

CodingSpectator's User Guide

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1 Prerequisites

You should be using Eclipse 3.7 Indigo or Eclipse 3.6 Helios. You may check which version you have installed by looking at the logo that appears during startup; it should say Eclipse Indigo or Eclipse Helios.

Note: Please note that the plug-in cannot be installed on an older version of Eclipse e.g. Eclipse 3.5 Galileo. It only works with Eclipse 3.7 Indigo or Eclipse 3.6 Helios. If you are using Eclipse Indigo or Helios and are having problems please contact us.

2 Installing CodingSpectator

After installing Eclipse, you need to install our plug-in by following the steps below. The screenshots below are taken from Eclipse Indigo but should look similar for Eclipse Helios:

1. In Eclipse, go to **Help > Install New Software...**
2. Click the **Add** button on the top right corner of the dialog.
3. Add a new update site. Set the **Name** field to CodingSpectator and the **Location** field to one of the following depending on your version of Eclipse as shown in Figure 1.
 - <http://codingspectator.cs.illinois.edu/updates/indigo-sr1> (Eclipse 3.7.1 Indigo SR1)

- <http://codingspectator.cs.illinois.edu/updates/indigo> (Eclipse 3.7.0 Indigo)
- <http://codingspectator.cs.illinois.edu/updates/helios> (Eclipse 3.6 Helios).

Then, click OK.

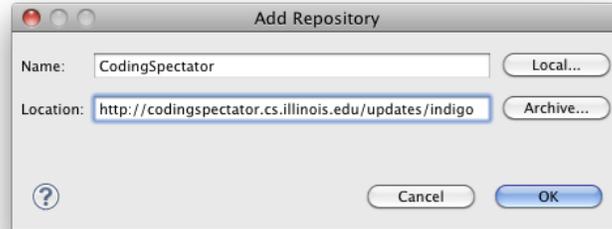


Figure 1: Add the update site of CodingSpectator.

4. After adding the update site of CodingSpectator, select the CodingSpectator features as shown in Figure 2.

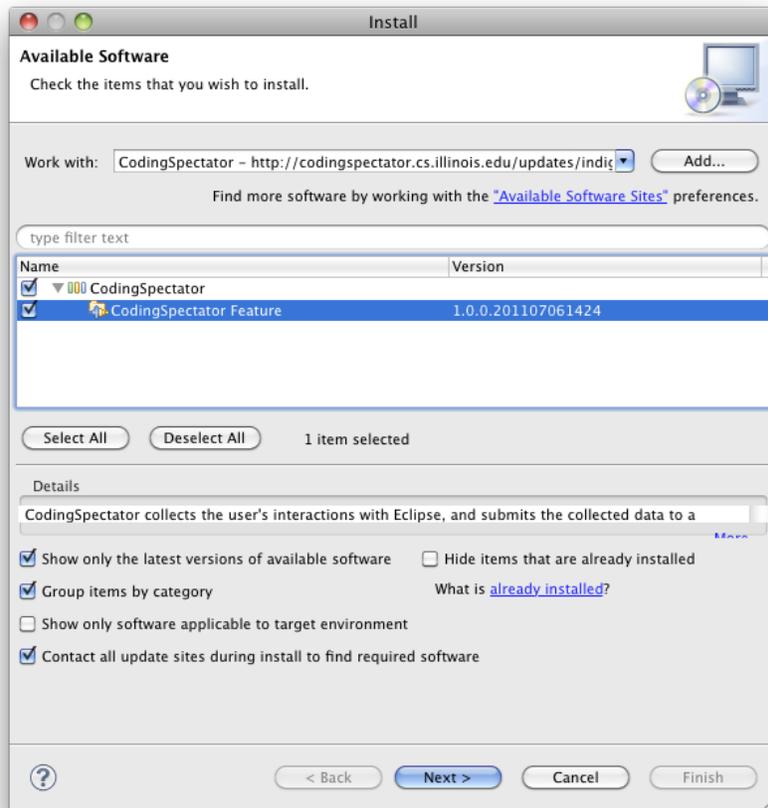


Figure 2: Select all the features of CodingSpectator to install.

