropTable {
	static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";
	static final String DB_URL = "jdbc:mysql://localhost/javabootcamp";
	static final String USER = "pwd";
	static final String PASS = "";


	public static void main(String[] args) {
		System.out.println("The Start");
		 Connection conn = null;
		 Statement stmt = null;

		 try{
			 // connect
			 Class.forName("com.mysql.jdbc.Driver");
			 conn = DriverManager.getConnection(DB_URL,USER,PASS);
			 stmt = conn.createStatement();
			 System.out.println("Creating statement 1...");

			 // what to do
			 System.out.println("Drop  Table...");
			 String sql = "drop table movieProgram" ;
			 stmt.executeUpdate(sql);

			 //close
			   stmt.close();
			   conn.close();

		  }catch(SQLException se){
				System.out.println("ex 1");
				se.printStackTrace();
		    }catch(Exception e){
					System.out.println("ex 2");
					e.printStackTrace();
		    }


		 System.out.println("The End");

	}

}
```

Drop Databse

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.sql.Statement;

public class exDropDB {
	static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";
	static final String DB_URL = "jdbc:mysql://localhost/javabootcamp";
	static final String USER = “pwd”;
	static final String PASS = "";

	public static void main(String[] args) {
		System.out.println("The Start");
		 Connection conn = null;
		 Statement stmt = null;

		 try{
			// connect
		     Class.forName("com.mysql.jdbc.Driver");
		     conn = DriverManager.getConnection(DB_URL,USER,PASS);
		     stmt = conn.createStatement();
		     System.out.println("Creating statement 1...");

		     // what to do
		     System.out.println("Drop Database...");
		     String sql = "drop database javabootcamp" ;
		     stmt.executeUpdate(sql);

		     //close
		        stmt.close();
		        conn.close();

		  }catch(SQLException se){
		                System.out.println("ex 1");
		                se.printStackTrace();
		    }catch(Exception e){
		                        System.out.println("ex 2");
		                        e.printStackTrace();
		    }


		 System.out.println("The End");

	}

}
```