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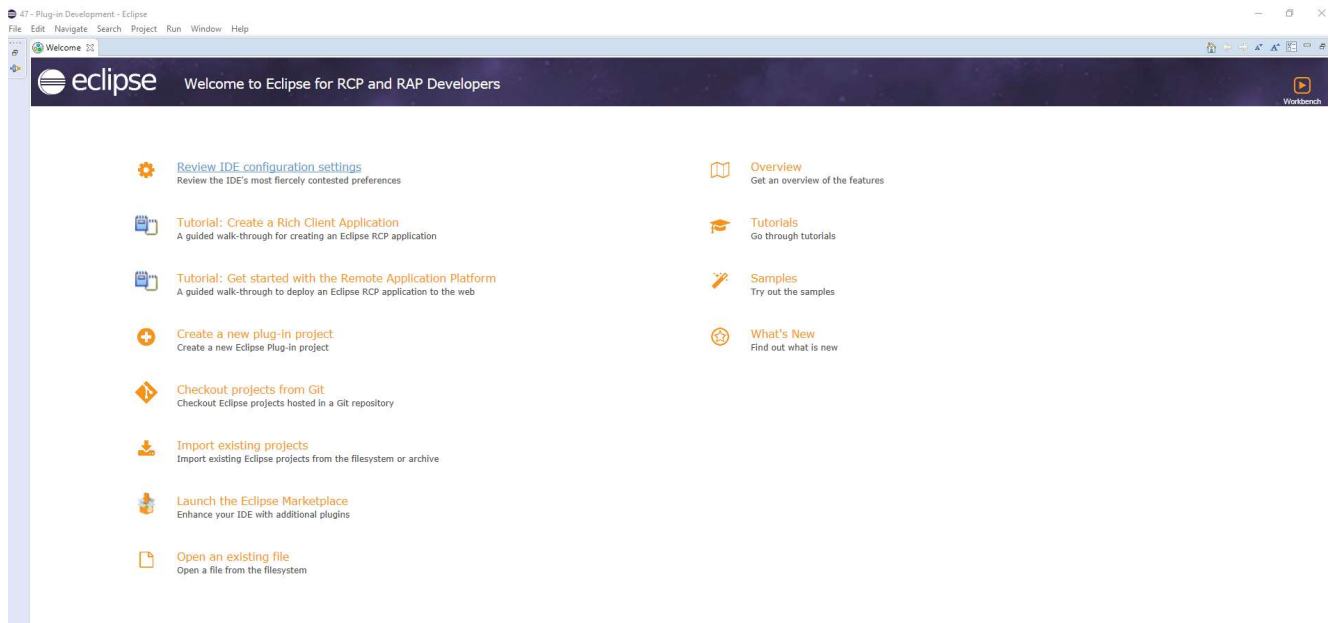
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AVIX API DEV ENV SETUP

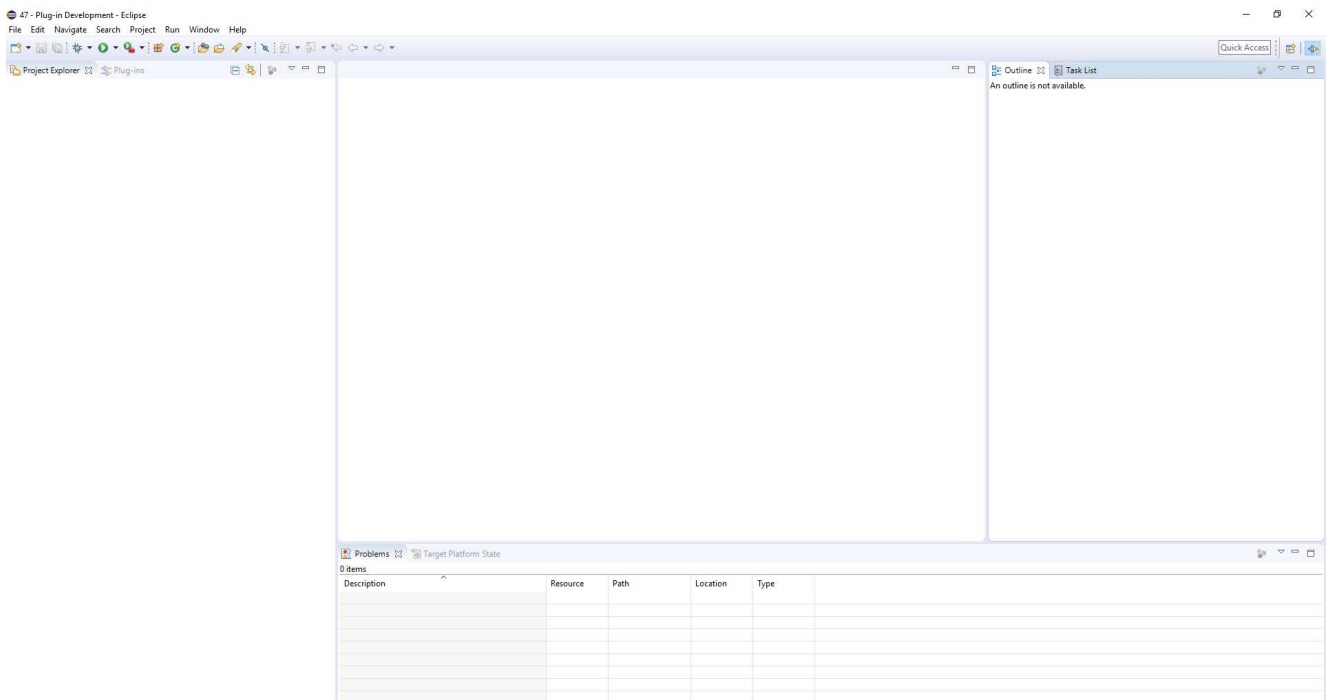
In this document, we will outline how to get a suitable environment for AviX API development up and running. Prerequisite: Having installed Eclipse (according to the “*Eclipse setup*” guide).

START ECLIPSE

When you start Eclipse on a “fresh workspace”, which you are likely to be in if you came straight from the “Eclipse setup” guide, you will be met with the so-called welcome screen looking similar to this:



Although some good guides are found from this page, we will leave it for now. Select the “Workbench” icon in the top right corner. Now, Eclipse will probably bring you to the “Perspective” called Plug-in Development (PDE). It will be empty, and looks something like this:



A few fundamental concepts of Eclipse itself is present here right from the get-go. You need to (get to) know the following terms and stuff when working with Eclipse:

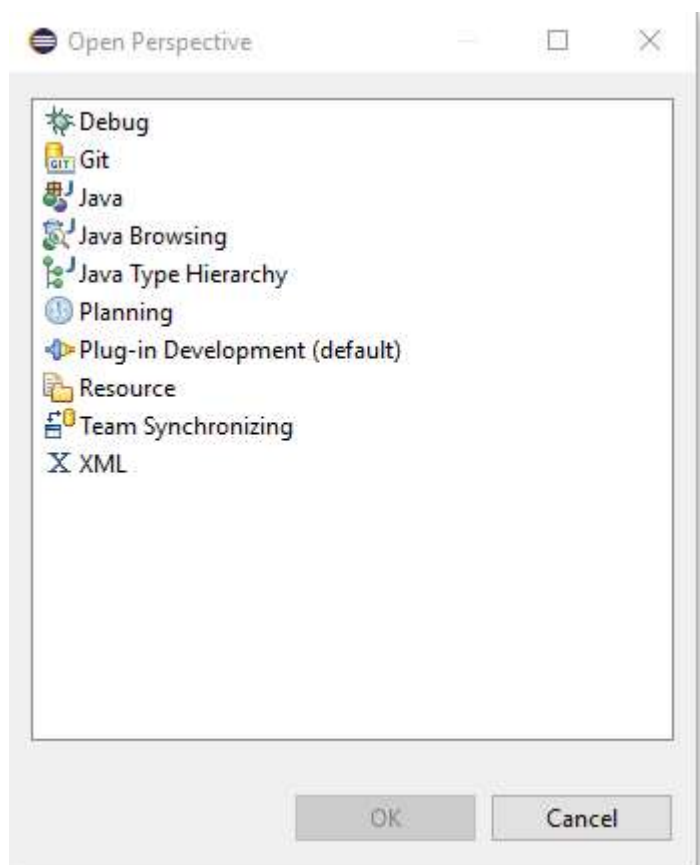
- **Views:** these are the basic UI building blocks of an Eclipse application (like AviX; but also Eclipse itself). In the rather empty image above, you have the “Project Explorer”, “Problems”, “Outline” etc. All those are views.
- **Perspectives:** In the top-right corner, the icons representing the recently used perspectives are present. In my case here, only the PDE perspective is visible and active.
- **Editors:** The editor window is the big and totally empty window here. This is the place where stuff is opened, for instance when selecting in a view. More about this later.

GET YOUR GIT CLONE

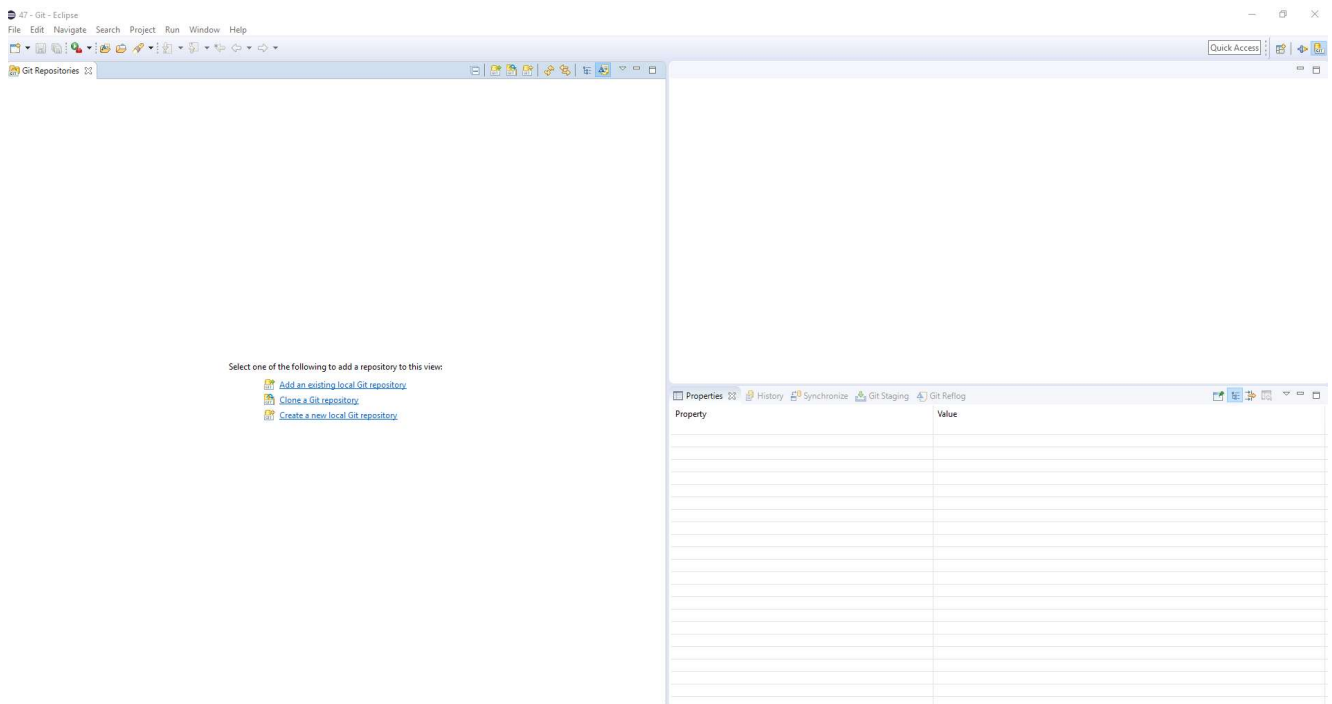
First, let’s get the AviX source code you need. Yes, you’ll get access to all of the precious source code for AviX! Since there at the time of writing is no real good API documentation of AviX (which would have come in really handy for you, dear API developer), the source code

will be your best friend. If you are lucky, java components you need to study come with good java docs. If not, you'll at least be able to look at the source, maybe copy a line or two, and of course also to debug it, to see what's going on.

OK, open the GIT perspective: Click the little "Open Perspective" button located in the top right corner. You'll be presented a dialog like this:



Select "Git" and click ok. You'll now end up in the GIT perspective, looking like this. Also note now in that the GIT perspective icon is there in the top right corner, for easy access later on.



Now is the time to “Clone a Git repository”. Click that link in the “Git Repositories” view. Then, click “Clone URI”.

On the next page, enter your credentials like I did here. To “Store in Secure Store” is a good thing, so GIT won’t be nagging you for password all the time.

Clone Git Repository

Source Git Repository
Enter the location of the source repository.