5. Click **Next** to proceed.
6. You will now be presented with the **Install** dialog window listing the items that will be installed. You may examine this list if you wish. Click **Next** to proceed.
7. You will now be presented with the **Review Licenses** dialog window detailing the licenses of the plug-ins that will be installed. Take a moment to review them, and if you agree, proceed by clicking **Finish**.
8. Eclipse should open the dialog in Figure 3 asking you to confirm that you accept our certificate. In the *Do you trust these certificates*, please select the check box. Click **OK** to continue.
Note: You **need** to select check box before clicking the **OK** button to accept our certificate. If you click the **OK** button without selecting the check box on the dialog, Eclipse terminates the installation of CodingSpectator silently.

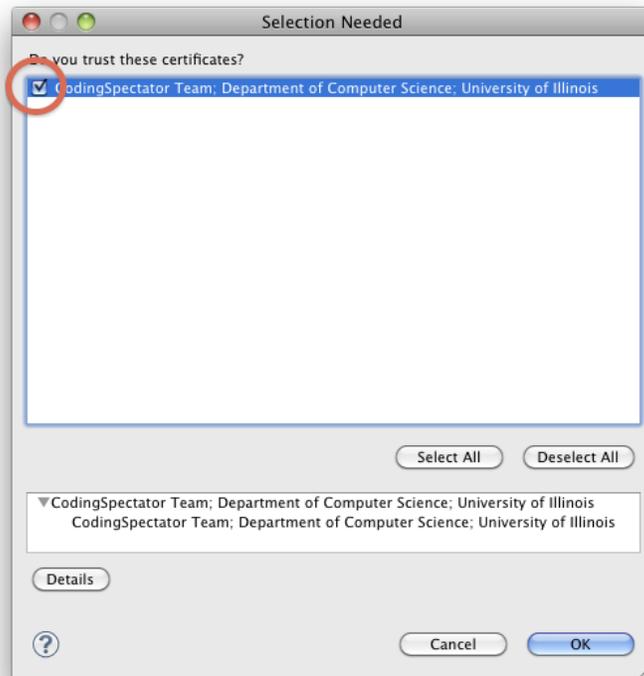


Figure 3: The dialog that asks if you trust the certificate of CodingSpectator.

9. If Eclipse cannot retrieve the installation files of CodingSpectator, it will open a dialog such as the one shown in Figure 4 warning you that you are installing unsigned content. If you see this dialog, it means that Eclipse has failed to install CodingSpectator correctly. Click OK to dismiss the dialog. Then, uninstall CodingSpectator (See Section 9), and try to install it again. If the problem persists, please contact us.



Figure 4: The dialog that warns about unsigned content implies that Eclipse has failed to install CodingSpectator.

10. A dialog will pop-up asking you to restart Eclipse after the software updates. Click **Restart Now**. Please do **not** use the other options on that dialog.
11. After restarting, you can check the **About Eclipse** dialog to see if CodingSpectator has been installed. Click on **Eclipse > About Eclipse...** on OS X or **Help > About Eclipse...** on Linux and Windows to display the dialog. You should see our CodingSpectator logo in that dialog as shown in Figure 5.



Figure 5: Upon successful installation, CodingSpectator displays its icon in the About dialog.

3 Using CodingSpectator

CodingSpectator is a non-intrusive extension that monitors your coding activities inside Eclipse. Specifically, it collects data about your use of the Java development tools in Eclipse. CodingSpectator will run in the background and will not interfere with your coding routines except for the occasional dialog asking you to upload your data. Your data will be uploaded to a secure server at the University of Illinois that only the researchers have access to.

Note: Our plug-in will monitor for programming behavior in **all** workspaces that you create using that particular Eclipse instance. As detailed on the consent form, the plug-in will record certain code development activities that are performed in the workspace and store that information. In addition, the plug-in might collect some code snippets to provide more context to the activities that are being performed.

