

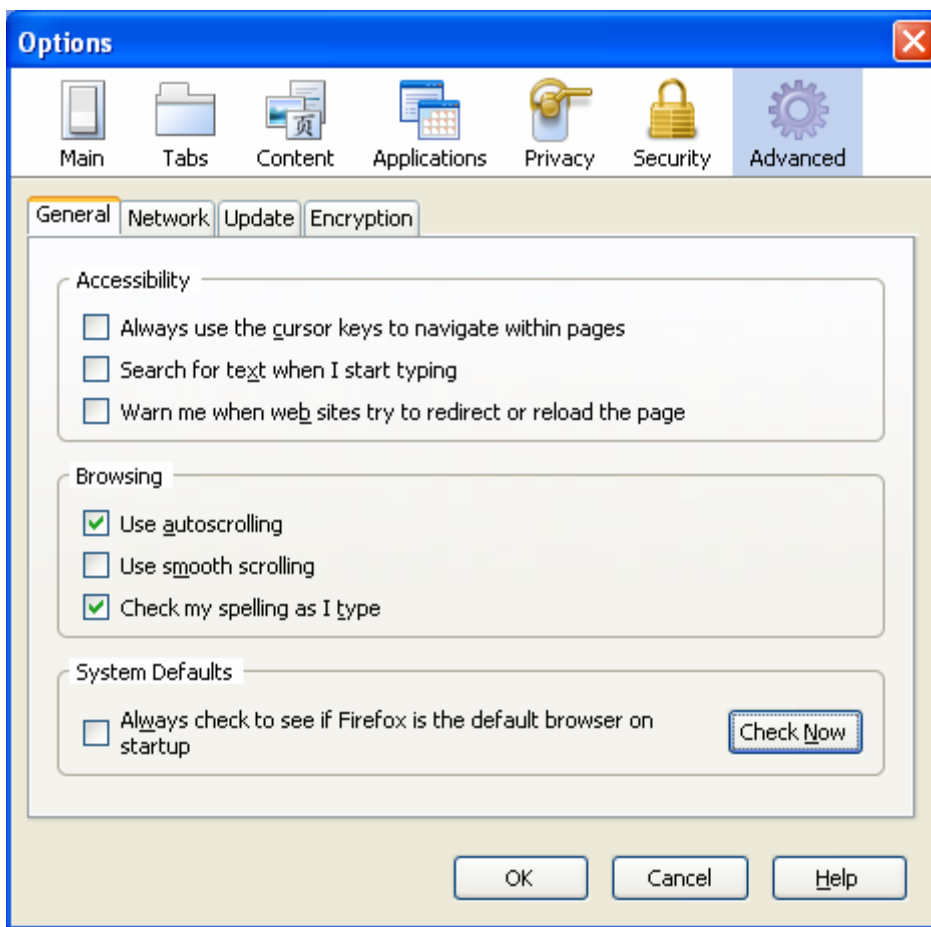
ACTS Tool Usage Study

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Installation Guide

1. Install Firefox ver 3

To automatically capture links between online resources and the architecture, set the Firefox browser as the default browser. Select the Tools Menu / Options / Advanced. Under the System Defaults, click on the “Check Now” button

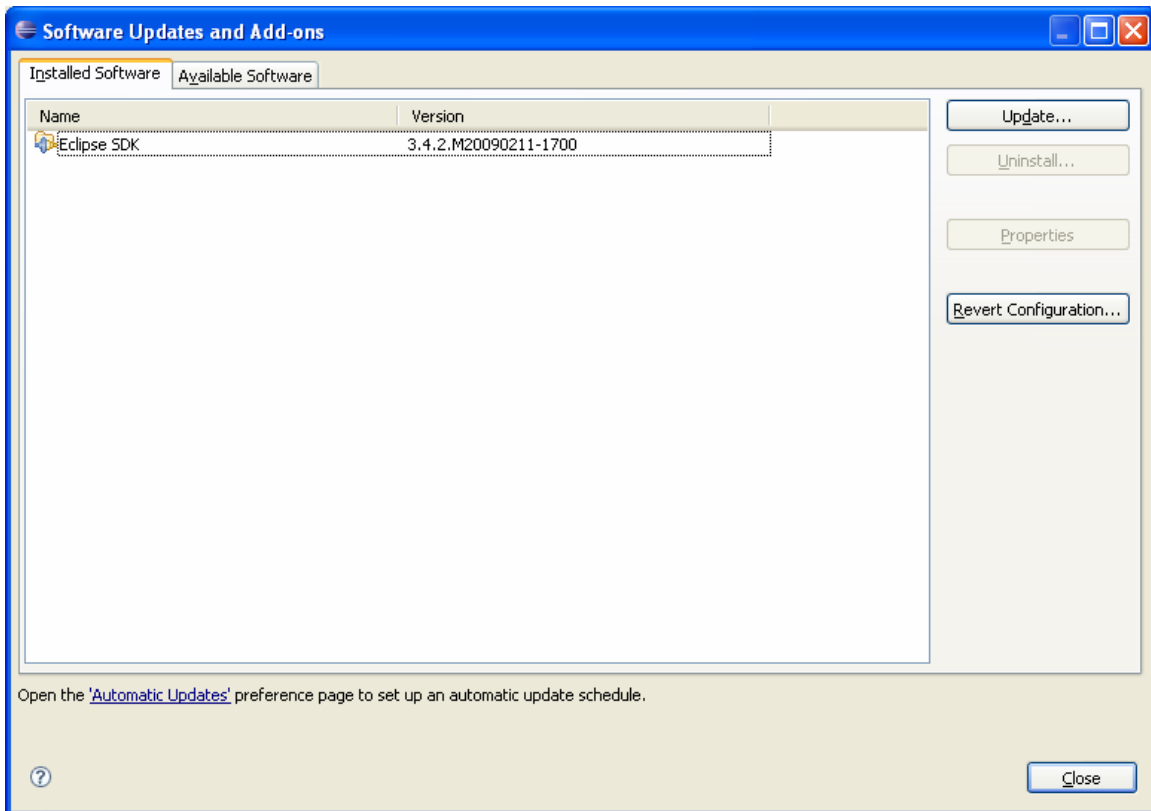


2. Install Eclipse Classic ver 3.4 from

<http://www.eclipse.org/downloads/download.php?file=/eclipse/downloads/drops/R-3.4.2-200902111700/eclipse-SDK-3.4.2-win32.zip>

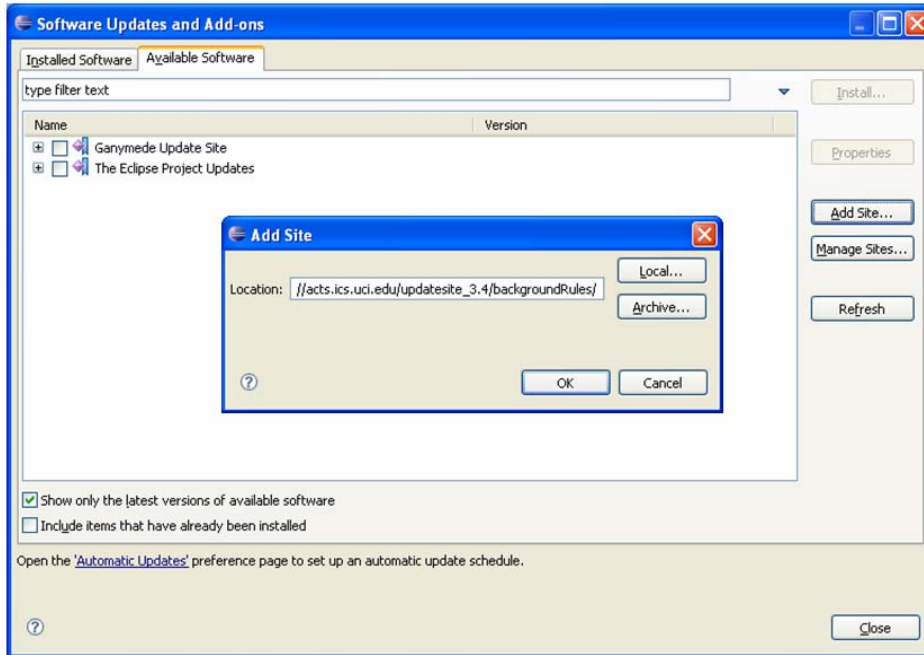
3. Install ArchStudio 4.

Within Eclipse, select the Help/Software Updates menu. Select the Available Software tab:

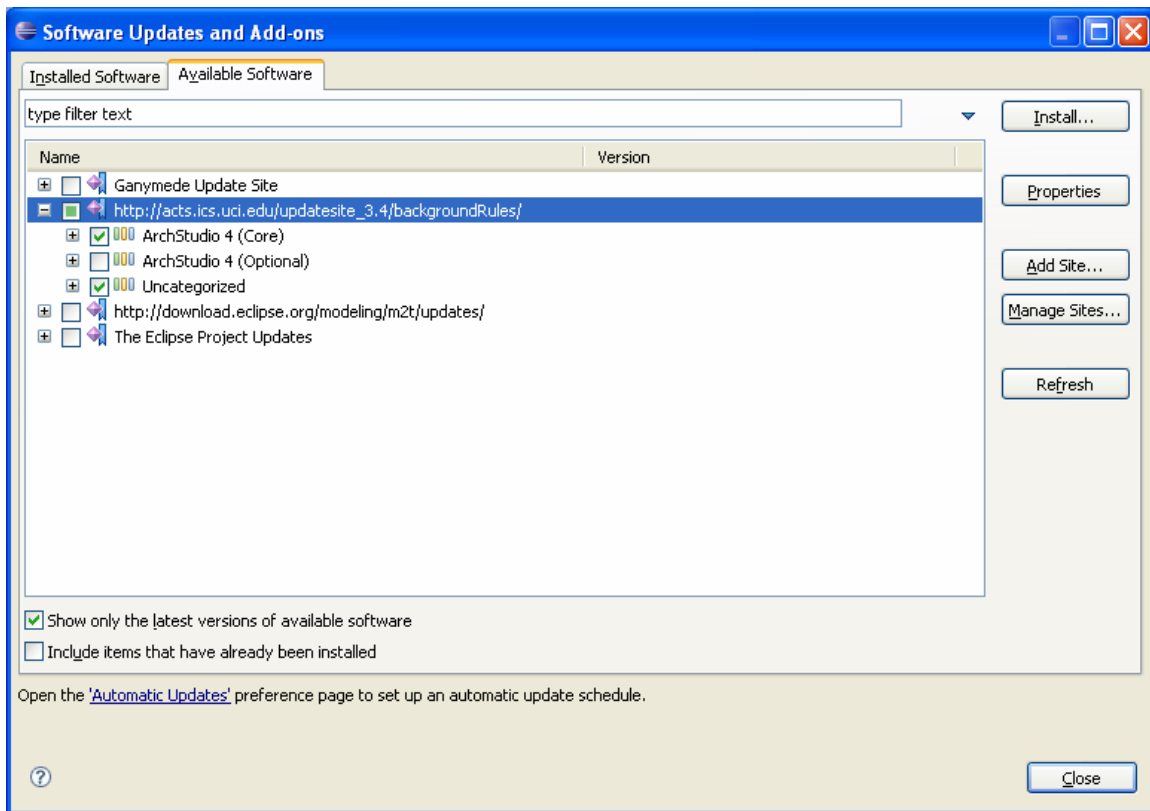


Select Add Site and enter the following location:

http://acts.ics.uci.edu/updatesite_3.4/backgroundRules/ .



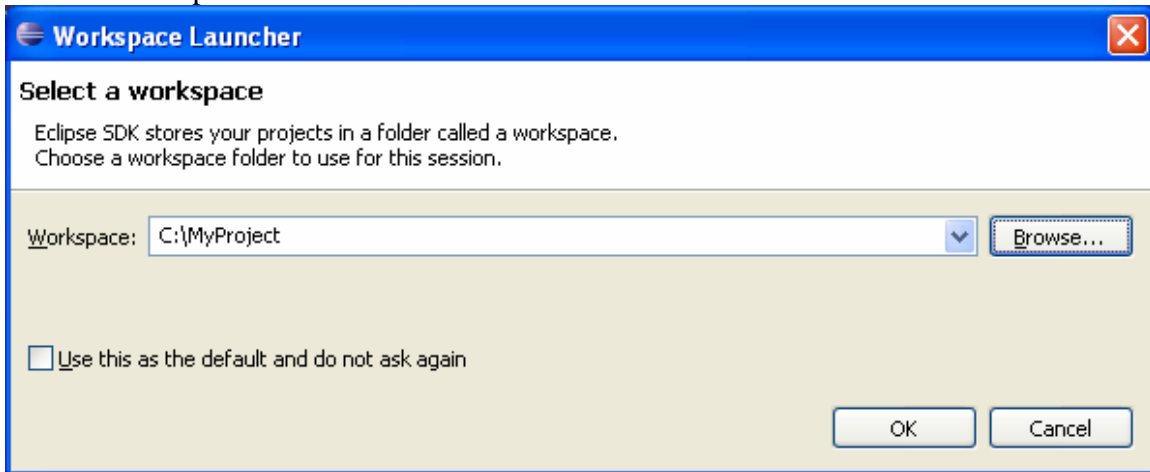
Select ArchStudio 4 within the ArchStudio 4 Core and Uncategorized features and select the Install button:



The Uncategorized feature contains the required packages of ArchStudio. Follow the rest of the on-screen installation instructions.

Restart Eclipse.

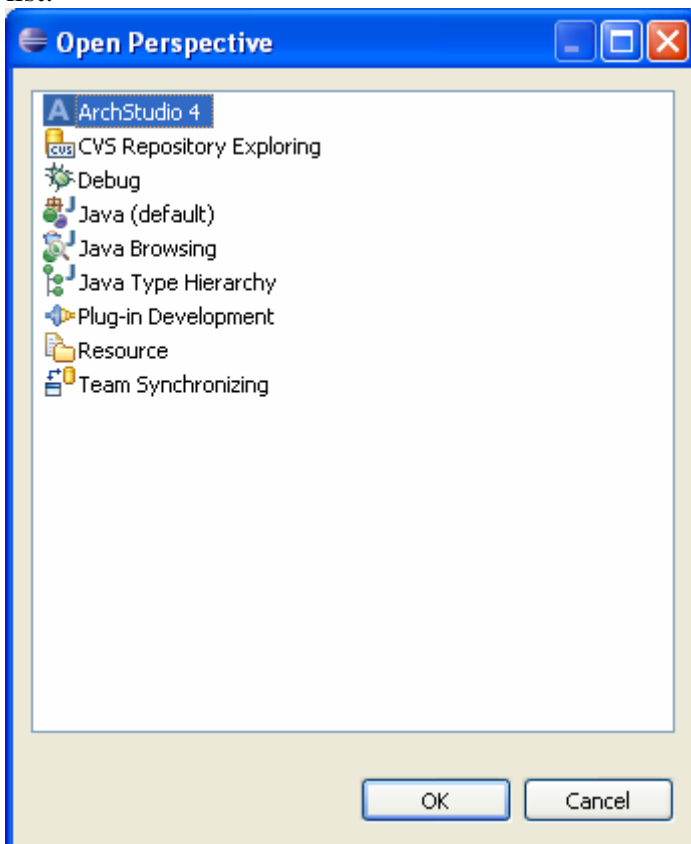
Select a workspace



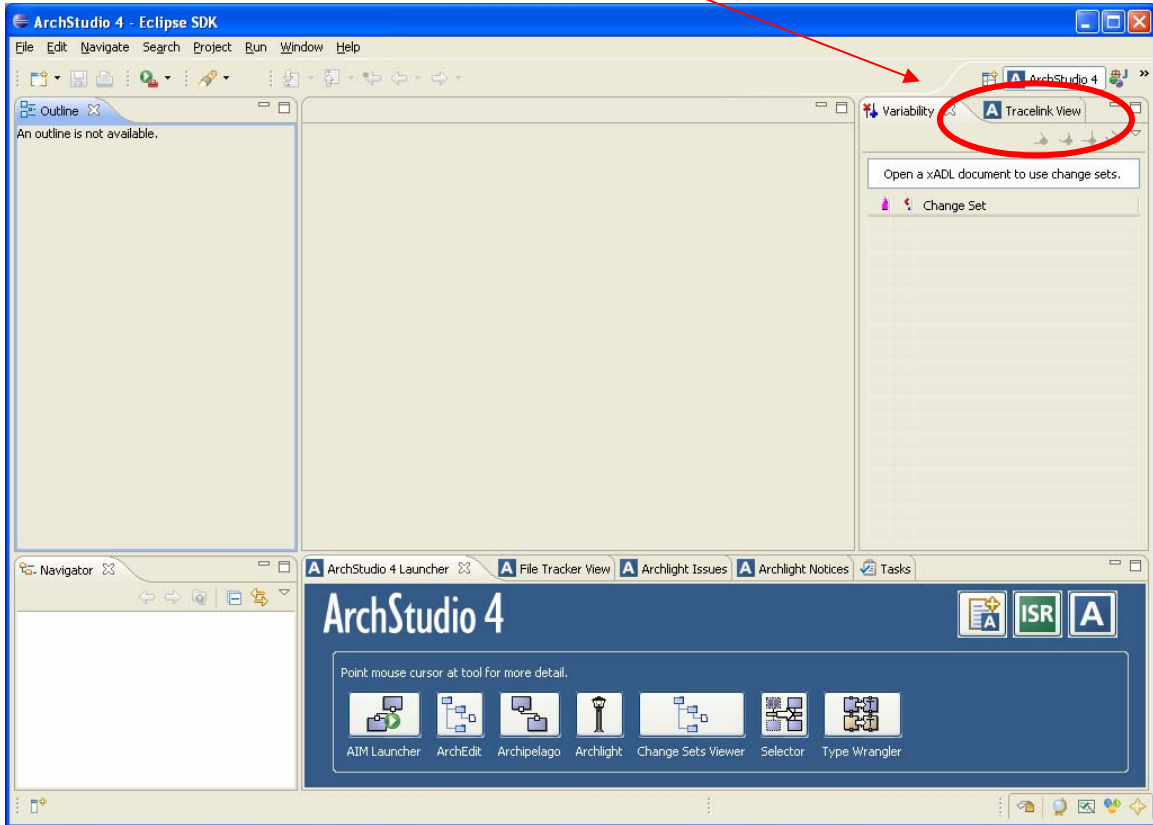
To check whether the installation is successful

