Our project uses connection pooling by initializing our connection resource in our \META-INF\context.xml file and \WEB-INF\web.xml file. We call one resource our "jdbc/TestDB" which is used for reading from either master or slave's local database. The second resource is "jdbc/MasterDB" this resource is used for writing to the master file. By using connection pooling we have our connections cached for easy reuse for further use in the project rather than closing and reopening a connection to a database over and over. The following images are snapshots of where are connection and prepared statements can be found.

```xml
context.xml ⊠
1 <?xml version="1.0" encoding="UTF-8"?>
2
3 <Context>
4
5
6       |
7     <Resource name="jdbc/TestDB" auth="Container" type="javax.sql.DataSource"
8             maxTotal="100" maxIdle="30"
9             maxWaitMillis="10000"
10            username="mytestuser"
11            password="mypassword"
12            driverClassName="com.mysql.jdbc.Driver"
13            url="jdbc:mysql://localhost:3306/moviedb?autoReconnect=true&amp;useSSL=false&amp;cachePrepStmts=true"/>
14
15    <Resource name="jdbc/MasterDB" auth="Container" type="javax.sql.DataSource"
16            maxTotal="100" maxIdle="30"
17            maxWaitMillis="10000"
18            username="mytestuser"
19            password="mypassword"
20            driverClassName="com.mysql.jdbc.Driver"
21            url="jdbc:mysql://52.53.250.44:3306/moviedb?autoReconnect=true&amp;useSSL=false&amp;cachePrepStmts=true"/>
22
23 </Context>
```

src/default/BrowseByGenre.java
line 56-63

BrowseByGenre.java ✕

```java
42        * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
43        */
44⊖     protected void doGet(HttpServletRequest request, HttpServletResponse response) thro
45            // TODO Auto-generated method stub
46            response.getWriter().append("Served at: ").append(request.getContextPath());
47            String genre= (String)request.getParameter("genre");
48            String genreId="";
49
50            //Connection con=DBConnection.getConnection();
51
52            PreparedStatement statement = null;
53            try {
54                //P5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
55
56                Context initCtx = new InitialContext();
57
58                Context envCtx = (Context) initCtx.lookup("java:comp/env");
59
60                // Look up our data source
61                DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
62
63                Connection con=ds.getConnection();
64
65                //P5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
66
67                String query="";
68                ResultSet result = null;
```

src/default/BrowseByTitle

line 53-60

BrowseByTitle.java ✕

```java
46
47
48            PreparedStatement statement = null;
49            try {
50
51                //P5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
52
53                Context initCtx = new InitialContext();
54
55                Context envCtx = (Context) initCtx.lookup("java:comp/env");
56
57                // Look up our data source
58                DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
59
60                Connection con=ds.getConnection();
61            //P5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
62
63
64                String query="";
```

src/default/GenreServlet
lines 73-80

```java
67
68                   // create database connection
69                   //Connection connection = DBConnection.getConnection();
70
71           //P5  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
72
73           Context initCtx = new InitialContext();
74
75           Context envCtx = (Context) initCtx.lookup("java:comp/env");
76
77           // Look up our data source
78           DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
79
80           Connection con=ds.getConnection();
81
82           //P5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
83
```

src/default/insertMovie
lines 58-65

```java
38        
39⊖    /**
40      * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
41      */
42⊖    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletExcepti
43          // TODO Auto-generated method stub
44          String name= (String)request.getParameter("title");
45          String year=(String)request.getParameter("year");
46          String director= (String)request.getParameter("director");
47          String star=(String)request.getParameter("star");
48          String genre=(String)request.getParameter("genre");
49
50
51          //Connection con=DBConnection.getConnection();
52          Constants cons= new Constants();
53
54          CallableStatement csmt;
55          try {
56              //P5  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
57
58          Context initCtx = new InitialContext();
59
60          Context envCtx = (Context) initCtx.lookup("java:comp/env");
61
62          // Look up our data source
63          DataSource ds = (DataSource) envCtx.lookup("jdbc/MasterDB");
64
65          Connection con=ds.getConnection();
66
67          //P5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
68
```

