



IBM Software Group

DB2 Express-C 9 overview course

Application Development in Java

DB2 Information Management Software

ON DEMAND BUSINESS™

IBM DB2 Driver for JDBC (aka JCC Driver)

- Single driver can be used in type 2 and type 4 modes
 - ▶ db2jcc.jar (com.ibm.db2.jcc)
 - ▶ Type 2 (Requires a DB2 client)
 - ▶ Type 4 (Pure Java client, no need for a DB2 client)
- db2jcc.jar is included in:
 - ▶ DB2 client
 - ▶ DB2 Runtime Client
 - ▶ IBM DB2 Driver for JDBC and SQLJ



Establishing a Connection – JCC Type 2

```
. . .  
public static final String DB_URL = "jdbc:db2:sample";  
Properties connectProperties = new Properties();  
connectProperties.put("user", "db2admin");  
connectProperties.put("password", "ibmdb2");  
Connection connection = null  
try  
{  
    Class.forName("com.ibm.db2.jcc.DB2Driver").newInstance();  
    connection = DriverManager.getConnection(url,  
                                           connectProperties)  
}  
catch (Exception e)  
    throw e;  
}  
. . .
```

Establishing a Connection – JCC Type 4

```
. . .  
public static final String DB_URL = "jdbc:db2://server1:50000/sample";  
Properties connectProperties = new Properties();  
connectProperties.put("user", "db2admin");  
connectProperties.put("password", "ibmdb2");  
Connection connection = null  
try  
{  
    Class.forName("com.ibm.db2.jcc.DB2Driver").newInstance();  
    connection = DriverManager.getConnection(url,  
                                           connectProperties)  
}  
catch (Exception e)  
    throw e;  
}
```

. . .



SQLJ Development

- Simplicity – Singleton SELECT

1:7 ratio of lines of code (even more with multiple parameters !!)

- ▶ SQLJ

```
#sql [ctx] {SELECT address INTO :addr FROM emp WHERE name = :name};
```

- ▶ JDBC

```
PreparedStatement pstmt = con.prepareStatement("SELECT address FROM emp WHERE name = ?");  
pstmt.setString(1, name);  
ResultSet names = pstmt.executeQuery();  
names.next();  
addr = names.getString(1);  
names.close();  
pstmt.close();
```

- Performance
- Security
- Use in applications and stored procedures
- Development support in tools



DB2 Java Stored Procedures

- Stored Procedures promote code reuse
 - ▶ Java/SQLJ
 - Java code is executed and managed by DB2
 - Scalable architecture - threaded model
 - JVM shared between stored procedures and user-defined functions (UDFs)
- Development tools support
 - ▶ DB2 Developer Workbench
 - ▶ Websphere Studio / Rational Application Developer