1. Open the ArchStudio perspective.

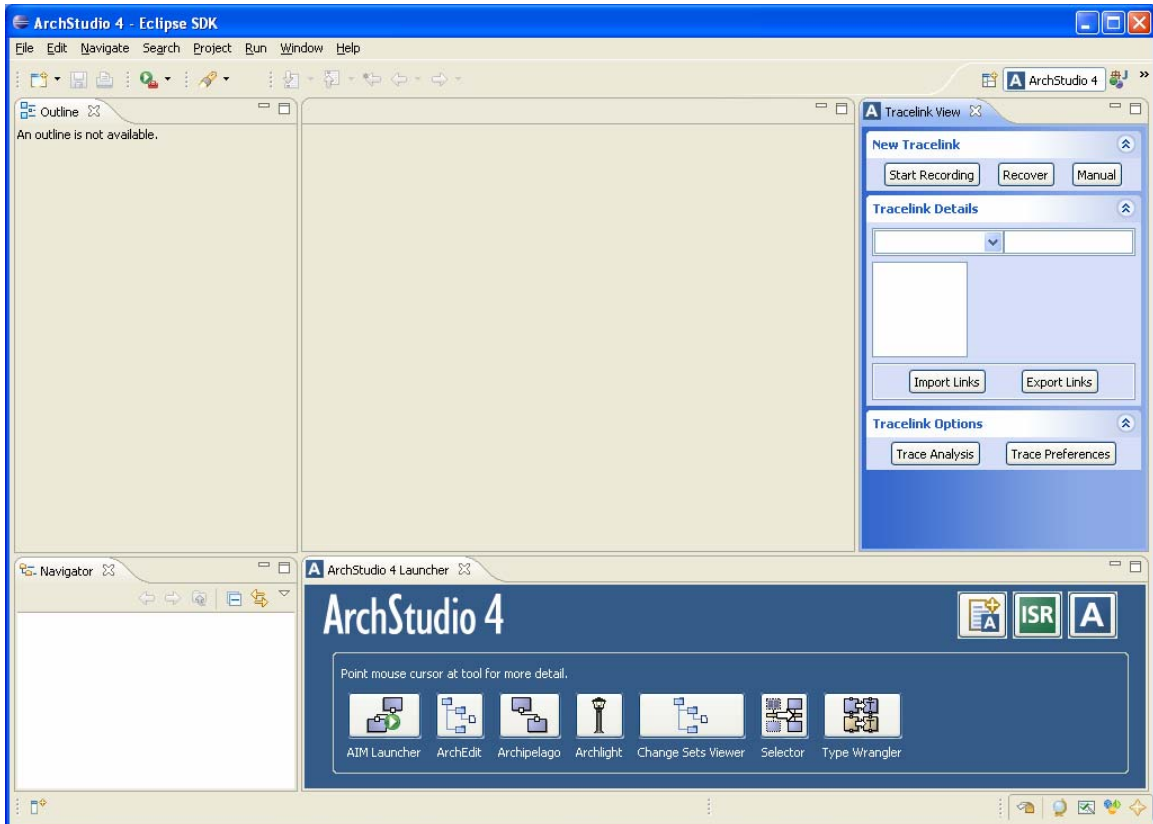
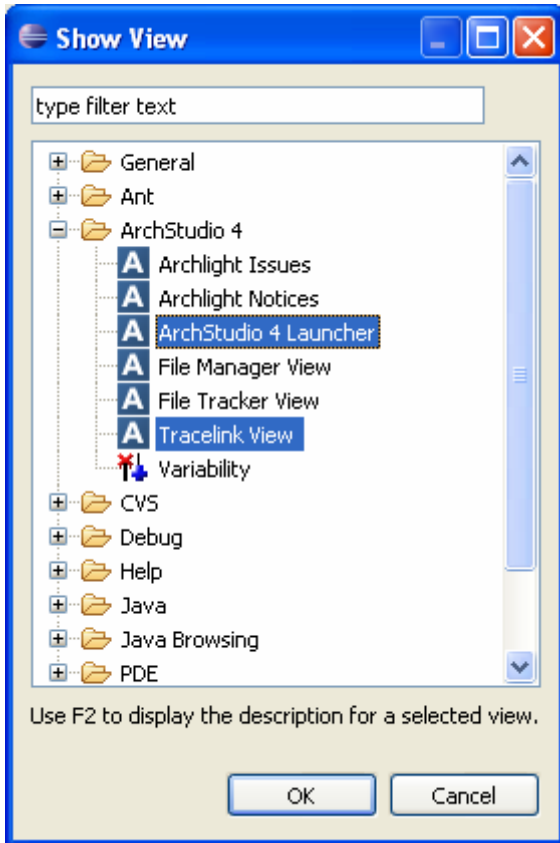
From the Windows menu, select Open Perspective / Other. Select ArchStudio 4 from the list:



Here's the ArchStudio perspective within Eclipse. Select the Tracelink View Tab on the right side of the screen:



In case the Tracelink View or the ArchStudio 4 Launcher View does not appear in Eclipse, open these views from the Windows Menu / Show View / Other. Expand ArchStudio 4



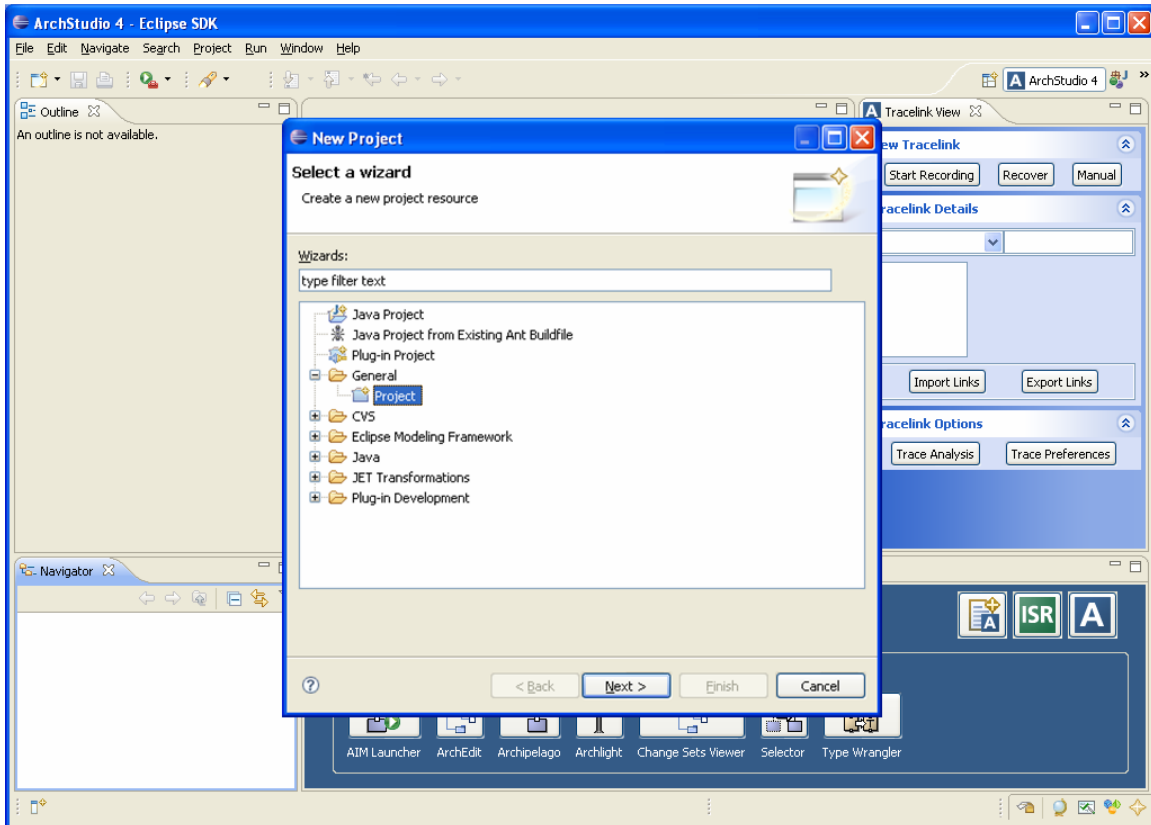
2. Open a xADL file with links

Save the following sample xADL file locally:

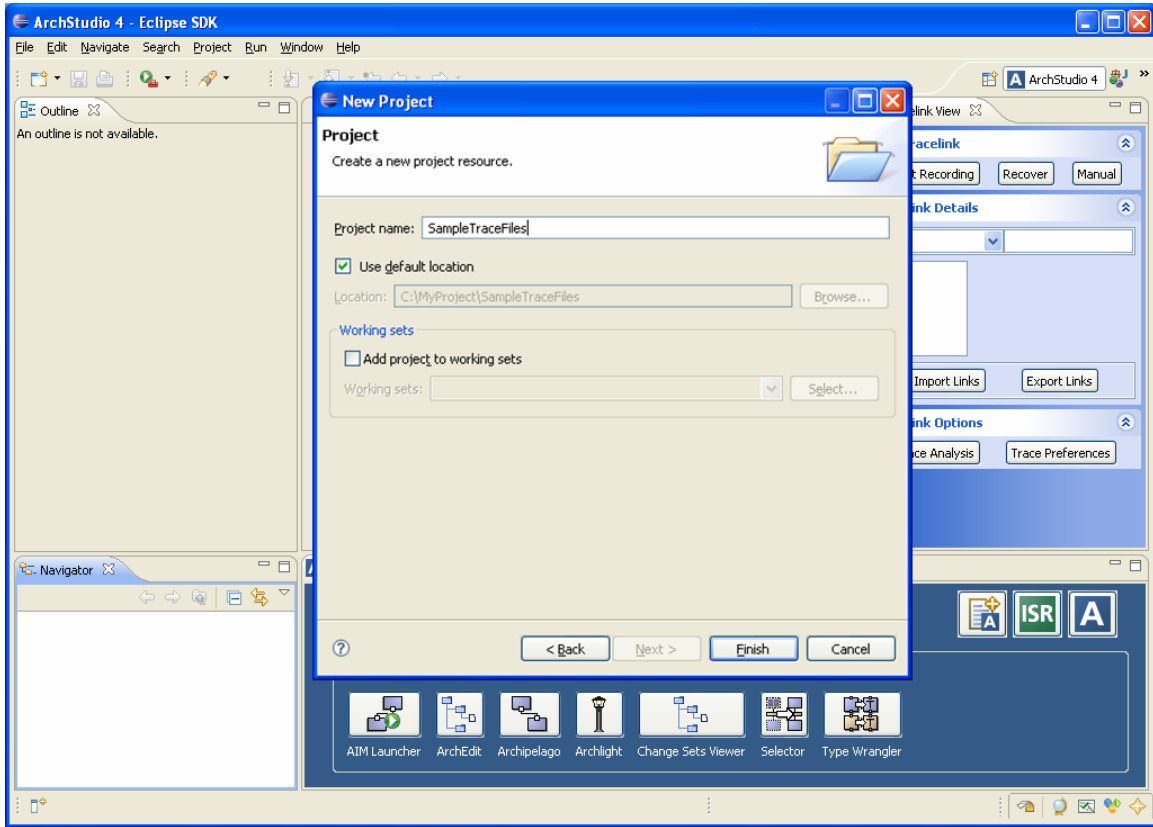
http://tps.ics.uci.edu/svn/projects/archstudio4/trunk/edu.uci.isr.archstudio4.comp.tracelink/res/TraceFiles/archstudio4_wSampleLinks.xml

3. Import the xADL file to Eclipse.

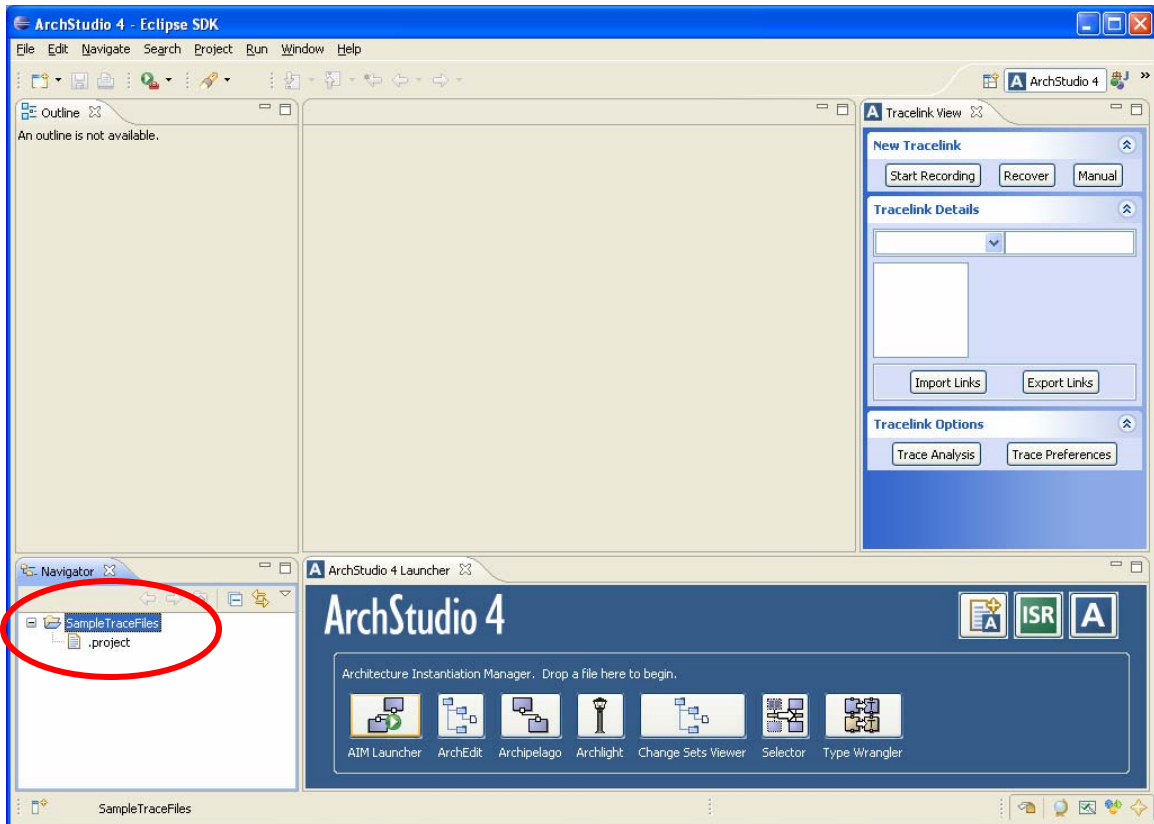
Within Eclipse, create a new project. Right-click on the Navigator View, select New / Project. Then select General / Project (see below)



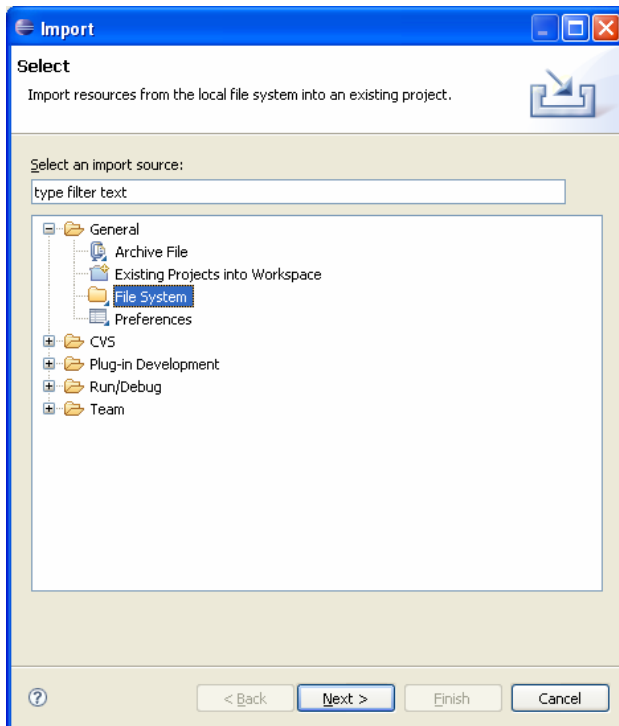
Enter a project name and click Finish:



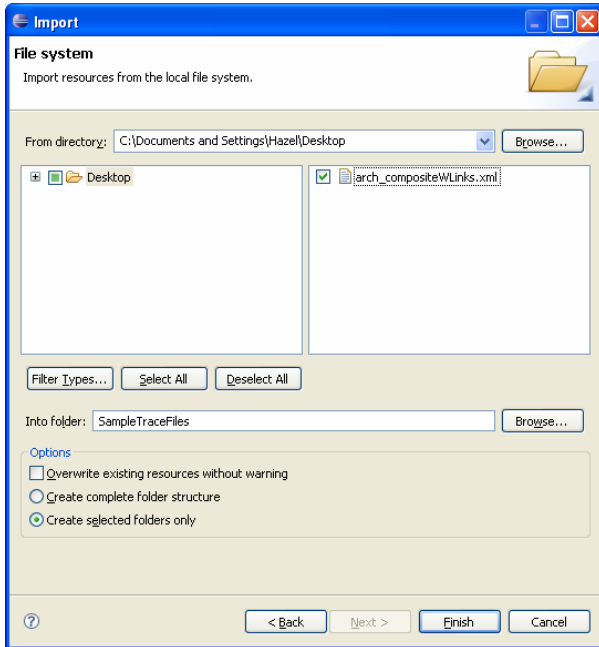
The Navigator View now shows the new project:



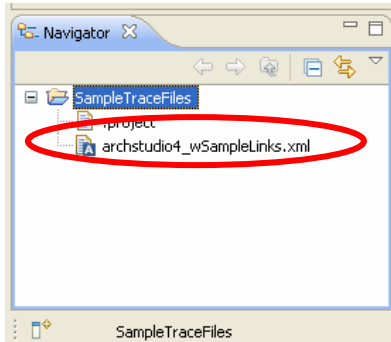
Right-click on the project and select Import. Select General / File System from the following screen:



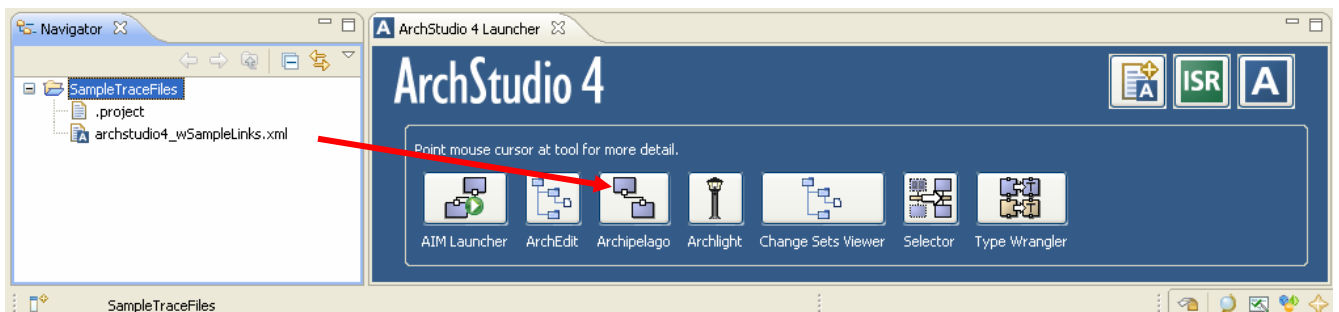
Locate the sample xADL file that was previously saved and select Finish.