src/default/insertStar

lines 57-64

```
) insertMovie.java      J insertStar.java ⊠

50
51
52          PreparedStatement statement = null;
53
54          try {
55              //P5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
56
57              Context initCtx = new InitialContext();
58
59              Context envCtx = (Context) initCtx.lookup("java:comp/env");
60
61              // Look up our data source
62              DataSource ds = (DataSource) envCtx.lookup("jdbc/MasterDB");
63
64              Connection con=ds.getConnection();
65
66              //P5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
67
68
```

src/default/Login

77-84

```
J Login.java ⊠

69
70          try {
71
72              //Class.forName("com.mysql.jdbc.Driver").newInstance();
73
74              //Connection connection = DriverManager.getConnection(loginUrl,loginUser,lo
75              //P5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
76
77              Context initCtx = new InitialContext();
78
79              Context envCtx = (Context) initCtx.lookup("java:comp/env");
80
81              // Look up our data source
82              DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
83
84              Connection con=ds.getConnection();
85
86              //P5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
87
88
```

src/default/LoginServletAndroid

61-68

```
Login.java    LoginServletAndroid.java ⊠
52          LoginResponse auth = new  LoginResponse();
53          try {
54
55              //Class.forName("com.mysql.jdbc.Driver").newInstance();
56
57              //Connection connection = DriverManager.getConnection(loginUrl,loginUser,login
58
59              //P5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
60
61              Context initCtx = new InitialContext();
62
63              Context envCtx = (Context) initCtx.lookup("java:comp/env");
64
65              // Look up our data source
66              DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
67
68              Connection con=ds.getConnection();
69
70              //P5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
71
72
```

src/default/SearchResults

91-98

```
SearchResults.java ⊠
83          // Building page body
84          out.println("<body><h1>Movie Titles Found:</h1>");
85
86
87          try {
88
89              //P5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
90
91              Context initCtx = new InitialContext();
92
93              Context envCtx = (Context) initCtx.lookup("java:comp/env");
94
95              // Look up our data source
96              DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
97
98              Connection con=ds.getConnection();
99
100             //P5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
101
102
```

src/default/StarServlet

63-70

```java
StarServlet.java ⊠
58          out.println("<%@include file=\"navbar.jsp\" %>");
59
60          try {
61              //P5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
62
63              Context initCtx = new InitialContext();
64
65              Context envCtx = (Context) initCtx.lookup("java:comp/env");
66
67              // Look up our data source
68              DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
69
70              Connection con=ds.getConnection();
71
72              //P5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
73
74
```

src/helper/SaleActions

51-58

```java
SaleActions.java ⊠
42          try {
43
44              java.util.Date date = new java.util.Date();
45
46              //Class.forName("com.mysql.jdbc.Driver").newInstance();
47              //Connection connection = DriverManager.getConnection(loginUrl,loginUser,loginPa
48
49              //P5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
50
51              Context initCtx = new InitialContext();
52
53              Context envCtx = (Context) initCtx.lookup("java:comp/env");
54
55              // Look up our data source
56              DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
57
58              Connection con=ds.getConnection();
59
60              //P5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
61
```

src/helper/SearchManager

26-33

```java
  1 package helper;
  2
  3⊕import java.sql.Connection;▯
 17
 18 public class SearchManager {
 19⊝    public static ArrayList<MovieListing> getSearchResults(MovieListing movie, String sn
 20        ArrayList<MovieListing> list=new ArrayList<>();
 21        try{
 22            //Connection con=DBConnection.getConnection();
 23
 24            //P5 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
 25
 26            Context initCtx = new InitialContext();
 27
 28            Context envCtx = (Context) initCtx.lookup("java:comp/env");
 29
 30            // Look up our data source
 31            DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
 32
 33            Connection con=ds.getConnection();
 34
 35            //P5~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
```