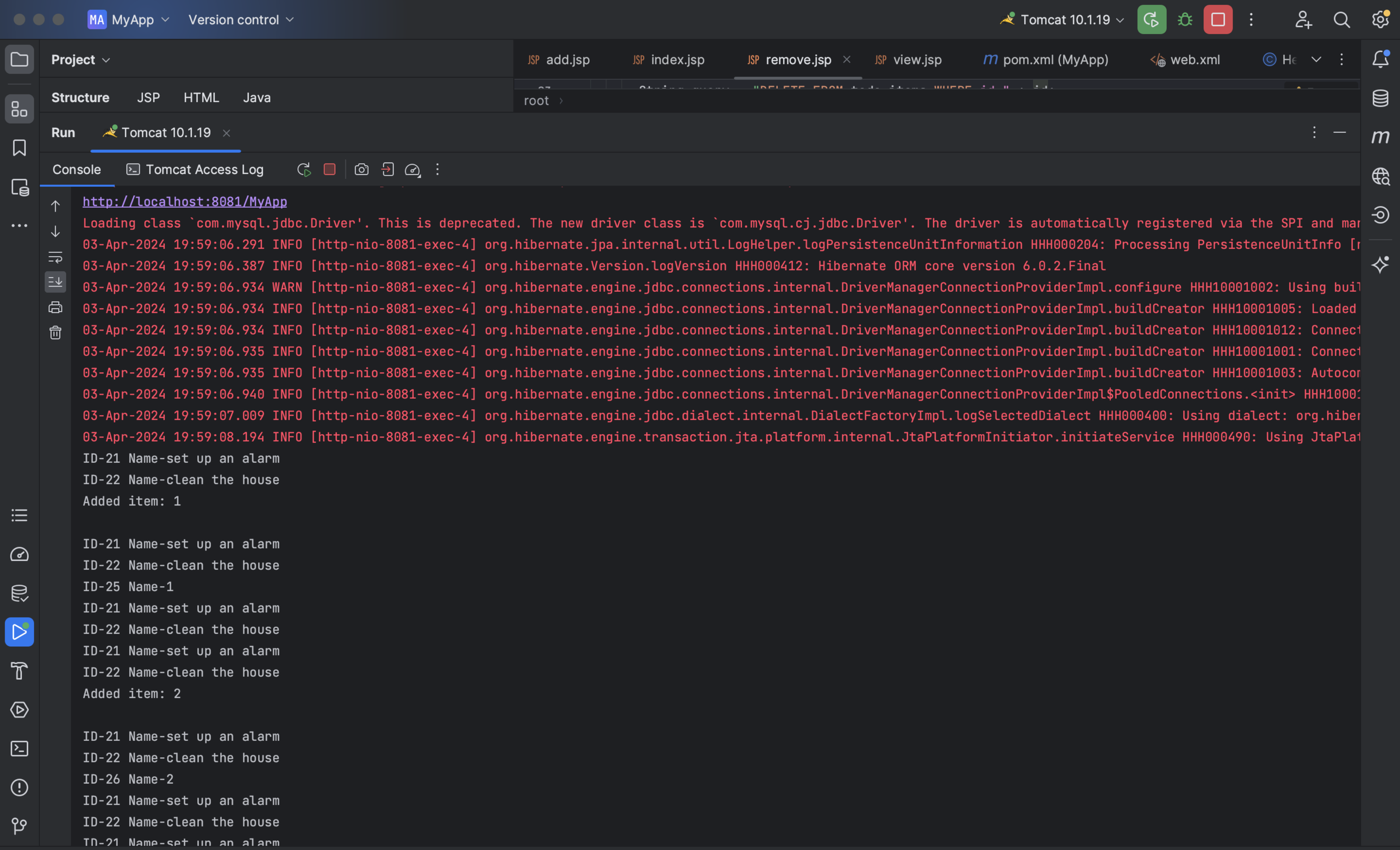

MyApp
Version control
Tomcat 10.1.19
Project
Structure
JSP
HTML
Java
add.jsp
index.jsp
remove.jsp
view.jsp
pom.xml (MyApp)
web.xml
root
Run
Tomcat 10.1.19
Console
Tomcat Access Log
http://localhost:8081/MyApp
Loading class `com.mysql.jdbc.Driver'. This is deprecated. The new driver class is `com.mysql.cj.jdbc.Driver'. The driver is automatically registered via the SPI and mar
03-Apr-2024 19:59:06.291 INFO [http-nio-8081-exec-4] org.hibernate.jpa.internal.util.LogHelper.logPersistenceUnitInformation HHH000204: Processing PersistenceUnitInfo [r
03-Apr-2024 19:59:06.387 INFO [http-nio-8081-exec-4] org.hibernate.Version.logVersion HHH000412: Hibernate ORM core version 6.0.2.Final
03-Apr-2024 19:59:06.934 WARN [http-nio-8081-exec-4] org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl.configure HHH10001002: Using buil
03-Apr-2024 19:59:06.934 INFO [http-nio-8081-exec-4] org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl.buildCreator HHH10001005: Loaded
03-Apr-2024 19:59:06.934 INFO [http-nio-8081-exec-4] org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl.buildCreator HHH10001012: Connect
03-Apr-2024 19:59:06.935 INFO [http-nio-8081-exec-4] org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl.buildCreator HHH10001001: Connect
03-Apr-2024 19:59:06.935 INFO [http-nio-8081-exec-4] org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl.buildCreator HHH10001003: Autocor
03-Apr-2024 19:59:06.940 INFO [http-nio-8081-exec-4] org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl$PooledConnections.<init> HHH1000
03-Apr-2024 19:59:07.009 INFO [http-nio-8081-exec-4] org.hibernate.engine.jdbc.dialect.internal.DialectFactoryImpl.logSelectedDialect HHH000400: Using dialect: org.hiber
03-Apr-2024 19:59:08.194 INFO [http-nio-8081-exec-4] org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator.initiateService HHH000490: Using JtaPlat
ID-21 Name-set up an alarm
ID-22 Name-clean the house
Added item: 1
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-25 Name-1
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-21 Name-set up an alarm
