



**SecureAssist Rulepack Configurator**

**v. 2.4.1**

**User Guide**

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# 1 Introduction and Setup

Rulepacks are Java Archive (JAR) files that contain the files used by SecureAssist to analyze source code against a set of rules and detect vulnerabilities in real time as you code. Codiscope provides a default rulepack. However, in many cases, an organization may wish to scan for issues not included in the default Codiscope rulepacks (for example, rules enforcing a company's specific cryptography standards). Using Rulepack Configurator, you can customize the default rulepack to meet your unique needs. You can even create your own rulepacks, save them, then import them into SecureAssist.

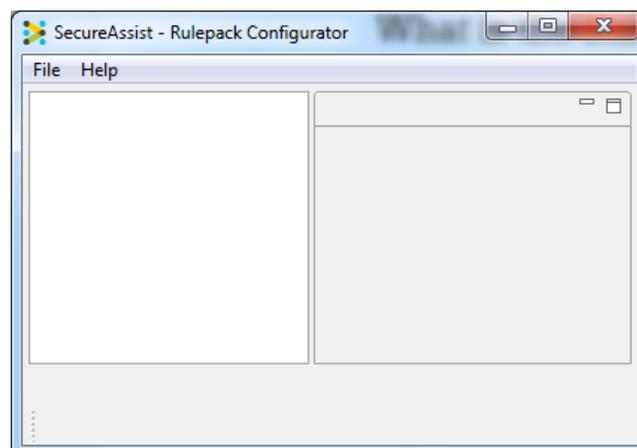
## System and User Requirements

Developing rules requires an understanding of the SecureAssist rule schema, a basic knowledge of regular expressions (regex,) and a programming background. Developers of xml rules need knowledge of XPath. Deciding what the rule itself entails (what code to flag, what vulnerability the rule is for, user guidance) requires an understanding of software security.

### Opening Rulepack Configurator the First Time

A Java Development Kit (JDK) needs to be available to run Rulepack Configurator. The Rulepack Configurator prompts for the JDK path the first time it is opened.

1. Open Rulepack.exe. A dialog will prompt you to enter the JDK path. (Rulepack Configurator prepopulates with the JDK path, if JDK is available in the program files folder.)
2. Browse to the JDK path (if necessary) and click **OK**. The dialog closes and Rulepack Configurator opens.



3. Exit the program by choosing **Exit** from the **File** menu or clicking the . A popup will ask whether you want to continue.
4. Click **OK**. A second dialog will ask whether you want to save any new or extracted files in the archive.
5. Click **Yes**. The JDK path will now be saved, and you won't be prompted to enter it again.

## 2 Rulepack Configurator Quick Start

### What are Rulepacks?

Rulepacks are Java Archive (JAR) files that contain the files used by SecureAssist to analyze source code against a set of rules and detect vulnerabilities in real time as you code. A rulepack contains filters, guidance, propagators, rules, and sources that customize how and which vulnerabilities are reported.

When you open a rulepack in Rulepack Configurator, you will see that it consists of two folders: Default and Custom.

- The Default folder is read-only and contains all the default elements in the rulepack.
- The Custom folder is where you can add or edit custom rules, sources, propagators, filters, and guidances. The individual custom settings you create in Custom will override the corresponding settings in Default. The Custom folder tree is empty until you add custom files to it.

To be usable, a rulepack should contain at least one rule, one filter, and one guidance. These three elements reference one another. Propagators and sources, conversely, do not reference any other elements.

Item	Description
<u>Rules</u>	Instruct SecureAssist on what vulnerabilities to identify in your code. <i>Linked to Filter by Rule ID.</i> <i>Links to Guidance by Rule Standard (guidance filename).</i>
<u>Filters</u>	Modify the way rules behave. Organize rules into categories, determine which rules are visible in the editor window of the IDE, and determine rules' severity levels. A rule must be added to a filter and activated for SecureAssist to display the rule's results. Custom rules that you create are disabled by default and must be enabled via a filter. <i>Links to one or more rules by Rule ID.</i>