Location

URI:

Host:

Repository path:

Connection

Protocol: ▼

Port:

Authentication

User:

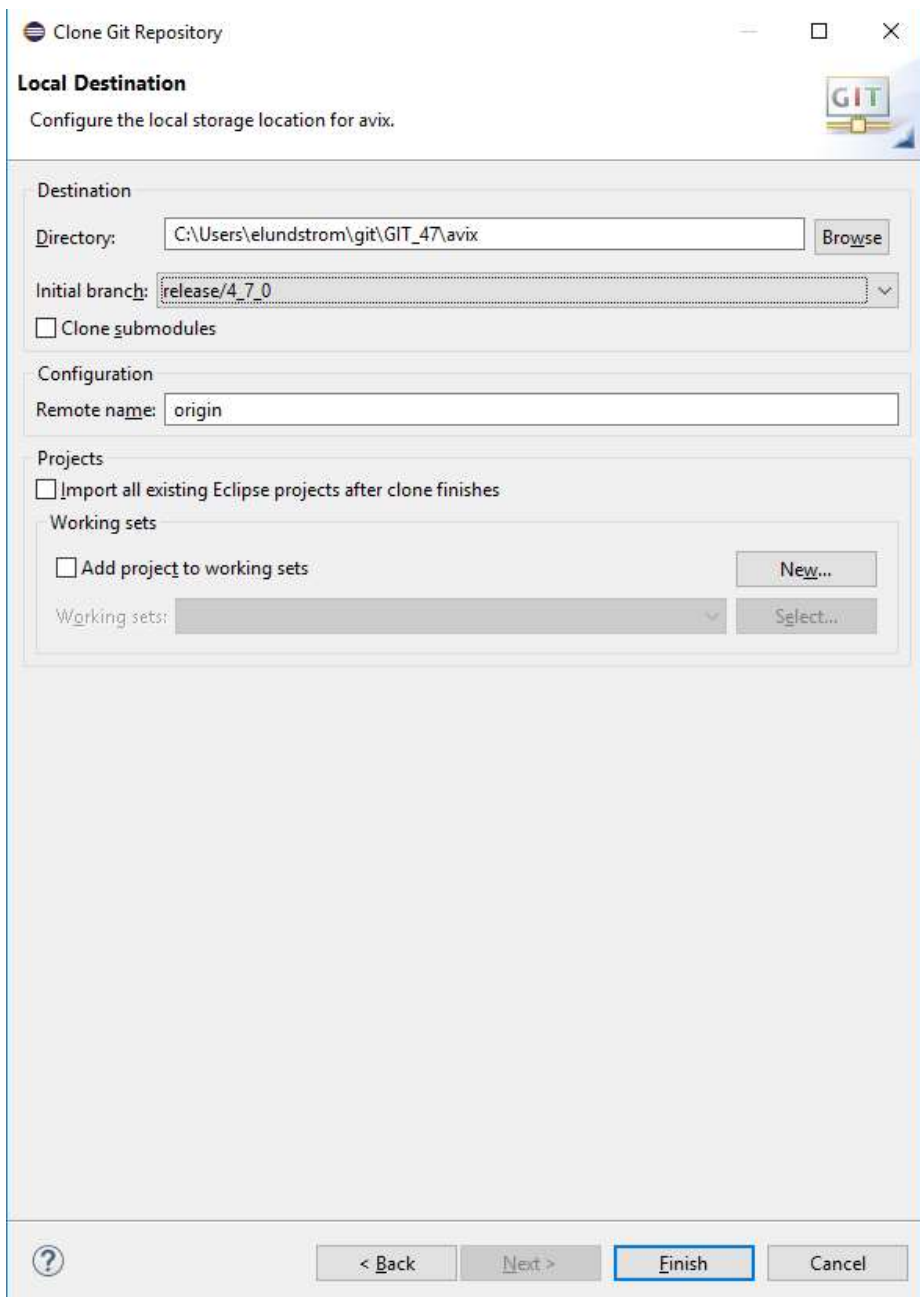
Password:

☒ Store in Secure Store

? < Back Next > Finish Cancel

On the next page, you'll select which branches to go for. Accept defaults (all) and go for Next.

On the "Local Destination" page, you will select where on your drive you will store the GIT clone. This may occupy quite a bit of space, just so that you know. I did my selection like this, but it is up to you where you want to store it.



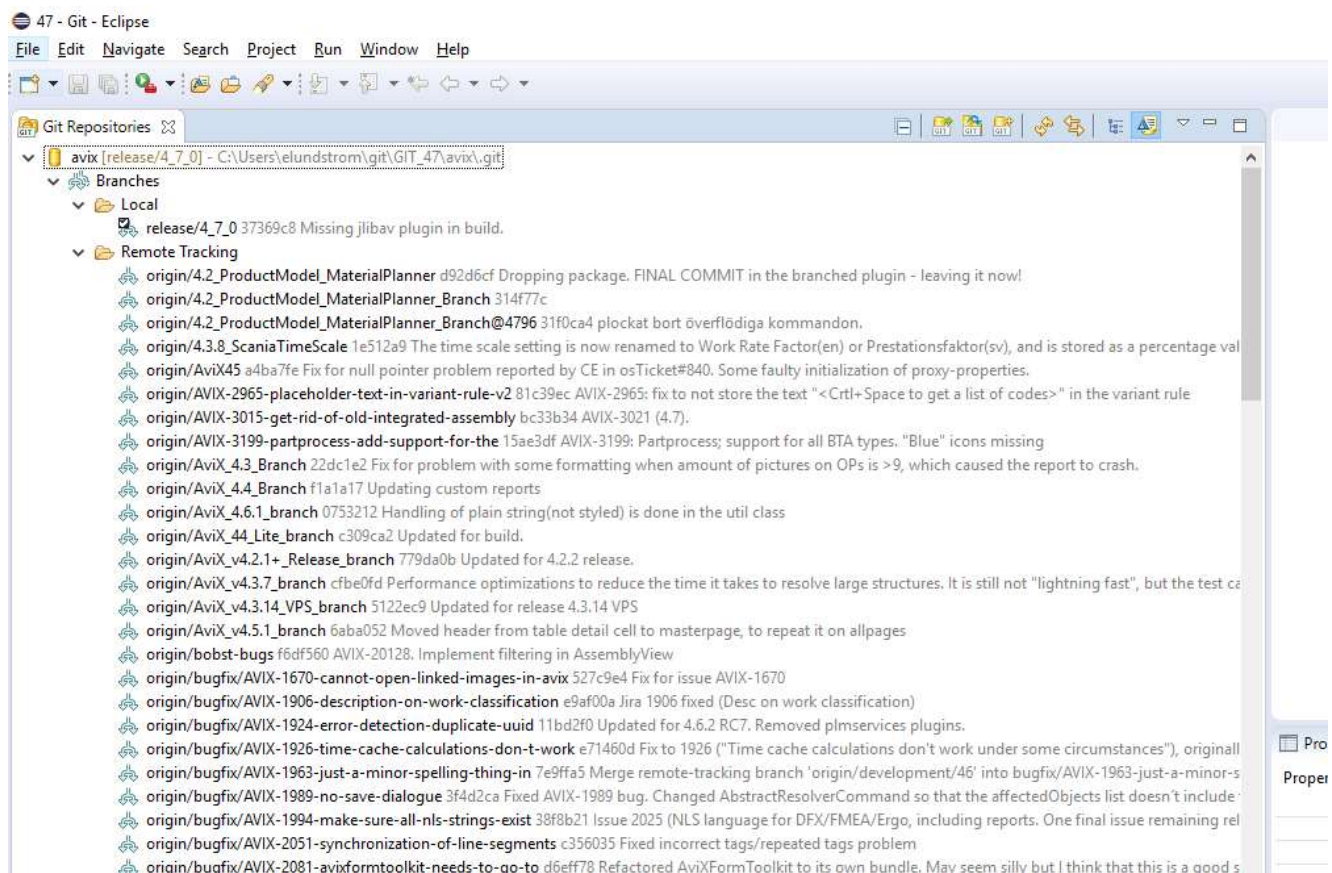
Note that I selected “release/4_7_0” as my initial branch. At the time of writing, this is the most current branch, so select it. (One can easily select other branches later on, so it is not a big deal. That is one of the fundamental advantages with GIT btw – easy branch creation and navigation).

Do not import existing projects. We’ll do it another way, just shortly. Click “Finish”, and eGIT (Eclipse GIT integration) will start the process. This may take a very long time – hour(s) if on a bad connection. So be patient!

INSPECTING THE RESULT IN GIT REPOSITORIES

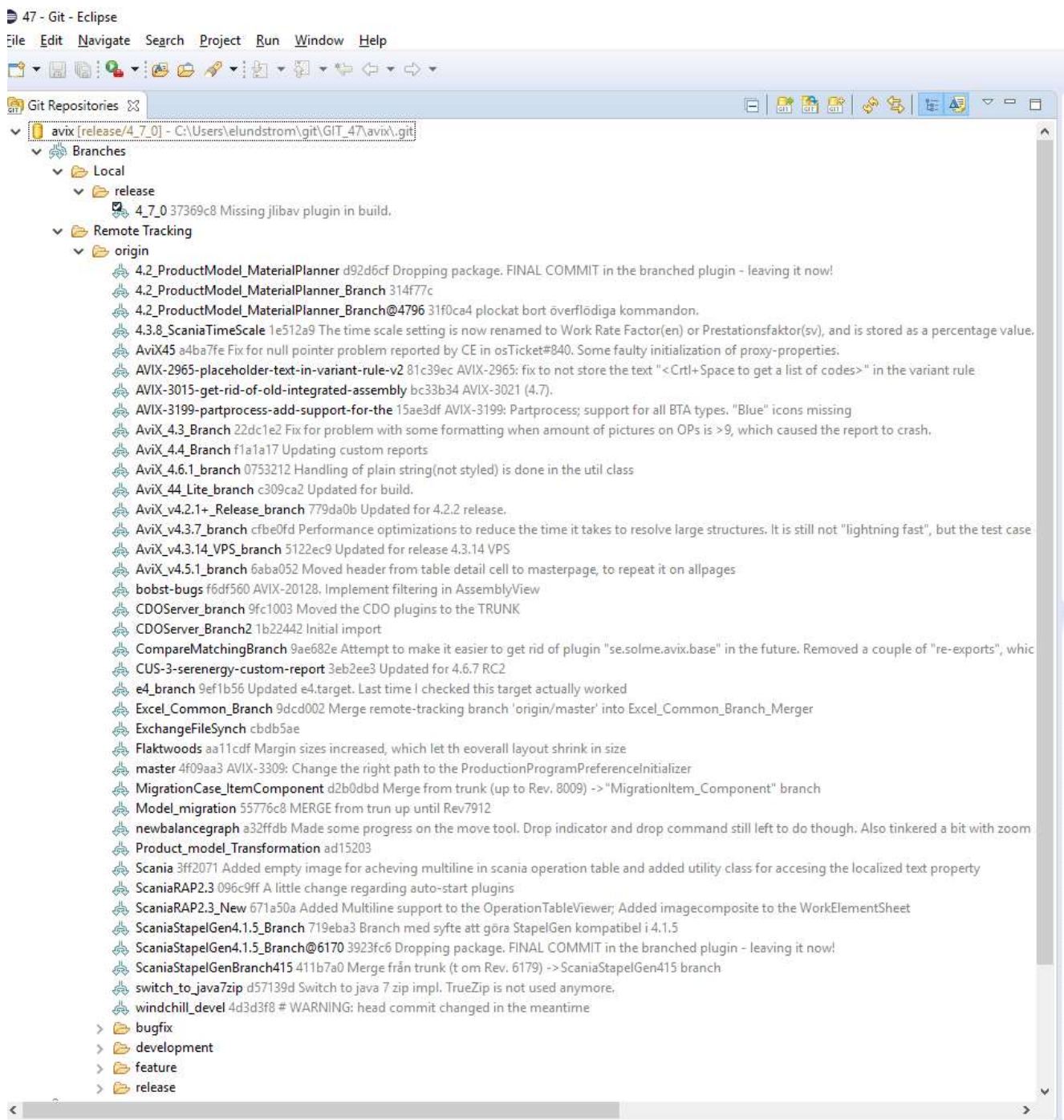
Hopefully, your GIT clone was created effortlessly, and you even had some time for a lunch, coffe and a little walk.

Your Git Repositories view should now contain something like this:



You see the name of the Git repository (“avix”) here, as well as the Local branch you are currently in (“release/4_7_0”). We selected that in the “clone git repository”, remember?

You also see all the existing “Remote” branches. Although we will not go into details regarding Git here (there are excellent resources on the web for that), a better UI organization IMHO is to select the little “arrow menu”, go for “Hierarchical Branch Layout” and see the difference:



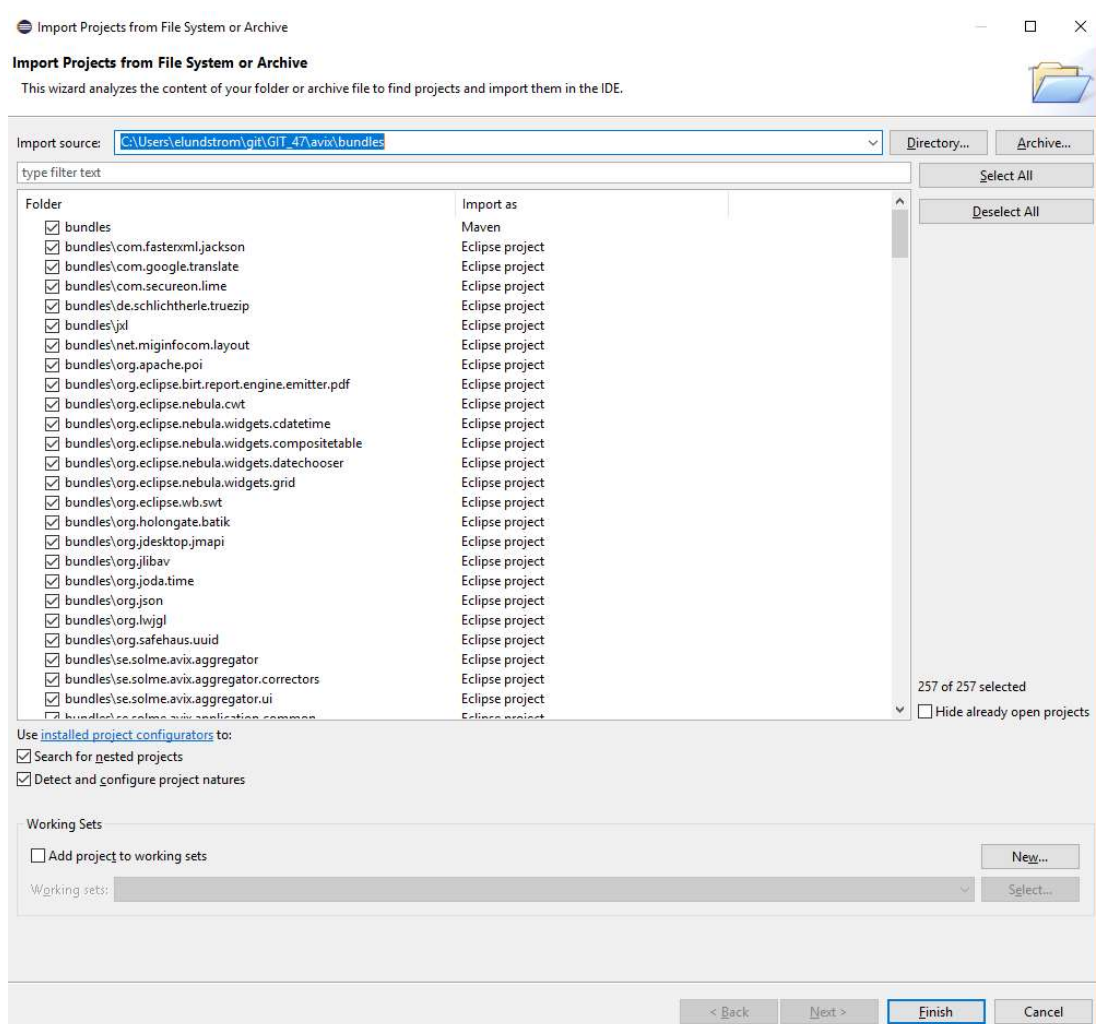
As you see, eGIT displays the branches as good as it can. All the branches directly under “origin” is just because we didn’t position them in a good way from the beginning.

