

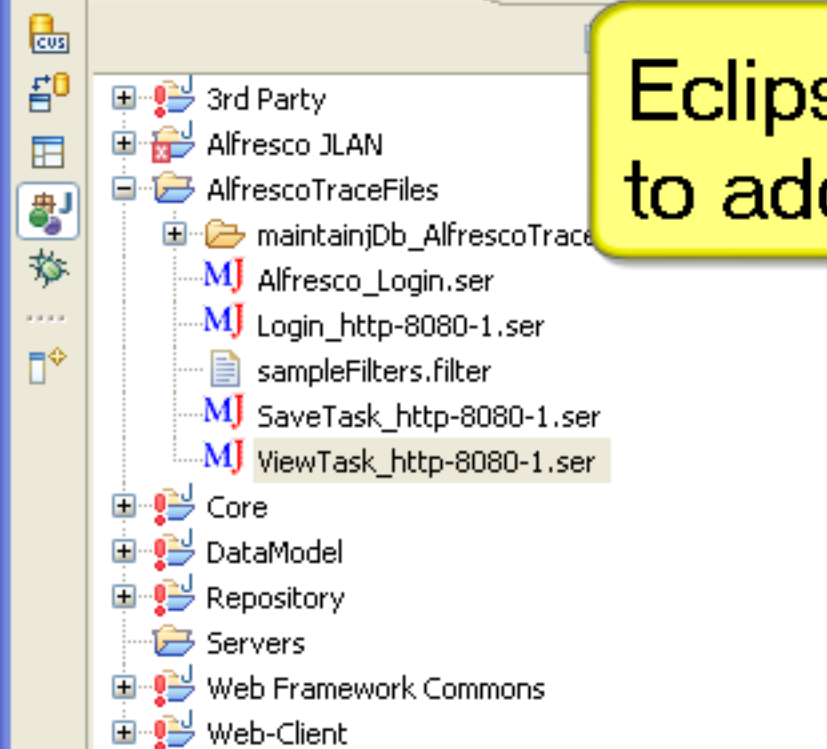
## --Runtime Impact Analysis--

How do you determine the regression tests after a code change? Static analysis cannot find the actual use cases impacted by a code change.

MaintainJ can find the use cases impacted by changing a class, method or a database table.



Package Explorer Outline



File Search Task Search Java Search MJ MaintainJ Search Plug-in Search

Search Criteria

Eclipse Search dialog is enhanced to add the 'MaintainJ Search' tab.

Method name (Class name is required too)

Method parameter name (Class, Method, Parameter value are required too)

Method parameter value (Class, Method, Parameter name are required too)

Search Selected Projects

 AlfrescoTraceFiles

Customize...

