



# Security Requirements Modeling Tool

## RDL User Guide

*(rev 1.0)*

*For STS-Tool Version 2.1*

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## INTRODUCTION

The RDL plugin for STS-Tool permits to analyze and edit River Definition Language (RDL) applications.

It is assumed that the reader is familiar with RDL and its applications; discussions about the details of RDL specification are beyond the scope of this document. For further details please refer to [1].

This document covers version 1.0 of RDL plugin, it has been published January 15, 2016.

## BACKGROUND

RDL plugin was designed and developed by Paolo Giorgini, Mattia Salnitri and Mauro Poggianella, which are part of the software engineering and formal method groups of University of Trento, Italy.

The main objective of the RDL plugin is to support the STS framework [2]. This is achieved by supporting the enforcement of security requirement by generating RDL code.

## DOCUMENT CONVENTIONS

Menu actions, mouse click commands or any other UI labels or callouts are in bold:

 **Delete** - deletes the selected element.

Sequences of actions that involve cascading menus are separated with an arrow:

From the main menu, click **Help** -> **Install New Software**

Sometimes it is necessary to distinguish between references to specific RDL elements and the concepts they represent. For example, RDL defines a **Project** element, but we may also refer to a project in a broader sense outside the context of the RDL. Whenever a RDL element is discussed, it will be highlighted in a different color and font:

An **element** is used to specify the data field inside **type** of **business artefacts**.

Usage Tips and hints are highlighted with a border:

 The text size can be changes using the preferences dialog.

Actions that may cause unexpected results are highlighted with a border:

 If any of the above attributes are changed as a result of these settings, those changes will be reflected in the file when it is saved.

## INSTALLATION

The RDL plugin is installed from STS-Tool. From the main menu, select **Help** -> **Install New software** (Figure 1). Next, select from the list of available plugins the **SecBPMN2 plugin** and the **RDL Plugin**, as shown in (Figure 2) and click **Finish**. Once the software has been installed, STS-Tool will restart automatically.

! RDL plugin requires the SecBPMN2 plugin. Therefore the SecBPMN2 plugin will be installed even if it is not selected.

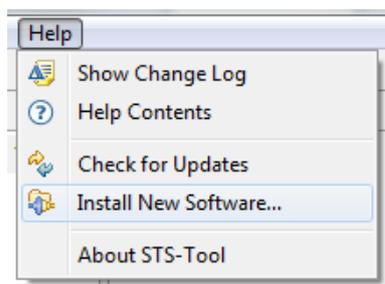


Figure 1 Install software menu

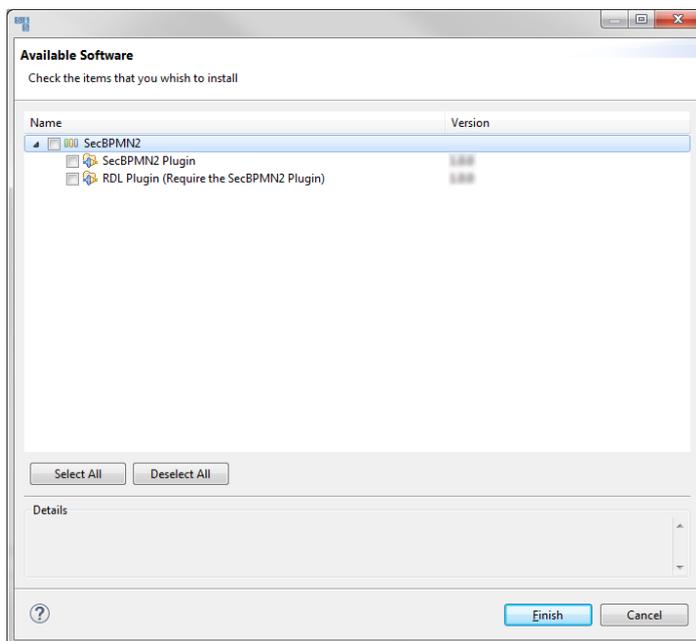


Figure 2 Install New Software wizard dialog

## PROJECT RESOURCES

Please visit the STS-Tool project website for new release announcements and other news concerning the project, here:

<http://www.sts-tool.eu/>

## ANATOMY OF THE RDL PLUGIN

RDL plugin is composed by a textual editor for RDL which permits to read and edit RDL applications.