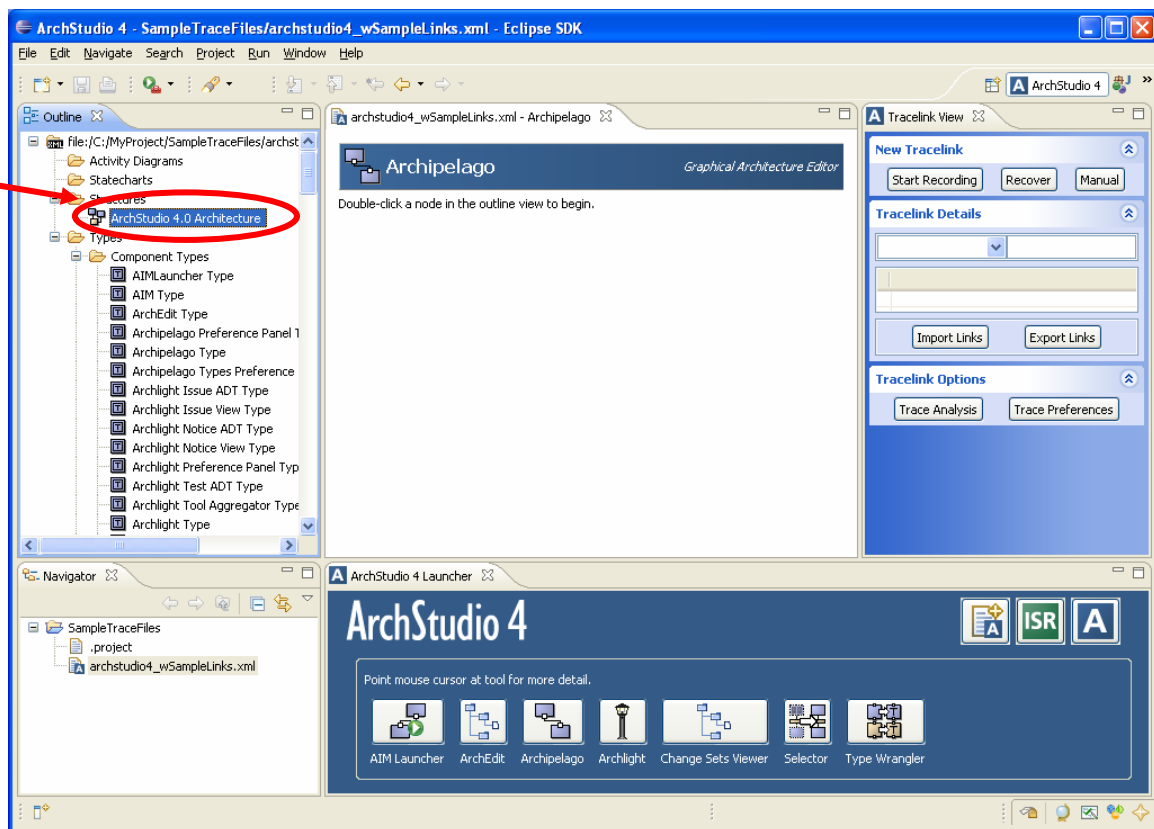
The xADL file should now be displayed in the Navigator View:



Drag the xADL file to the Archipelago icon in the ArchStudio launcher:

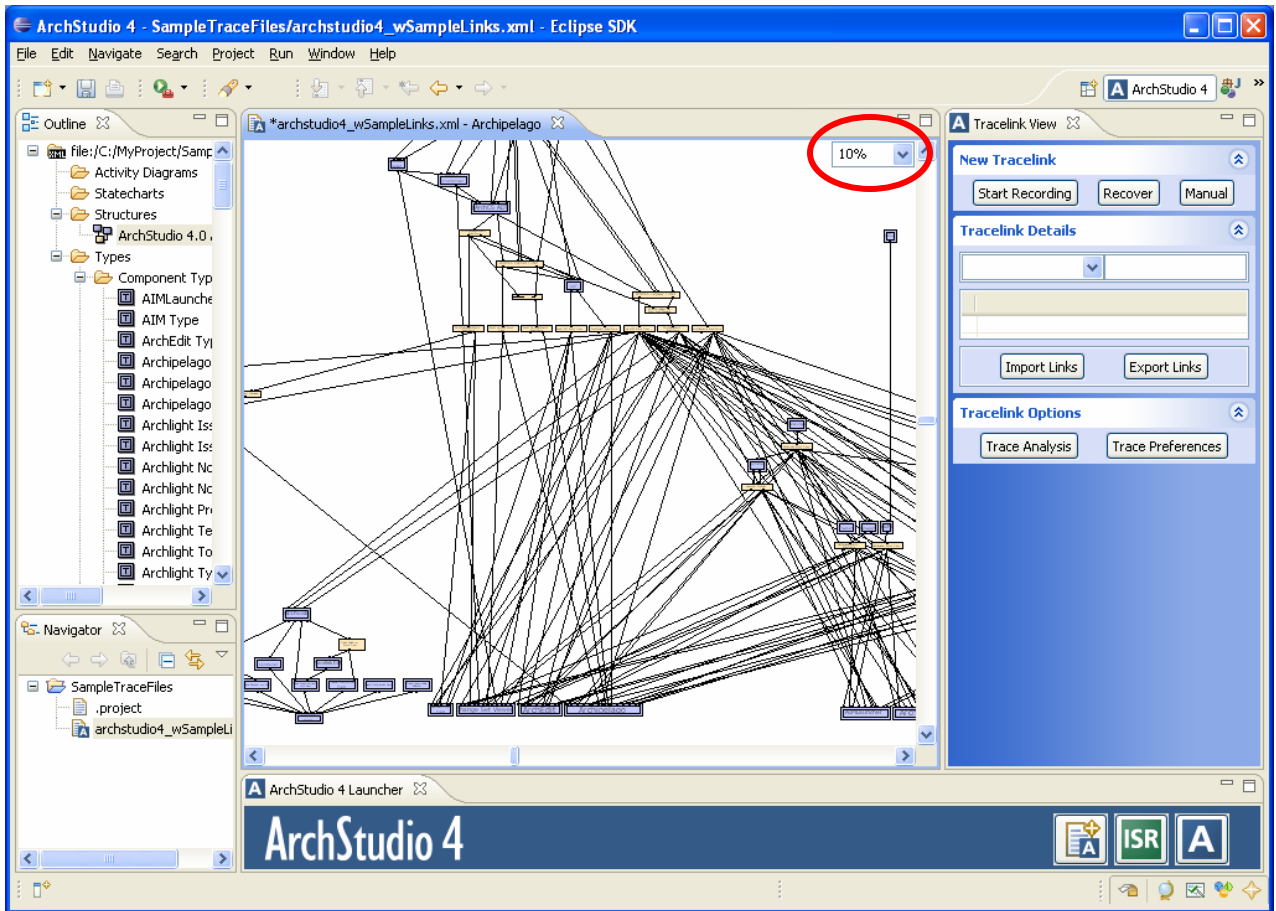


The xADL file is now opened in Archipelago.

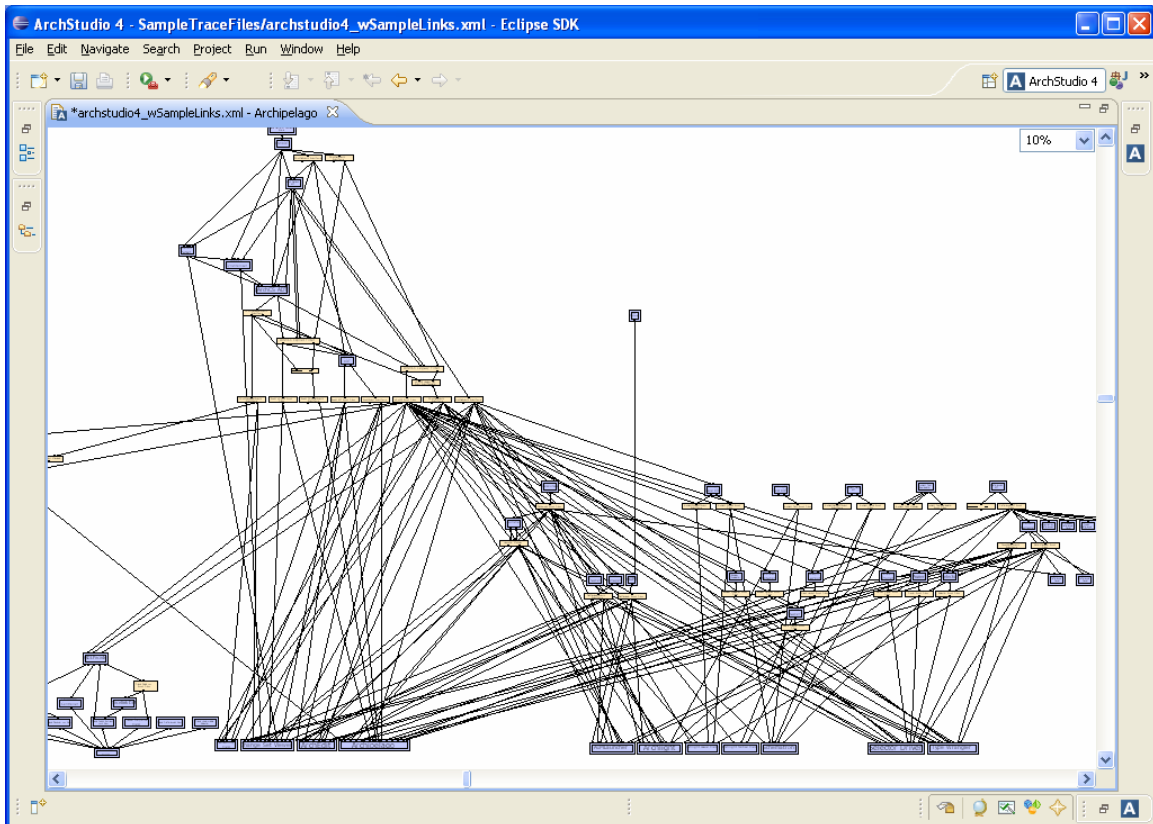


Double-click on the ArchStudio 4.0 Architecture in the Outline View. In this sample xADL file, the architecture of the ArchStudio 4 is depicted.

The xADL file should now be rendered graphically in Archipelago (see center section of the screen). The magnification can also be adjusted to fit the entire architecture within the view:

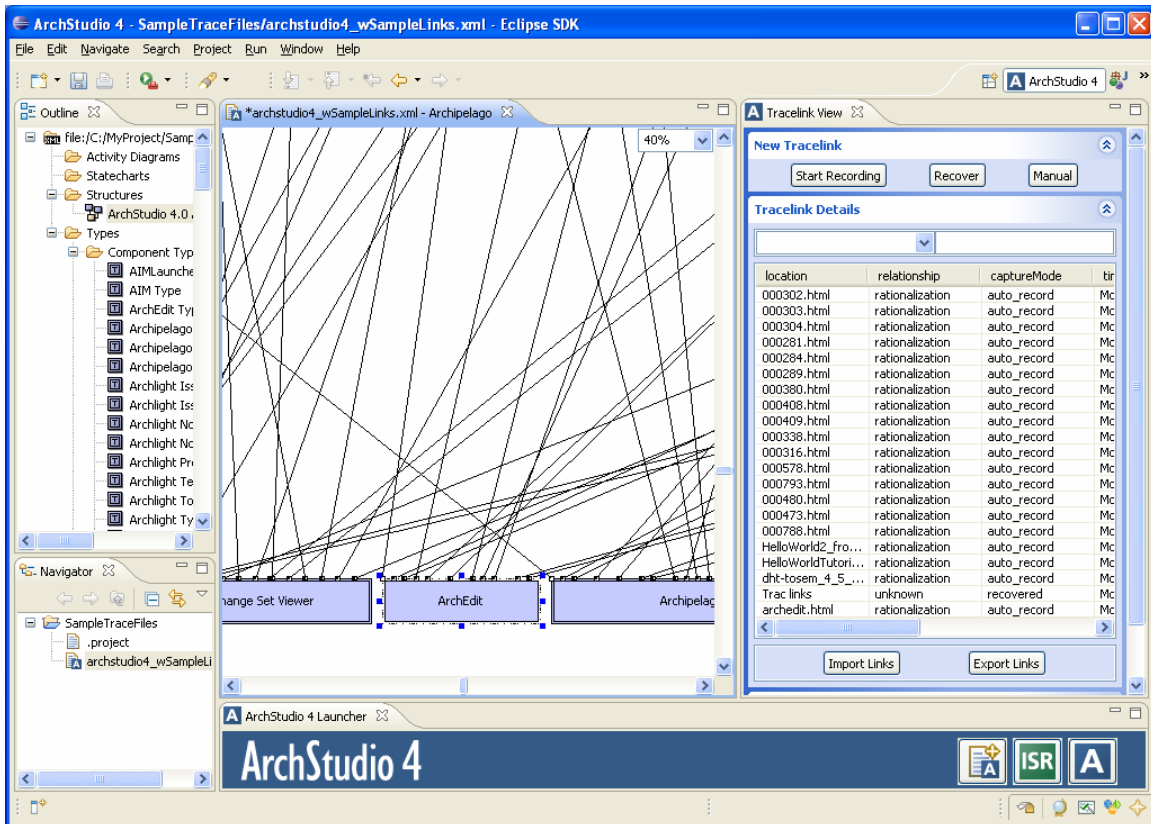


The Archipelago View can also be expanded to fit the entire screen. Double-clicking on the tab toggles the view between full screen size to default screen size:

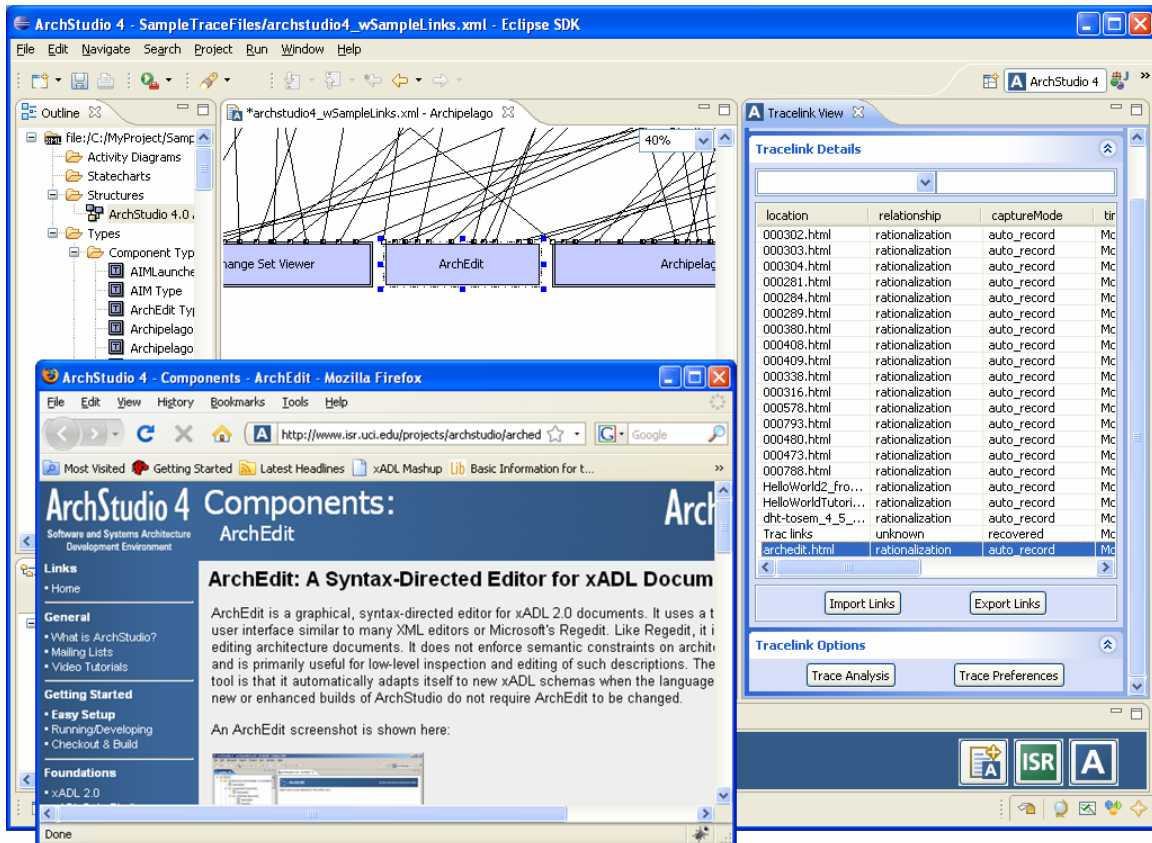


Switch back to the default screen size and select any of the bottom components (e.g. Archipelago, ArchEdit).