Search

Cancel

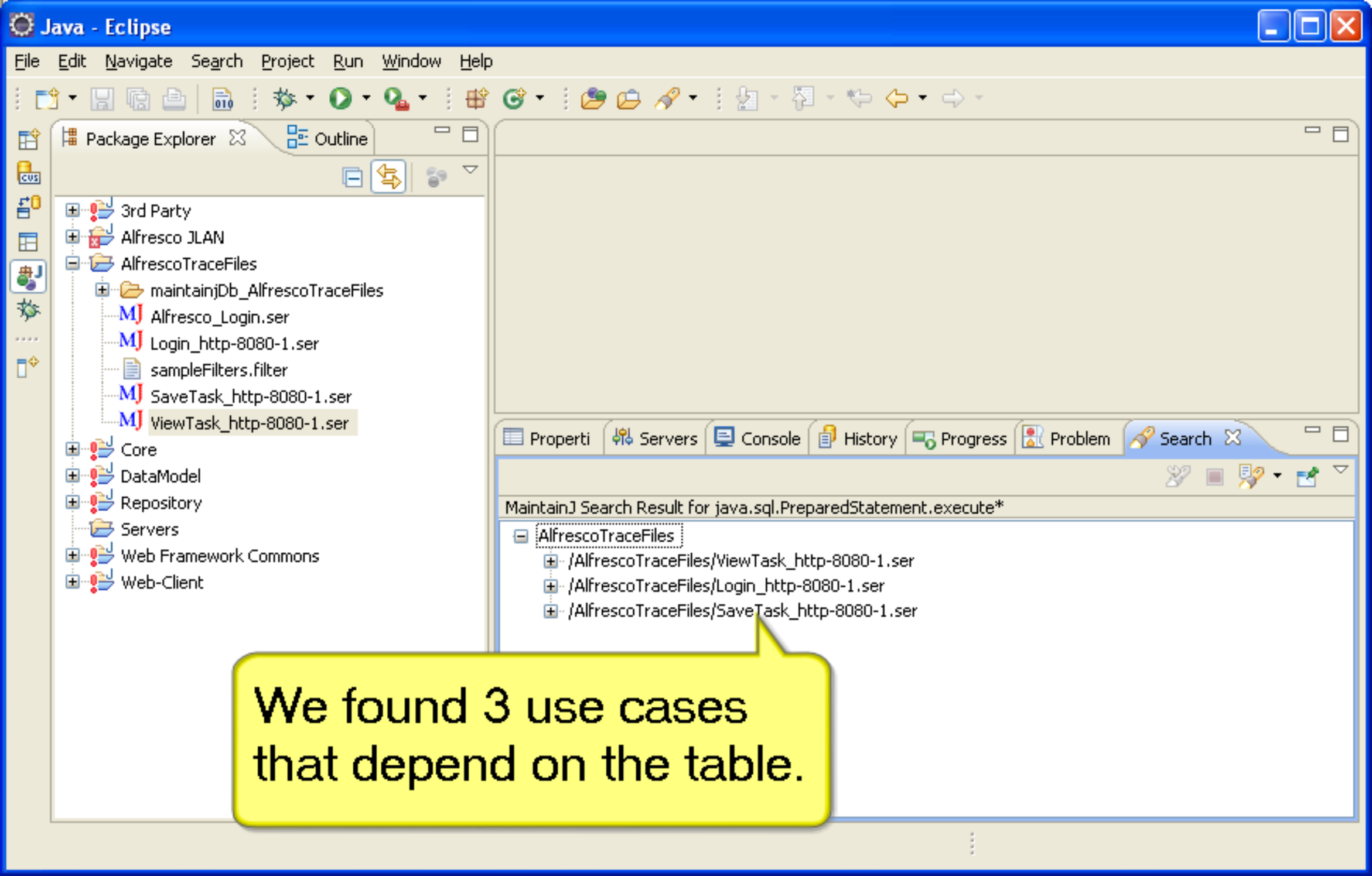


We can search for a trace file or all the trace files where a class or method is called. We can also search for a parameter name or value. To search for the use cases that depend on a table (JBPM\_TASKINSTANCE), search as shown here.

The screenshot shows the Eclipse Search dialog box with the following configuration:

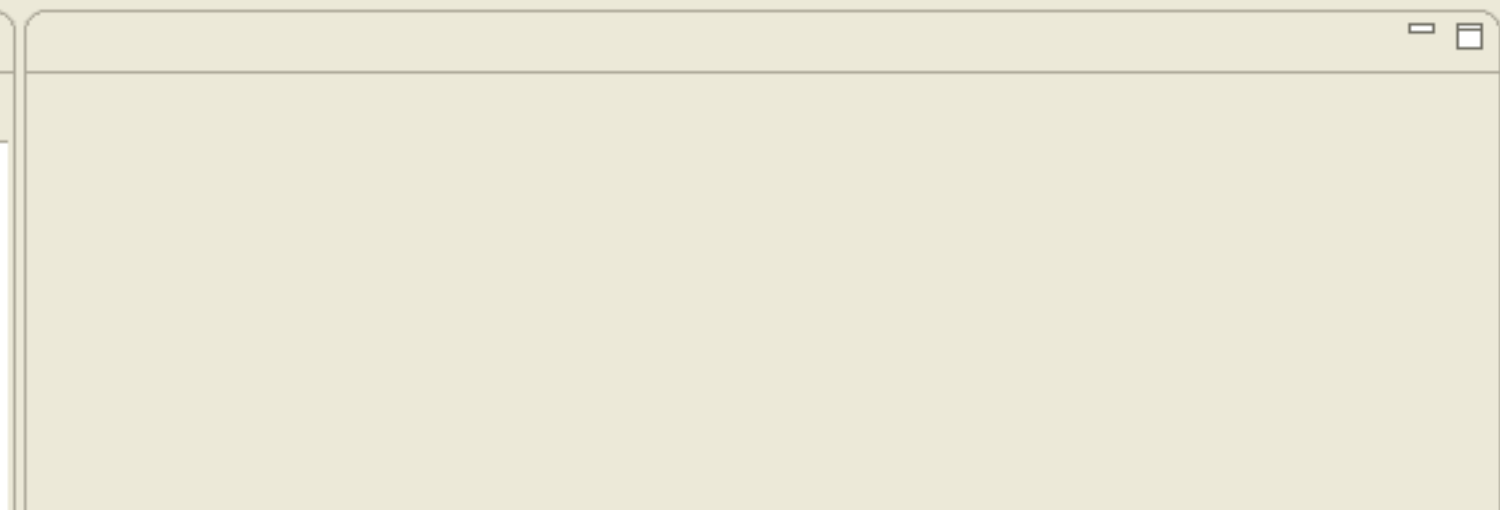
- Search Criteria:** Class, method and parameter names are case sensitive. (\* = any string)
- Trace file name:** (empty)
- Class name:** java.sql.PreparedStatement
- Method name (Class name is required too):** execute\*
- Method parameter name (Class, Method, Parameter value are required too):** sqlStatment
- Method parameter value (Class, Method, Parameter name are required too):** \*JBPM\_TASKINSTANCE\*
- Search Selected Projects:**  AlfrescoTraceFiles

Buttons at the bottom:



Package Explorer

- 3rd Party
- Alfresco JLAN
- AlfrescoTraceFiles
  - maintainjDb\_AlfrescoTraceFiles
    - Alfresco\_Login.ser
    - Login\_http-8080-1.ser
    - sampleFilters.filter
    - SaveTask\_http-8080-1.ser
    - ViewTask\_http-8080-1.ser
- Core
- DataModel
- Repository
- Servers
- Web Framework Commons
- Web-Client



