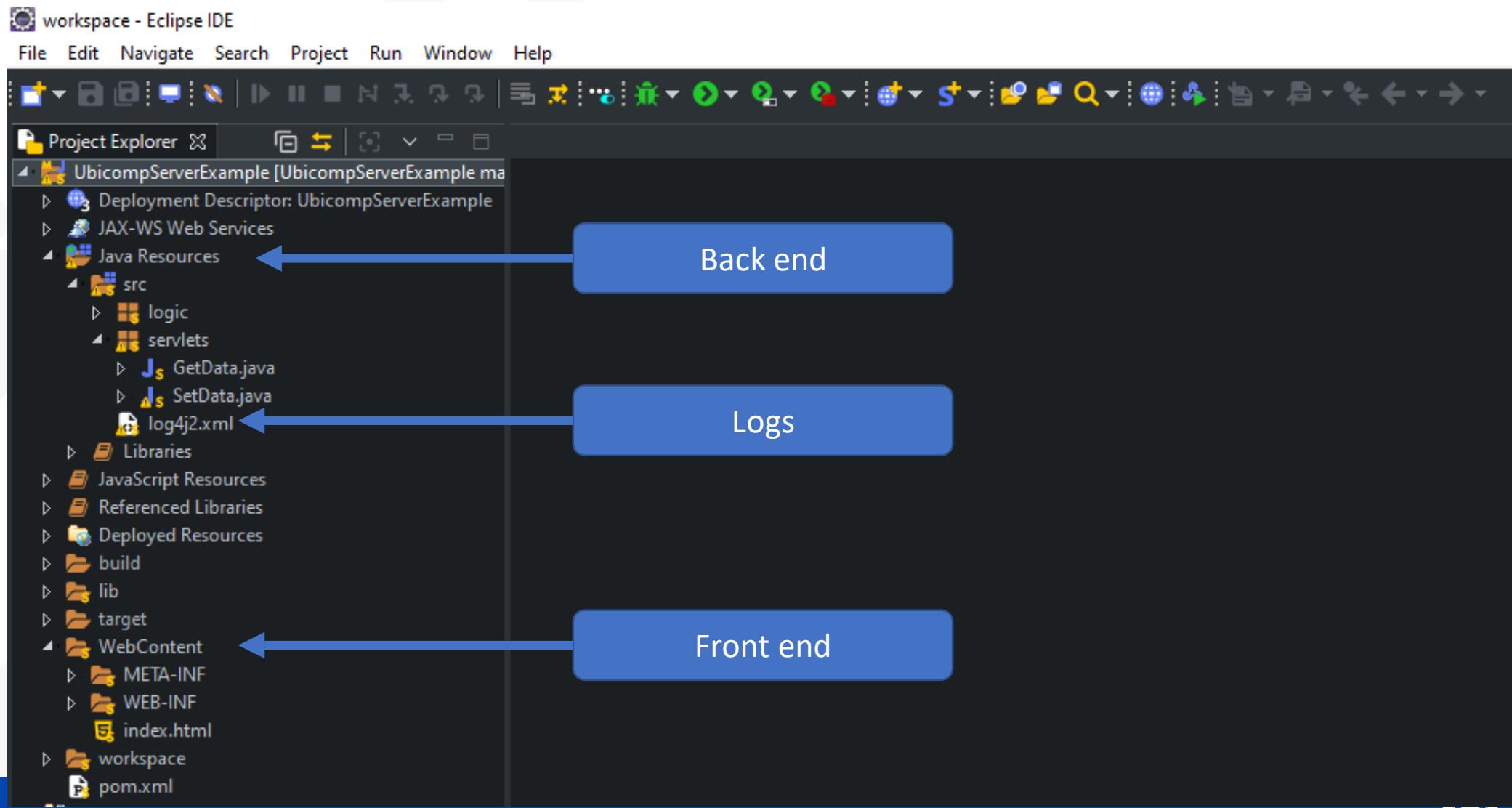


# Computación Ubicua

## Sesión 7 – Ejemplo de un proyecto Web

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# Estructura de un proyecto Web



