Jaspersoft® Studio

Source Build Guide

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Jaspersoft Studio Source Build

This document describes how to compile and run the Jaspersoft® Studio Professional edition from the source files. Version 9.0.0 is used as an example, but the details are also valid for newer versions.

Zip Package Contents

The zip package named `js-jss_X.Y.Z_sources.zip` contains the following items:

- `jrePackages` folder: Contains zip files of the JRE version included Jaspersoft Studio (needed during build time).
- `sources` folder: Contains the source code of the Jaspersoft Studio Professional version.
- `targetRepoE426` folder: Contains the target repository that can be used for both compiling in the Eclipse and building via Maven Tycho.
- `js-jss_9.0.0_license.txt` folder: The current license file.

Setting Up Eclipse and Your Workspace

To set up Eclipse and Workspace:

1. Download the latest version of Eclipse from the website: http://www.eclipse.org/. Normally, the Jaspersoft® developers use the **Eclipse IDE for a RCP and RAP developers** version of Eclipse. As of the time this document was created, the latest version is **Eclipse 2023-06(4.28)**.
2. Choose a blank workspace when starting Eclipse instance.
3. Configure the proper Java Virtual Machine for compiling Jaspersoft Studio source code:
    a. Select **Eclipse > Preferences > Java > Installed JREs**. Make sure that Java 11 and Java 8 are in the list of items. This is because the Jaspersoft Studio source

code is still compatible with version 8, but the final product runs on 11. Therefore, it is better to have all of them set up properly (https://adoptium.net/download/).

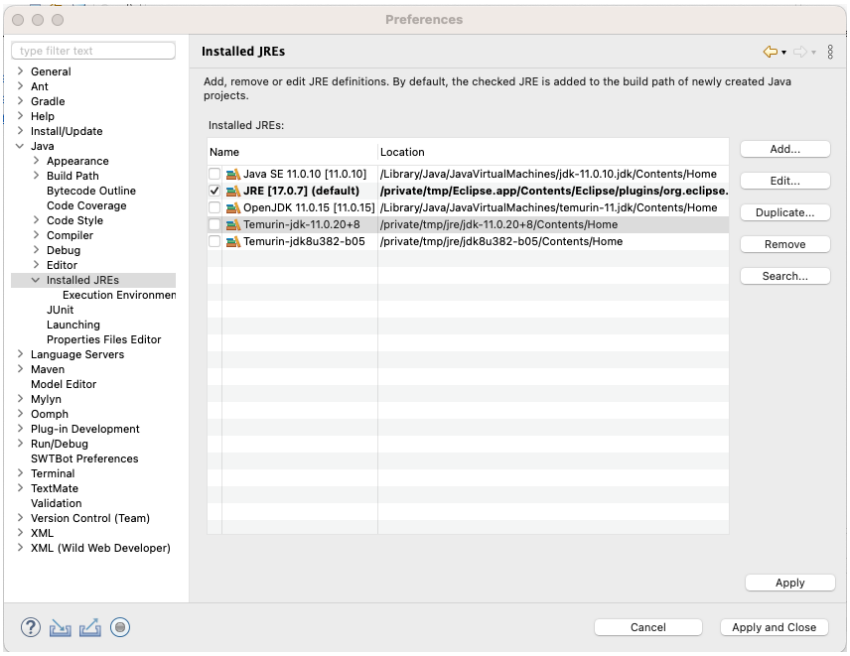

Figure 1: Installed JREs configuration

b. Select **Eclipse > Preferences > Java > Installed JREs > Execution Environment**. Remember to select the best compatible JVM for each execution environment(Java 8 and 11).