If you have sensitive data that you do not wish the plug-in to collect, you would need to install two instances of Eclipse: one with our plug-in and one **without** our plug-in. To help you easily identify a workspace with CodingSpectator installed, we have also placed an icon in the status line of Eclipse as shown in Figure 6. If you wish, you may disable the icon by following the instructions in Section 7.

Please feel free to talk to us if you have any questions and concerns about your privacy. We can work out a suitable compromise.

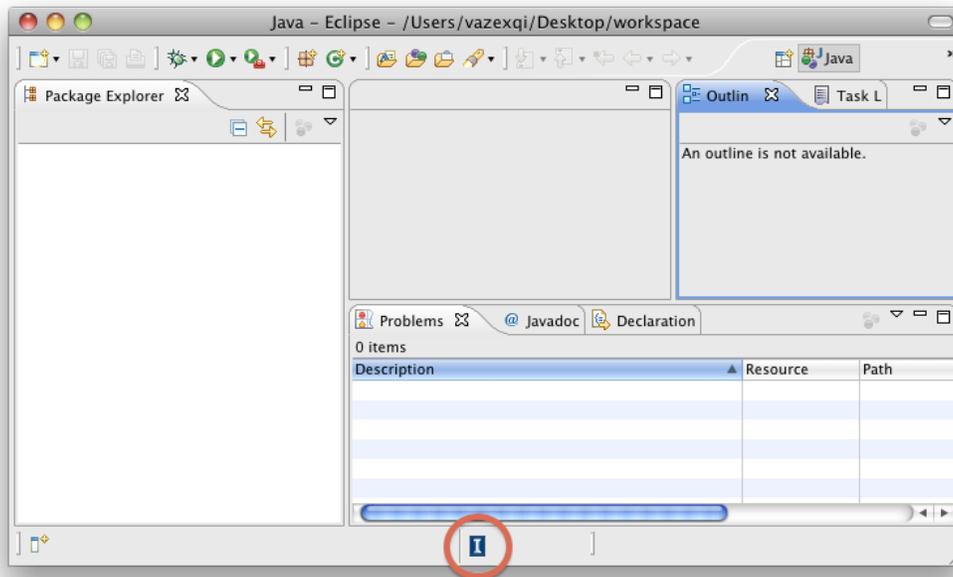


Figure 6: An icon appears on the status line reminding users that CodingSpectator is installed.

4 Uploading the data automatically

Once a day (at most), during the initial startup of Eclipse, you might be presented with the dialog box shown in Figure 7 asking you to upload your data. Please provide your CodingSpectator user name and password when prompted. You should have received your username and password when you signed up for our study.



Figure 7: The dialog that asks your CodingSpectator account information in order to upload your data to CodingSpectator servers.

If you provide the wrong user name/password, our plug-in will prompt you again with the dialog in Figure 8:



Figure 8: This dialog shows up when the user name and password that you have entered are wrong.

If you forget your user name or password, please contact us to send them to you. You may also change your password by visiting <http://codingspectator.cs.illinois.edu/Accounts/>.

5 Saving CodingSpectator password

If you wish Eclipse to remember your CodingSpectator password, click on the **Save password (could trigger secure storage)** check box on the authentication dialog in Figure 8. This will make Eclipse store your username and password using its underlying Secure Storage mechanism. If you decide to save your password, it will proceed to ask you to create a master password. Please follow the instructions on the screen as they depend on the operating system.

After you save your password, on subsequent uploads of CodingSpectator, you will no longer see the dialog in Figure 7 but one of the dialogs in Figure 9 depending on your operating system.