# Ajax

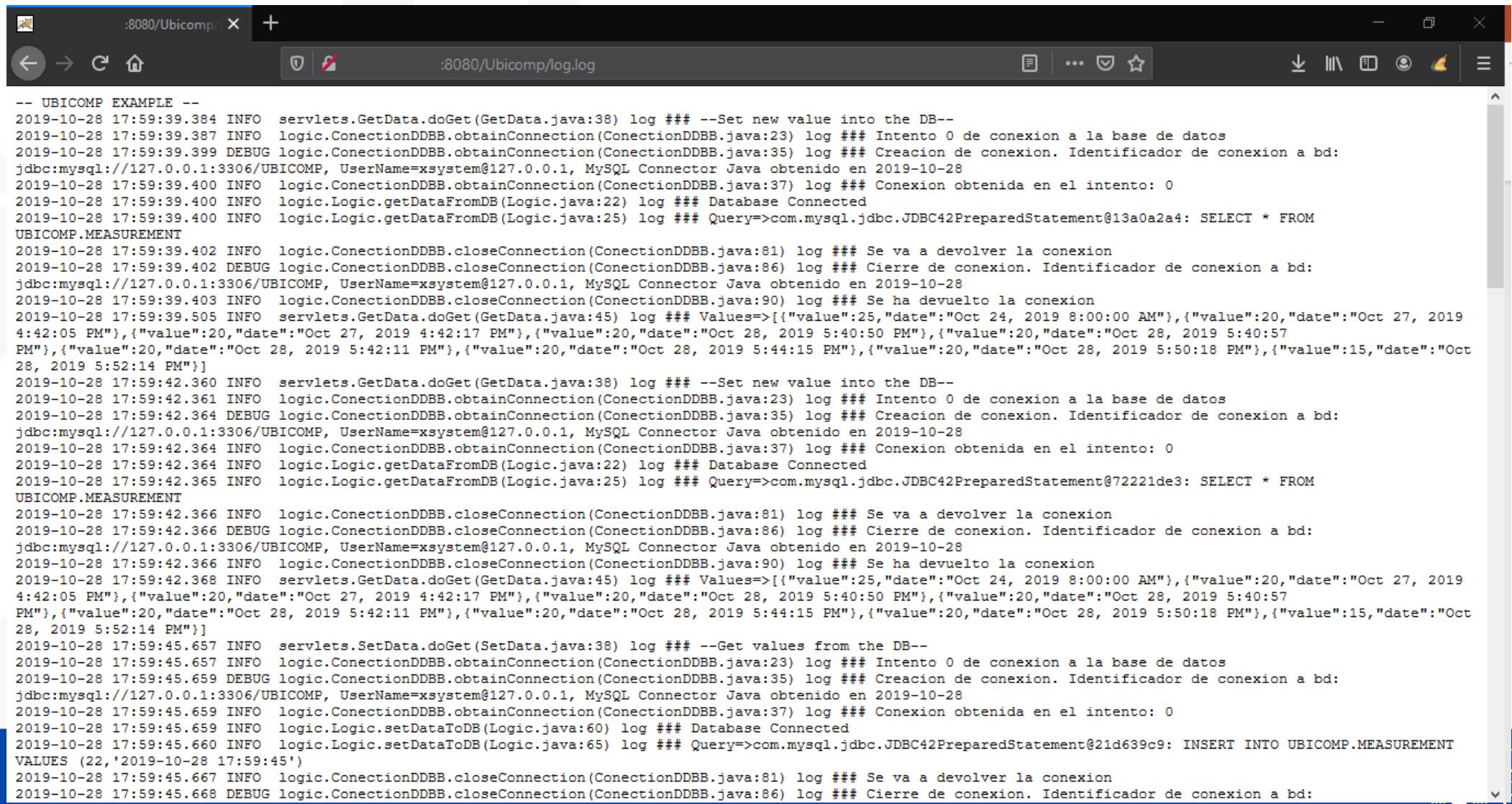
```
function loadData()
{
    $.ajax(
    {
        data: {},
        url: "/Ubicomp/GetData",
        type: 'post',
        async: false,
        success: function (response)
        {
            var resp = JSON.parse(response);
            console.log(resp);
            $("#dataTable").empty();
            var newRow = "";
            $.each(resp, function (i, value)
            {
                newRow += "<tr>";
                newRow += "<td>" + value.date + "</td>";
                newRow += "<td>" + value.value + " °C</td>";
                newRow += "</tr>";
            });
            $("#dataTable").append(newRow);
        }
    });
}
```

```
function insertData()
{
    var value = $('#newValue').val();
    $.ajax(
    {
        data: {value:value},
        url: "/Ubicomp/SetData",
        type: 'post',
        async: false,
        success: function (response)
        {
            loadData();
        }
    });
}
```