Property Servers Console History Progress Problem Search

MaintainJ Search Result for java.sql.PreparedStatement.execute\*

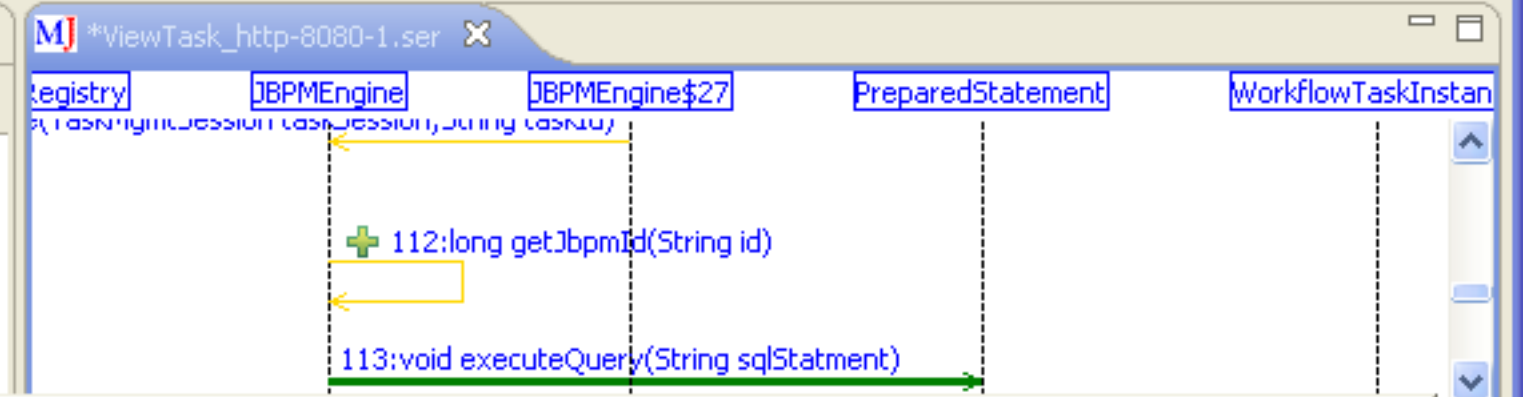
- AlfrescoTraceFiles
  - /AlfrescoTraceFiles/ViewTask\_http-8080-1.ser
  - /AlfrescoTraceFiles/Login\_http-8080-1.ser
  - /AlfrescoTraceFiles/SaveTask\_http-8080-1.ser

We found 3 use cases that depend on the table.



Package Explorer

- 3rd Party
- Alfresco JLAN
- AlfrescoTraceFiles
  - maintainjDb\_AlfrescoTraceFiles
  - Alfresco\_Login.ser
  - Login\_http-8080-1.ser
  - sampleFilters.filter
  - SaveTask\_http-8080-1.ser
  - ViewTask\_http-8080-1.ser
- Core
- DataModel
- Repository



```

taskinstan0_TASKMGMTINSTANCE_ as TASKMGM21_23_0_
taskinstan0_JBPM_ENGINE_NAME as JBPM22_23_0_ taskinstan0_CLASS_ as
CLASS2_23_0_ from JBPM_TASKINSTANCE taskinstan0_ where taskinstan0_ID_=9
Response Time:: 0 milliseconds
Declared in class:: java.sql.PreparedStatement
  
```

Maintainj Search Result for java.sql.PreparedStatement.executeQuery

- /AlfrescoTraceFiles/ViewTask\_http-8080-1.ser
  - java.sql.PreparedStatement
    - executeQuery(String sqlStatment)
    - executeQuery(String sqlStatment)
- /AlfrescoTraceFiles/Login\_http-8080-1.ser
  - java.sql.PreparedStatement
    - executeQuery(String sqlStatment)
- /AlfrescoTraceFiles/SaveTask\_http-8080-1.ser
  - java.sql.PreparedStatement
    - executeQuery(String sqlStatment)
    - executeQuery(String sqlStatment)

Double clicking on the search result shows the call (the SQL call in this example).

Java - AlfrescoTraceFiles/ViewTask\_http-8080-1.ser - Eclipse

File Edit Navigate Search Project Run Window Help

Package Explorer Outline

\*ViewTask\_http-8080-1.ser

registry JBPMEngine JBPMEngine\$27 PreparedStatement WorkflowTaskInstan

--Finding the regression tests for a change--

Step 1: Capture the call trace for all use cases (can be automated using JUnit or Selenium).

Step 2: Identify the changed classes and tables.

Step 3: Use 'MaintainJ Search' to find the impacted use cases.

executeQuery(String sqlStatment)

## --Runtime Impact Analysis using MaintainJ--

This is a powerful feature offered only by MaintainJ in the industry currently. To use this feature, first, the trace files for all use cases should be captured.

But this is a one time task. For any subsequent releases of the application, the trace files of the changed use cases will replace the existing trace files. For new use cases, new trace files will be added.

```
executeQuery(String sqlStatment)  
executeQuery(String sqlStatment)
```