ID-22 Name-clean the house
Added item: 2
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-26 Name-2
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-21 Name-set up an alarm
MyApp > src > main > webapp > remove.jsp
83:61
LF
UTF-8
2 spaces*

Project
Main
resources
META-INF
persistence.xml
webapp
WEB-INF
web.xml
add.jsp
index.jsp
remove.jsp
view.jsp
test
target
.gitignore
mvnw
mvnw.cmd
MyApp.iml
pom.xml
External Libraries


```
70  <%
71    if (request.getParameter("id") != null) {
72      String id = request.getParameter("id");
73      // Establish database connection
74      Connection connection = null;
75      try {
76        Class.forName("com.mysql.cj.jdbc.Driver");
77        String url = "jdbc:mysql://localhost:3306/todolist";
78        String username = "root";
79        String password = "Database123";
80        connection = DriverManager.getConnection(url, username, password);
81
82        // SQL query to delete the item with the given ID (vulnerable to SQL injection)
83        String query = "DELETE FROM todo_items WHERE id=" + id;
84        Statement statement = connection.createStatement();
85        statement.executeUpdate(query);
86      } catch (Exception e) {
87        e.printStackTrace();
88      } finally {
89        // Close database connection
90        if (connection != null) {
91          try {
```

Structure JSP HTML Java
jsp:root
root


```
ID-27 Name-3
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-27 Name-3
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-21 Name-set up an alarm
```

Module 11 Assignment

To Do List

localhost:8081/MyApp/index.jsp?

To Do List Web Application

View List

5

Add to List

Enter todo item ID to remove

Remove from List

Module 11 Assignment | Add to List

localhost:8081/MyApp/add.jsp

Add to List:

Task Description:

5

Submit

Back

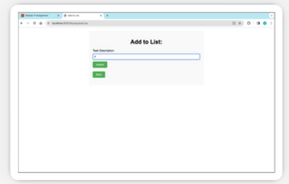
Module 11 Assignment | View List

localhost:8081/MyApp/view.jsp

To Do List:

ID	Name	Status	Timestamp	Action
21	set up an alarm	Complete	1 1 2022	Remove
28	5	Complete	1 1 2022	Remove