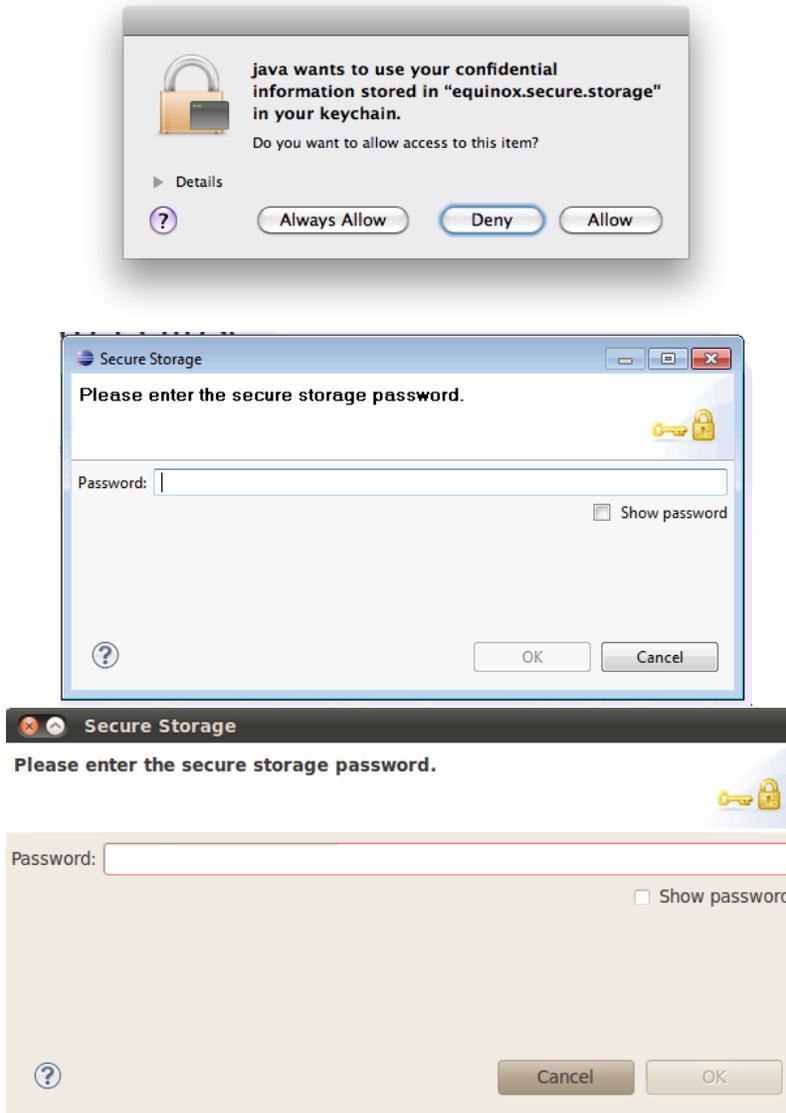


Figure 9: If you save your CodingSpectator account information in Eclipse, you will see one of these dialogs at your future attempts to log into CodingSpectator.

If you save your CodingSpectator password on Linux, Eclipse will still prompt you for your master password before every data upload. Please enter the **master password** that you have created (**not** your CodingSpectator password) when prompted by the Secure Storage dialog box. On Mac OS X and Windows, Eclipse uses the system-wide keyring and does not ask you for a master password. However, if you are using **Eclipse Helios on Windows 64 bits**, then you would need to perform the following steps to prevent Eclipse from prompting for your master password.

1. If your Eclipse is running, shut it down.
2. Download the deployable form of Windows 64 bits secure storage fragment for Eclipse Helios.
3. Copy the downloaded JAR file into the **dropins** folder of your Eclipse Helios installation. To check that Eclipse has picked up the JAR file, go to **Window > Preferences**, type **Secure Storage** in the search

box, and select **General > Security > Secure Storage** from the search results. Eclipse must now list a new master password provider called **Windows Integration (64 bits)** as shown in Figure 10.