GET THE AVIX PLUGINS INTO YOUR PDE

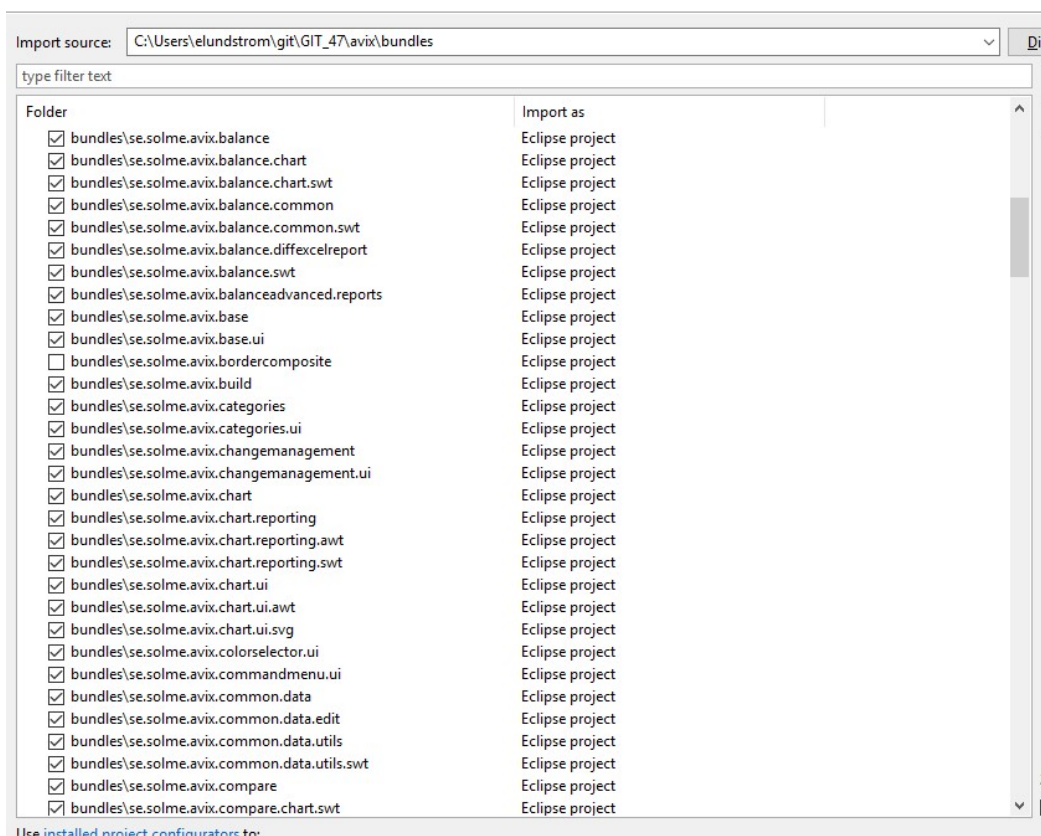
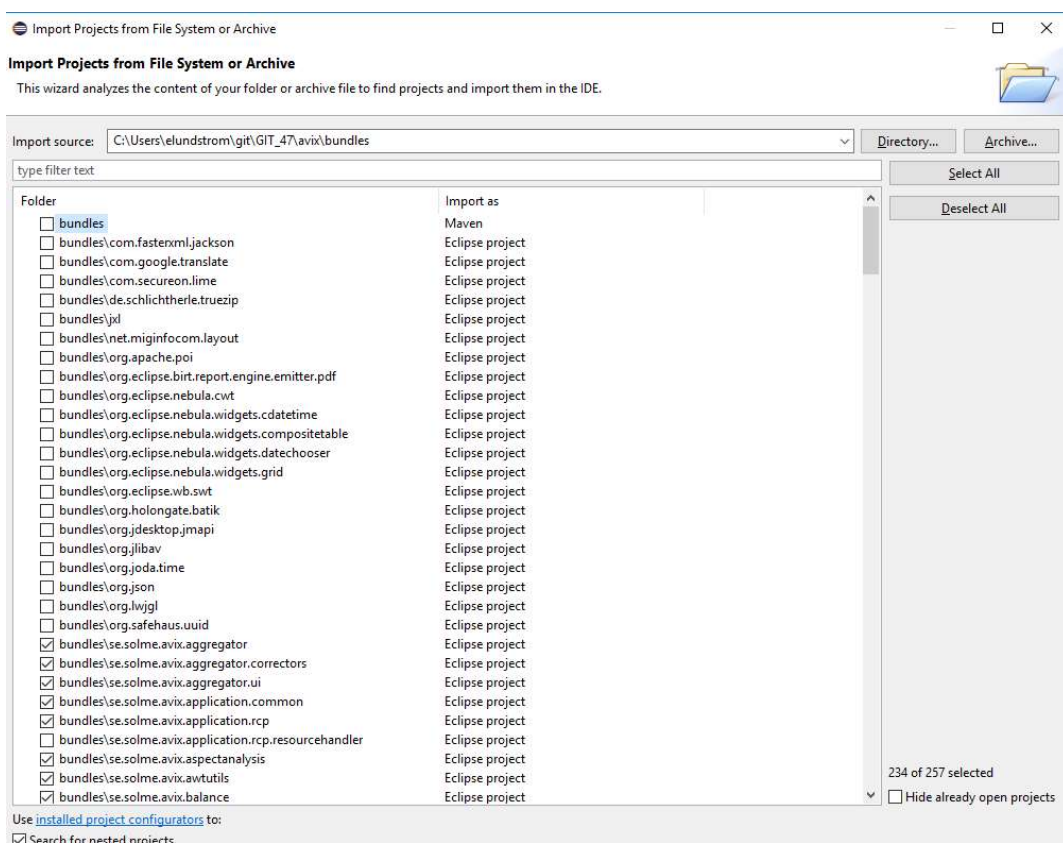
OK, so now you have all the source code cloned onto your hard drive. But if you jump pack to the PDE perspective, the “Project Explorer” will still be empty. That will not remain this way for a long time – this is where we want all the AviX plugin projects to be presented.

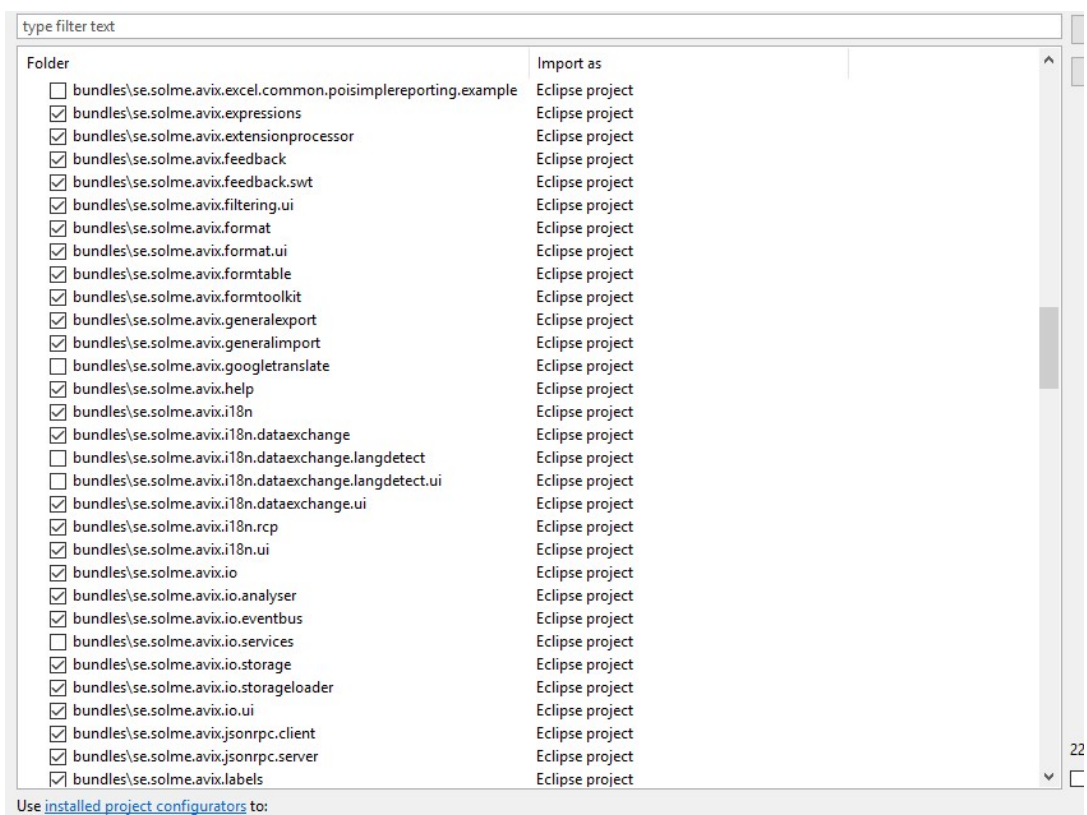
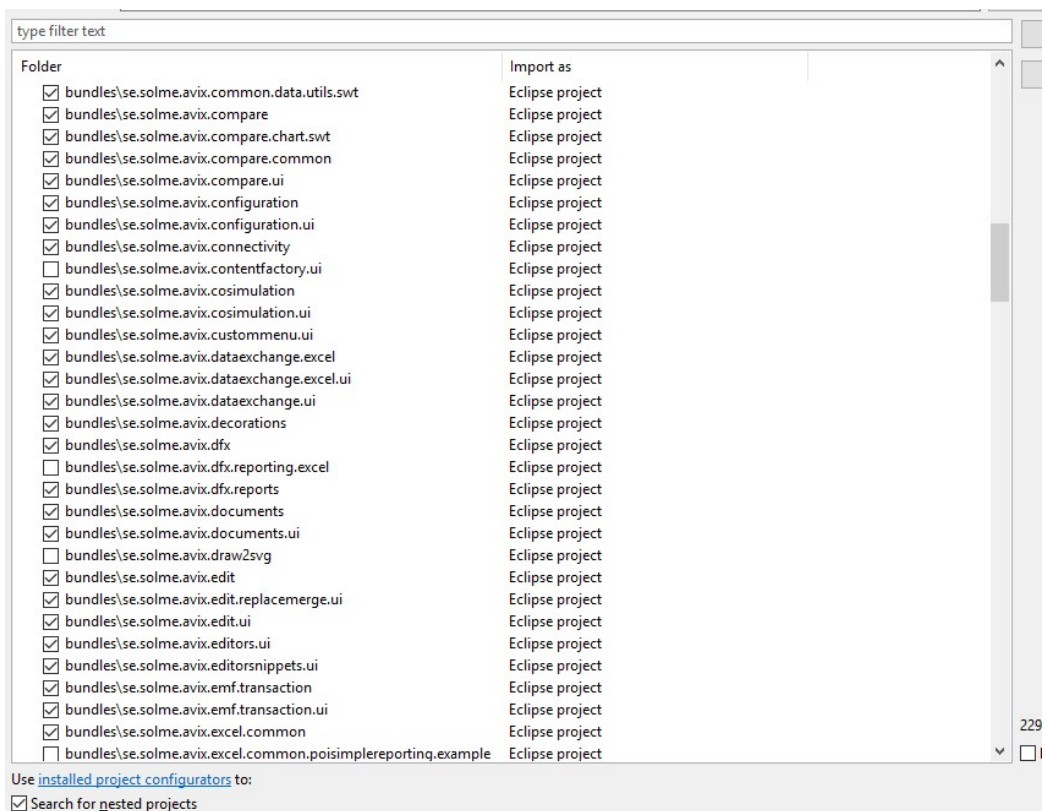
In order to get to that, you will need to “import projects” into your so-called working directory. Start out by right-clicking on the “bundles” folder (under the “Working Tree” folder) in the Git Repositories view, and select “Import Projects...”. Be patient, this may take some time.