4. Check if you can view the trace links associated with the components in the architecture. Click on any of the components, represented by a blue box. You should see the link table populated with links:



Try double-clicking on a link on the table. The resource should be displayed within the Firefox browser:

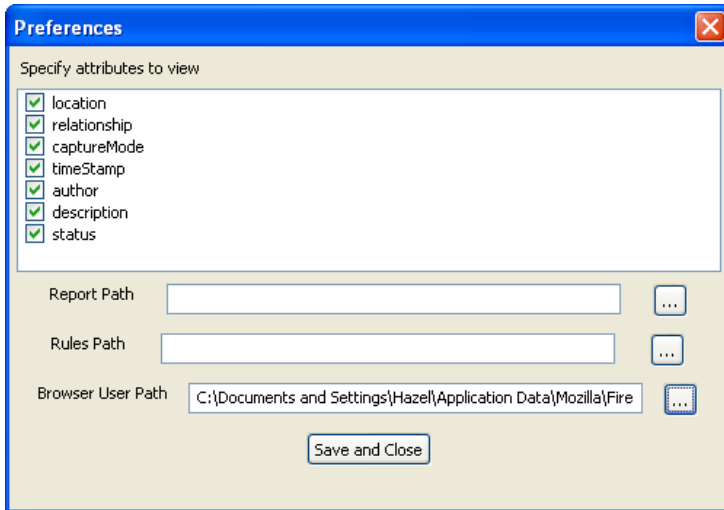


Notes:

- It takes a bit of time for Eclipse to open a web resource for the first time.
- If the Eclipse browser can't find the resource, the problem lies with the Web Server of the resource, and not in the ACTS tool.
- Traversing links to other components within the same architecture is currently not implemented.

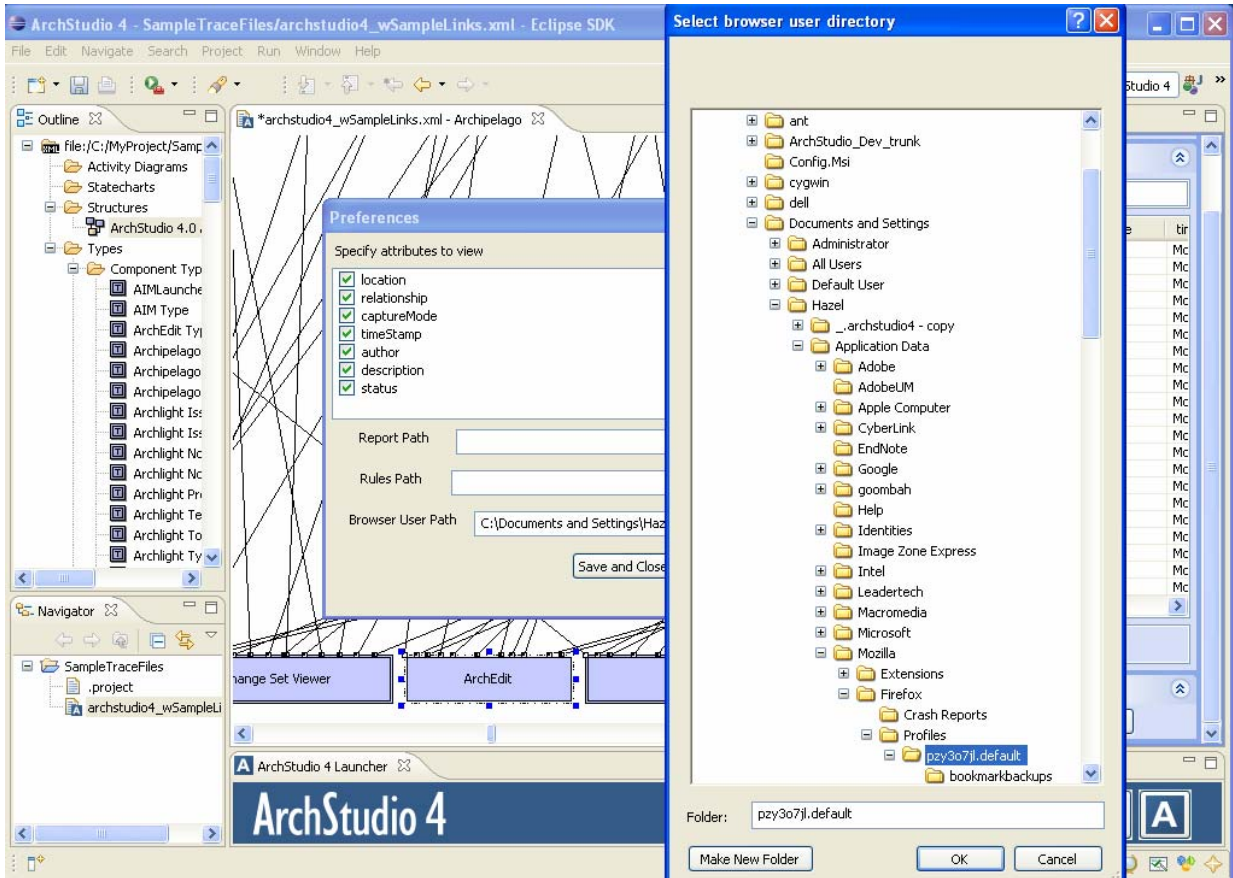
Setup

Select the Trace Preferences button to specify the following paths in the Trace Preferences window.

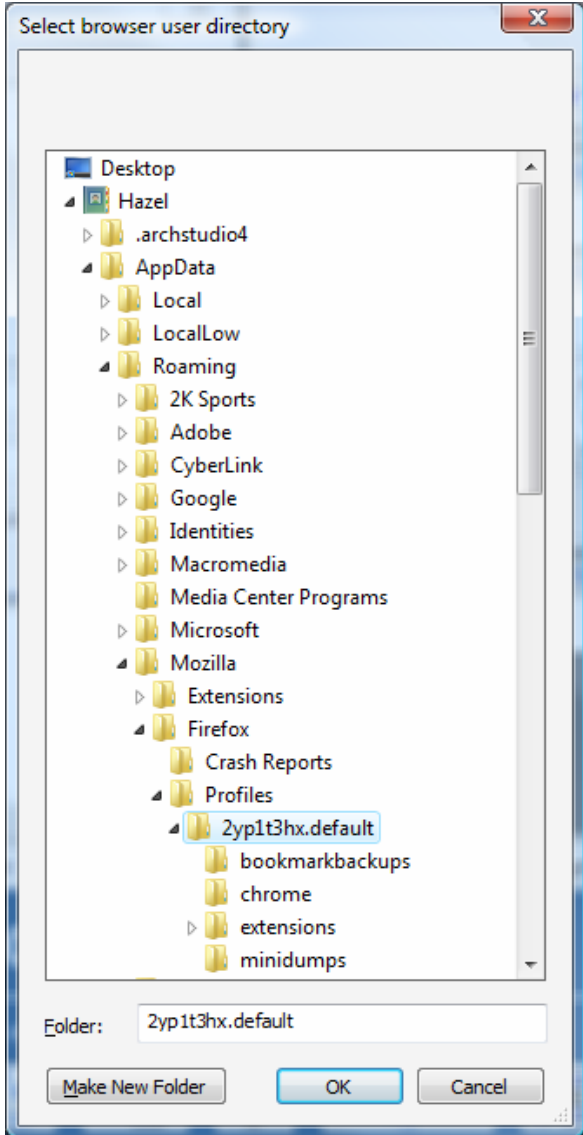


To enable the tool to record the visited paths in the Firefox browser, please specify the path to the Mozilla User path. *Note:* This is different from the Mozilla installation path.

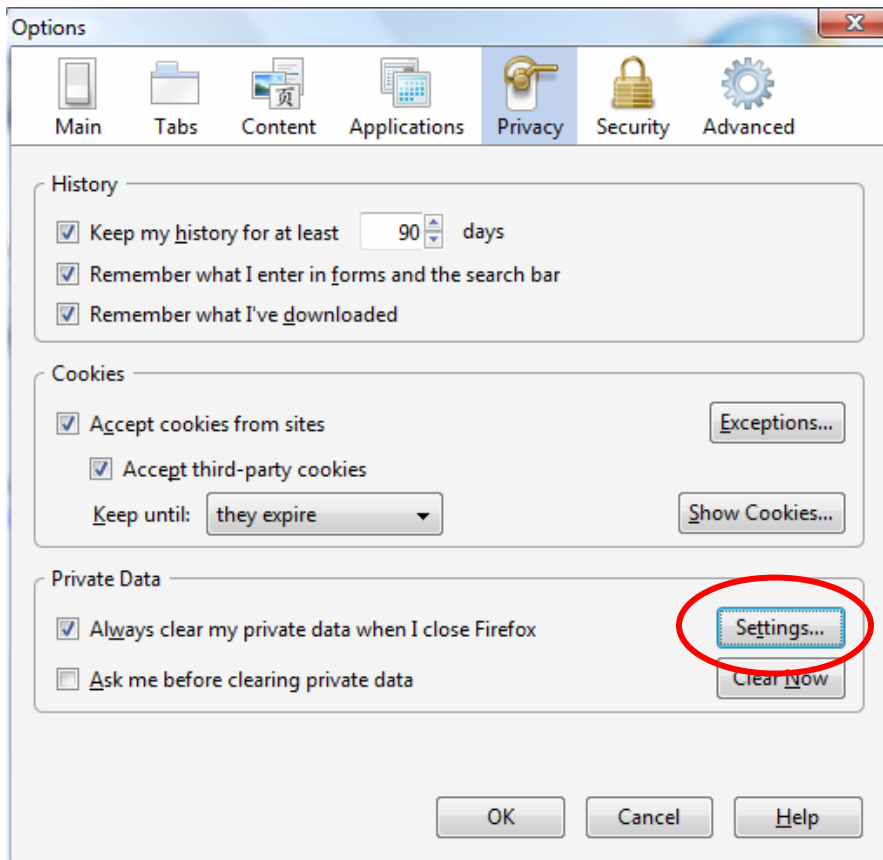
Here's the path for Win 2003 Server & Win XP



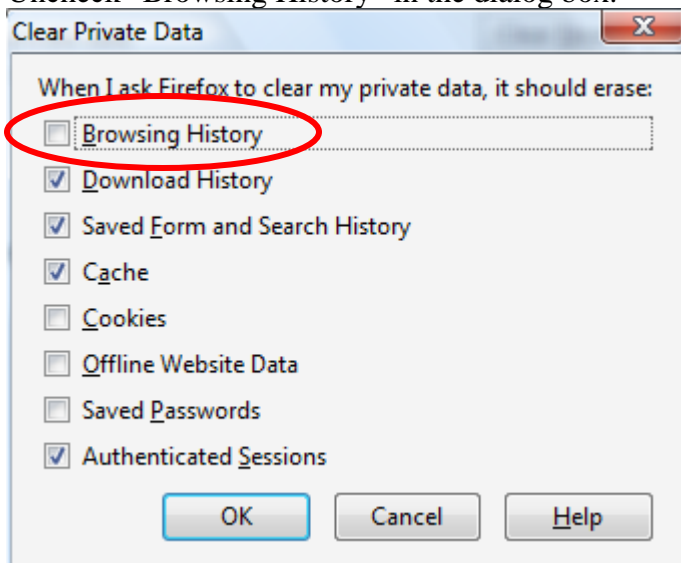
Here's the path for Win Vista:



Also, make sure that the browsing history for the private data is not cleared every time Firefox is closed. (If it is, links between the architecture and resources navigated in Firefox will not be captured.) Within Firefox, go to the Tools/Options and click on Settings within the Private Data section.



Uncheck "Browsing History" in the dialog box.

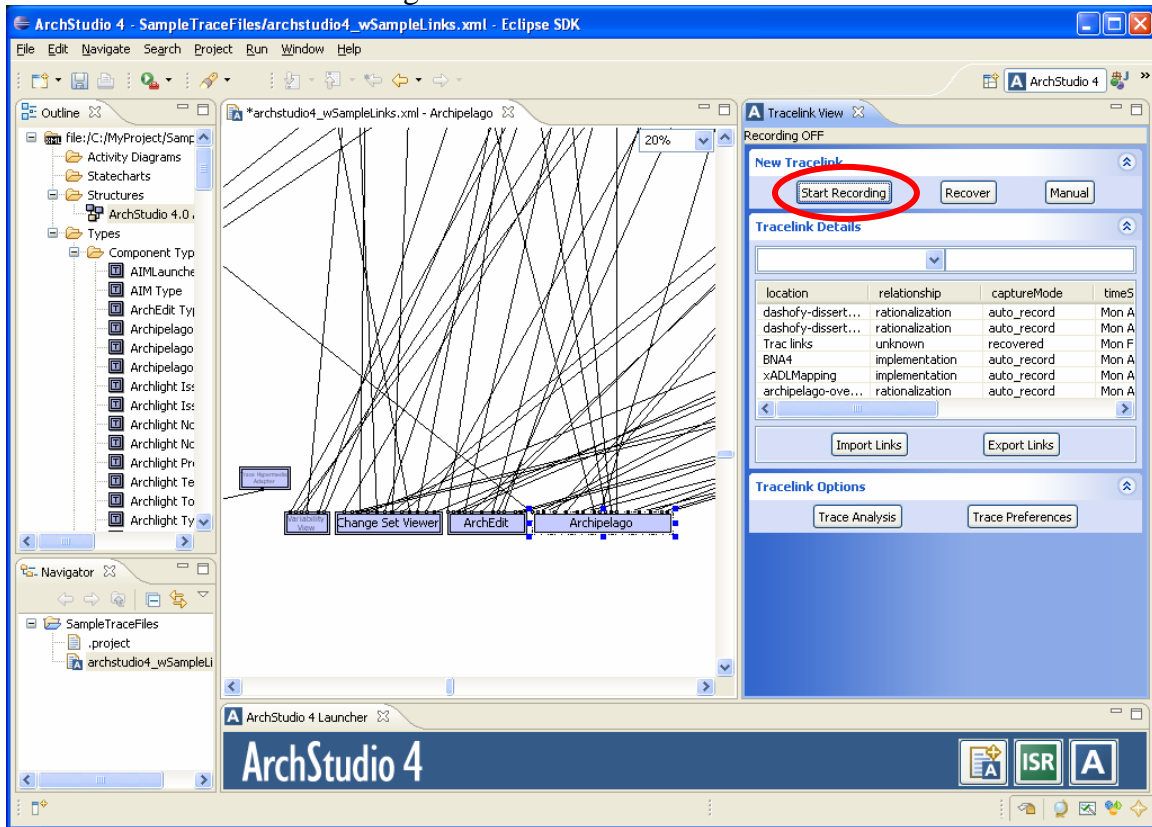


Using ArchStudio

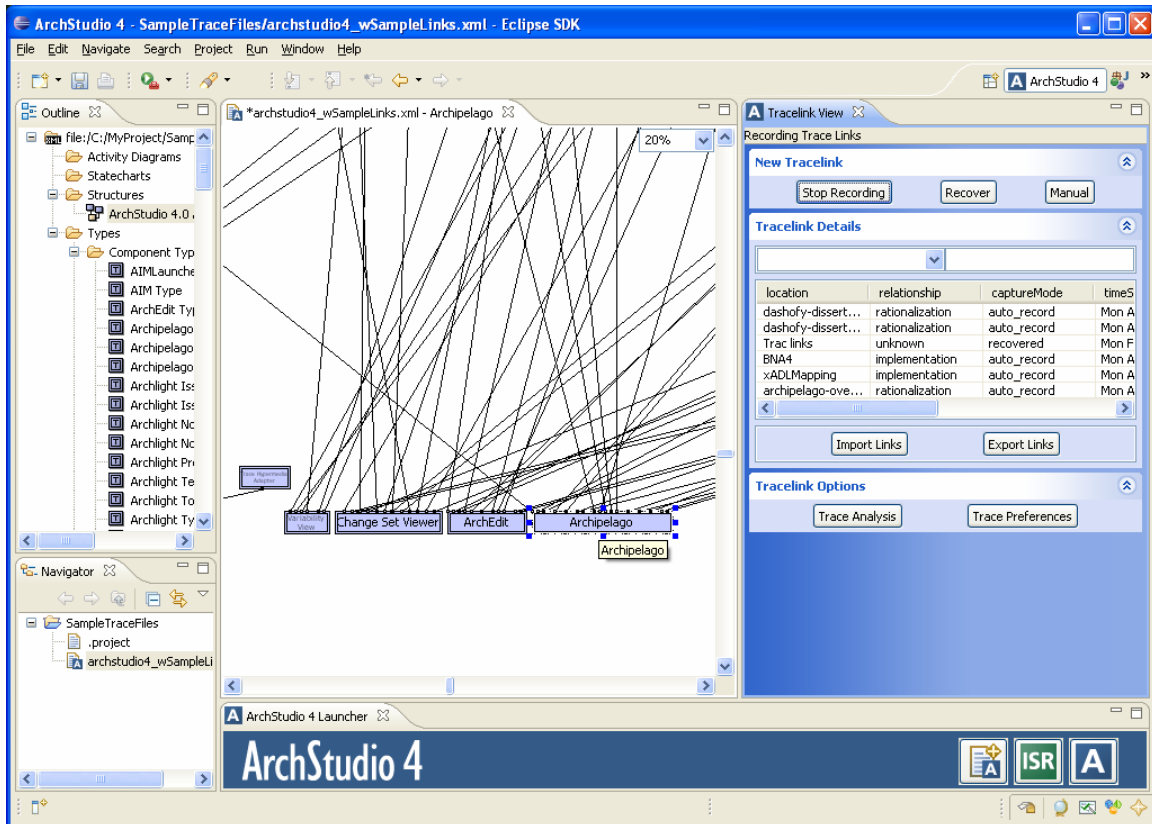
Recording traceability links

This section assumes that you already have an architecture rendered in Archipelago, such as the provided archstudio4 xADL file. The task outlined below simulates an Architect searching for information about the Archipelago and Change Set Viewer components. While the Architect performs this task, the ACTS tool captures links automatically in the background.