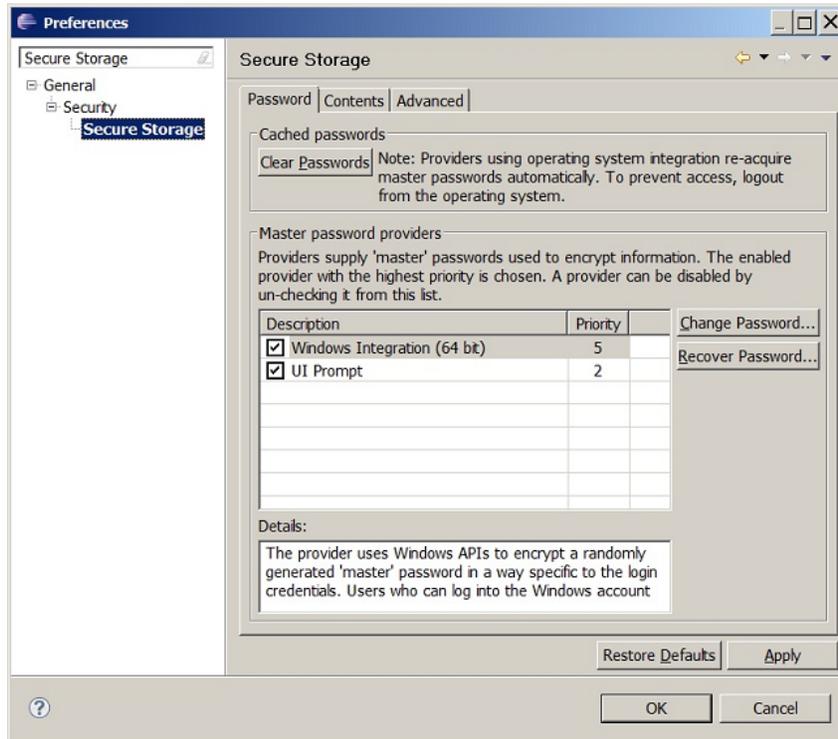


Figure 10: If you save your CodingSpectator password and Eclipse has a master password provider that integrates with your operating system, Eclipse won't prompt you for a master password before your data uploads.

4. Start Eclipse.
5. If you have already stored CodingSpectator password before installing the master password provider that integrates with Windows (and thus, were prompted for the master password every time you uploaded CodingSpectator data), you will need to delete the corresponding entry in order to use the installed master password provider for Windows. Go to **Window > Preferences**, type **Secure Storage** in the search box, and select **General > Security > Secure Storage** from the search results. Open the **Contents** tab and expand the **[Default Secure Storage]** item. If you have already saved your CodingSpectator password, you should see an item for CodingSpectator as shown in Figure 11. Click on the CodingSpectator item, then click the **Delete** button. Next, click the **Yes** button in the confirmation dialog box.