# Servlets

```
1 package servlets;
2
3 import java.io.IOException;
4
5 @WebServlet("/SetData")
6 public class SetData extends HttpServlet
7 {
8     private static final long serialVersionUID = 1L;
9
10    public SetData(){
11        super();
12    }
13
14    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException{
15        LCon.Log.info("--Get values from the DB--");
16        response.setContentType("text/html;charset=UTF-8");
17        PrintWriter out = response.getWriter();
18        try {
19            int value = Integer.parseInt(request.getParameter("value"));
20            Logic.setDataToDB(value);
21        } catch (NumberFormatException nfe){
22            out.println("-1");
23            LCon.Log.error("Number Format Exception: " + nfe);
24        } catch (IndexOutOfBoundsException iobe) {
25            out.println("-1");
26            LCon.Log.error("Index out of bounds Exception: " + iobe);
27        } catch (Exception e){
28            out.println("-1");
29            LCon.Log.error("Exception: " + e);
30        } finally{
31            out.close();
32        }
33    }
34    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
35        doGet(request, response);
36    }
37}
```

# Mensajes de Log



The screenshot shows a browser window with the URL `:8080/Ubicomp/log.log`. The page content displays a series of log entries from the UBICOMP EXAMPLE application, showing the process of connecting to a MySQL database and performing various operations like inserting data into the `UBICOMP.MEASUREMENT` table.

```
-- UBICOMP EXAMPLE --
2019-10-28 17:59:39.384 INFO  servlets.GetData.doGet(GetData.java:38) log ### --Set new value into the DB--
2019-10-28 17:59:39.387 INFO  logic.ConectionDDBB.obtainConnection(ConectionDDBB.java:23) log ### Intento 0 de conexion a la base de datos
2019-10-28 17:59:39.399 DEBUG logic.ConectionDDBB.obtainConnection(ConectionDDBB.java:35) log ### Creacion de conexion. Identificador de conexion a bd:
jdbc:mysql://127.0.0.1:3306/UBICOMP, UserName=xsystem@127.0.0.1, MySQL Connector Java obtenido en 2019-10-28
2019-10-28 17:59:39.400 INFO  logic.ConectionDDBB.obtainConnection(ConectionDDBB.java:37) log ### Conexion obtenida en el intento: 0
2019-10-28 17:59:39.400 INFO  logic.Logic.getDataFromDB(Logic.java:22) log ### Database Connected
2019-10-28 17:59:39.400 INFO  logic.Logic.getDataFromDB(Logic.java:25) log ### Query=>com.mysql.jdbc.JDBC42PreparedStatement@13a0a2a4: SELECT * FROM
UBICOMP.MEASUREMENT
2019-10-28 17:59:39.402 INFO  logic.ConectionDDBB.closeConnection(ConectionDDBB.java:81) log ### Se va a devolver la conexion
2019-10-28 17:59:39.402 DEBUG logic.ConectionDDBB.closeConnection(ConectionDDBB.java:86) log ### Cierre de conexion. Identificador de conexion a bd:
jdbc:mysql://127.0.0.1:3306/UBICOMP, UserName=xsystem@127.0.0.1, MySQL Connector Java obtenido en 2019-10-28
2019-10-28 17:59:39.403 INFO  logic.ConectionDDBB.closeConnection(ConectionDDBB.java:90) log ### Se ha devuelto la conexion
2019-10-28 17:59:39.505 INFO  servlets.GetData.doGet(GetData.java:45) log ### Values=>[{"value":25,"date":"Oct 24, 2019 8:00:00 AM"}, {"value":20,"date":"Oct 27, 2019 4:42:05 PM"}, {"value":20,"date":"Oct 27, 2019 4:42:17 PM"}, {"value":20,"date":"Oct 28, 2019 5:40:50 PM"}, {"value":20,"date":"Oct 28, 2019 5:40:57 PM"}, {"value":20,"date":"Oct 28, 2019 5:42:11 PM"}, {"value":20,"date":"Oct 28, 2019 5:44:15 PM"}, {"value":20,"date":"Oct 28, 2019 5:48:15 PM"}, {"value":15,"date":"Oct 28, 2019 5:52:14 PM"}]
2019-10-28 17:59:42.360 INFO  servlets.GetData.doGet(GetData.java:38) log ### --Set new value into the DB--
2019-10-28 17:59:42.361 INFO  logic.ConectionDDBB.obtainConnection(ConectionDDBB.java:23) log ### Intento 0 de conexion a la base de datos
2019-10-28 17:59:42.364 DEBUG logic.ConectionDDBB.obtainConnection(ConectionDDBB.java:35) log ### Creacion de conexion. Identificador de conexion a bd:
jdbc:mysql://127.0.0.1:3306/UBICOMP, UserName=xsystem@127.0.0.1, MySQL Connector Java obtenido en 2019-10-28
2019-10-28 17:59:42.364 INFO  logic.ConectionDDBB.obtainConnection(ConectionDDBB.java:37) log ### Conexion obtenida en el intento: 0
2019-10-28 17:59:42.364 INFO  logic.Logic.getDataFromDB(Logic.java:22) log ### Database Connected
2019-10-28 17:59:42.365 INFO  logic.Logic.getDataFromDB(Logic.java:25) log ### Query=>com.mysql.jdbc.JDBC42PreparedStatement@72221de3: SELECT * FROM
UBICOMP.MEASUREMENT
2019-10-28 17:59:42.366 INFO  logic.ConectionDDBB.closeConnection(ConectionDDBB.java:81) log ### Se va a devolver la conexion
2019-10-28 17:59:42.366 DEBUG logic.ConectionDDBB.closeConnection(ConectionDDBB.java:86) log ### Cierre de conexion. Identificador de conexion a bd:
jdbc:mysql://127.0.0.1:3306/UBICOMP, UserName=xsystem@127.0.0.1, MySQL Connector Java obtenido en 2019-10-28
2019-10-28 17:59:42.368 INFO  logic.ConectionDDBB.closeConnection(ConectionDDBB.java:90) log ### Se ha devuelto la conexion
2019-10-28 17:59:42.368 INFO  servlets.GetData.doGet(GetData.java:45) log ### Values=>[{"value":25,"date":"Oct 24, 2019 8:00:00 AM"}, {"value":20,"date":"Oct 27, 2019 4:42:05 PM"}, {"value":20,"date":"Oct 27, 2019 4:42:17 PM"}, {"value":20,"date":"Oct 28, 2019 5:40:50 PM"}, {"value":20,"date":"Oct 28, 2019 5:40:57 PM"}, {"value":20,"date":"Oct 28, 2019 5:42:11 PM"}, {"value":20,"date":"Oct 28, 2019 5:44:15 PM"}, {"value":20,"date":"Oct 28, 2019 5:48:15 PM"}, {"value":15,"date":"Oct 28, 2019 5:52:14 PM"}]
2019-10-28 17:59:45.657 INFO  servlets.SetData.doGet(SetData.java:38) log ### --Get values from the DB--
2019-10-28 17:59:45.657 INFO  logic.ConectionDDBB.obtainConnection(ConectionDDBB.java:23) log ### Intento 0 de conexion a la base de datos
2019-10-28 17:59:45.659 DEBUG logic.ConectionDDBB.obtainConnection(ConectionDDBB.java:35) log ### Creacion de conexion. Identificador de conexion a bd:
jdbc:mysql://127.0.0.1:3306/UBICOMP, UserName=xsystem@127.0.0.1, MySQL Connector Java obtenido en 2019-10-28
2019-10-28 17:59:45.659 INFO  logic.ConectionDDBB.obtainConnection(ConectionDDBB.java:37) log ### Conexion obtenida en el intento: 0
2019-10-28 17:59:45.659 INFO  logic.Logic.setDataToDB(Logic.java:60) log ### Database Connected
2019-10-28 17:59:45.660 INFO  logic.Logic.setDataToDB(Logic.java:65) log ### Query=>com.mysql.jdbc.JDBC42PreparedStatement@21d639c9: INSERT INTO UBICOMP.MEASUREMENT
VALUES (22,'2019-10-28 17:59:45')
2019-10-28 17:59:45.667 INFO  logic.ConectionDDBB.closeConnection(ConectionDDBB.java:81) log ### Se va a devolver la conexion
2019-10-28 17:59:45.668 DEBUG logic.ConectionDDBB.closeConnection(ConectionDDBB.java:86) log ### Cierre de conexion. Identificador de conexion a bd:
```