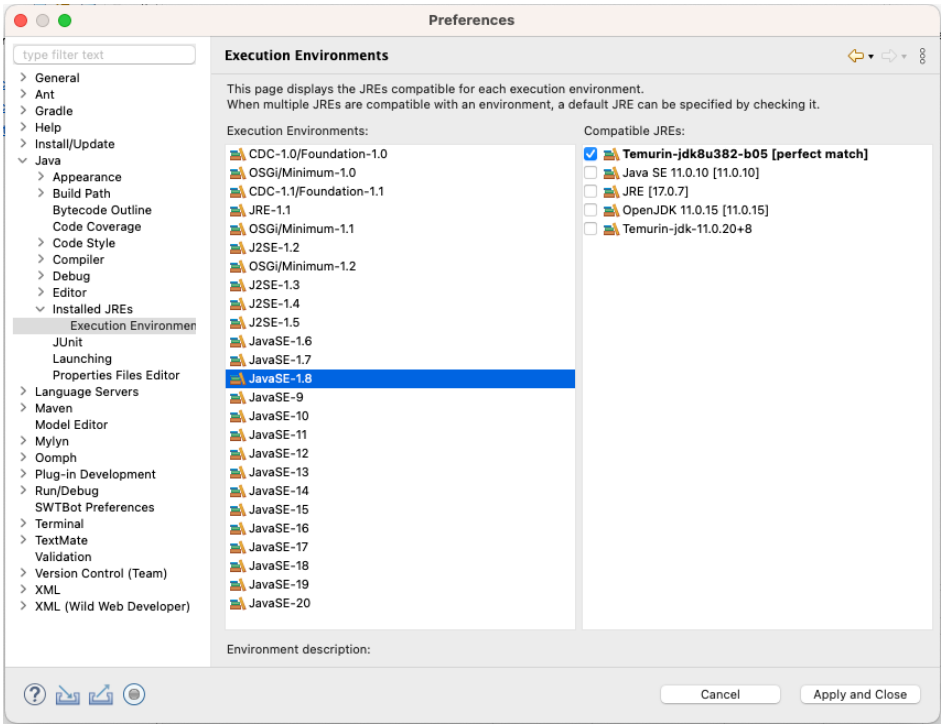

Figure 2: Execution environment configuration

c. Select **Eclipse > Preferences > Java > Compiler**. Remember to change the compiler compliance level to 1.8.