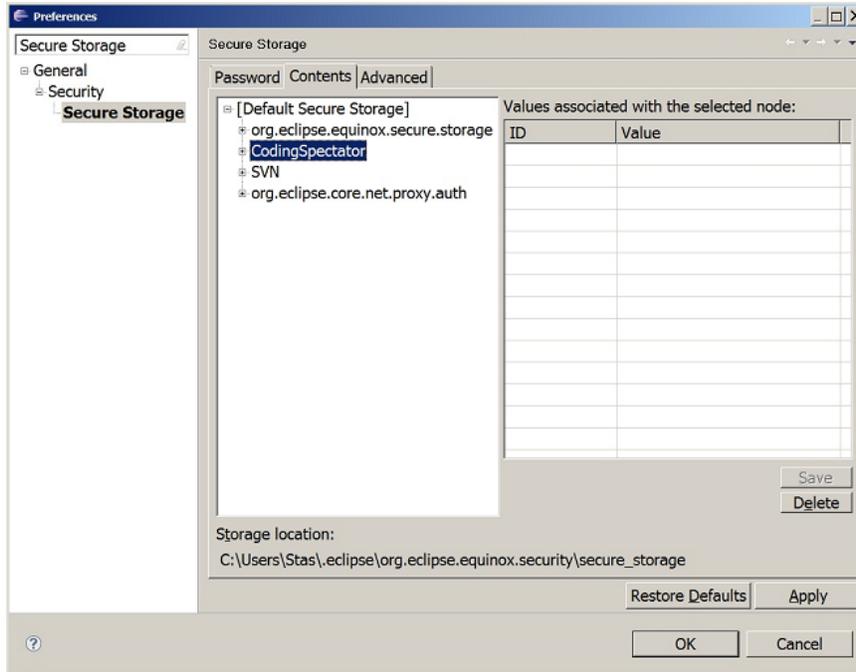


Figure 11: If Eclipse has already saved your CodingSpectator password you should delete the secure storage of CodingSpectator in order to use the new master password provider that integrates with your operating system.

6 Uploading the data manually

You may also trigger the data upload manually. We provide this facility because, occasionally, it might not be convenient to upload the data during the startup of Eclipse.

To invoke the manual uploading of your data, you can go to `Window > Preferences` (on Linux and Windows) or `Eclipse > Preferences...` (on Mac OS X). Click on the `CodingSpectator > Display` section shown in Figure 12.

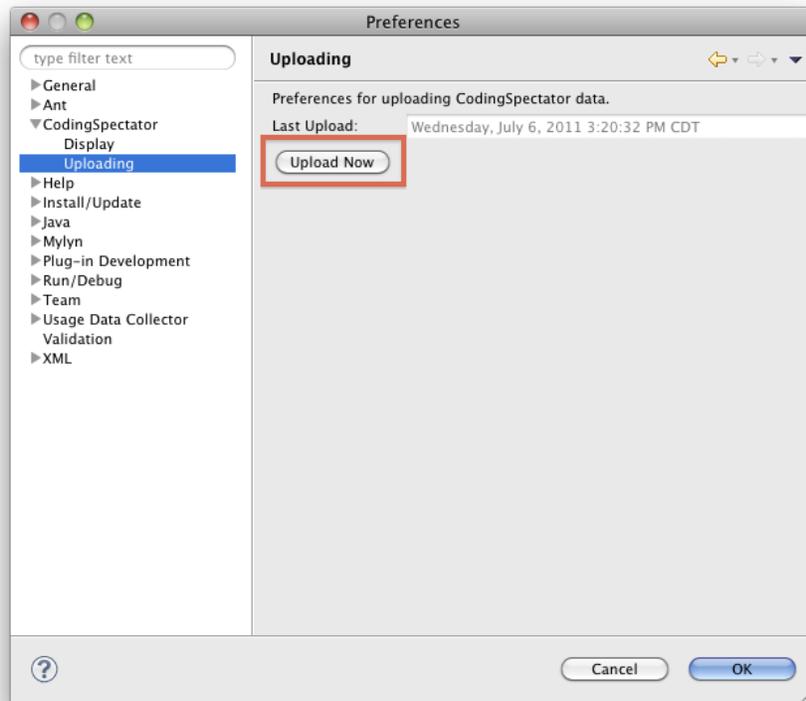


Figure 12: CodingSpectator provides a preference page for manually updating your data.

In that particular preference pane, you will see:

1. the date and time of your last upload and
2. an `Upload Now` button that you can invoke to upload your data.

7 Showing or hiding CodingSpectator status line icon

To hide or show the CodingSpectator status line icon, you can go to `Window > Preferences` (on Linux and Windows) or `Eclipse > Preferences...` (on Mac OS X). Click on the `CodingSpectator > Display` section shown in Figure 13. Then check or uncheck the `Show CodingSpectator in the status line` check box.

Note: Toggling the display of the icon does **not** disable CodingSpectator — it is still actively running and collecting data in the background. There is currently no way to turn off CodingSpectator except by uninstalling it (See Section 9).