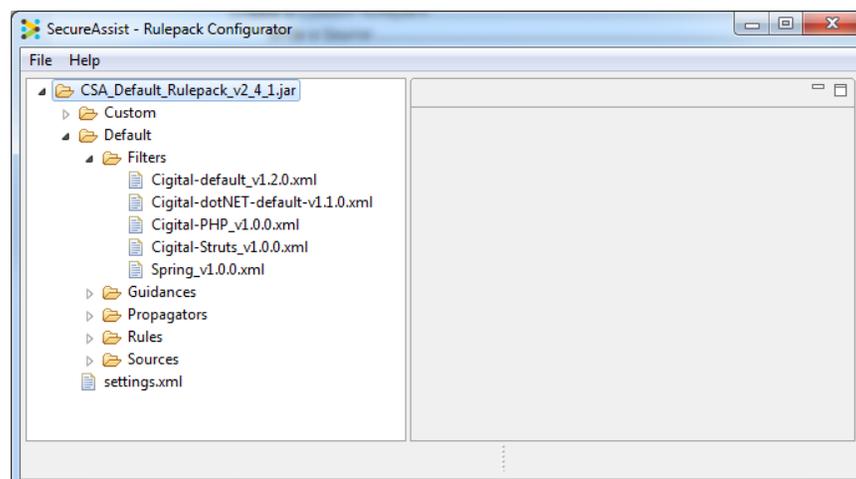
Item	Description
<u>Guidances</u>	Provide advice to a SecureAssist user about how to fix the vulnerability. When code triggers a finding, guidance supplies the developer with the language-specific information necessary to understand and remediate the vulnerability. <i>Linked to in one or more rules by Rule Standard (guidance filename).</i>
<u>Propagators</u>	Track how taint travels through a system and describe conditions on which taint is passed between objects. <i>Feeds information to the Call Chain in SecureAssist.</i>
<u>Sources</u>	Inform SecureAssist where untrusted data can potentially enter an application. When SecureAssist finds a source, it is marked as such, and used to determine which lines of code are insecure during taint flow analysis. <i>Feeds information to the Call Chain in SecureAssist.</i>

## Open and View an Existing Rulepack

When you first open Rulepack Configurator, you'll be confronted with a blank screen. To populate it, follow these instructions.

### ● Open a Rulepack

1. From the **File** menu, choose **Open Rulepack**.
2. From the **Open File** dialog, browse to and select the desired JAR file, then click **Open**. Rulepack Configurator displays the selected rulepack in a folder tree.



3. Browse the folders to see the different component files. The Default folder contains the default files for the rulepack. These files cannot be edited. To make changes, you can add and edit files in the Custom folder.

### ● Open and View Files in a Rulepack

1. In an open rulepack, browse the navigation tree to locate the desired file.
2. Double-click an individual file. The file opens in a tab in the editing window.
3. To close the file, click the  on the file's tab at the top of the editing window.

**Remember!** Files in the Default folder will be read-only.

## Customize a Rulepack

Your company may have rules you'd like to activate in SecureAssist that don't appear in the default rulepack. To do this, you can customize the rulepack. There are two ways to customize a rulepack: add new unique custom files OR revise default files by editing copies of them.

### Rulepack Settings

The settings for your rulepack appear in the settings.xml file at the bottom of the navigation tree. To edit them, double-click the file to display it in the editing window.

By default, the setting **Custom filters have priority** is selected. This means that when the rulepack is run in SecureAssist, any default rulepack files that you've customized will take precedence over the default files.

The Filter Settings is where you can choose to activate or deactivate any of the filters contained in the rulepack. By default, all custom filters are activated.

### Views

When you open a custom file in a rulepack, you can choose to view or edit it in one of two views, which you select by clicking on the tabs on the bottom of the editing window:

- **Design.** The **Design** tab presents the file's xml elements in a collapsible, graphical hierarchy.
- **Source.** The **Source** tab presents the file code for direct editing.

The exception to this is guidance files. By default, a guidance file is displayed in a graphical wizard. However, you can choose to view guidance files using the **Design** and **Source** tabs by right-clicking the file and choosing **View Source** from the popup menu. This will open a second tab displaying the file in the format.

## Working with Files

### ● Customize a Default Guidance File

Custom guidance files created this way will override the rulepack's default files.