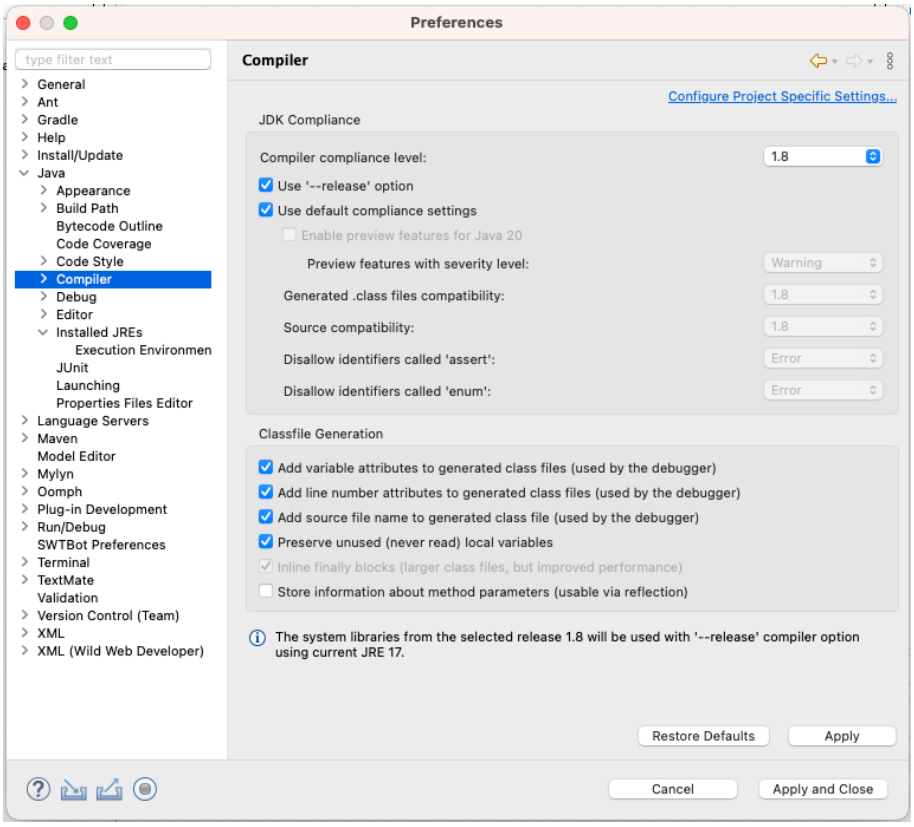

Figure 3: Compiler configuration

4. Configure the proper target platform for compiling Jaspersoft Studio source code:
    a. Select **Eclipse > Preferences > Plug-in Development > Target Platform**.
    b. Add a new platform starting from the **Nothing** option, then add the `targetRepoE426-9.0.0` directory containing the plug-ins and features that are the foundation for the Jaspersoft Studio platform.

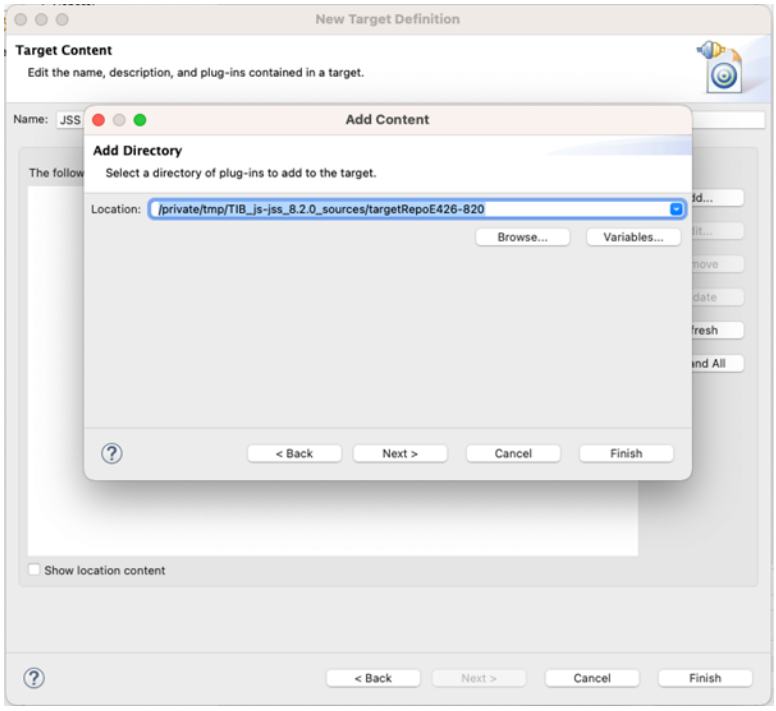

Figure 4: Creating a target platform

c. Select the newly created platform to compile the sources.