## GENERATION OF RIVER DEFINITION LANGUAGE APPLICATIONS

RDL plugin permits to generate RDL applications from SecBPMN2 secure business processes, and modify the code of RDL applications. To generate RDL applications select generate River project from the Diagram menu, as shown in Figure 3. This action will show a pop-up window with 4 text fields, as shown in Figure 4. The pieces of information to insert are:

- The name of the RDL package
- Username, to be used to connect to RDL server
- Password, to be used to connect to RDL server
- File name prefix, that will be added to each RDL file created (optional).

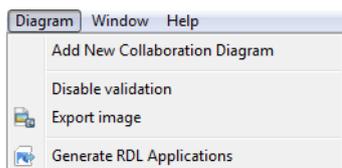


Figure 3 Generate RDL applications option

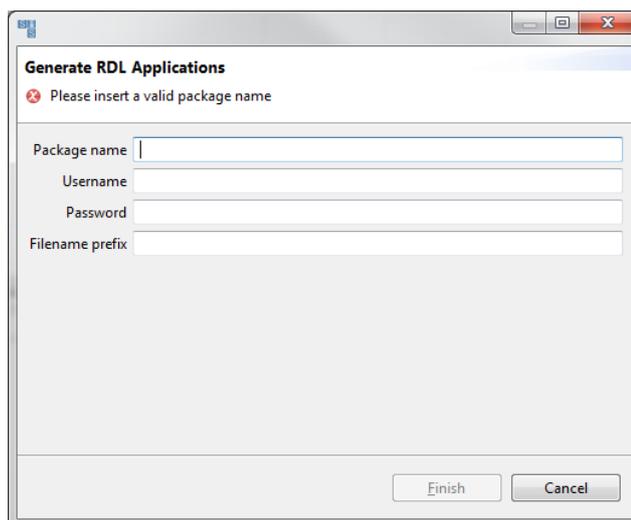


Figure 4 Generate RDL applications wizard

The generation creates a folder in the project workspace called `river applications`, which contains one file for each RDL application generated. To open the files with the RDL editor, double click on the files.

## USER PREFERENCES

The RDL plugin appearance and behavior can be customized from Eclipse Preferences settings. To access the Preferences dialog, from the main menu click `window -> settings` then select the `RDL plugin` category from the tree in the left of the dialog (see Figure 5).

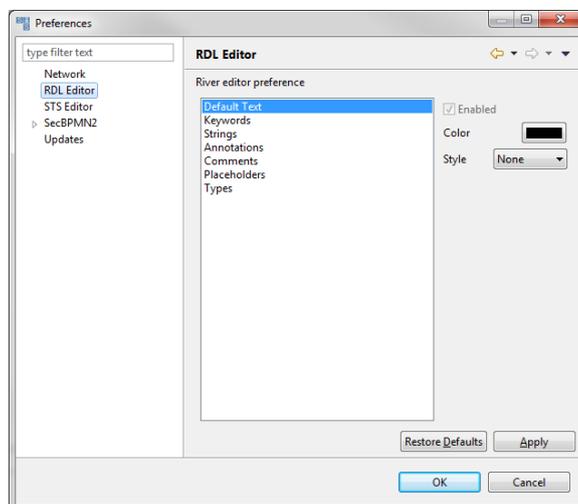


Figure 5 Preference dialog box for RDL

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## REFERENCES

- [1] M. Salnitri, B. Achim and G. Paolo, "From Secure Business Process Models to Secure Artifact-Centric Specifications," *BPMNDS*, p. 15, 2015.
- [2] M. Salnitri, E. Paja and P. Giorgini, "Preserving Compliance with Security Requirements in Socio-Technical Systems," *Proceeding of Cyber Security and Privacy (CSP) forum*, 2014.