What is a Connection Pool?

• Application server creates a resource that is a pool of connections to the database
• So that each web app process does not have to open and close connection
• Specify pool size
• Minimum number of open connections
  – Even if nobody asked them yet
• Minimum number of connections that will not close
• Timeouts

In server.xml, in or outside a particular web app

```xml
<Resource name="jdbc/myPool" type="javax.sql.DataSource" auth="Container" description="CSE Department Web Authorization" username="gradapp" password="r2rJ3d" url="jdbc:mysql://charlotte.ucsd.edu:3306/webauth" driver-class-name="com.mysql.jdbc.Driver" defaultAutoCommit="false" maxActive="100" maxIdle="8" minIdle="0" maxWait="3000" validationQuery="SELECT COUNT(*) FROM user" removeAbandoned="true" removeAbandonedTimeout="300" logAbandoned="true"/>
```

How is it used?

```java
public static Connection getJSOEDBConnection() throws ApplicationException, DatabaseException, SecurityException {
    Context ctx;
    DataSource ds;
    try {
        ctx = new InitialContext();
        ds = (DataSource) ctx.lookup("jdbc/myPool");
        return ds.getConnection();
    } catch (SQLException e) {
        throw new DatabaseException(e.getMessage());
    }
}
```