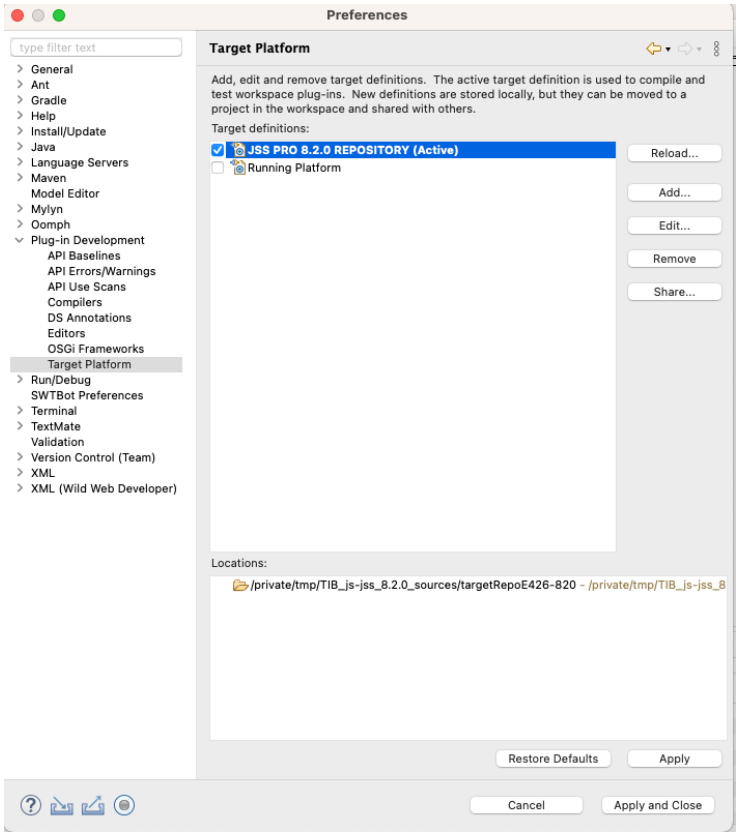

Figure 5: Selecting the target platform

5. Import the existing projects from the sources folder:
    a. Select **File > Import**.
    b. Select **Import (wizard) > General > Existing Projects into Workspace**.