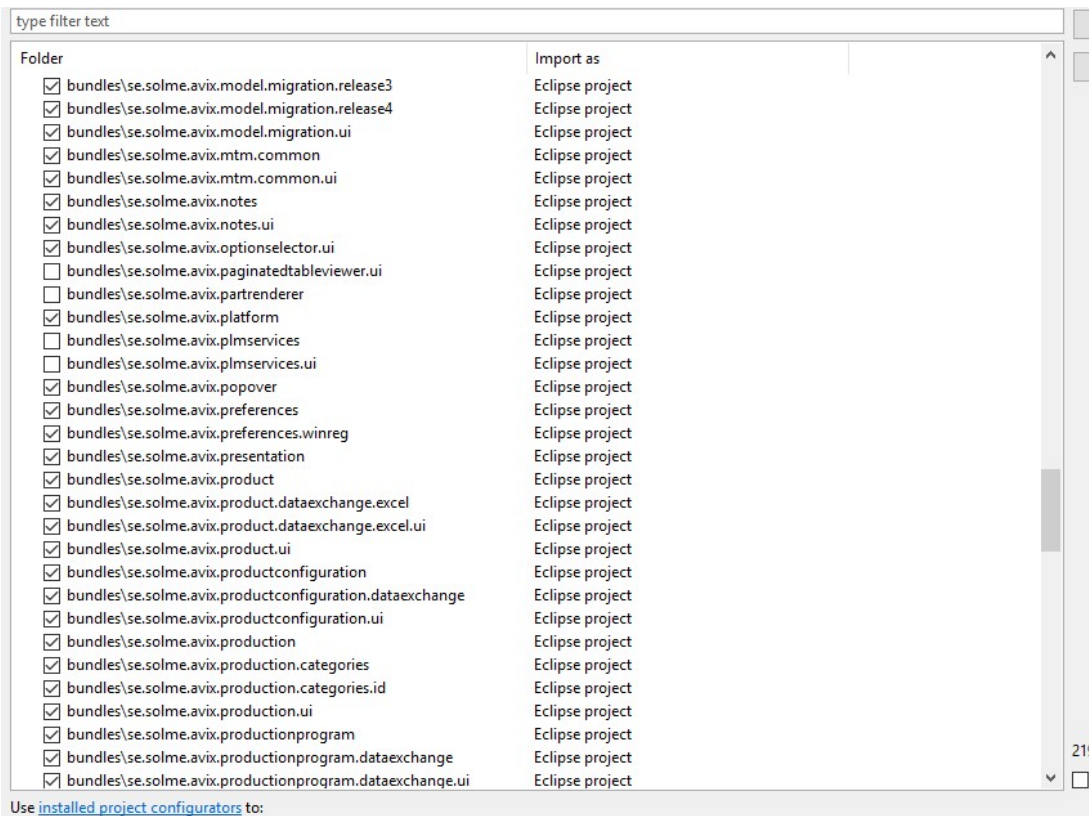
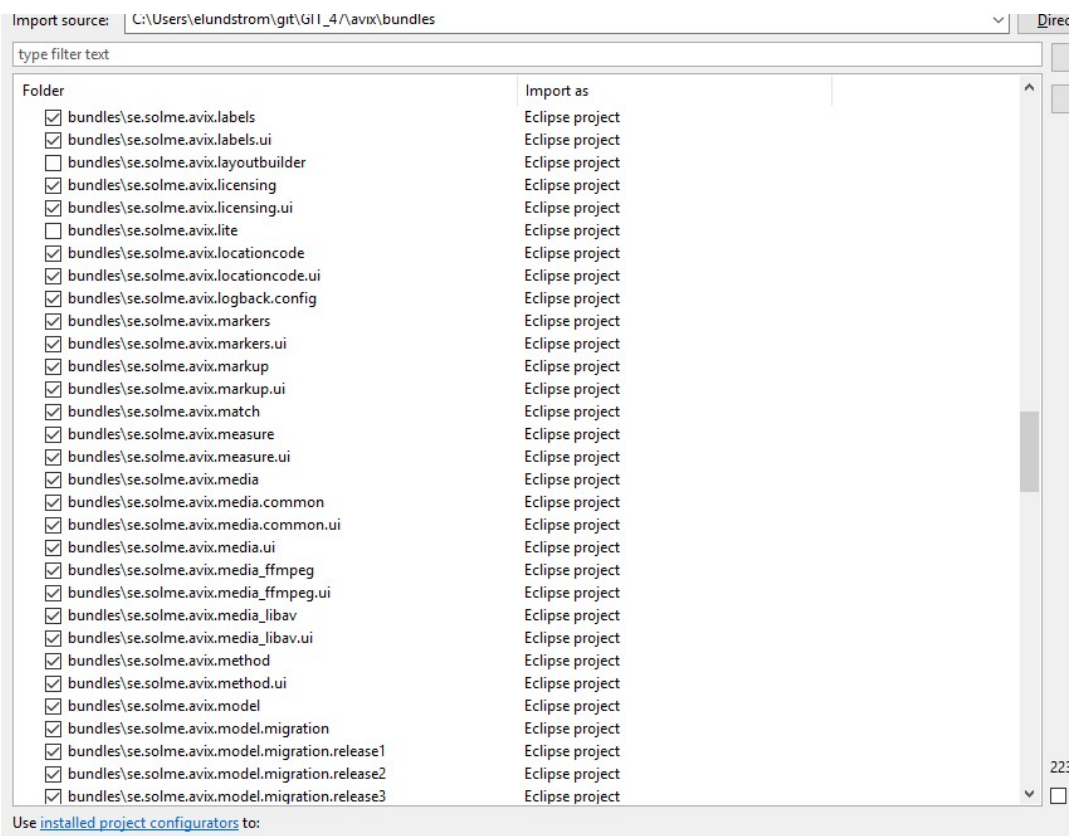
You will be presented with something like this:



Now, I don't actually want you to import everything here. Do the selections according to the following images, and try to select just the ones I have. It is a bit tedious, sorry.





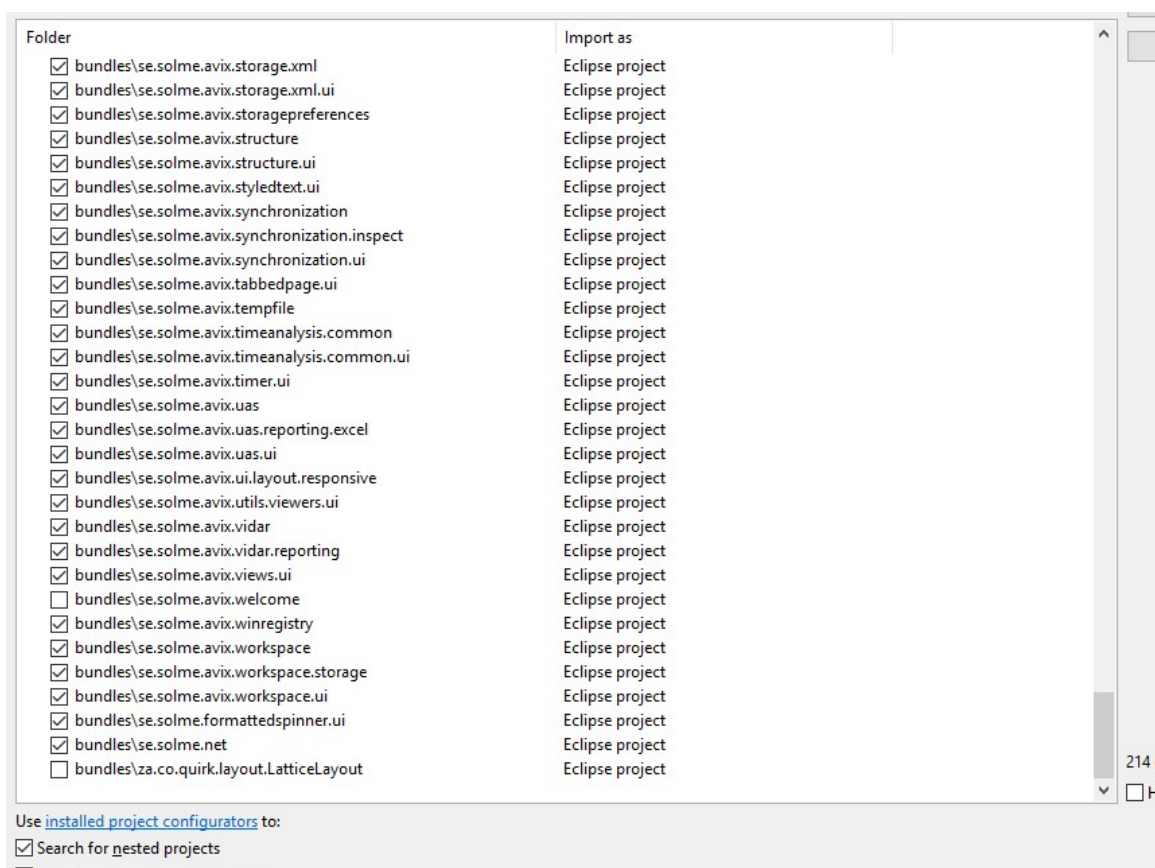


| type filter text | |
|---|-----------------|
| Folder | Import as |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.productionprogram.dataexchange | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.productionprogram.dataexchange.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.productionprogram.simulation.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.productionprogram.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.properties | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.properties.compability | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.properties.databinding | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.properties.ui | Eclipse project |
| <input type="checkbox"/> bundles\se.solme.avix.properties.util | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.relationsections.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.report.templates.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.reporting | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.reporting.birt | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.reporting.datacollection | Eclipse project |
| <input type="checkbox"/> bundles\se.solme.avix.reporting.postprocessing.examples | Eclipse project |
| <input type="checkbox"/> bundles\se.solme.avix.reporting.simplemoviereport | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.reporting.templates | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.reporting.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.risk | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.risk.reports | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.risk.reports.fmeaexcelreport | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.rules | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.rules.common | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.rules.common.swt | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.rules.swt | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.sam | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.sam.ergosam | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.sam.reporting.excel | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.security | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.security.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.security.ui.rcp | Eclipse project |

Use [installed project configurators](#) to:

| type filter text | |
|---|-----------------|
| Folder | Import as |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.security.ui.rcp | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.server | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.server.cdo | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.server.daemon | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.server.jetty.customizer | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.server.jetty.logging | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.server.services | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.server.services.rest | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.server.ws.api | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.smed | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.smed.chart | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.smed.chart.swt | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.smed.common | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.smed.common.swt | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.smed.swt | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.stopwatchtimestudy | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.stopwatchtimestudy.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.storage.cdo | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.storage.cdo.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.storage.file | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.storage.xml | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.storage.xml.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.storagepreferences | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.structure | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.structure.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.styledtext.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.synchronization | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.synchronization.inspect | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.synchronization.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.tabbedpage.ui | Eclipse project |
| <input checked="" type="checkbox"/> bundles\se.solme.avix.tempfile | Eclipse project |

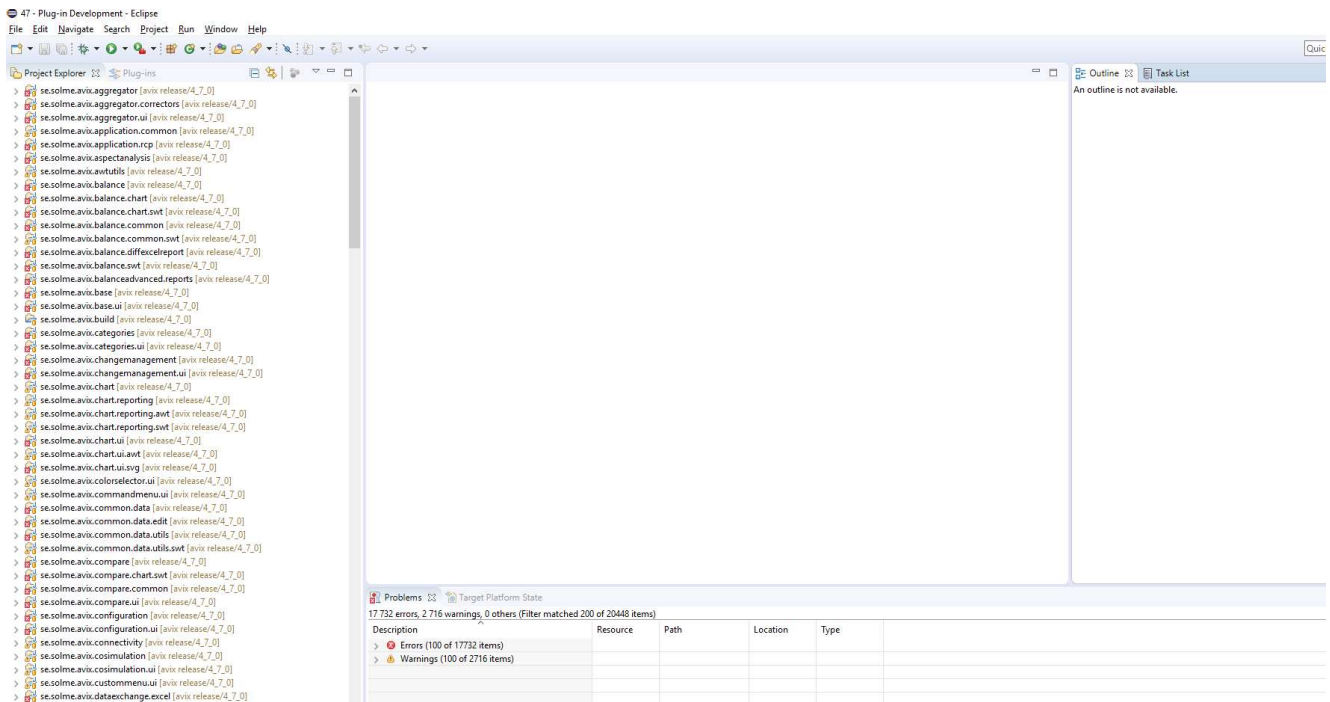
Use [installed project configurators](#) to:



Pew, that's it. Click "Finish" now. It will take some time. After it has finished, return to the PDE perspective. (This actually completes the GIT interaction for now, although we have not discussed anything about pulling/pushing and working with branches really.)

SETUP THE TARGET PLATFORM

Your PDE will now present something like this:



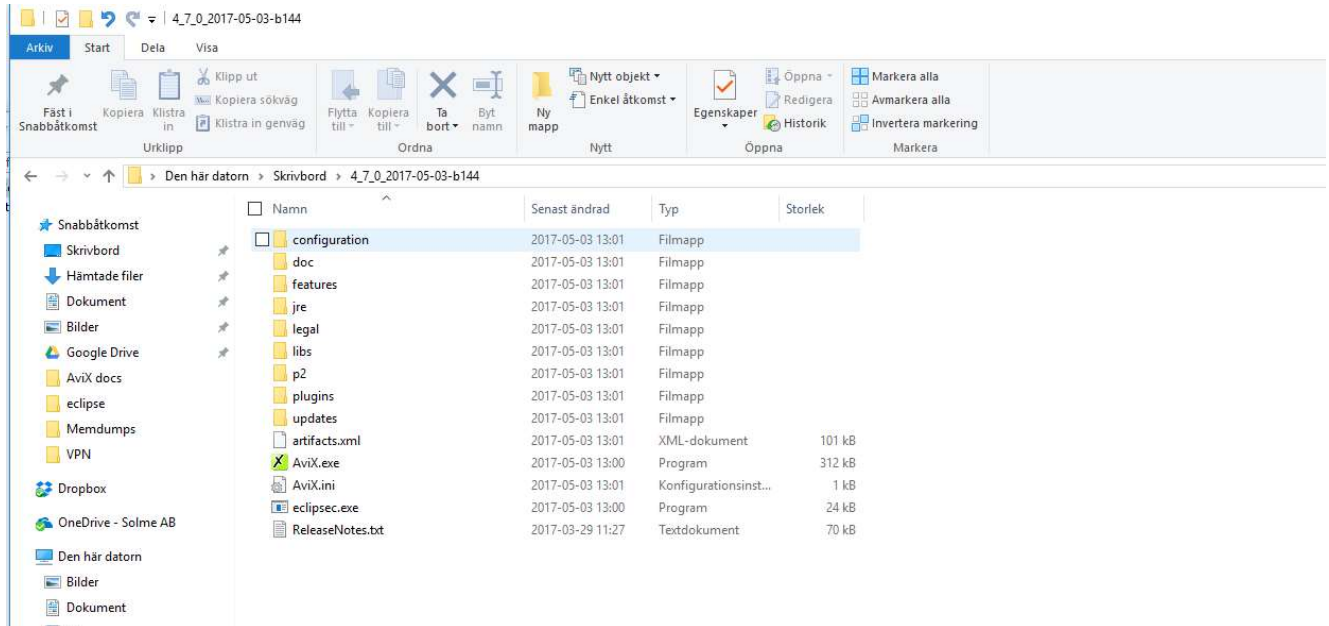
That is, a lot of plugin projects (actually all those that you imported above). You'll also notice all the red warning decorations, and that the "Problems" view tells you that nothing is really working – it won't compile, that's what it's about.

