

# Setup Tomcat Database Connection Pool





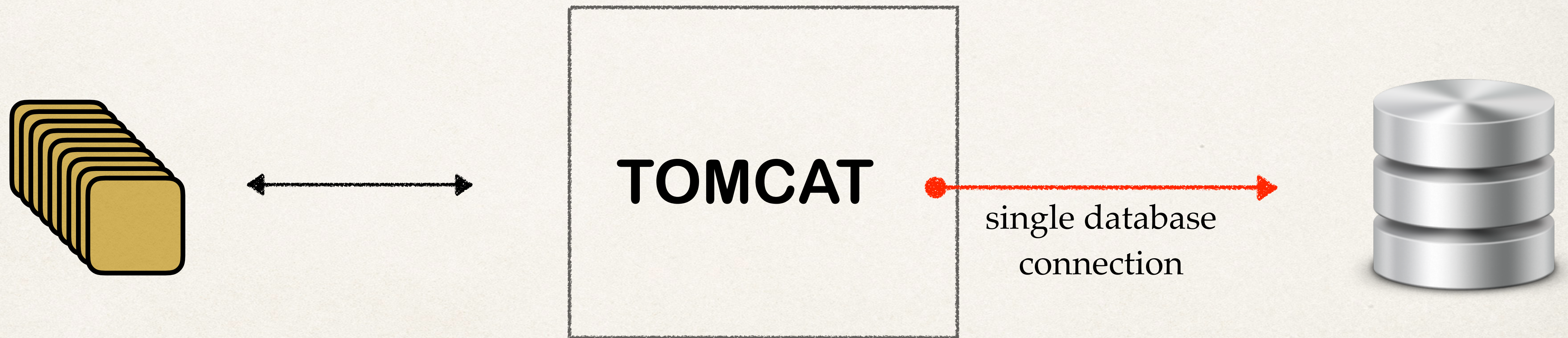
# Topics

- ❖ Database Connections in web apps
- ❖ Database Connection Pools
- ❖ Setting up a Tomcat Database Connection Pool
- ❖ Testing the Connection Pool



# Database Connections in Web Apps

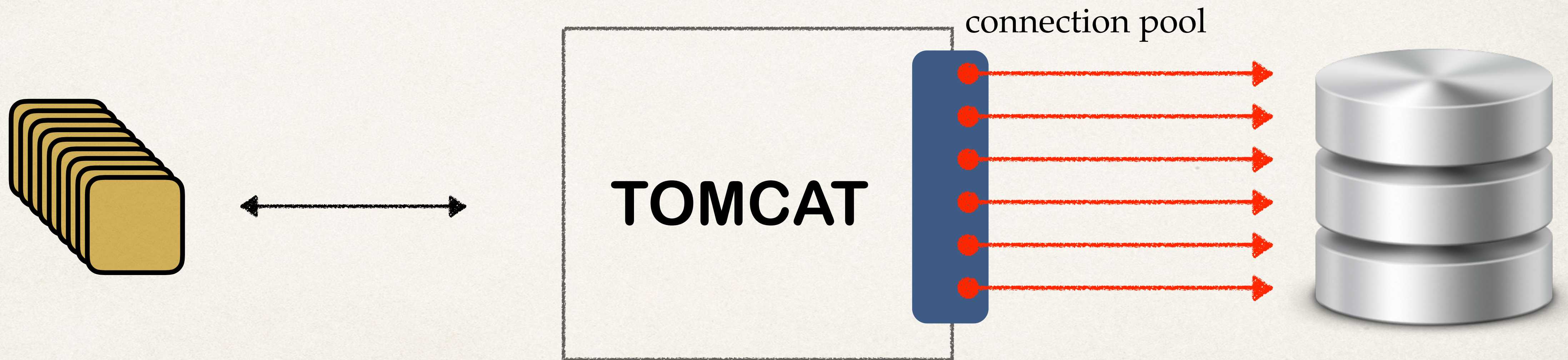
- ❖ You may think you only need a single database connection...
- ❖ Will **not** scale for multiple web users





# Database Connection Pools

- ❖ Best practice is to use **database connection pools**
- ❖ Allows your app to scale and handle multiple users quickly





# Database Connection in Tomcat

1. Download JDBC Driver JAR file
2. Define connection pool in META-INF / context.xml
3. Define resource reference in WEB-INF / web.xml
4. Get connection pool reference in Java code



# Step 1: Download JDBC Driver JAR file

## 1. MySQL JDBC Driver

❖ <http://dev.mysql.com/downloads>

## 2. Place the JAR file in your app's WEB-INF/lib



# Step 2: Define connection pool: context.xml

File: WebContent/META-INF/context.xml

```
<Context>

  <Resource name="jdbc/student_tracker"
    auth="Container" type="javax.sql.DataSource"
    maxActive="20" maxIdle="5" maxWait="10000"
    username="demo" password="demo"
    driverClassName="com.mysql.jdbc.Driver"
    url="jdbc:mysql://localhost:3306/student_tracker"/>

</Context>
```



# Step 3: Define reference in web.xml

File: WebContent/WEB-INF/web.xml

```
<resource-ref>  
  <description>Student Tracker Datasource</description>  
  <res-ref-name>jdbc/student_tracker</res-ref-name>  
  <res-type>javax.sql.DataSource</res-type>  
  <res-auth>Container</res-auth>  
</resource-ref>
```



# Step 4: Get connection pool in Java code

- ❖ Various options to get connection pool
  - ❖ Option 1: resource injection with Servlets, etc...
  - ❖ Option 2: Java Naming Directory Interface (JNDI)
- ❖ We'll see both examples in this course



# Summary

- ❖ Database Connections in web apps
- ❖ Database Connection Pools
- ❖ Setting up a Tomcat Database Connection Pool
- ❖ Testing the Connection Pool



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