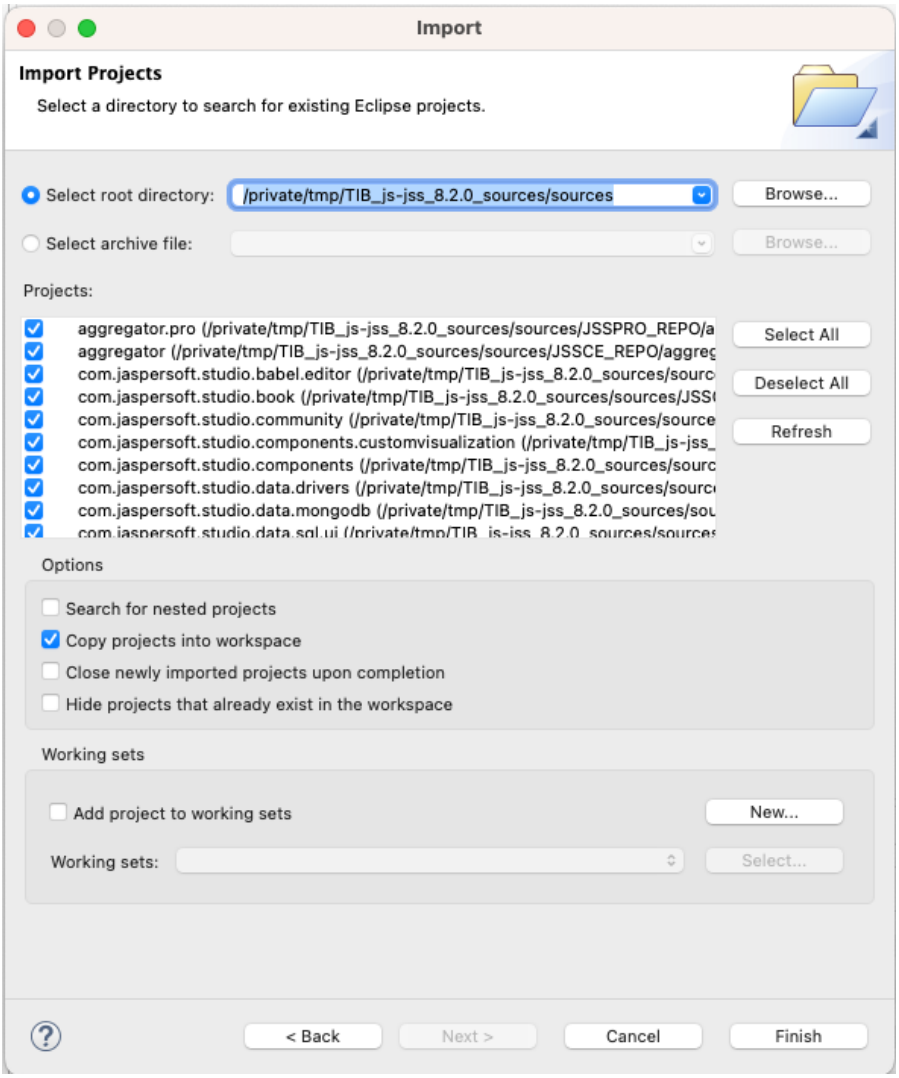

Figure 6: Importing projects

c. Configure the wizard to point to the location of the downloaded sources directory, then click **Finish**. It is recommended to copy the projects directly into the dedicated workspace to avoid modifying the original ones.

Note:
Once the import operation ends, you see the automatic build triggered. The projects `org.osgi.framework.system.packages.extra` and `com.jaspersoft.studio.rcp.macosx` (if not on Mac) could appear as broken. You can safely close them.

Setting Up Run/Debug Configuration of Jaspersoft Studio

To run/debug a version of the Jaspersoft Studio runtime from the development environment, you can create a run/debug configuration:

1. Select **Run > Debug Configurations > Eclipse Application > New** from the menu.
2. Enter the name and select `com.jaspersoft.studio.pro.rcp.product` for **Run a product** option.
3. Set the **Execution environment** to the Java 11 version.

