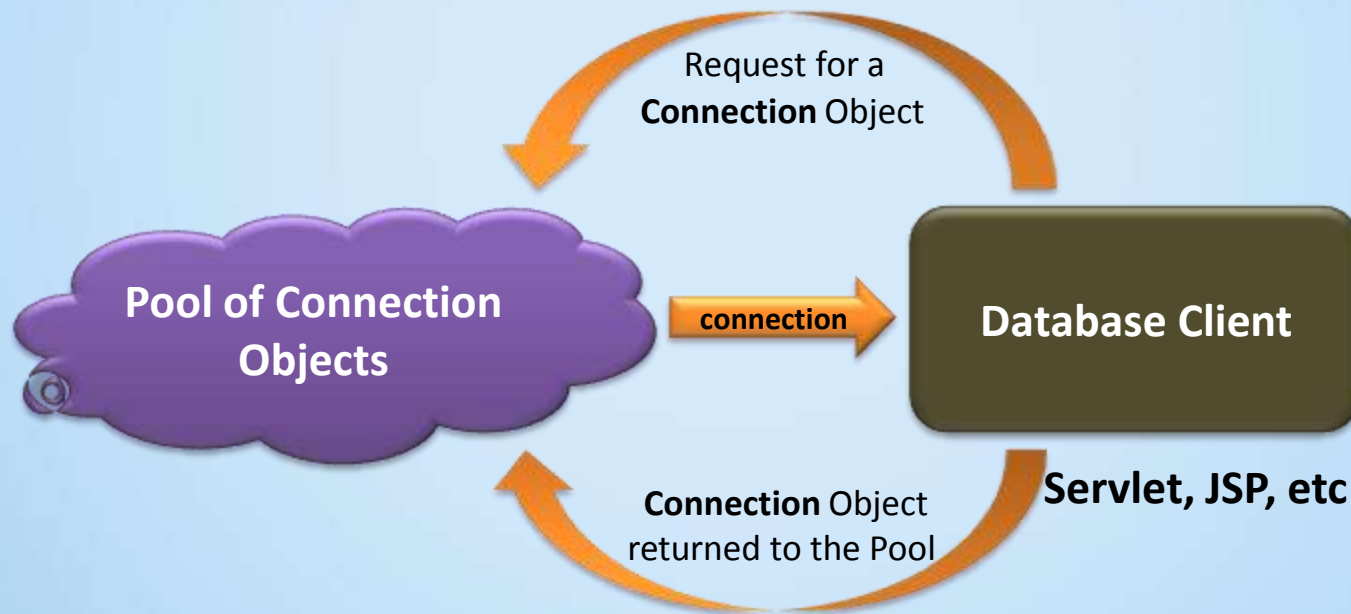


# Connection Pooling

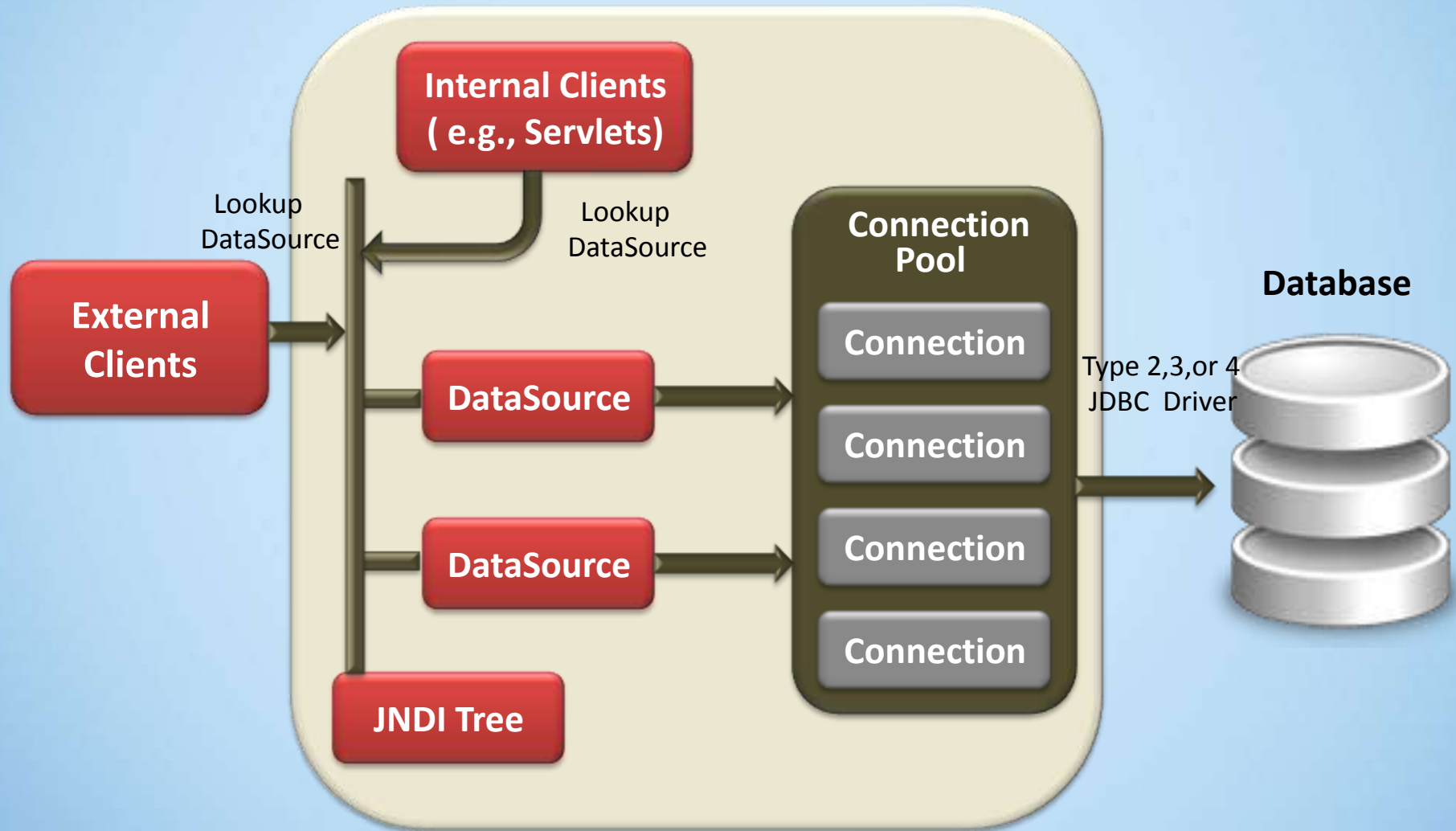
- ❖ Creating a **Connection** object is one of the most expensive operations  
**Connection Pooling** optimizes the time required to establish a connection with a database.
- ❖ Use the **Connection** objects more efficiently by creating a pool of connections



- ❖ Initially consumes time but never spend time for establishing new connections.

# Connection Pooling

## Connection Pooling



# Connection Pooling

- ❖ Using the interfaces in the **javax.sql** package

```
Context context = new InitialContext();
```