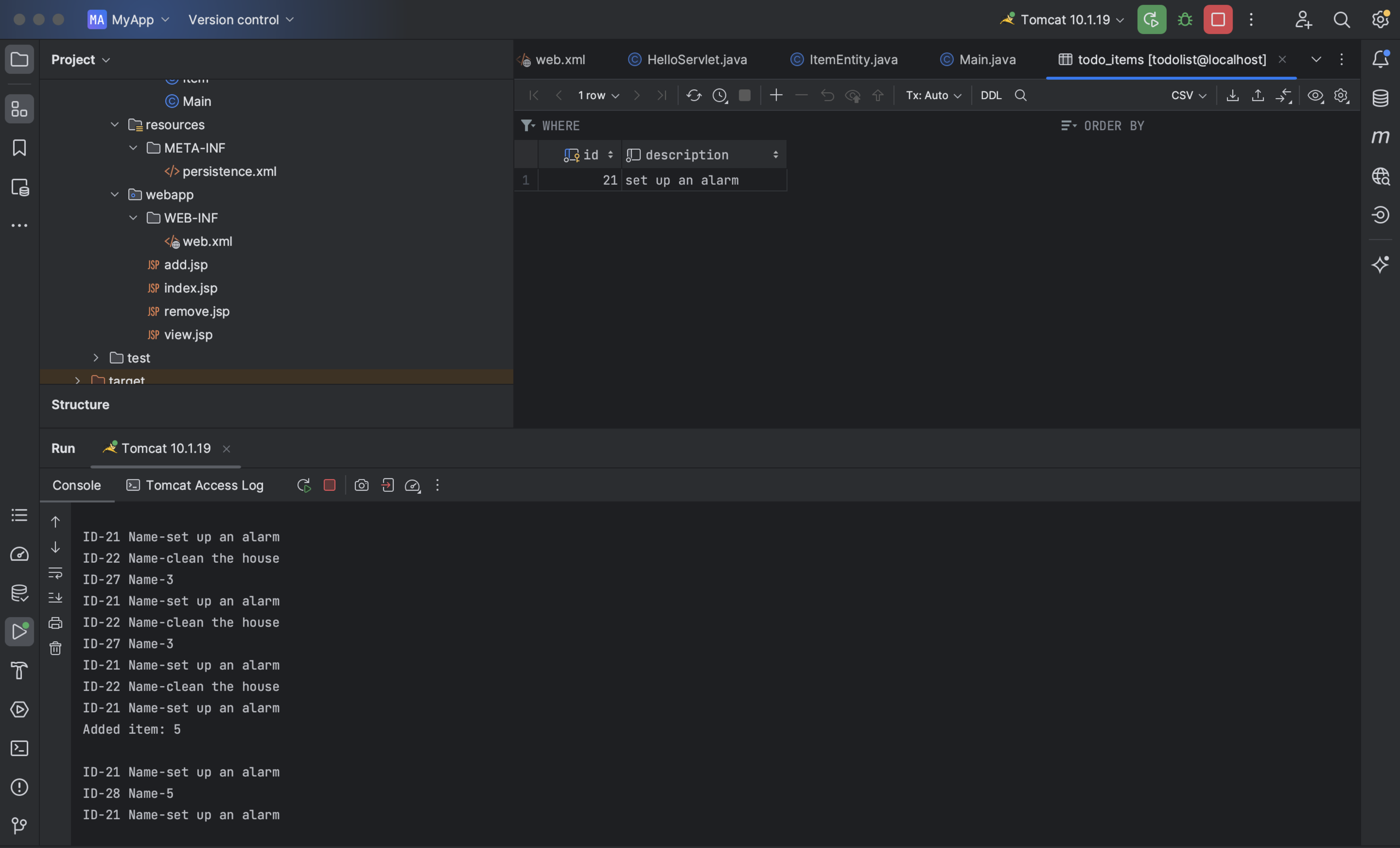
Back



To Do List:

ID	Name	Status	Timestamp	Action
21	set up an alarm	Complete	1 1 2022	Remove

Back


MyApp
Version control
Tomcat 10.1.19
Project
Main
resources
META-INF
persistence.xml
webapp
WEB-INF
web.xml
add.jsp
index.jsp
remove.jsp
view.jsp
test
target
Structure
web.xml
HelloServlet.java
ItemEntity.java
Main.java
todo_items [todolist@localhost]
1 row
Tx: Auto
DDL
CSV
WHERE
ORDER BY
id
description
1
21
set up an alarm
Run
Tomcat 10.1.19
Console
Tomcat Access Log
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-27 Name-3
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-27 Name-3
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-21 Name-set up an alarm
Added item: 5
ID-21 Name-set up an alarm
ID-28 Name-5
ID-21 Name-set up an alarm
Database
todolist@localhost
todoList
tables
todo_items
SUM: Not enough values

```
89      lack
90      static void removeItemFromDatabase(int id) {
91      ' {
92          transaction.begin();
93          // Vulnerable code: Injection possible
94          Query query = entityManager.createQuery( s: "DELETE FROM ItemEntity WHERE id = " + id);
95          query.executeUpdate();
96          transaction.commit();
97      finally {
98          if (transaction.isActive()){
99              transaction.rollback();
100         }
101
102
```

3


```
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-27 Name-3
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-27 Name-3
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-21 Name-set up an alarm
Added item: 5

ID-21 Name-set up an alarm
ID-28 Name-5
ID-21 Name-set up an alarm
```

Project

Main
resources
META-INF
persistence.xml
webapp
WEB-INF
web.xml
add.jsp
index.jsp
remove.jsp
view.jsp
test
target
.gitignore
mvnw
mvnw.cmd
MyApp.iml

Structure JSP HTML Java


```
103     if (request.getParameter("name") != null){
104         String itemName = request.getParameter("name");
105         Main.addItem(itemName);
106     }
107     if (request.getParameter("id") != null){
108         int itemID = Integer.parseInt(request.getParameter("id"));
109         Main.removeItemFromDatabase(itemID);
110     }
111
112 %>
113
114 <%
115     // Vulnerable code: Injection possible
116     if (request.getParameter("id") != null){
117         int itemID = Integer.parseInt(request.getParameter("id"));
118         Main.removeItemFromDatabase(itemID);
119     }
120 %>
121
122 <body>
```

html

Run Tomcat 10.1.19

Console Tomcat Access Log

```
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-27 Name-3
ID-21 Name-set up an alarm
ID-22 Name-clean the house
ID-21 Name-set up an alarm
Added item: 5

ID-21 Name-set up an alarm
ID-28 Name-5
ID-21 Name-set up an alarm
```