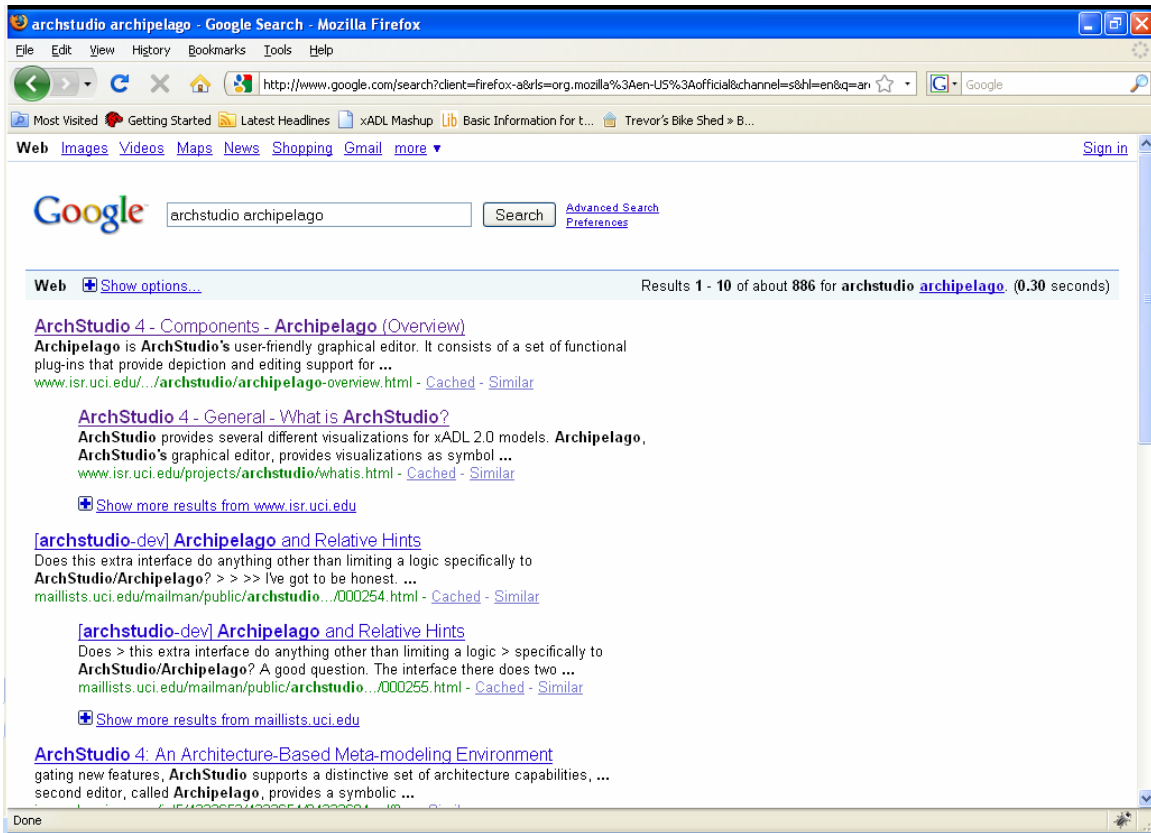
1. Click on the “Start Recording” button.



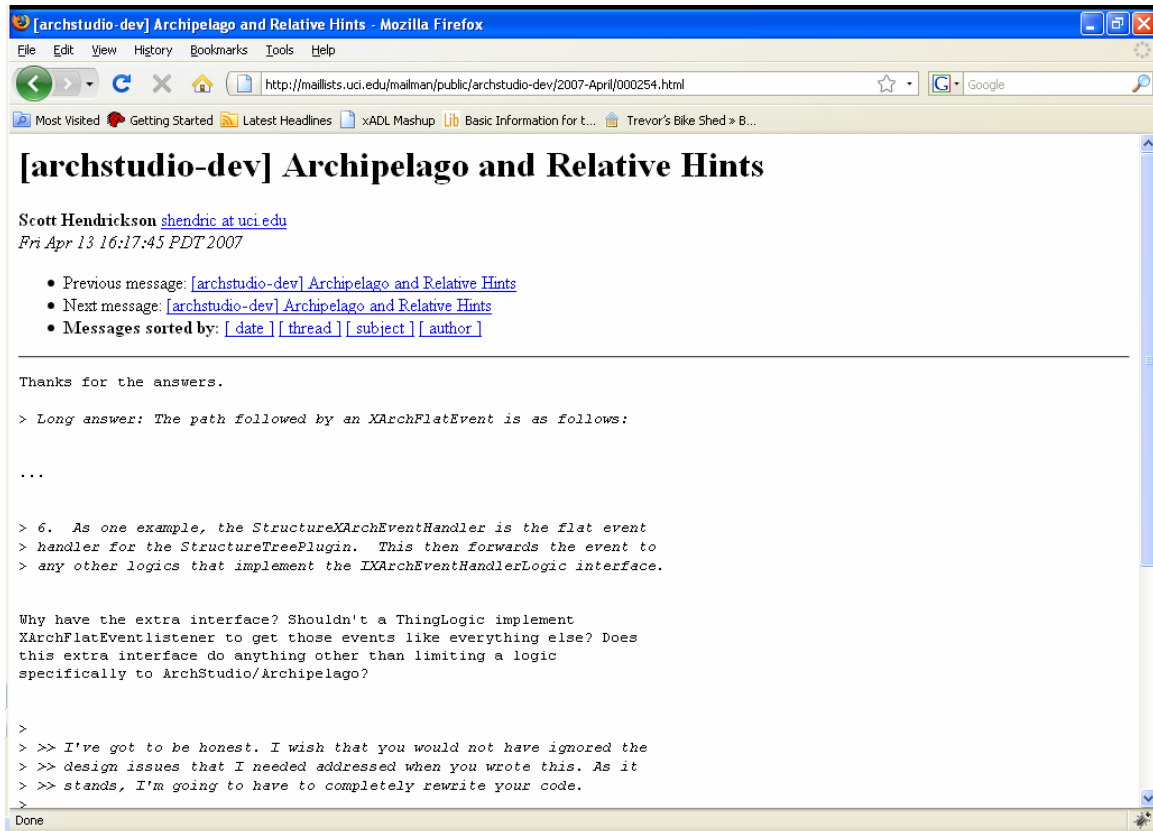
2. Double-click on a component such as Archipelago. Note that the current implementation requires the component to be double-clicked even if it is already selected in Archipelago.



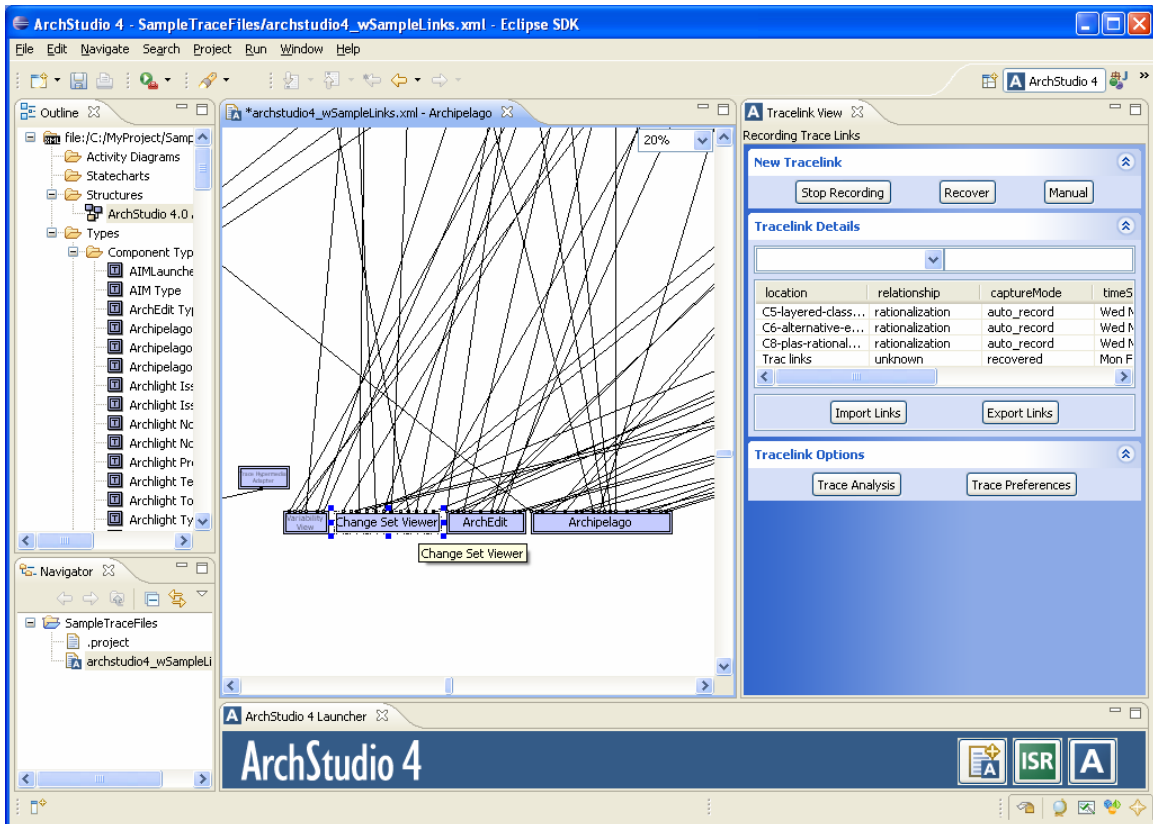
3. Open the Firefox browser and use the Google search engine to search for “ArchStudio Archipelago”



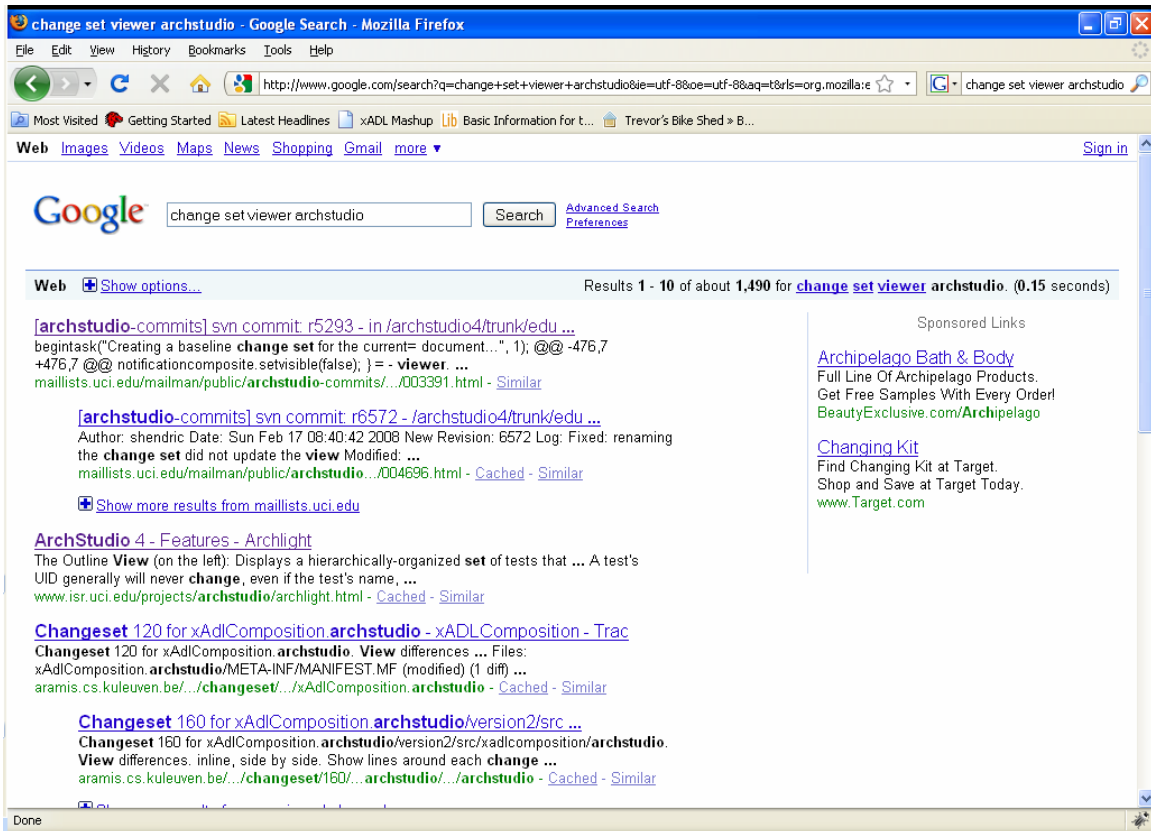
4. Select the search result “Archipelago and Relative Hints”



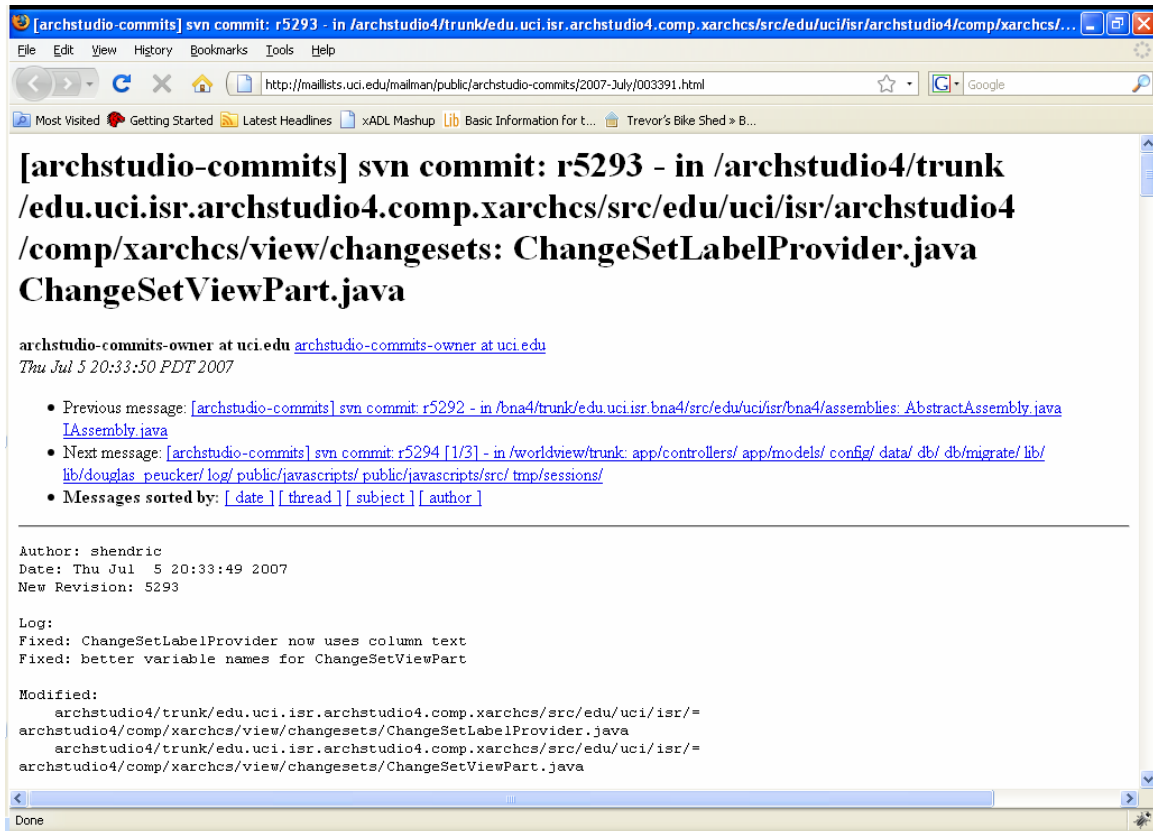
5. Go back to ArchStudio and double-click the “Change Set Viewer” component.