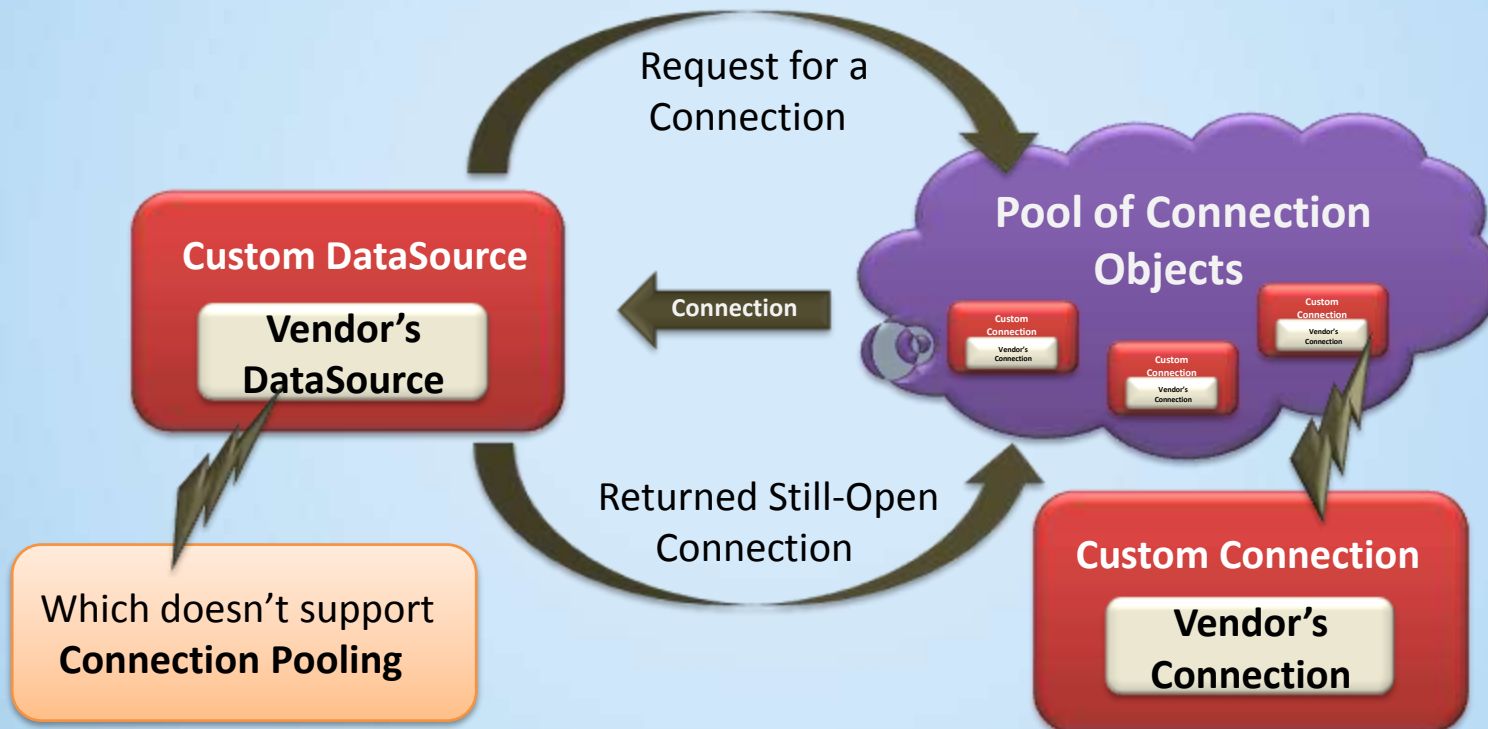
```
DataSource ds = (DataSource) context.lookup("jdbc/wingsDB");
```

```
Connection con = ds.getConnection(username, password);
```

- ❖ **Connection** object that will automatically participate in the connection pooling

# Connection Pooling

❖ Classic way to achieve connection pooling



# Connection Pooling

- ❖ Most JDBC vendors already have connection pooling facilities
- ❖ Connection pooling Utilities
  - **Jakarta Commons DBCP**
    - <http://jakarta.apache.org/commons/dbcp/>
    - Part of Jakarta's Commons
    - Designed to pool JDBC connections
  - **Jakarta Commons Pool**
    - <http://jakarta.apache.org/commons/pool/>
    - A general-purpose set of APIs used to pool any type of object
- ❖ Under the **Apache's liberal license**, it is available to learn and use
- ❖ Connection pools are configured by the Java EE server administrator
- ❖ Must be supported by the database driver

Developed by  
**Apache**

# Connection Pooling

- ❖ Explicitly close all **connection** objects
- ❖ **try, catch** and **finally** block

```
Connection con = null;
```

```
Context context = new InitialContext();
```

```
try {
```

```
    DataSource ds = (DataSource)context.lookup("jdbc/wingsDB");
```

```
    con = ds.getConnection(username, password)
```

```
    // here we write our codes
```

```
}
```

```
catch (Exception e) {
```

```
    System.out.println("Exception Caught");
```

```
}
```

**Note:** Codes are continuing in the Next Slide

# Connection Pooling

```
finally {  
    if(con != null)  
        con.close( );  
}
```