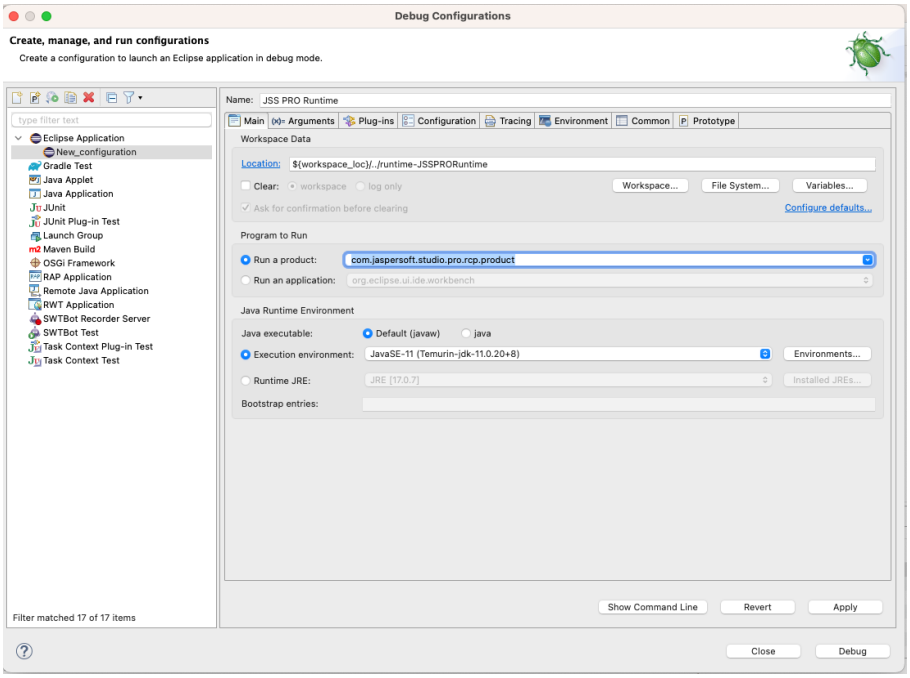

Figure 7: Creating a debug configuration

4. Enter the required details for the product configuration in the **Main** tab.

   You can add the additional arguments and configuration parameters in the **Arguments** tab. You can also replicate the actual final product configuration using the information in the `jaspersoftstudiopro.product` file. The following example is based on the 9.0.0 configuration:

```
-Xms128m
-Xmx2048m
-XX:+CMSClassUnloadingEnabled
-XX:+UseConcMarkSweepGC
-Dfile.encoding=UTF-8
-Djava.net.preferIPv4Stack=true
-Ddeployment.security.TLSv1.1=true
-Ddeployment.security.TLSv1.2=true
-Djavax.xml.soap.MessageFactory=com.sun.xml.messaging.saaj.soap.ver1_1
.SOAPMessageFactory1_1Impl
-Djavax.xml.soap.SOAPFactory=com.sun.xml.messaging.saaj.
soap.ver1_1.SOAPFactory1_1Impl
-Djavax.xml.soap.SAAJMetaFactory=com.sun.xml.messaging.saaj.
soap.SAAJMetaFactoryImpl
-
Djavax.xml.soap.SOAPConnectionFactory=com.sun.xml.messaging.saaj.client.
p2p.
HttpSOAPConnectionFactory
-XstartOnFirstThread
-Dorg.eclipse.swt.graphics.Resource.reportNonDisposed=true
```

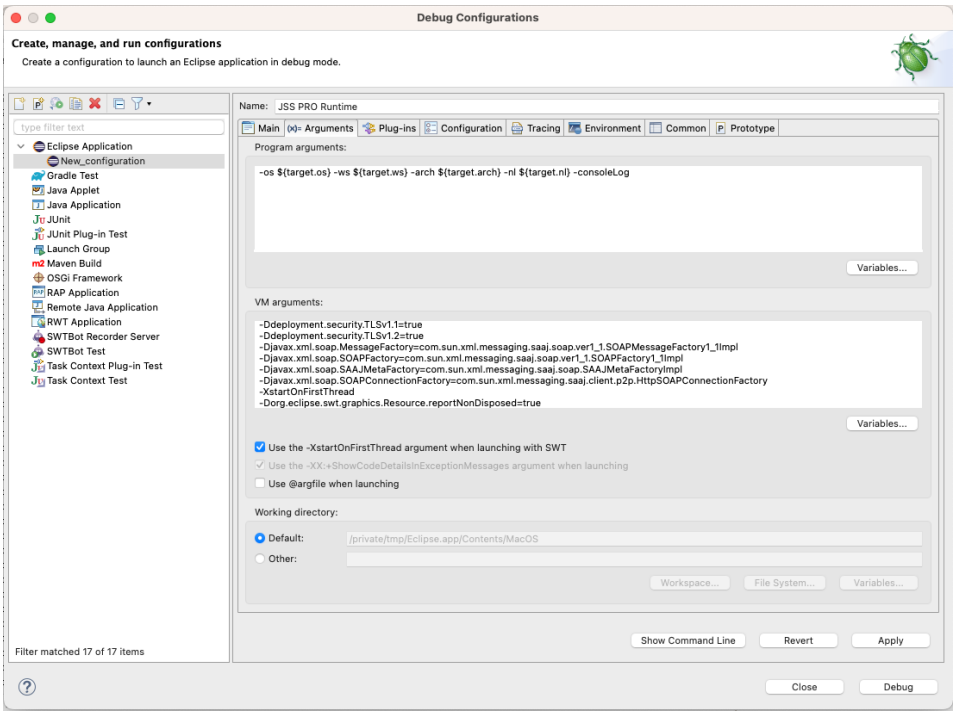

Figure 8: Setting arguments

5. (Optional) On the Plug-ins tab, disable the option **Validate Plug-ins automatically prior to launching** to avoid the warning message related to the `plug-ins/fragments/features` related to multiple operating systems.
6. Click the Debug/Run button to launch the Jaspersoft Studio runtime.

Creating Products from Jaspersoft Studio Sources

To test a final product as it looks after export, you can use Maven Tycho to build Jaspersoft Studio sources.

Note:
All the source projects must be in one single folder: for example, it could be the Eclipse workspace or copy the projects into a new dedicated folder.

- To build the Jaspersoft Studio Professional project, you need to use the `aggregator.pro` project as a main location.
- The JasperReports® IO package for Jaspersoft Studio Sources is needed to perform a correct successful build. For example, in the case of Jaspersoft Studio Professional 9.0.0, the correct version is 4.0.0: artifact `jrio-standalone-4.0.0-jss.zip`.