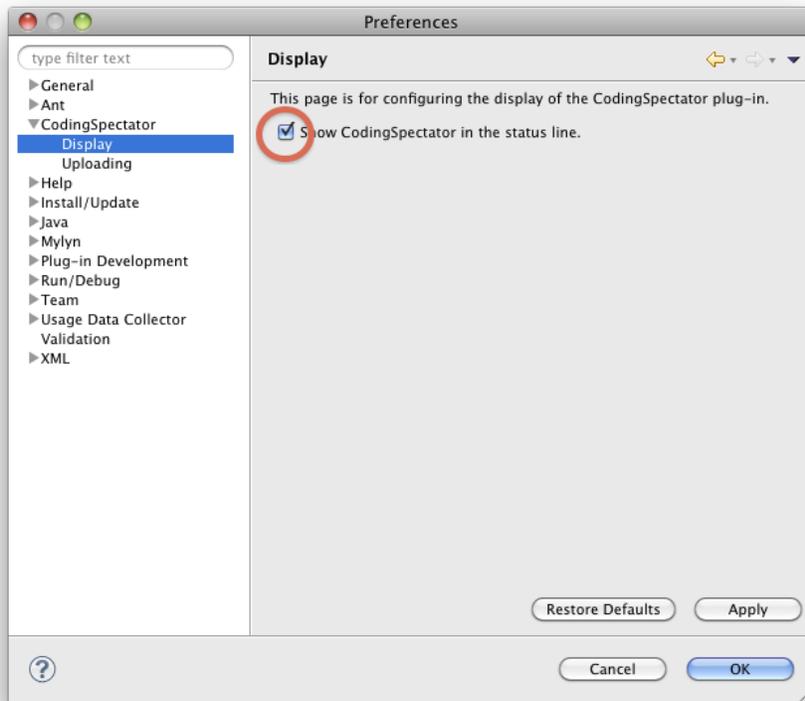


Figure 13: CodingSpectator provides a preference for manually updating your data.

8 Updating CodingSpectator

During this research study, we might require you to update CodingSpectator. Should this become necessary, we will contact you via e-mail to upgrade the plug-in. This is a simple process that you can perform by going to **Help > Check for Updates** (See Figure 14) in the Eclipse application.

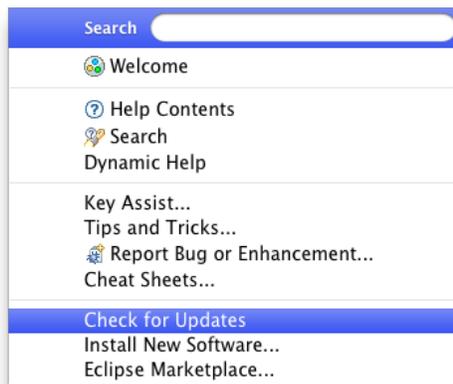


Figure 14: Update CodingSpectator.

9 Uninstalling CodingSpectator

1. You can uninstall our plug-in through the **About Eclipse...** dialog. You can invoke the dialog shown in Figure 15 by going to **Eclipse > About Eclipse...** on Mac OS X or through **Help > About Eclipse...** on Linux and Windows.



Figure 15: The “About Eclipse” dialog.

2. In dialog shown in Figure 15, click on the **Installation Details** button. As a result, the dialog shown in Figure 16 should appear. The list of plug-ins installed might be different from the image below depending on what other plug-ins you have installed.