Now, we will resolve this by setting up your so-called "target platform". To put simply, it is the code base with all the plug-ins that our precious AviX plugins needs to run.

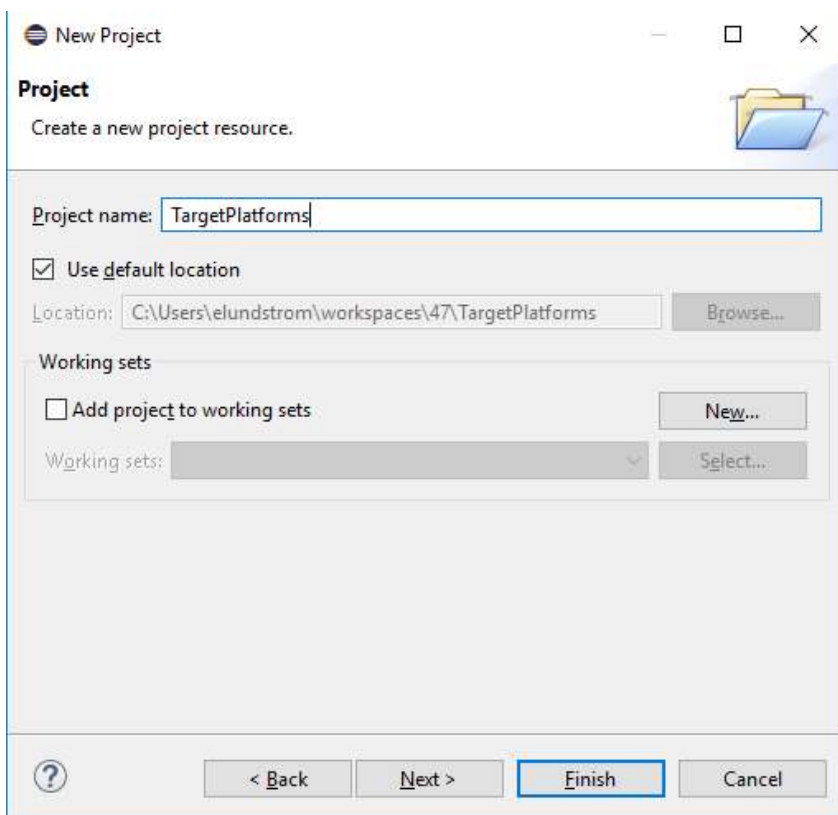
We will do this by creating a local little project, which is "yours only". In other words, it will not have to be committed/pushed to the GIT repository or anything.

1. Pre-requisite: Get hold of an AviX4.7.0 build or installation. We will use this as the base for our "target definition". I am using a build like this. (Contact the dev team to

get hold of a “suitable” build)



2. Right-click anywhere in the Project Explorer, and select “New->Project”. Here, select “General->Project”.
3. Give it a suitable name, maybe “TargetPlatforms”. Accept the “Use default location”.

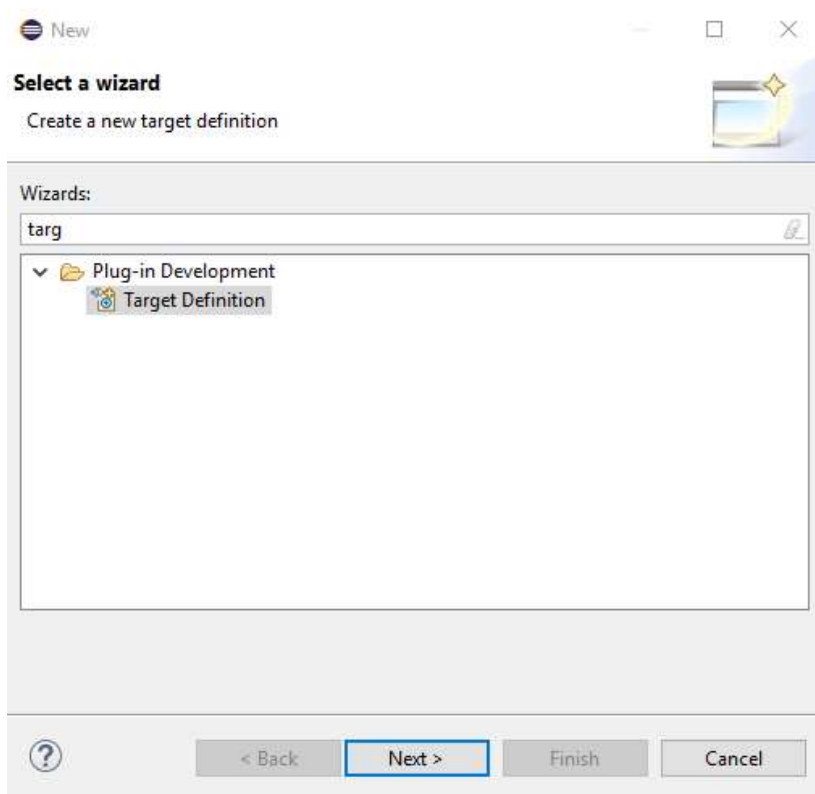


Do not reference any

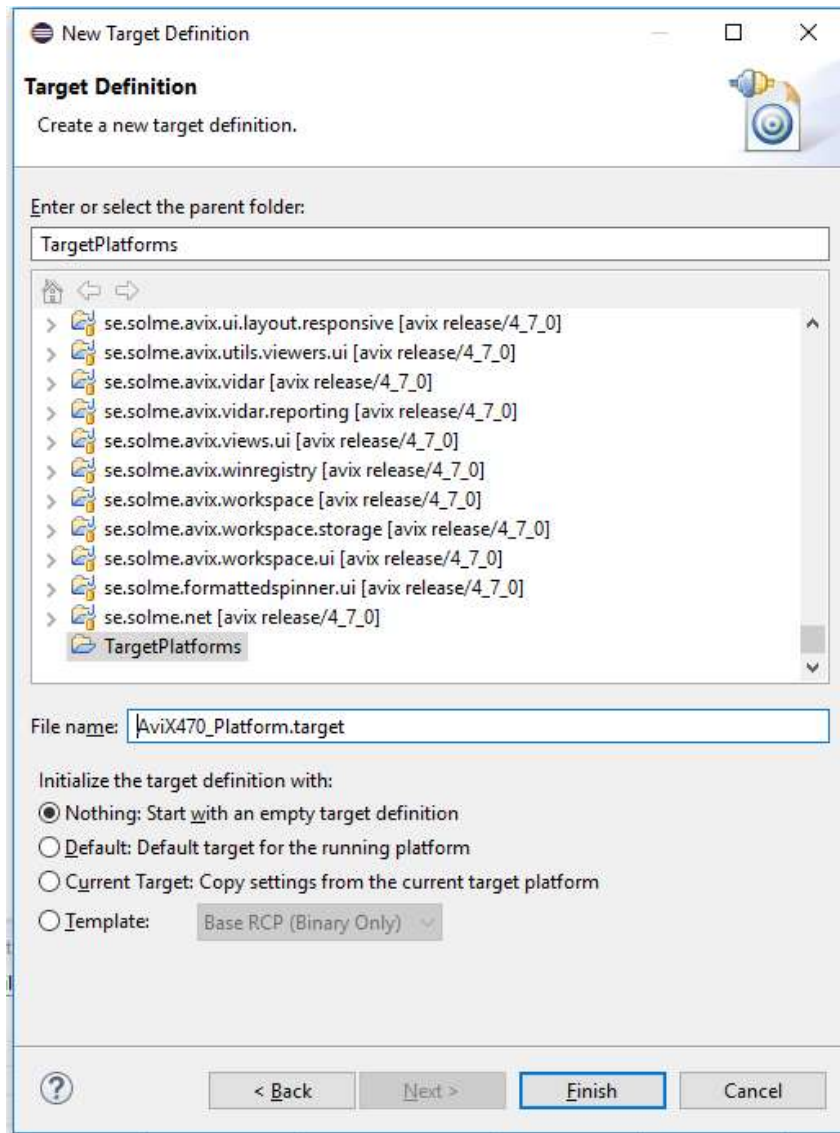
projects on the “next” page.

4. Your new project will be visible in the Project Explorer.

5. Right-click on it, select “New->Other”.
6. Select PDE->Target Definition

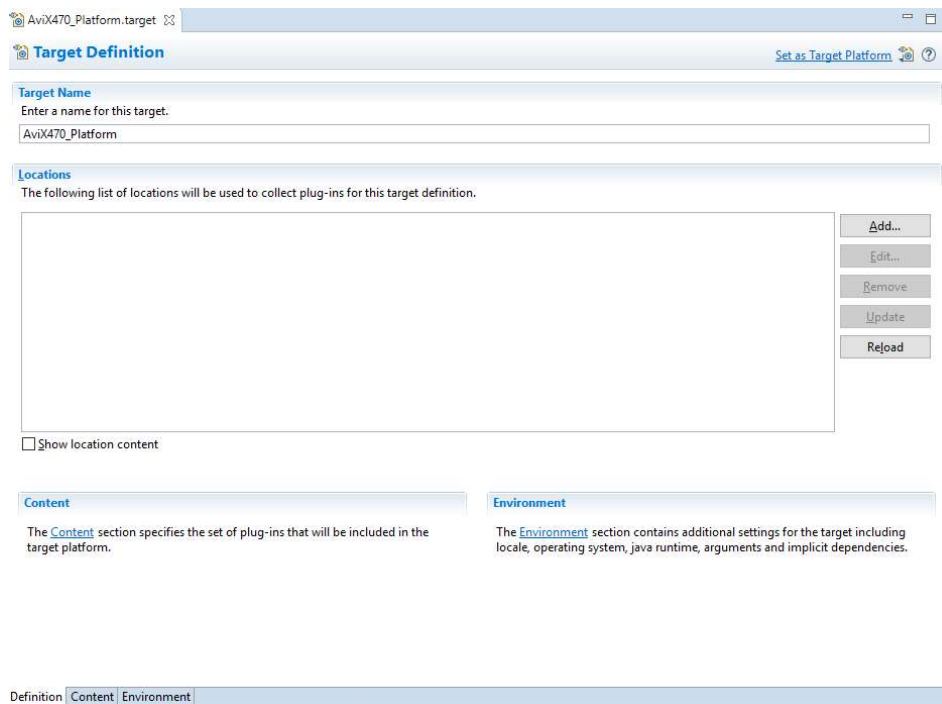


7. Give it a good name informing what it “will be”, maybe like this:

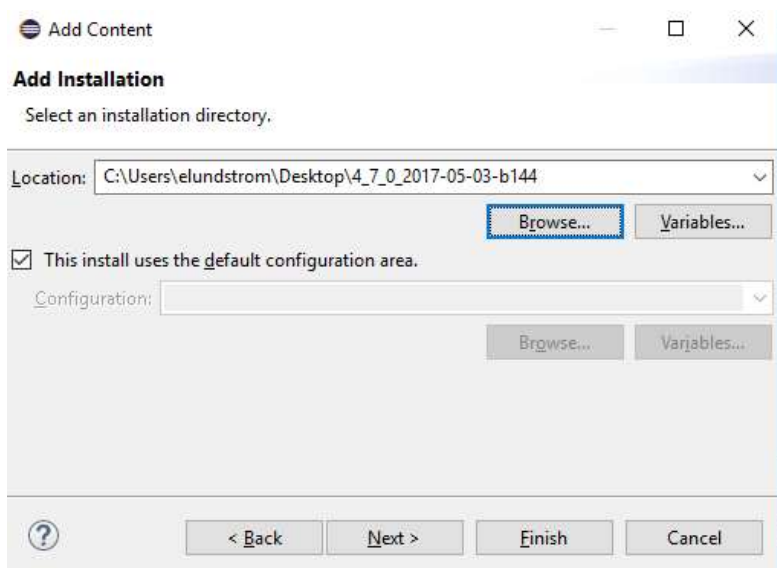


8. Click finish. Now, we are going to specify the contents of this Target Definition.

9. In the big Editor that opens, select “Add...”



10. On the “Add Content” dialog page, select “Installation”. Browse and select the AviX



build folder:

11. Click Next and/or Finish.

12. Now, you are back in the editor. Go to the Content tab. In the “type filter text”, enter “se.solme.” and await the filtering. In the result, do “Deselect All” on the right-hand side. Save.