1. Make sure you have correctly installed Maven.
2. Set up Maven properly using any of these methods.

   Method 1

   a. Configure your Maven **`settings.xml`** file. You can start from the following sample **`settings.xml`** file:

```
<settings>
    <profiles>
        <profile>
            <id>JSSProfile</id>
            <repositories>
                <repository>
                  <id>central</id>
                  <name>jaspersoft-repo</name>
```

```
<url>https://jaspersoft.jfrog.io/jaspersoft/jaspersoft-
repo</url>
                </repository>
            </repositories>
            <properties>
                <!-- Local Repository with the target platform
for building -->
                <targetplatform.repo>/tmp/js-jss_9.0.0_
sources/targetRepoE426-9.0.0
                </targetplatform.repo>
                <!-- JRE files location -->
                <jre.packages.location>/tmp/js-jss_9.0.0_
sources/jrePackages
                </jre.packages.location>
                <!-- JRIO package location -->

<jrio.package.location>/tmp/jrio</jrio.package.location>
                <!-- JRIO version -->

<jrio.package.version>4.0.0</jrio.package.version>
            </properties>
        </profile>
    </profiles>
    <activeProfiles>
        <activeProfile>JSSProfile</activeProfile>
    </activeProfiles>
</settings>
```

b. Inside the `aggregator.pro` project folder, enter the following command.

```
$ mvn clean package
```

Or Method 2: Provide all the details with one single command, once in the `aggregator.pro` folder:

```
 mvn clean package \
-
Dmaven.repo.remote=https://jaspersoft.jfrog.io/jaspersoft/jaspers
oft-repo \
-Dtargetplatform.repo=/tmp/js-jss_9.0.0_sources/targetRepoE426-
9.0.0 \
-Djre.packages.location=/tmp/js-jss_9.0.0_sources/jrePackages \
-Djrio.package.location=/tmp/jrio \
-Djrio.package.version=4.0.0
```

3. When the build is completed, you can retrieve the product artifacts from the following location:

```
<FULLWORKSPACE_
PATH>/com.jaspersoft.studio.pro.rcp.product/target/products/
com.jaspersoft.studio.pro.rcp.product/
```

   FULLWORKSPACE_PATH is the location where all the sources are located including an Eclipse workspace folder.

4. To properly package the previously created raw artifacts, perform the following tasks.

   a. Select the subfolder ant-scripts from aggregator.pro project as a current location.

   b. Run the following command using ANT:

```
ant -buildfile packageRawDistributions.xml -
Djre.packages.location=/tmp/js-jss_9.0.0_sources/jrePackages
```

   c. In the project subfolder product/dist, you find the zipped artifacts ready to use.

Jaspersoft Documentation and Support Services

For information about this product, you can read the documentation, contact Support, and join Jaspersoft Community.

How to Access Jaspersoft Documentation

Documentation for Jaspersoft products is available on the Product Documentation website, mainly in HTML and PDF formats.

The Product Documentation website is updated frequently and is more current than any other documentation included with the product.

Product-Specific Documentation

The documentation for this product is available on the Jaspersoft® Studio Product Documentation page.

How to Access Related Third-Party Documentation

When working with Jaspersoft® Studio, you may find it useful to read the documentation of the following third-party products:

How to Contact Support for Jaspersoft Products

You can contact the Support team in the following ways:

- To access the Support Knowledge Base and getting personalized content about products you are interested in, visit our product Support website.
- To create a Support case, you must have a valid maintenance or support contract with a Cloud Software Group entity. You also need a username and password to log in to the product Support website. If you do not have a username, you can request one by clicking **Register** on the website.

How to Join Jaspersoft Community

Jaspersoft Community is the official channel for Jaspersoft customers, partners, and employee subject matter experts to share and access their collective experience. Jaspersoft Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from Jaspersoft products. In addition, users can submit and vote on feature requests from within the Jaspersoft Ideas Portal. For a free registration, go to Jaspersoft Community.

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