1. In the navigation tree, right-click on either of the Guidances folder and select **Customize Default Guidance**. A dialog lists all the existing default guidance files.
2. Type the desired file name in the **Select Guidance** box OR select the desired file from the list, then click **OK**. The file is copied to the Custom Guidance folder with the same file name as the default file. The new file is opened automatically in the editing window.
3. If needed, resize the editing window so that the **Overwrite** checkboxes to the right of the data entry fields are displayed.
4. Check **Overwrite** next to the sections you wish to change, then make the desired changes to those sections. (Each section is read-only until you click its **Overwrite** box.)
5. To revert a section to the original content from the default guidance file, deselect **Overwrite**. Your edits will be reversed, and the section contents will be restored.
6. Choose **Save** from the **File** menu.
7. To close the file, click the  on the file's tab.

**Important!** When you save a rulepack file, the changes will be retained for that session only UNLESS you additionally choose **Save Rulepack** from the **File** menu.

## ● Customize a Default Filter, Propagator, Rule, or Source File

Custom files created this way will override the rulepack's default files.

1. In the navigation tree, open the default file you wish to customize.
2. Copy the contents of the default file, then close its tab.
3. Right-click on any of the Custom subfolders, select **New**, then select the type of file you wish to create. A dialog prompts you to enter a new name for the file you're creating, plus any other required fields for the file type.
4. Enter the same file name as the original default file.  
**Important!** The file name must be identical in order to ensure the custom file overrides the default file.
5. Enter values in any other fields, then click **Create**. The file is created in the appropriate folder and opened in a tab in the editing window.
6. Enter data in fields as desired.
7. Choose **Save** from the **File** menu.
8. To close the file, click the  on the file's tab.

## ● Create a New Custom File

Custom files created this way will run in addition to the rulepack's default files.

1. In the navigation tree, right-click on any of the Custom subfolders, select **New**, then select the type of file you wish to create. A dialog prompts you to enter a new name for the file you're creating, plus any other required fields for the file type.
2. Enter a unique file name. **Important!** If you want this custom file to run *in addition* to the default files, it must have a unique file name.
3. Enter values in the fields, then click **Create**. The file is created in the appropriate folder and opened in a tab in the editing window.
4. Enter data in fields as desired.
5. Choose **Save** from the **File** menu.
6. To close the file, click the  on the file's tab.

### ● Validate a File

1. Right-click the desired file and select **Validate** from the popup menu. Validation is run on the file. A popup will confirm successful validation.

If validation fails, an error message will list any problems you must resolve before validation can be successful.

### ● Preview Guidance

This feature allows you to view how your guidance page will appear in SecureAssist.

1. Right-click the desired guidance file and select **Preview** from the popup menu. A read-only tab opens in the editing window, displaying the guidance as it will appear in SecureAssist.
2. To close the preview, click the  on the tab.

### ● Rename a File

1. In the navigation tree, right-click the desired file and select **Rename**. The File Rename dialog opens.
2. Edit the file name as desired and click **Rename**.

### ● Save Current File

1. To save the current file, choose **Save** from the **File** menu OR press **Ctrl+S**.

### ● Save All Open Files

1. To save all open files in a rulepack, choose **Save All** from the **File** menu OR press **Ctrl+Shift+S**.

### ● Delete a Custom File

Default files cannot be deleted.

1. In the navigation tree, right-click the desired file and select **Delete**.

## Rulepacks

### ● Validate Rulepack

1. Right-click on the rulepack (the top folder) in the navigation tree and select **Validate Rulepack**. Validation is run on the entire rulepack. A popup will confirm successful validation.

If validation fails, an error message will list any problems you must resolve before validation can be successful.

### ● Save Rulepack

1. Choose **Save Rulepack** from the **File** menu. The rulepack is validated before saving. If validation fails, an error message will list any problems you must resolve before validation can be successful.

## 3 More Support

We hope this document has helped you get started with SecureAssist. You can submit a support request at [support.codiscope.com](http://support.codiscope.com). You will also find other manuals, release notes, system requirements, and more.

Thanks for using Codiscope SecureAssist!



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