13. On the “Environment” tab, select the following:

The screenshot shows the 'Environment' tab in the Eclipse IDE. At the top right, there is a link 'Set as Target Platform' with a question mark icon. The main area is divided into several sections:

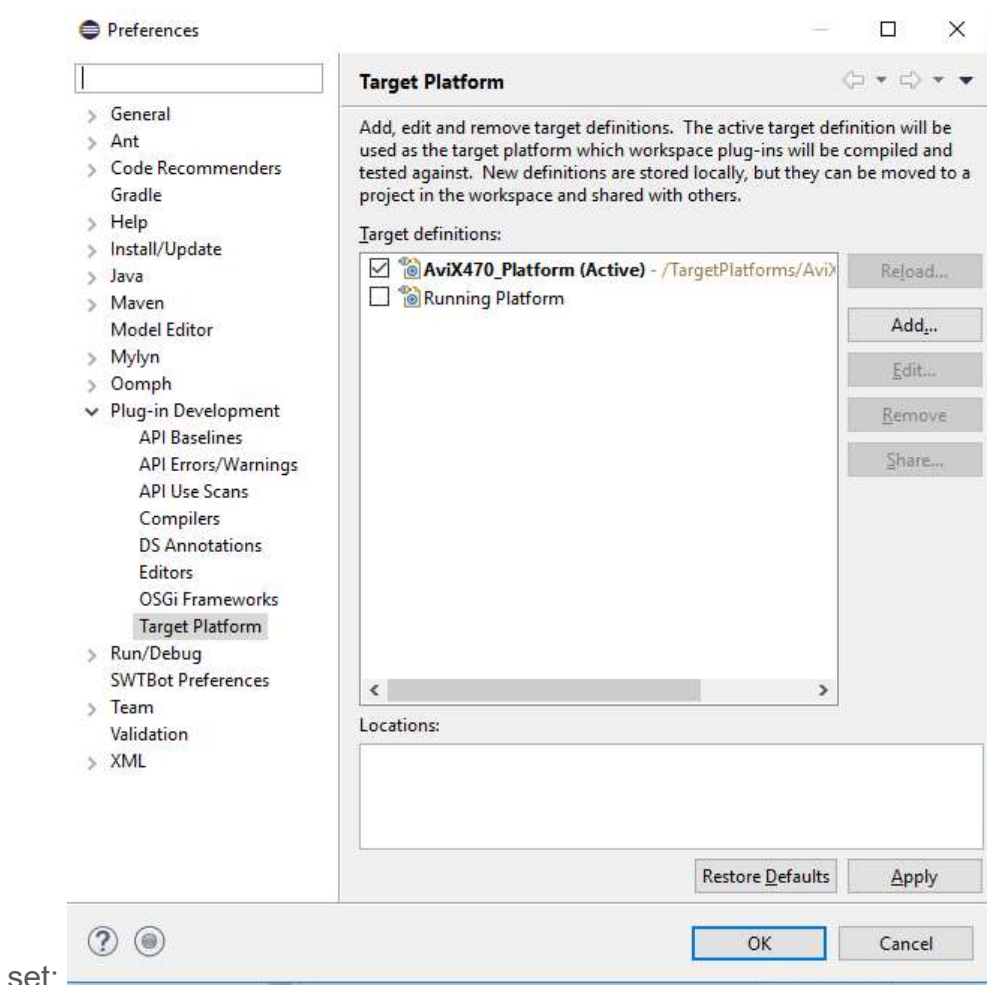
- Target Environment:** A section with the instruction 'Specify the target environment. If left blank, the default environment variables from the host (running) platform will be used.' It contains four dropdown menus: 'Operating System' (set to 'win32'), 'Architecture' (set to 'x86'), 'Windowing System' (set to 'win32'), and 'Locale' (empty).
- Java Runtime Environment:** A section with the instruction 'Specify the JRE or execution environment for this target. Selecting a named JRE will change the workspace default JRE setting.' It has three radio buttons: 'Default JRE' (selected), 'JRE name' (with a text input field containing 'jdk1.8.0_131'), and 'Execution Environment' (with a dropdown menu set to 'JavaSE-1.8'). To the right are buttons for 'Installed JREs...' and 'Environments...'.
- Arguments:** A section with the instruction 'Specify the default program and VM arguments for this target. These values will be used as a template to initialize arguments on new PDE launch configurations.' It has a 'Program' tab (selected) and a 'VM' tab. Below the tabs is a large text area for 'Program arguments'. A 'Variables...' button is at the bottom right.
- Implicit Plug-in Dependencies:** A section with the instruction 'Specify plug-ins which should always be included when computing plug-in dependencies.' It contains a large empty list area and three buttons on the right: 'Add...', 'Remove', and 'Remove All'.

At the bottom, there is a tab bar with 'Definition', 'Content', and 'Environment' tabs, with 'Environment' being the active tab. A 'Total: 0' label is visible at the bottom right of the 'Implicit Plug-in Dependencies' section.

14. Finally, we are done with the target definition. Now, we would like to tell Eclipse to use it. This is what actually makes all the plugins in the Project Explorer compile vs the target platform.

15. On any of the three tabs (Definition, Content and Environment), there should be a link “Set as Target Platform” at the top. Click it, and wait...this will load the new platform, start to resolve all dependencies, and re-build.

16. While waiting, you can verify that your new target platform was really set. Using menu “Window->Preferences”, go to this page and see that your target platform has been



17. When the re-build process has been completed, there should be no more red error decorations on the projects in the Project Explorer.

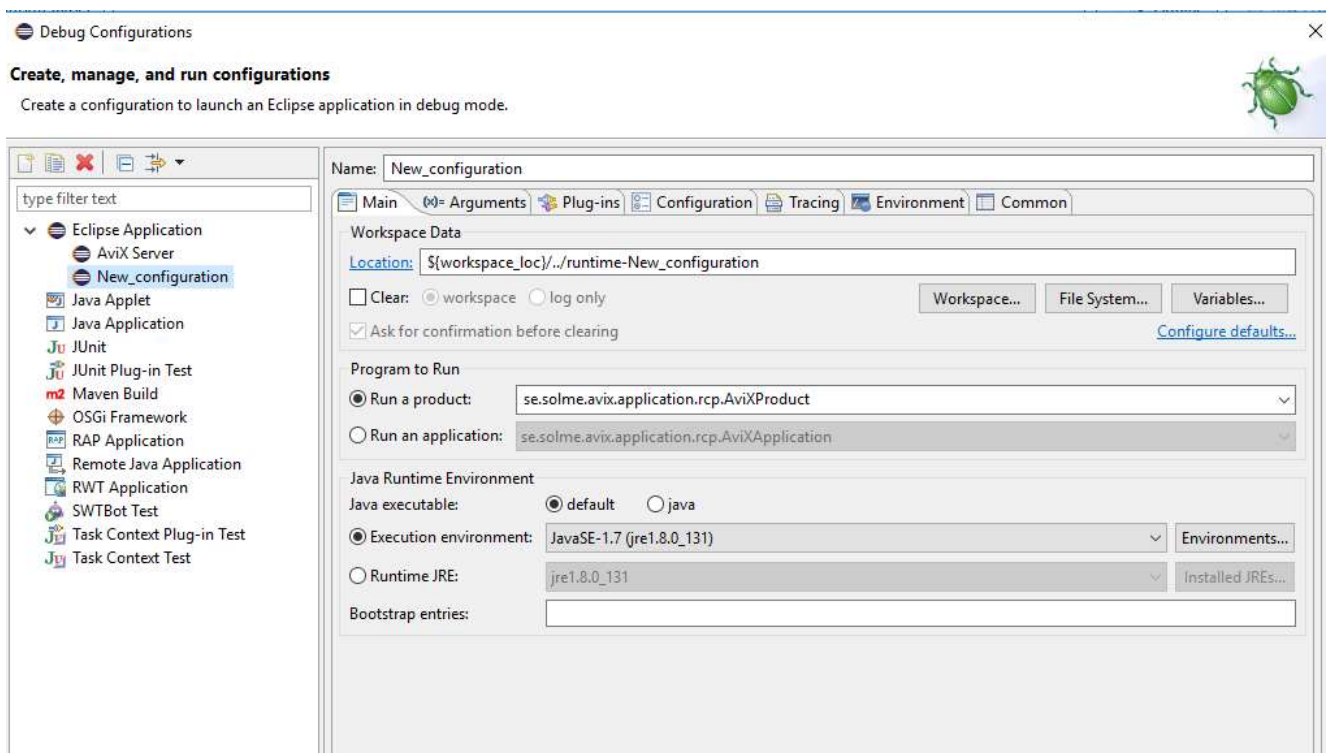
Final words: What did we really do by changing the “target platform”? Well, by default, you can see that “Running Platform” was the Target Platform. That means that all the available features and plugins of *your* Eclipse installation was the “target” that we compiled against. We changed that radically, and instead said that an existing AviX470 build would be the foundation. If you think about it, it makes sense: in the “plugins” directory of the AviX installation we refer to, all the by AviX required plugins (and of the correct version) exist. For instance, all of the required EMF, CDO or BIRT plugins (go Google those if you need to; they

are all Eclipse projects that AviX make use of) are in the “plugins” folder, otherwise AviX would simply not run very well.

SETTING UP A DEBUG CONFIGURATION

Now that we’ve come this far, it would be great to be able to debug AviX, wouldn’t it? Let’s do it!

1. Click on the little arrow menu next to the Debug icon. Select “Debug configurations...” . Select Eclipse Application, right-click and select “New”. A “New_configuration” will appear like this:

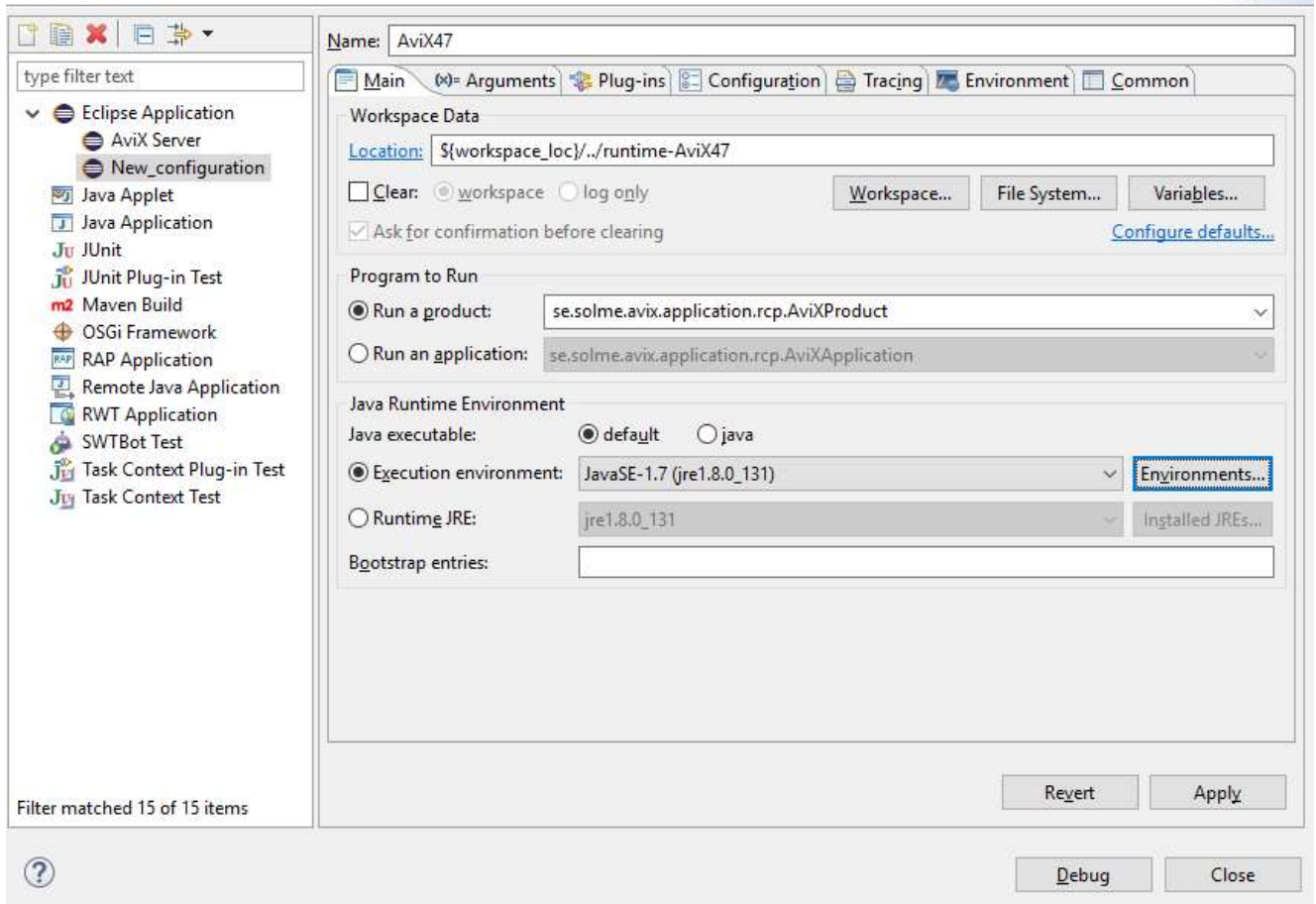


2. Change stuff on the “Main” page according to this:

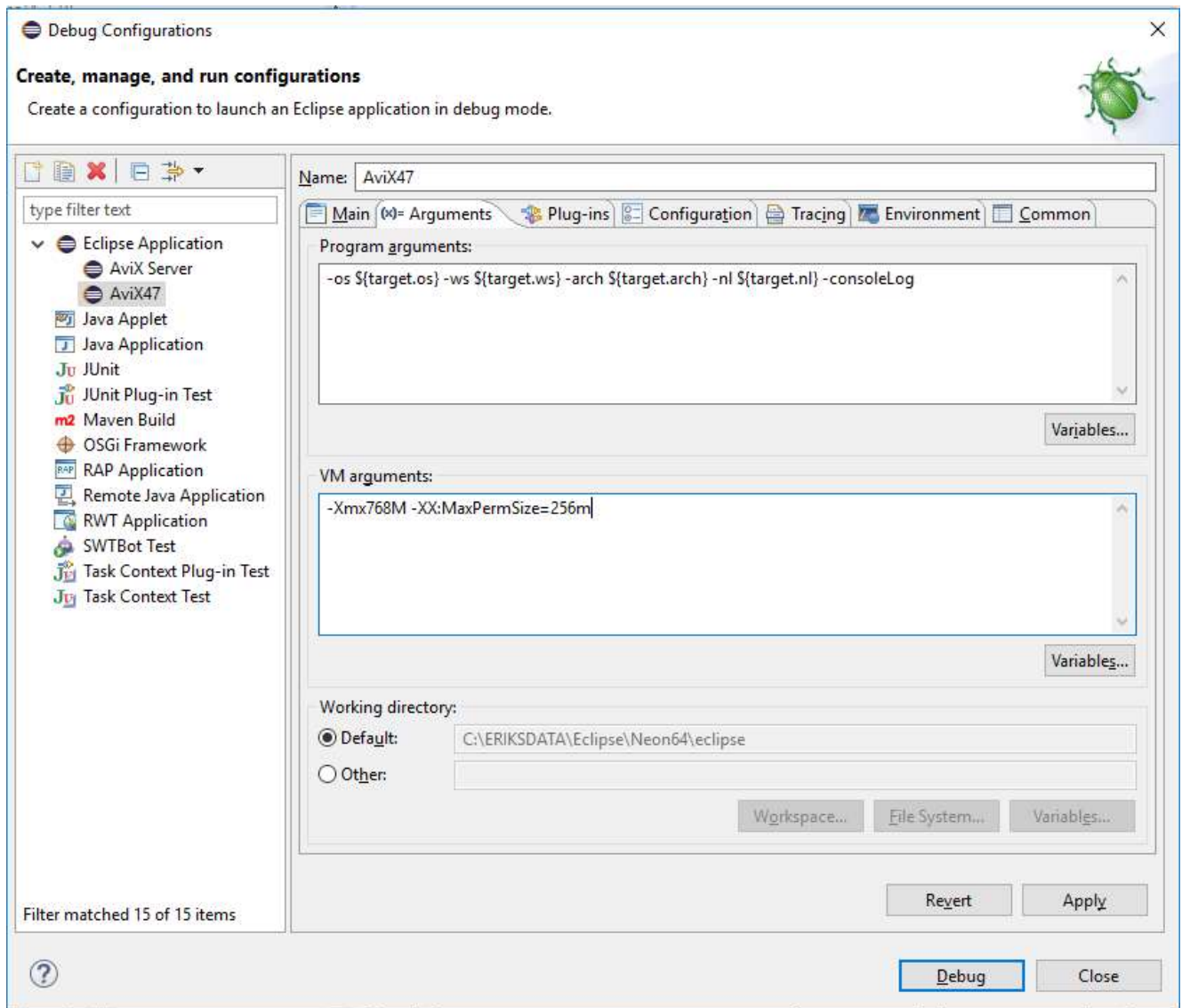
Debug Configurations

Create, manage, and run configurations

Create a configuration to launch an Eclipse application in debug mode.