# Pool de conexiones

\*context: Bloc de notas

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```
<?xml version='1.0' encoding='utf-8'?>
<!--
    Licensed to the Apache Software Foundation (ASF) under one or more
    contributor license agreements. See the NOTICE file distributed with
    this work for additional information regarding copyright ownership.
    The ASF licenses this file to You under the Apache License, Version 2.0
    (the "License"); you may not use this file except in compliance with
    the License. You may obtain a copy of the License at

        http://www.apache.org/licenses/LICENSE-2.0

    Unless required by applicable law or agreed to in writing, software
    distributed under the License is distributed on an "AS IS" BASIS,
    WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
    See the License for the specific language governing permissions and
    limitations under the License.
-->
<!-- The contents of this file will be loaded for each web application -->
<Context>

    <Resource
        name="jdbc/ubicomp" type="javax.sql.DataSource"
        maxActive="100" maxIdle="30" maxWait="10000"
        url="jdbc:mysql://localhost:3306/UBICOMP"
        driverClassName="com.mysql.jdbc.Driver"
        username="user" password="pass"
        factory="org.apache.commons.dbcp.BasicDataSourceFactory"
        validationQuery="SELECT COUNT(*) FROM MEASUREMENTS"
    />

</Context>
```

# Proyecto de ejemplo

<https://github.com/acastillom3/Ubicomp.git>