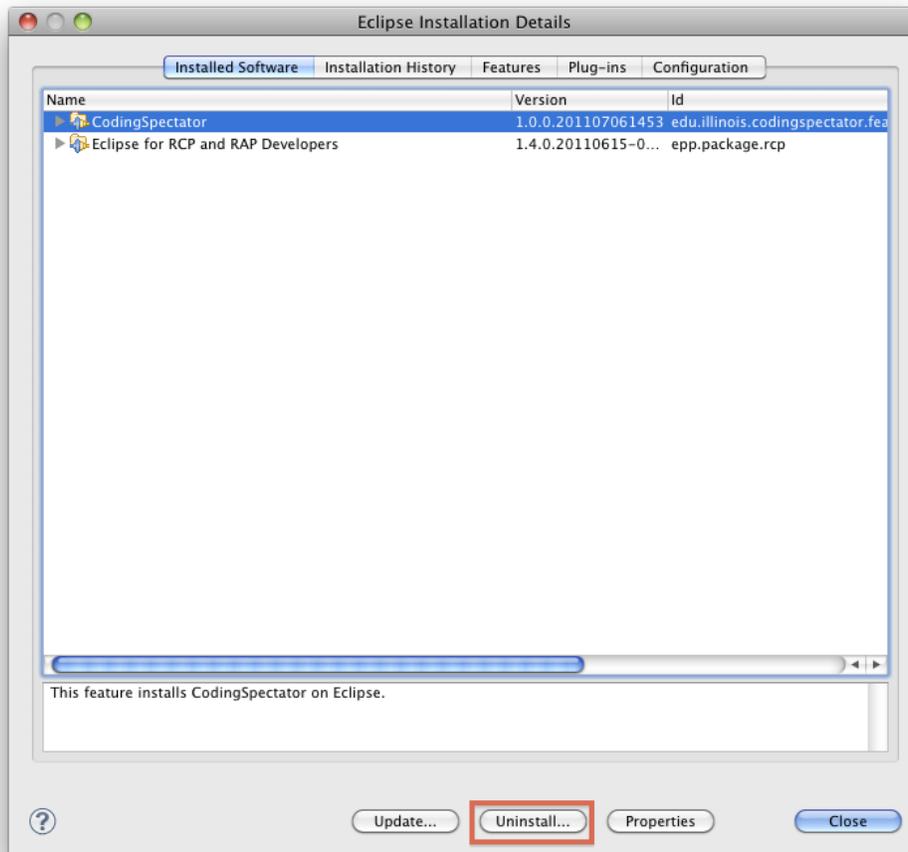


Figure 16: List of the software installed on Eclipse.

3. Click on `CodingSpectator` from the list to select it. Then click on the `Uninstall...` button.
4. Eclipse will calculate the dependencies and check the validity of uninstallation. After a while, it will show the dialog shown in Figure 17.

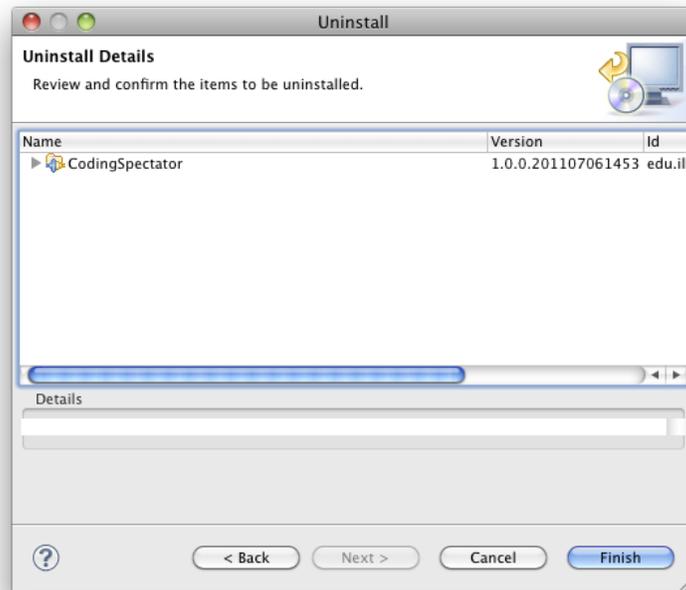


Figure 17: Review and confirm the uninstallation of CodingSpectator.

5. Click **Finish**
6. Eclipse will proceed to uninstall CodingSpectator. After a while, the dialog in Figure 18 will pop-up asking if you would like to restart Eclipse for the changes to take effect. Click **Restart Now**.



Figure 18: Restart Eclipse to complete the installation of CodingSpectator.