3. Apply, and go to the "Arguments" page. Set up according to this:

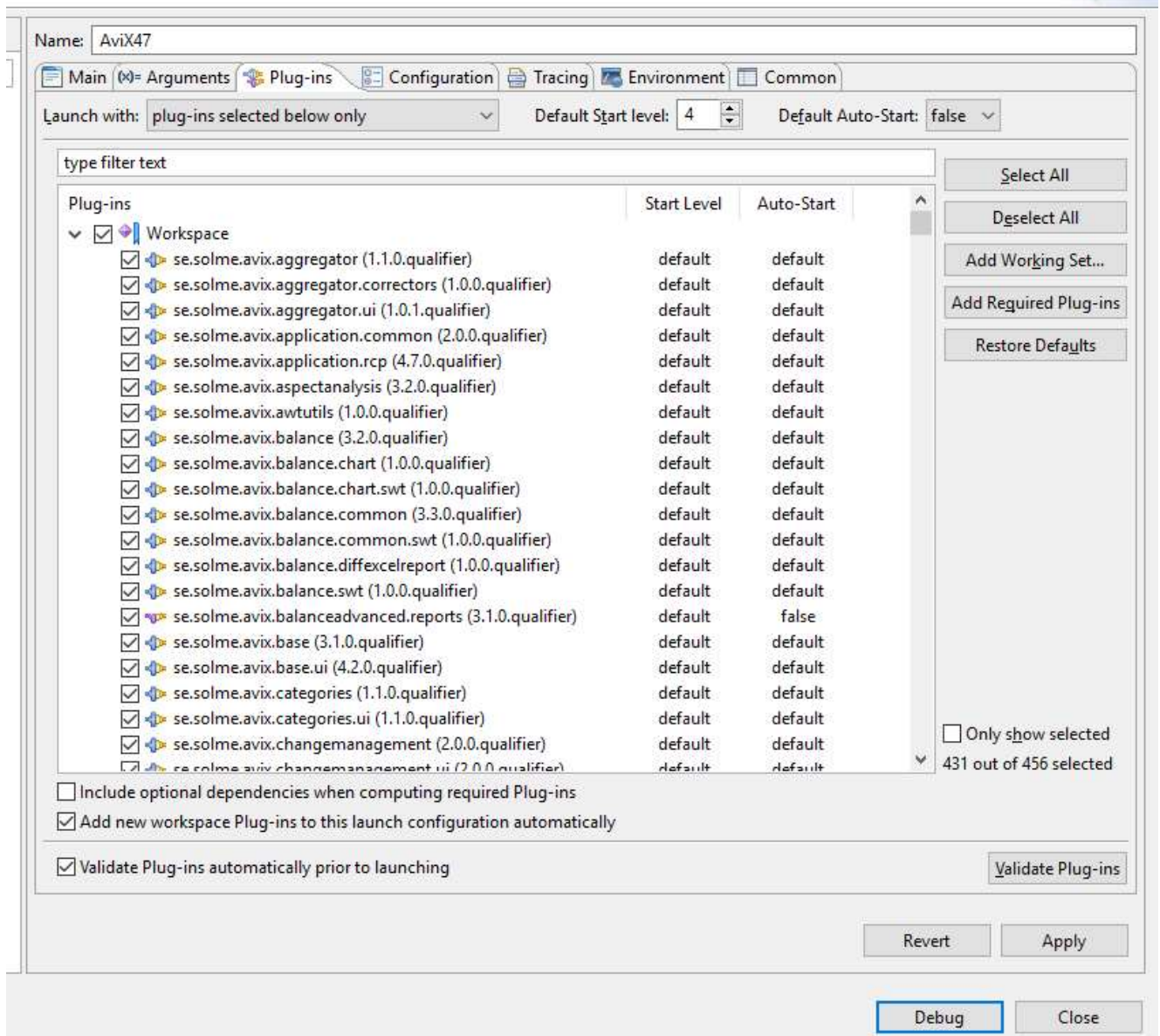


4. Apply, and head for the "Plug-ins" page. In the "Launc with" combo, select "plug-ins" selected below only. Furthermore, clean all selections by doing "Deselect All". Deselect the "Include optional dependencies..." at the bottom. Then, select the "Workspace" note to select all the Solme plugins that you have in your working directory. Push the "Add Required Plug-ins" a couple of times. You should end up with

something looking like this:

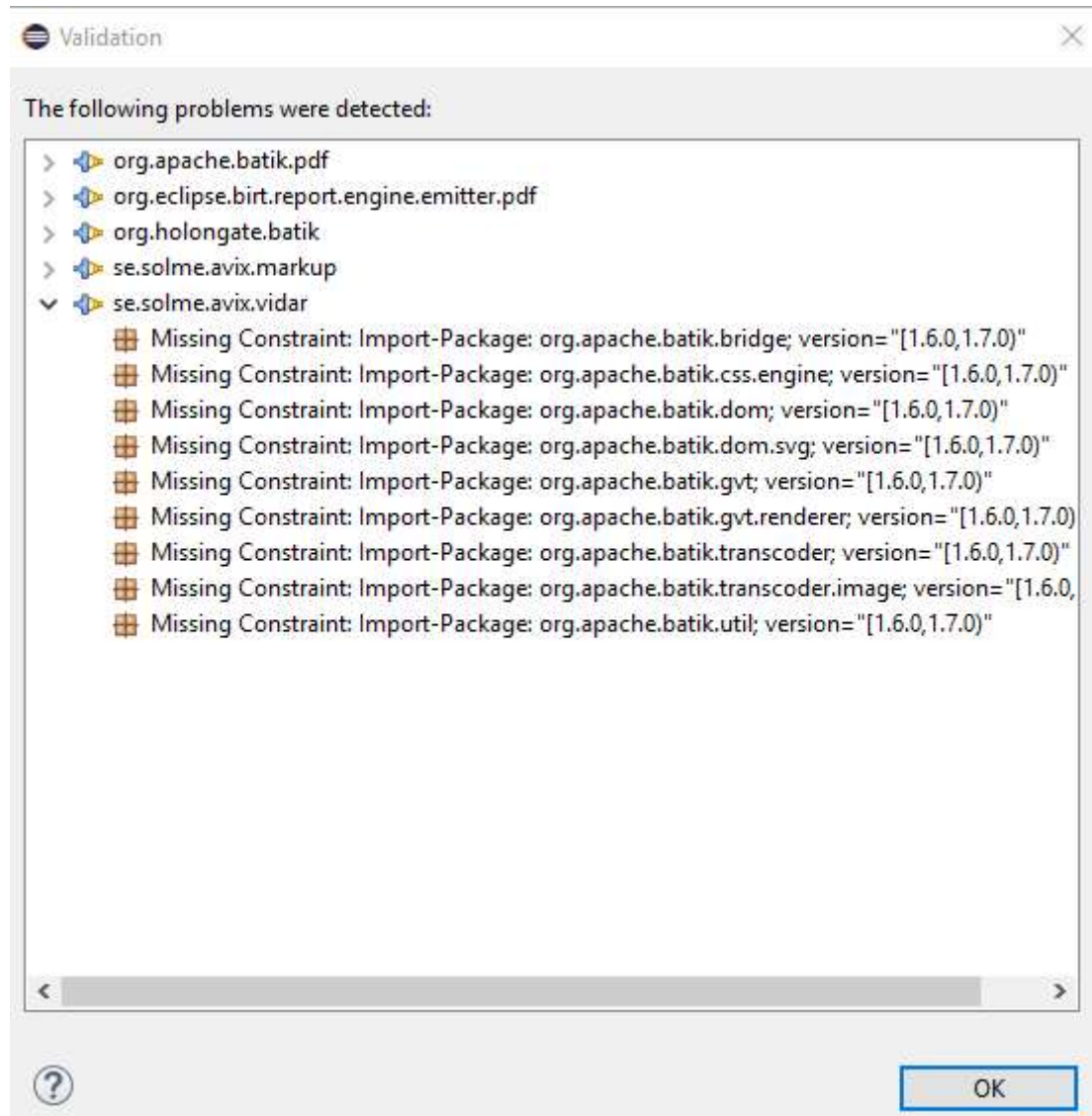
ns

: application in debug mode.



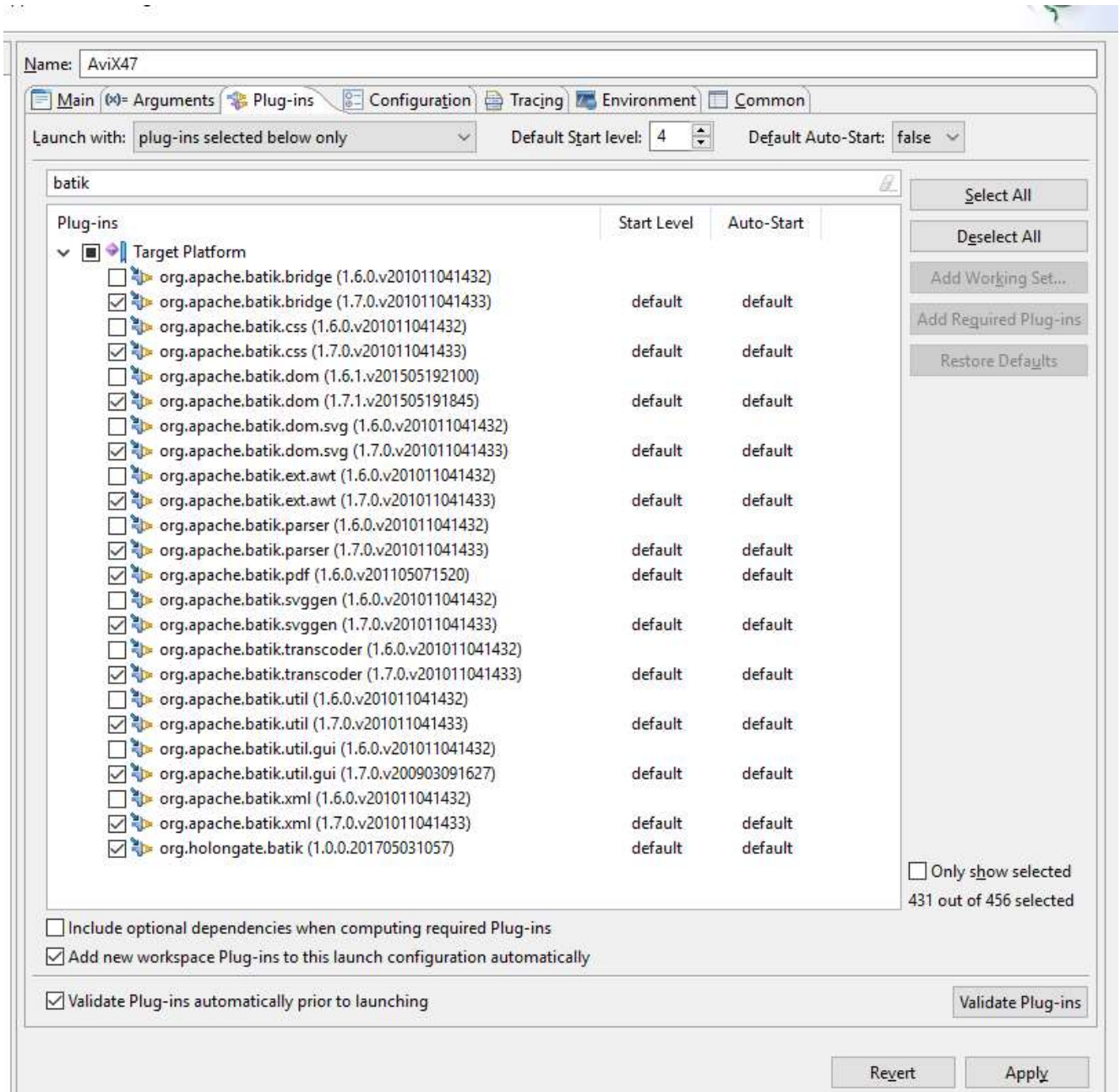
5. What's interesting here is if you have a look below the node "Target Platform" too. The plugins here are actually the one found from the AviX installation you pointed out during the "Setup the target platform" step above.