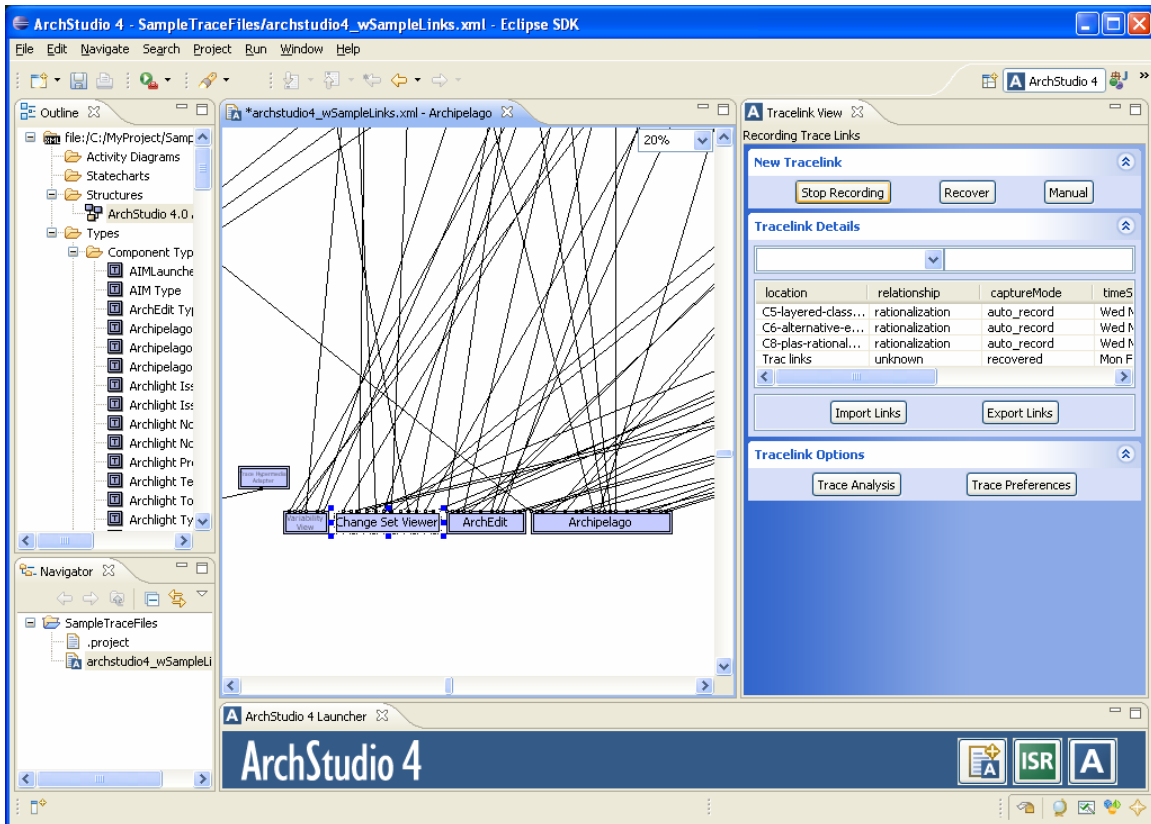
6. Go back to the Firefox browser and use Google to search for “Change Set Viewer”



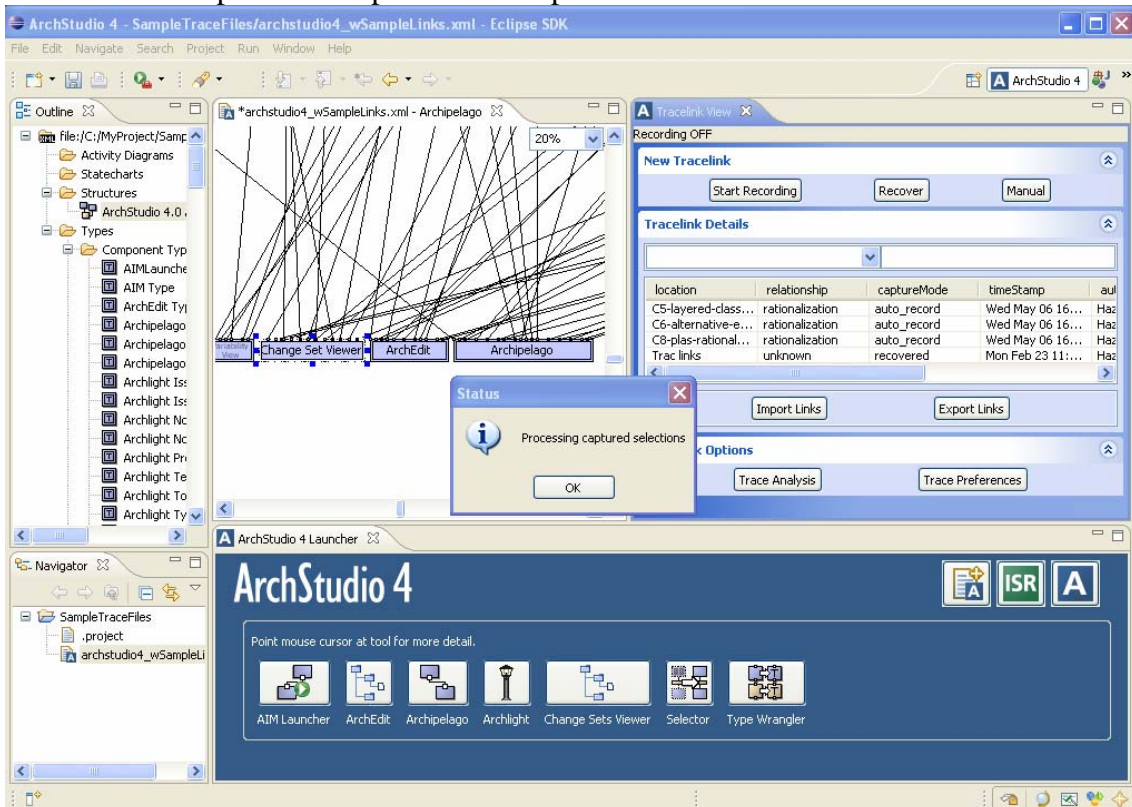
7. Visit the first search result.



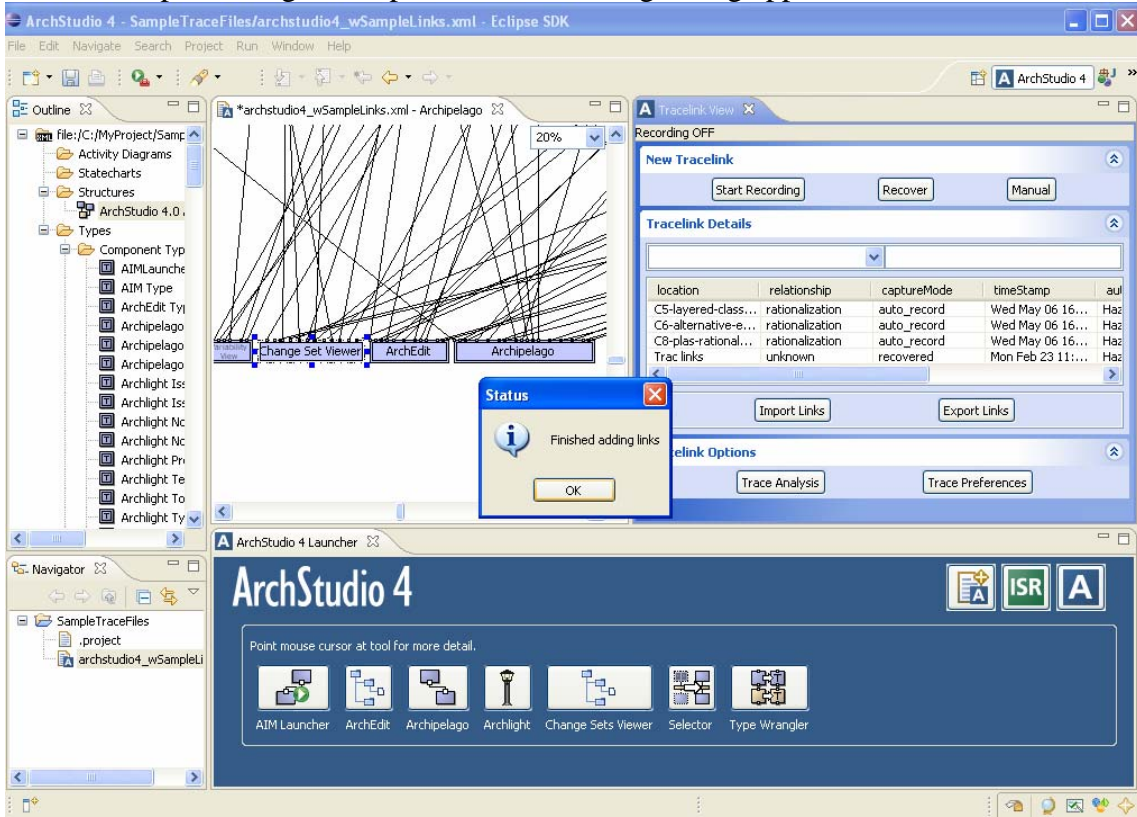
8. Close the Firefox browser. Click on Stop Recording



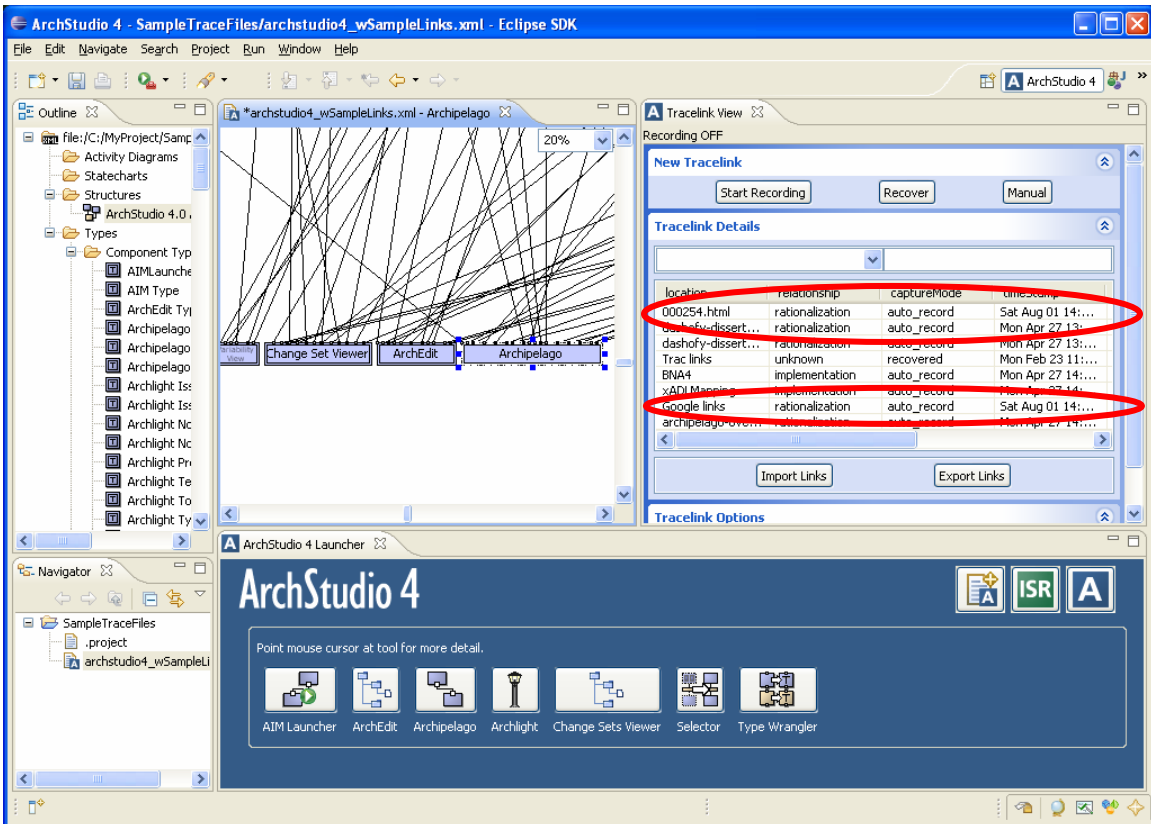
8. The tool then proceeds to process the captured links:



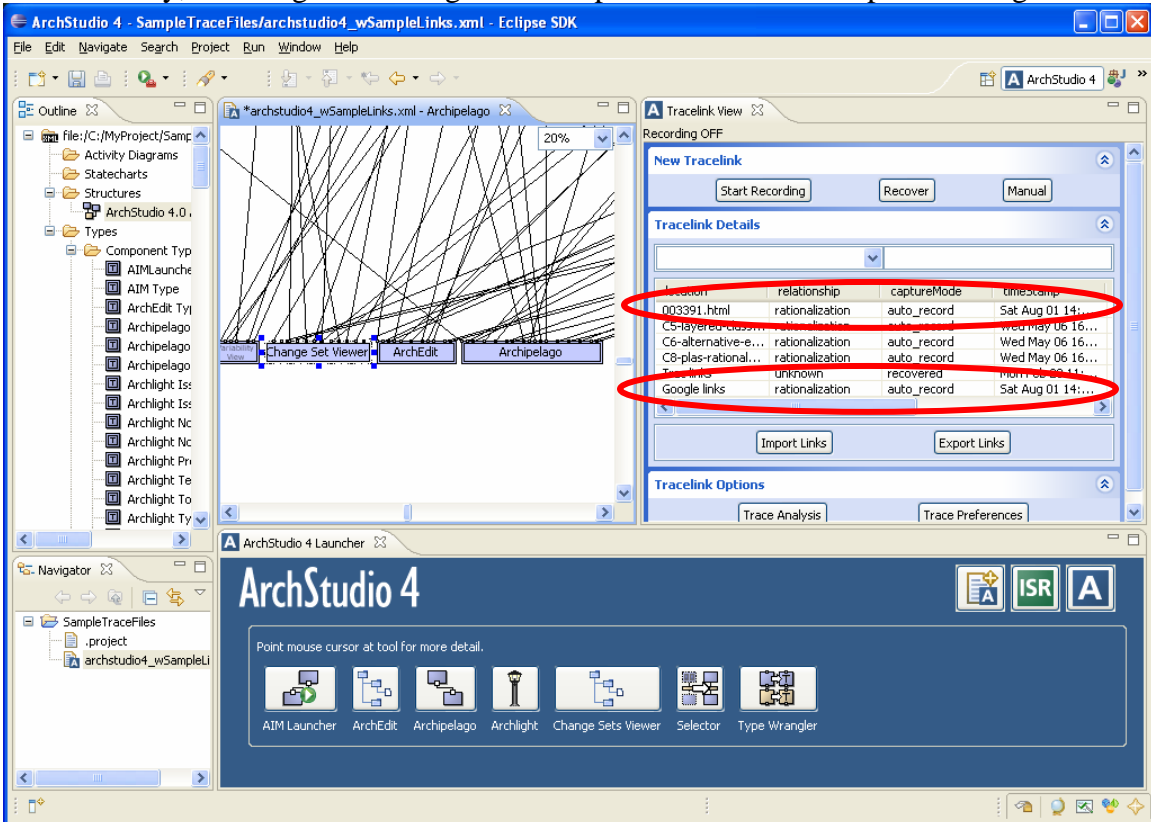
9. Once the processing is completed, the following dialog appears:



10. Select the Archipelago component. The links to the newly recorded links now appear in the table:

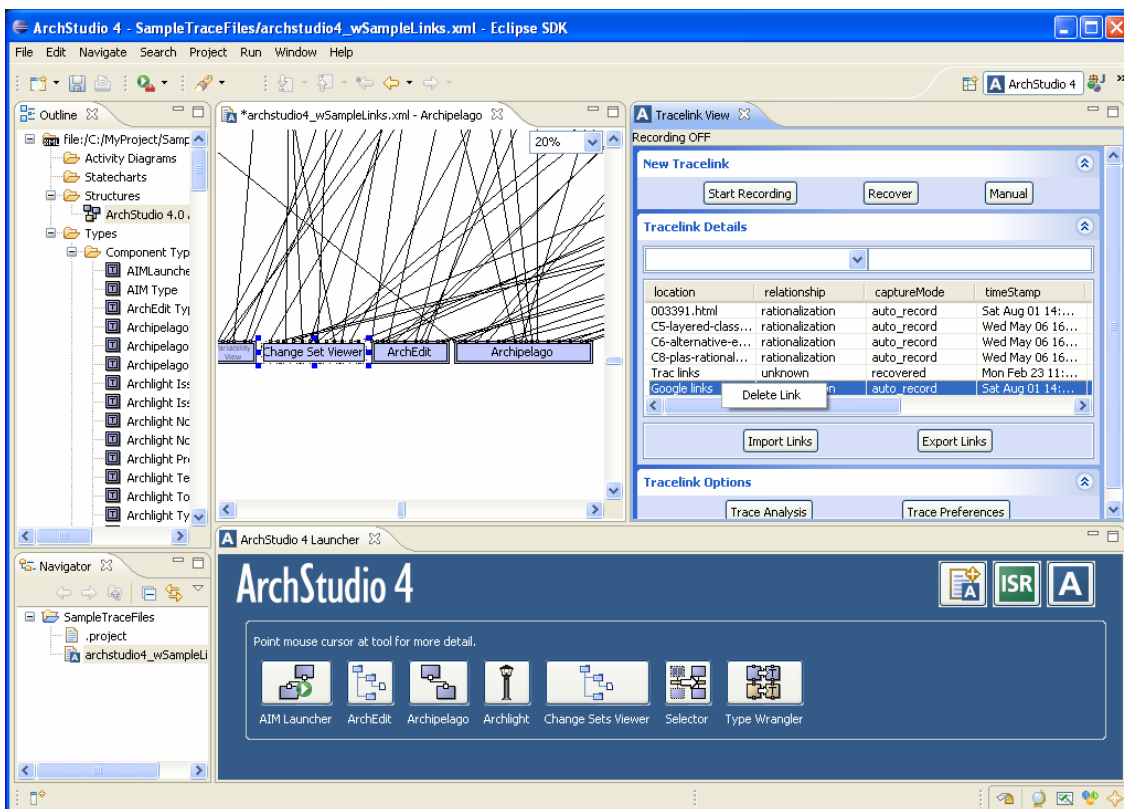


11. Similarly, selecting the “Change Set Component” shows the captured Google links.

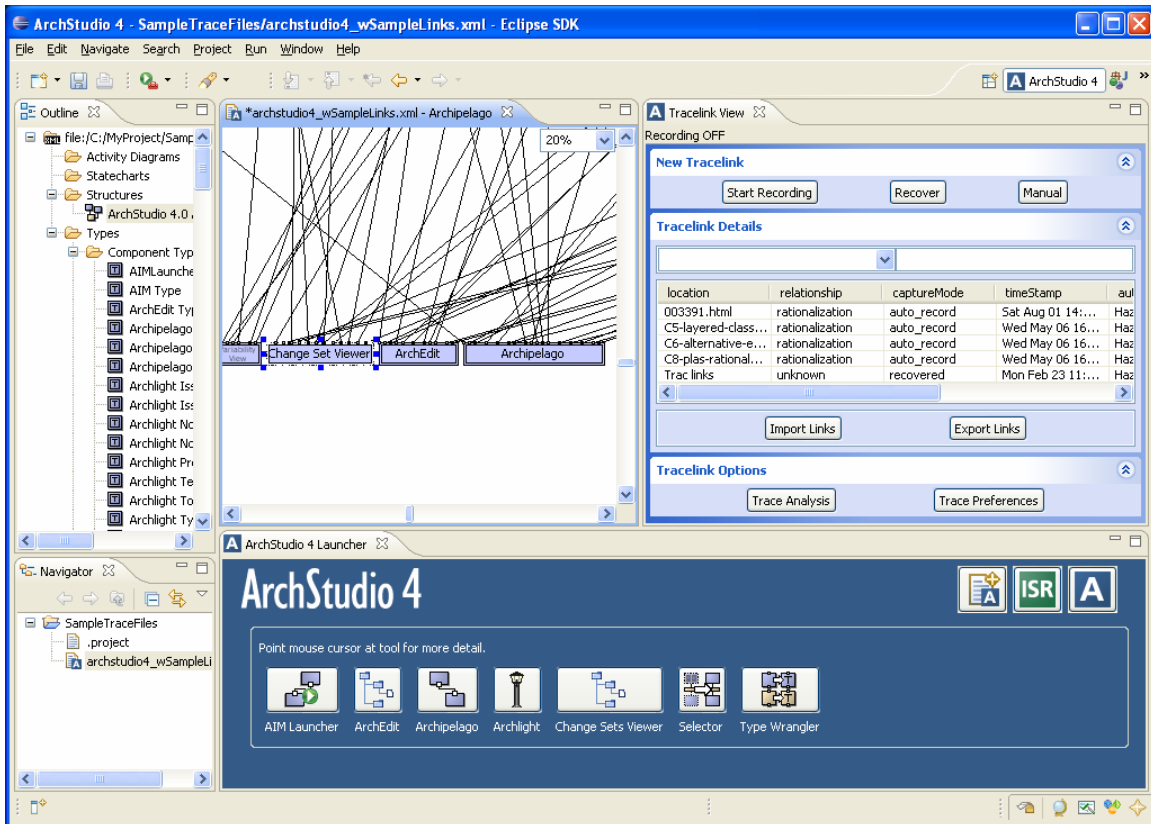


Notes:

- The rules, which assign the trace link relationship (e.g. rationalization), are applied automatically in the background. Custom rules may also be used and another version of the tool allows users to plug-in their custom rules.
- While recording, it is important to select the component first (e.g. double-click on a component) prior to visiting a resource in order to automatically link the resources to the selected component. If a component is not selected, the links will not be captured.
- The tool may also be used to capture links to Word Documents, Excel Spreadsheets, Powerpoint files, and Adobe Acrobat files. Please see the contact info at the end of this file for more information.
- To delete a link, right-click on the link and select Delete



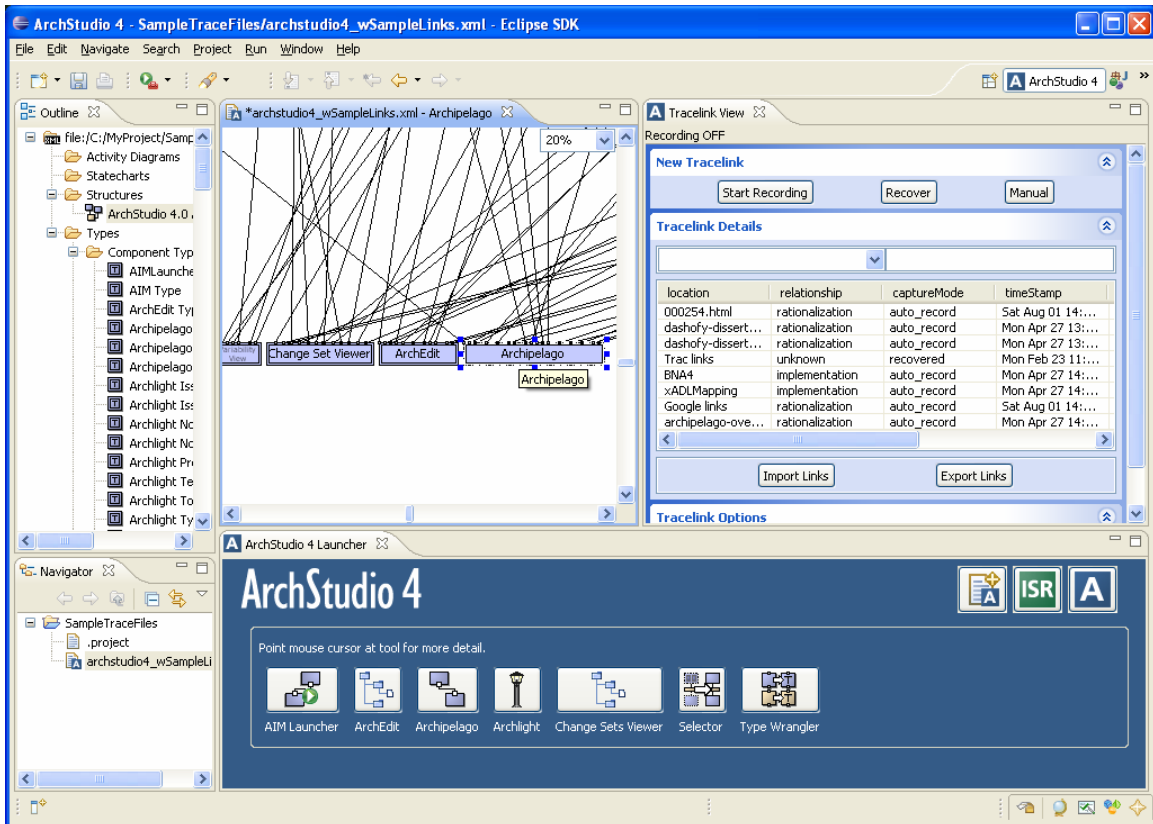
To refresh the list of links, select another component and then select the Change Set Viewer component.



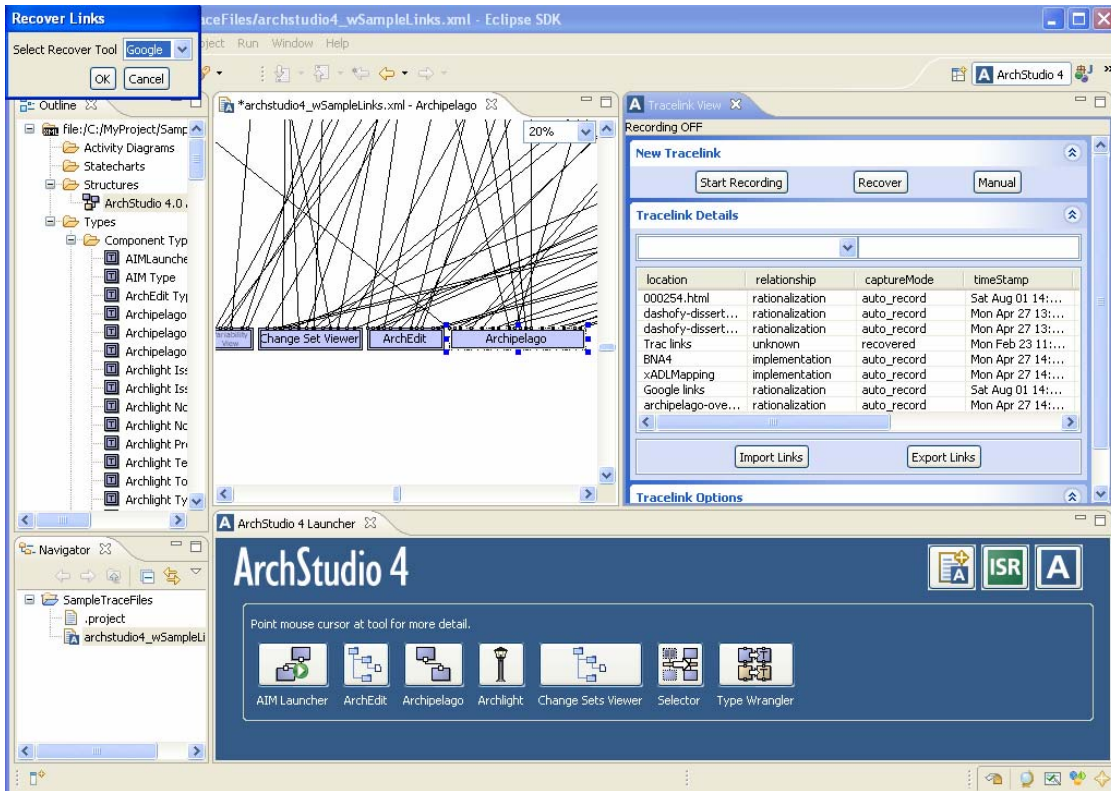
Recovering and Recording traceability links

One of the prevalent approaches to automatically generating links is to use information retrieval (IR) techniques. In this task, we will use the integrated Google search engine to recover links within a given domain. After recovering the links, we will turn the record mode on and visit the recovered links. Once we finish recording, only the links that were actually visited are captured as traceability links.

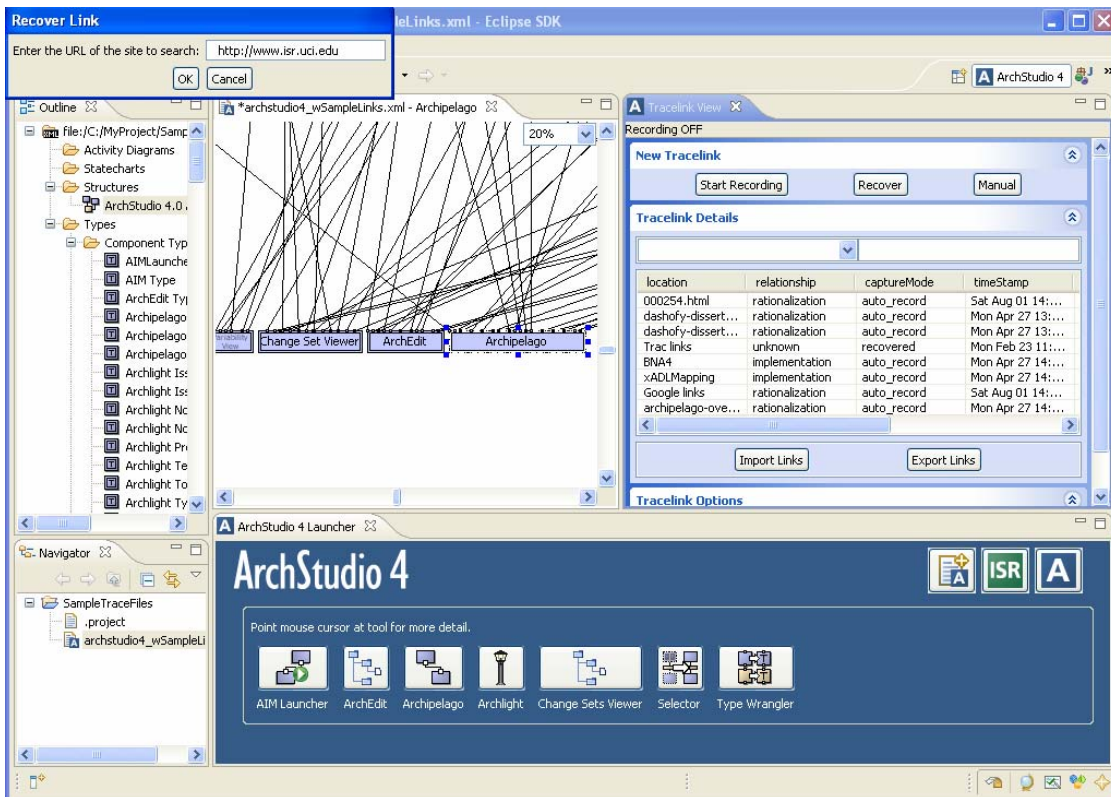
1. Select the Archipelago component:



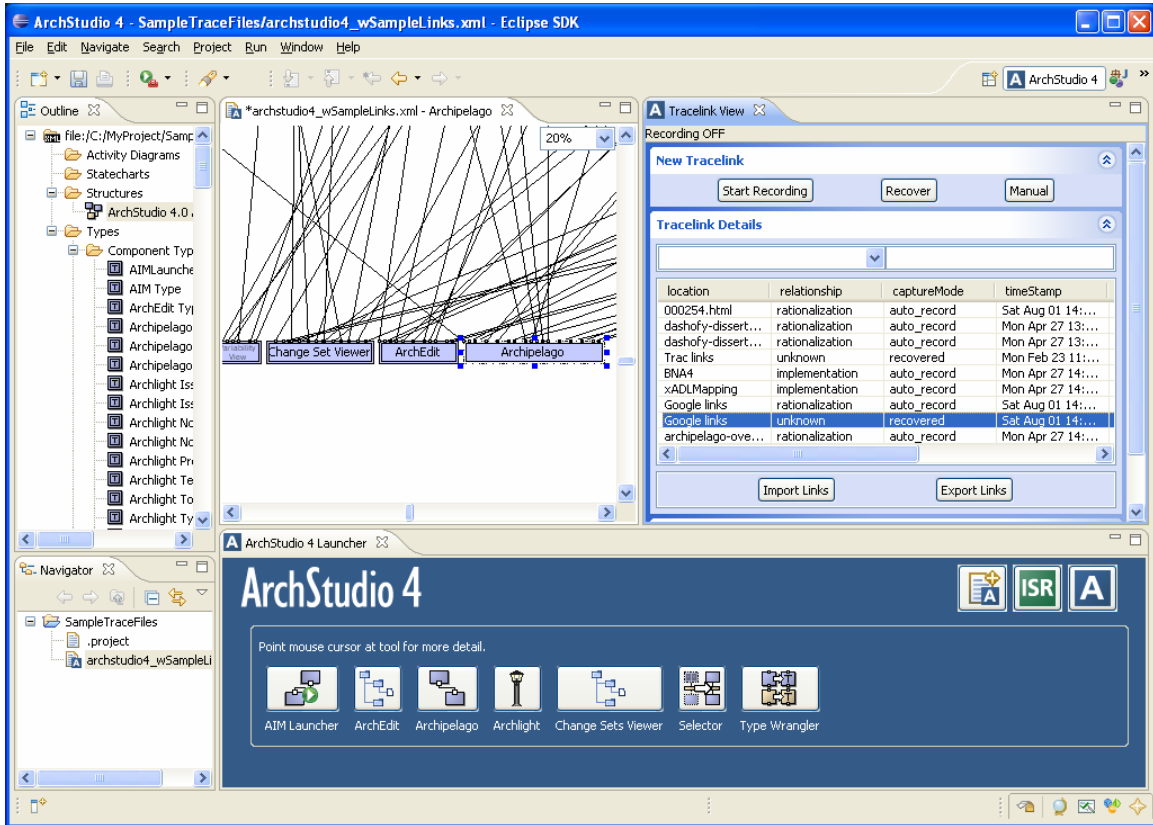
2. Click the recover button. The Recover Links dialog box appears at the top left corner. Click the OK button



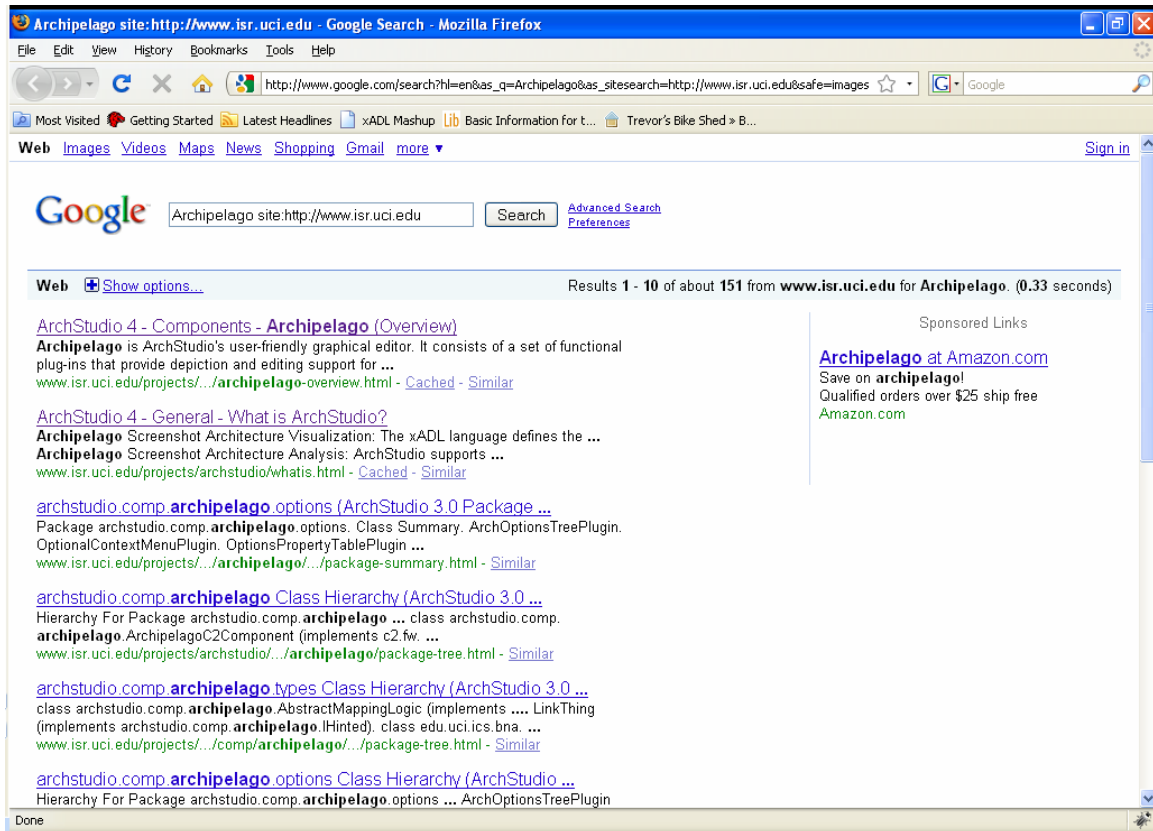
3. Enter the following domain to search for Archipelago-related documentation:



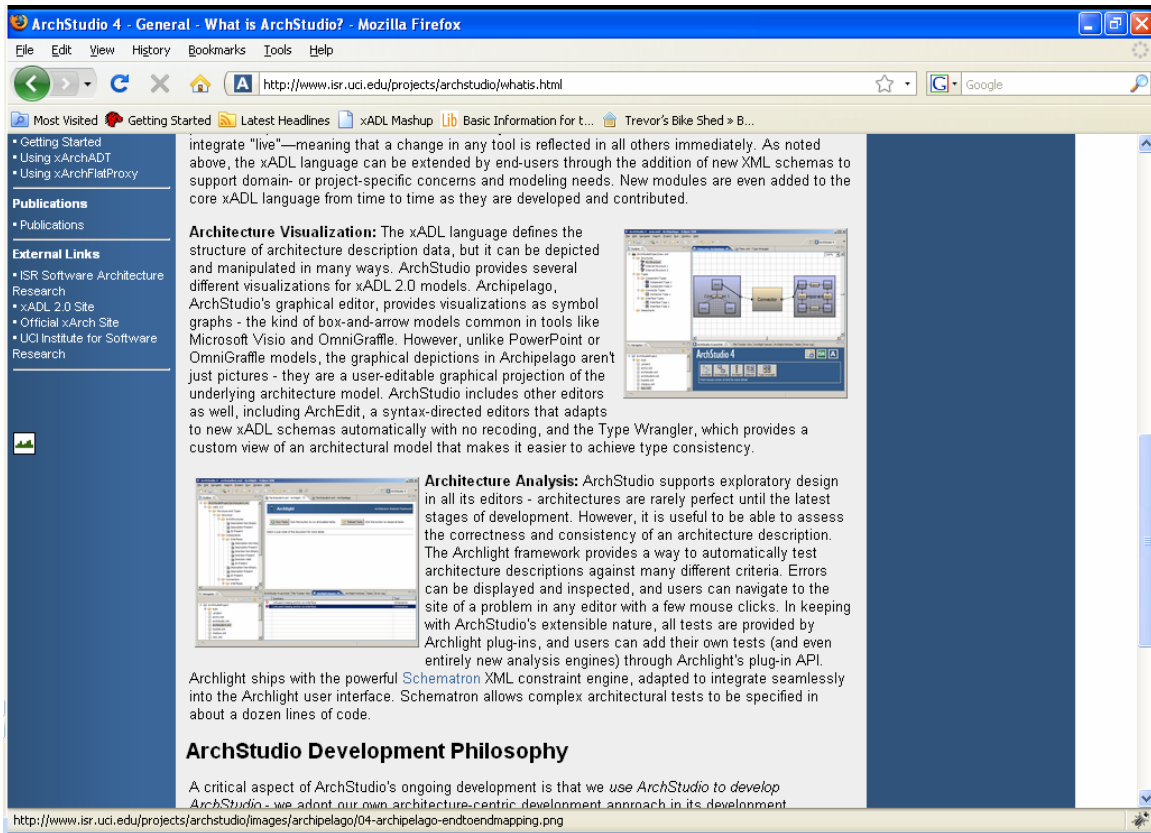
4. Select the Archipelago component again and a recovered “Google links” is now listed in the table



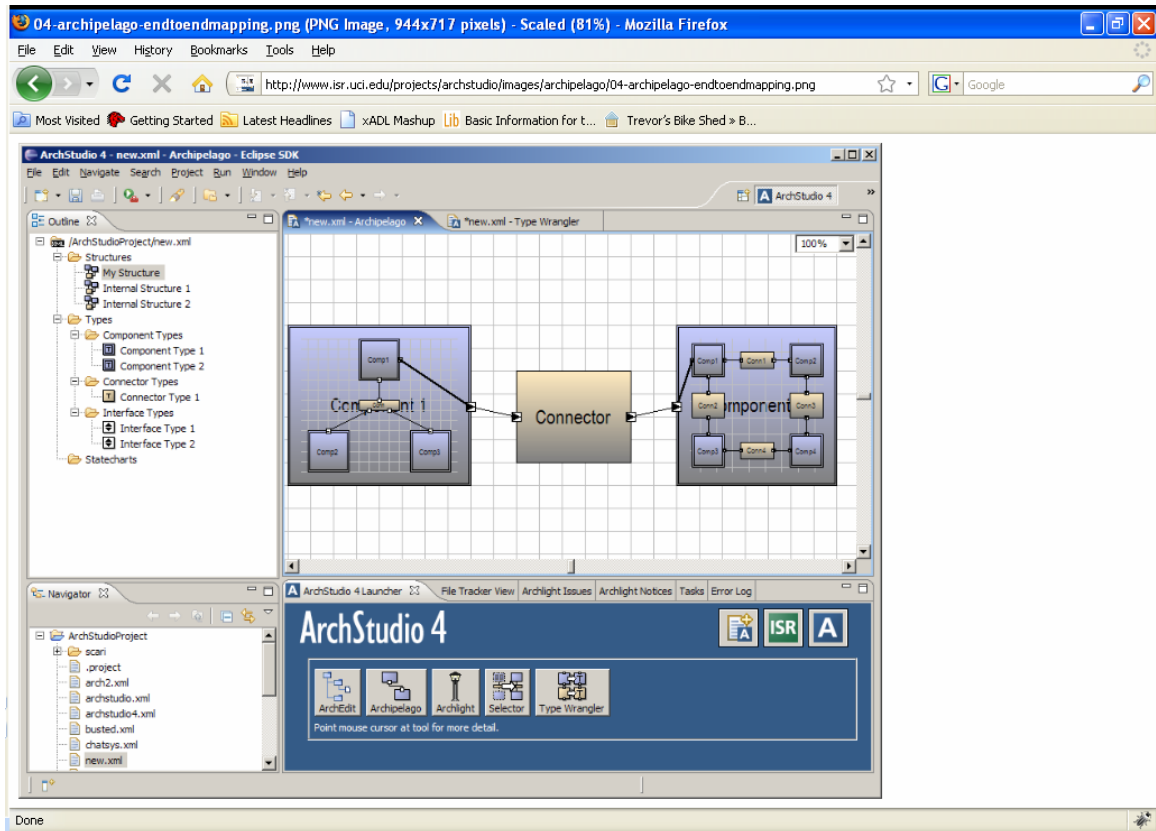
5. Click on the “Start Recording” button, double-click on the Archipelago component, and double-click on the “Google links” to render this resource in the Firefox browser. The following screen is displayed:



6. Select the link to “General – What is ArchStudio?”

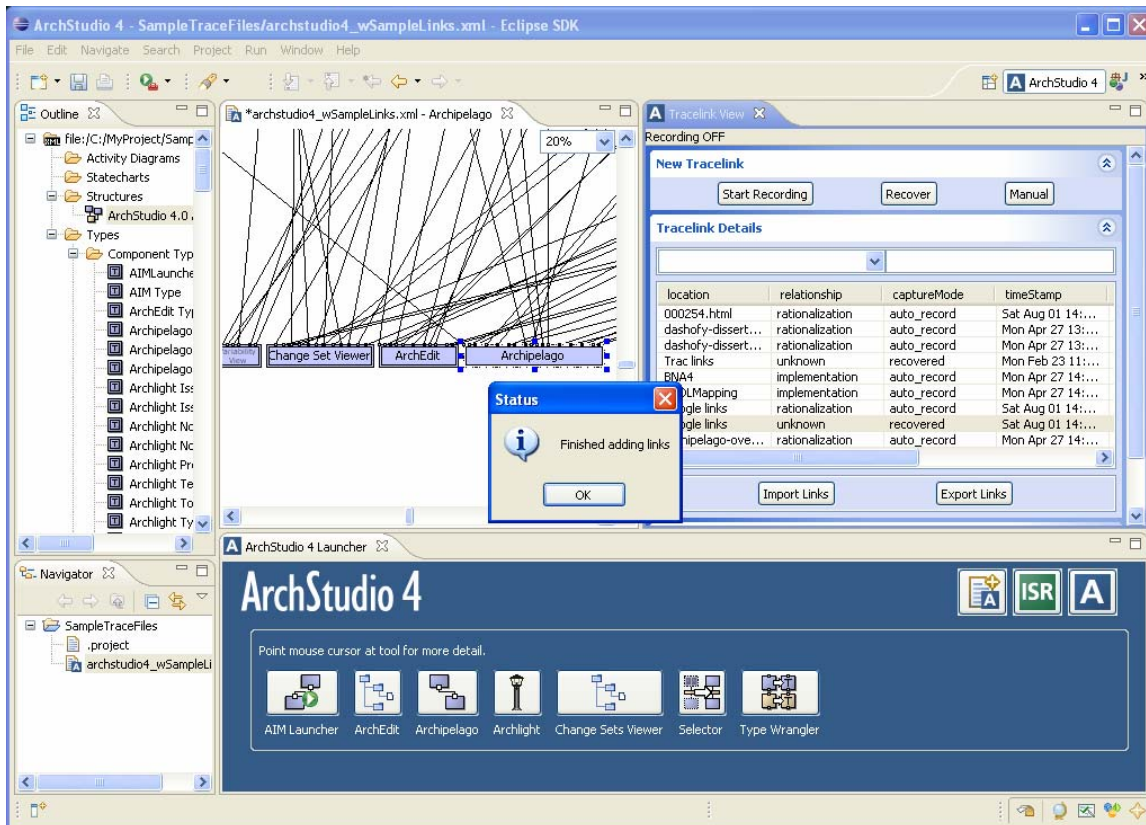
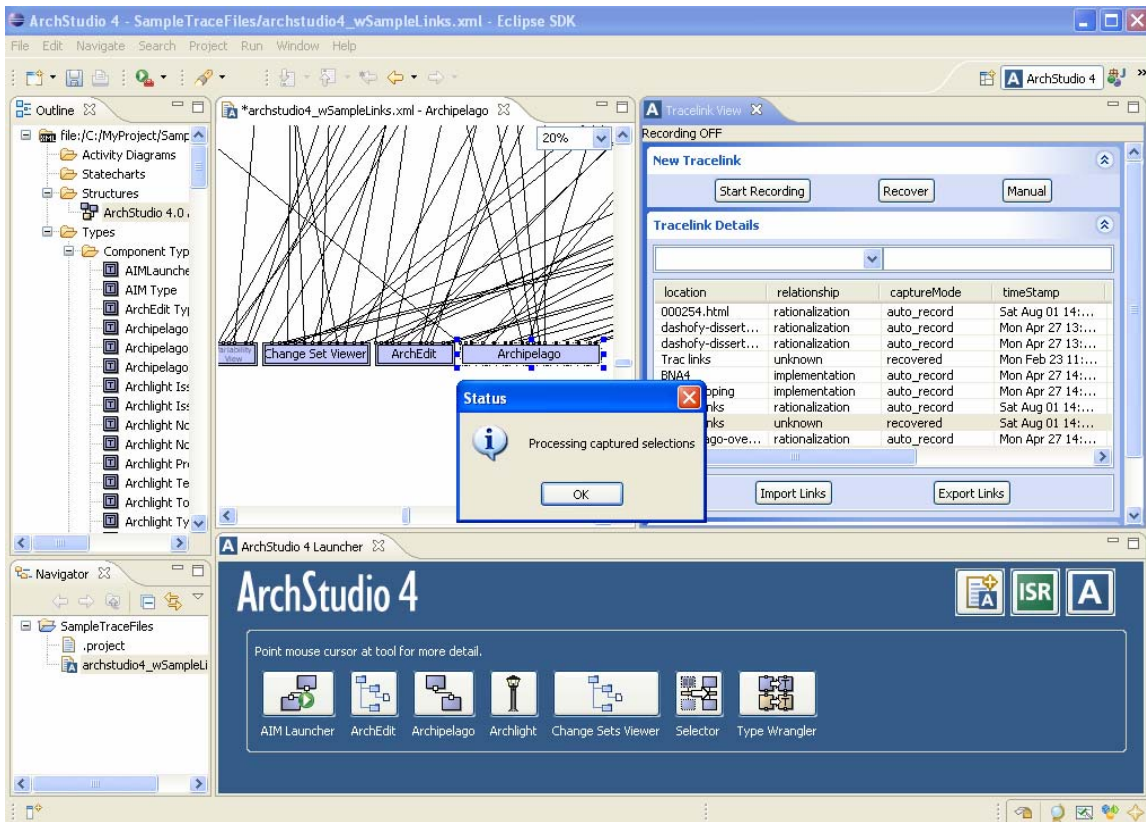


7. Then select a link to the Archipelago image in the right side of the screen. This brings us to the following screen:

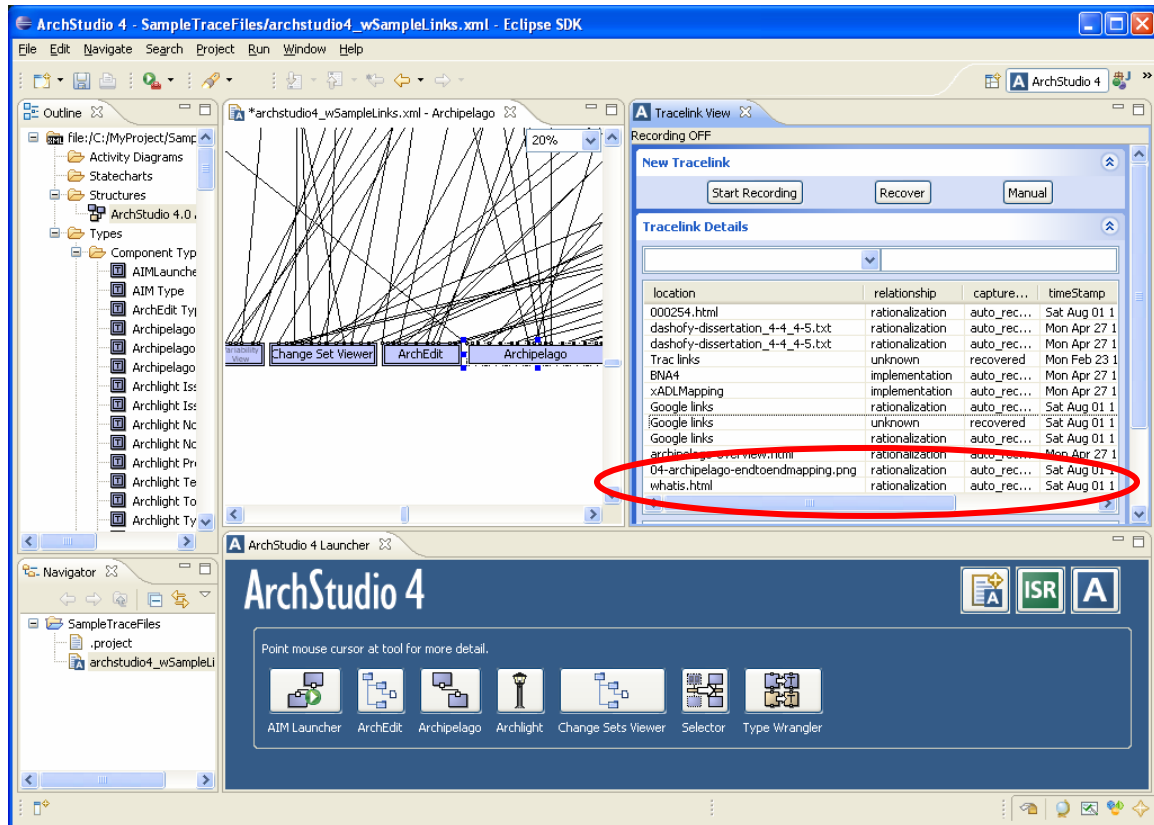


8. Close the Firefox browser

9. Click on the “Stop Recording” button



10. After the links have been processed, we now see that the links to both ArchStudio webpage and the Archipelago graphic file have been captured:



This task has demonstrated how recording traceability links can be combined with existing trace recovery techniques. While we only used a simplistic text matching technique with Google search, more sophisticated information retrieval tools can also be integrated with the ACTS tool.

Final remarks

Congratulations! You have now completed the tasks for the ACTS Tool Usage Study. Thank you for trying out the tool. Please now proceed to fill out the online surveys.

Questions or comments? Please contact Hazel Asuncion at hasuncio@ics.uci.edu.