6. Now, try the “Validate Plug-ins” button at the bottom. It is not likely to work: we have some plugins that require older versions of some “batik” plugins. You’ll see something

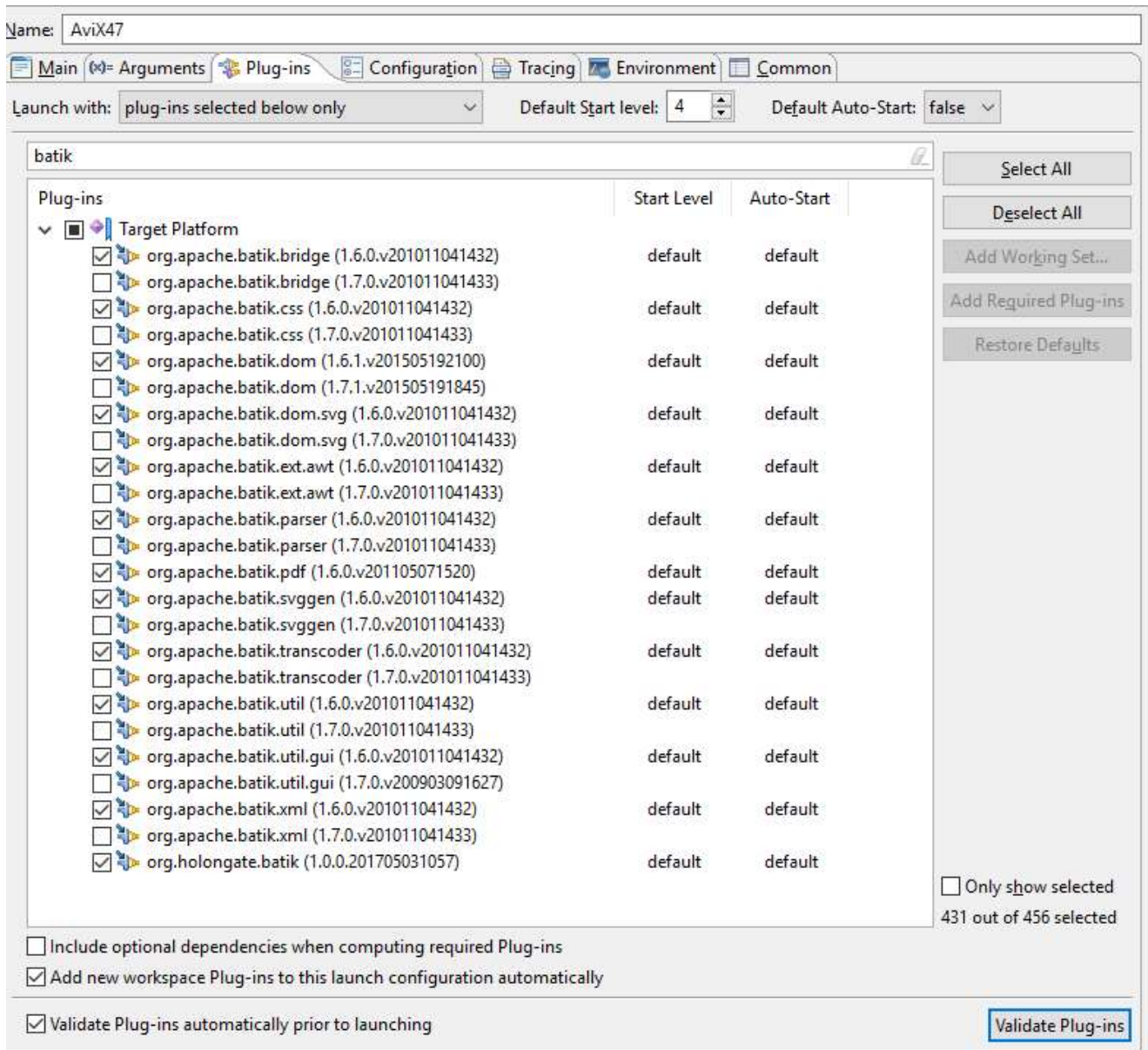


like this:

7. To resolve this problem, do like this. Type “batik” where it says type filter text.
Something like this filtered result will appear:



8. You will, manually, need to change this to the following instead:



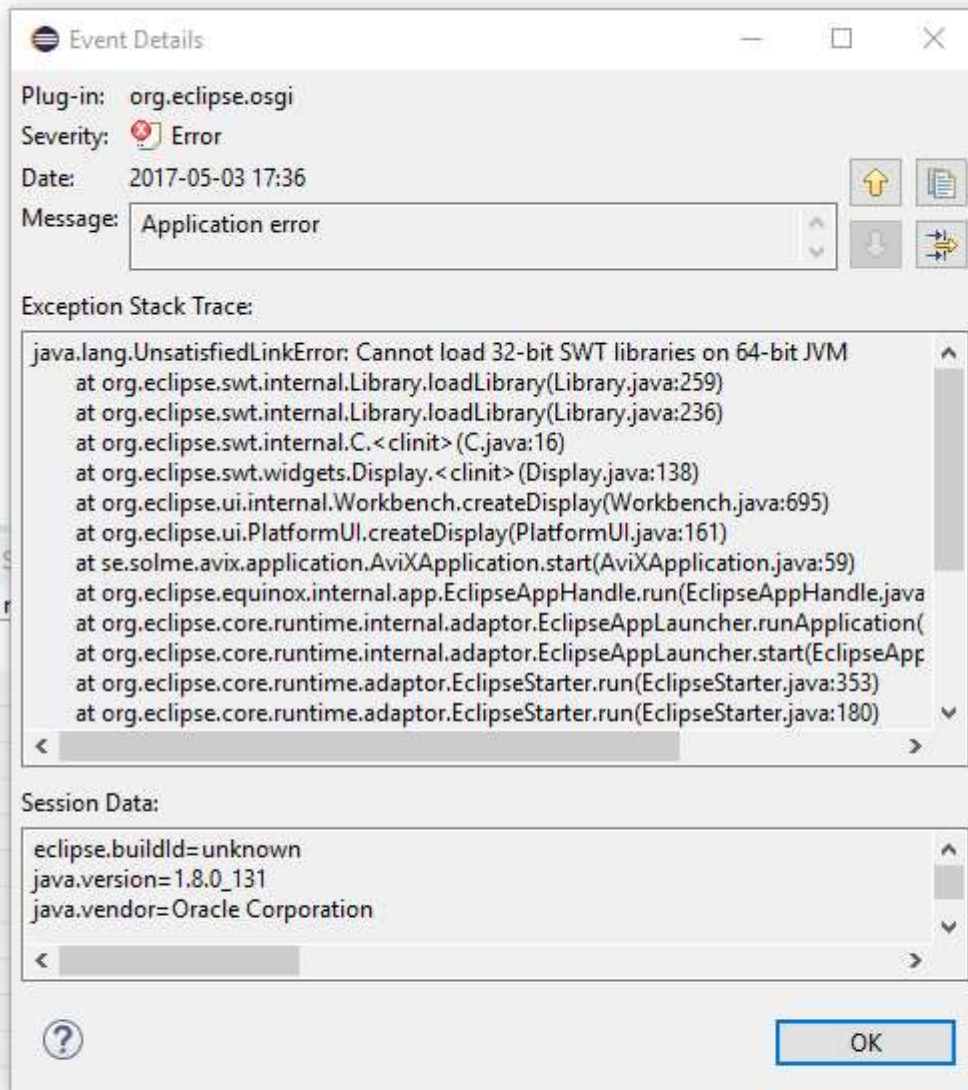
9. Try to validate again. It should accept it. Click "Apply".

10. You should not need any further configuration. Try "Debug" now.

Now, at least I discovered some Java-related problem here, due to that I have the following environment:

- Running Eclipse with a 64-bit java
- Eclipse itself is a 64bit-version
- AviX can only be run with 32bit so far

This is the error I got:

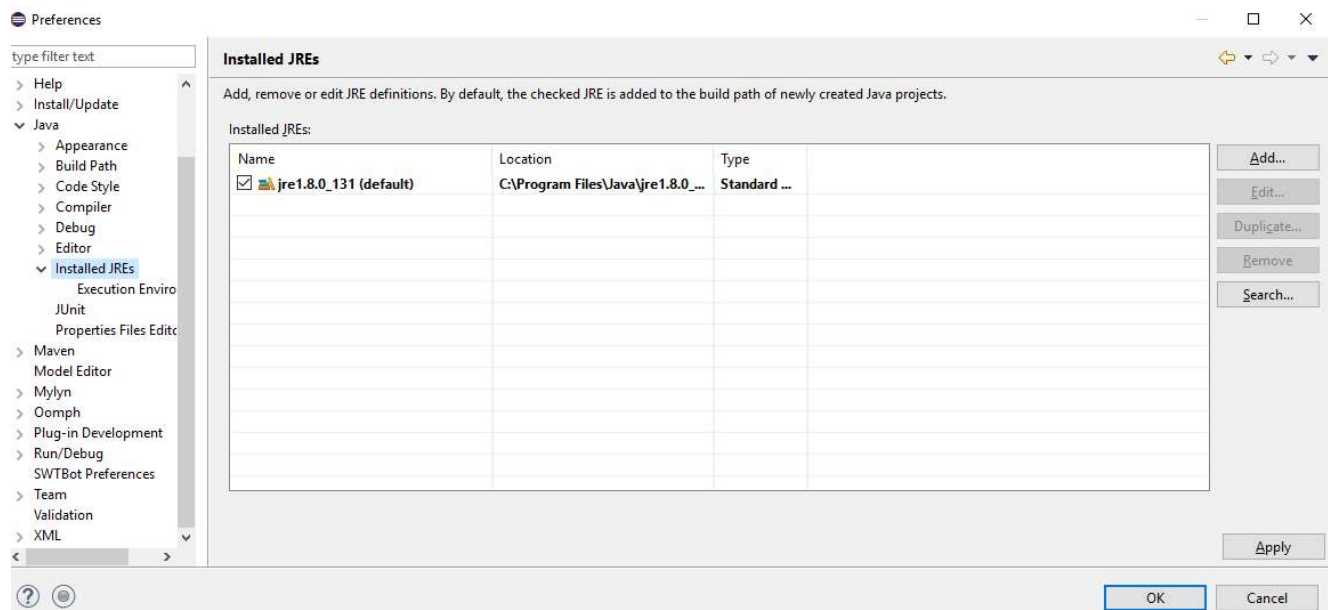


orkspaces\runtime-AviX47\metadata\log]

What can be done about this is to tell Eclipse to use a 32-bit Java instead when debugging.

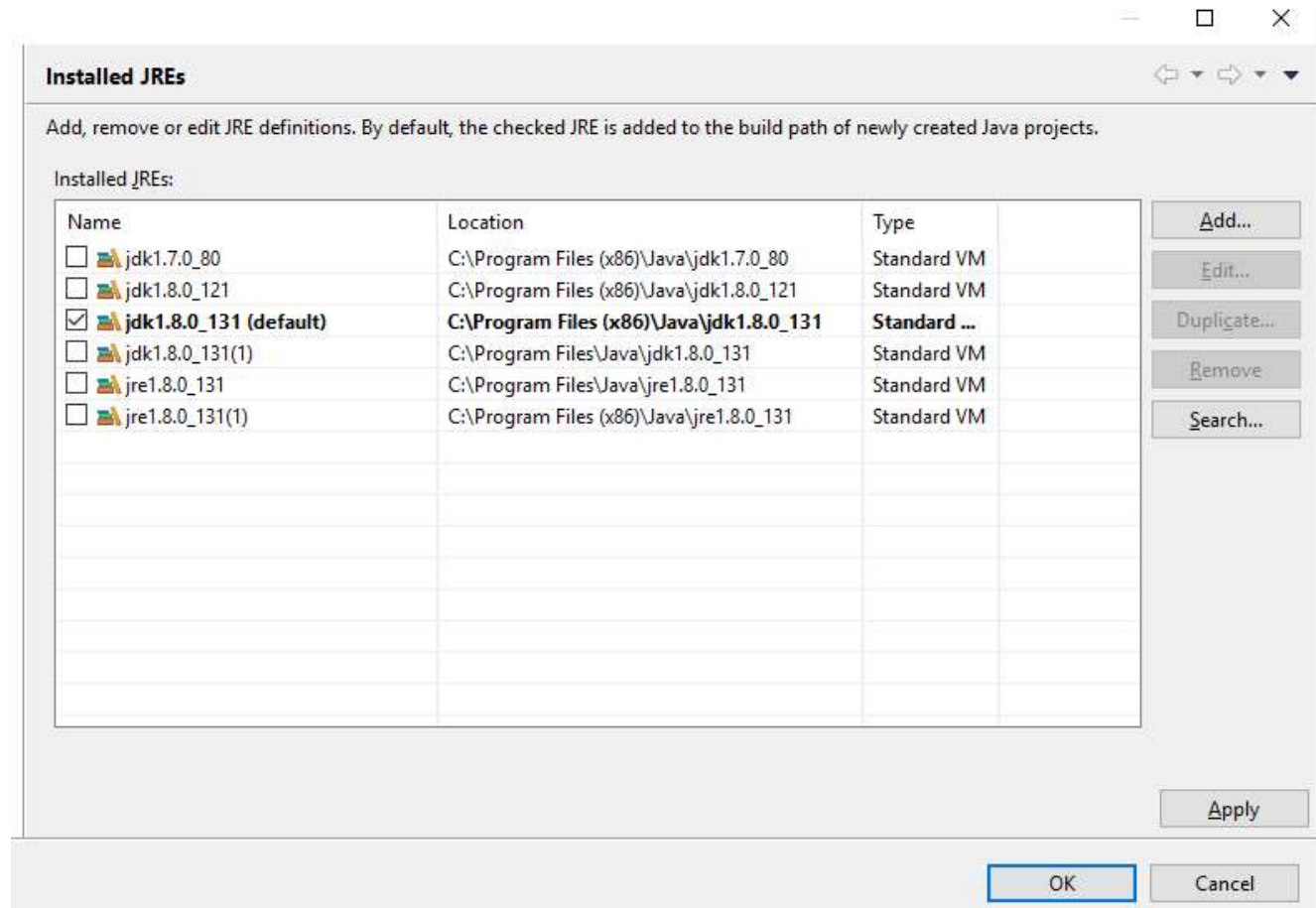
1. First of all, make sure to have a 32-bit Java JRE installed on your system.

2. Make Eclipse aware of your JREs/JDKs. Open “Window->Preferences”, go to Installed JREs:



3. Do “Search...”. I make sure to look in both “Program” and in “Program x86”. This is what it finds on my computer. Note that I have selected an x86 (32bit) version as my

new default, and I click Apply.



4. Click OK. It may take some time now. A rebuild will take place.
5. You may try to re-launch the debug afterwards. It should succeed (if it manages to use the new default JRE).