

LLRP GUI Client

User Guide

October 8th, 2008

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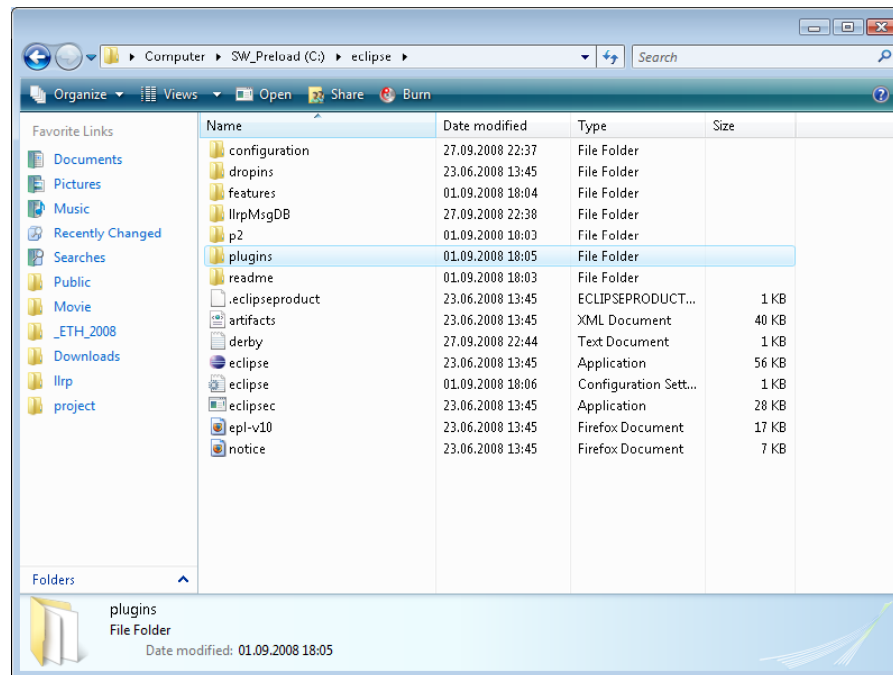
Installation

Prerequisites:

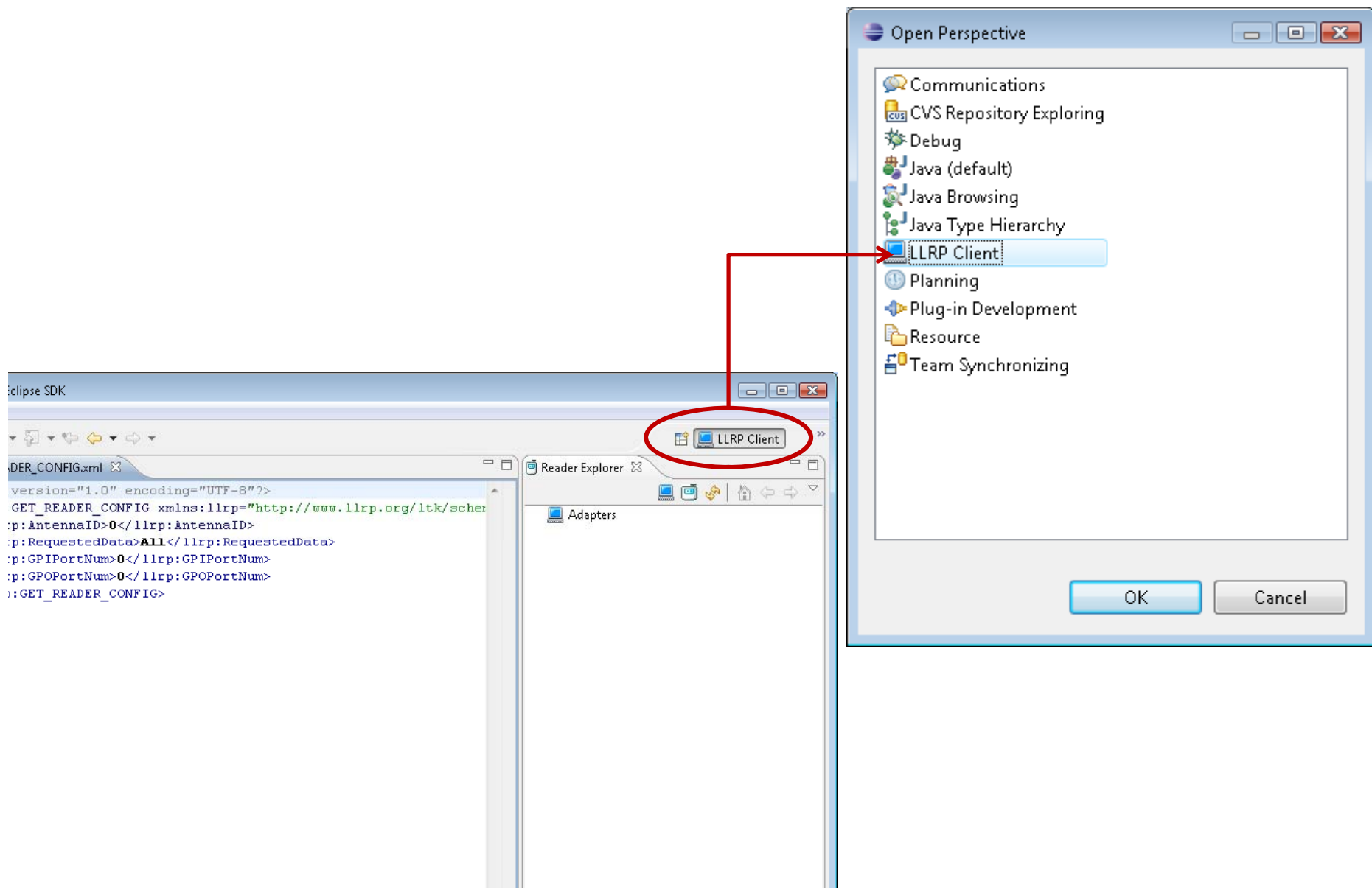
1. Java 1.5
2. Eclipse >= 3.3.0

Installation of the LLRP GUI Client:

1. Download **LLRPGUIClient_<VERSION>.zip** from www.fosstrak.org.
2. Extract the zip file into the subfolder „plugins“ of Eclipse's home directory.



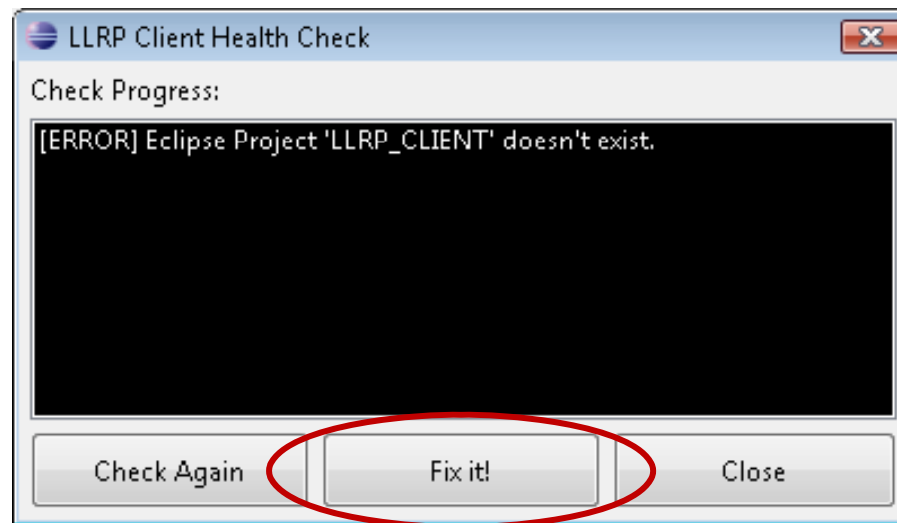
Start Eclipse and open “LLRP Client” perspective



First time start-up

When Eclipse loads the LLRP Client for the first time, the Health Check function is triggered to validate whether the environment is ready for use. If any significant error is detected (for example, if the folders are corrupted or the database table doesn't exist), this dialog will popup at startup.

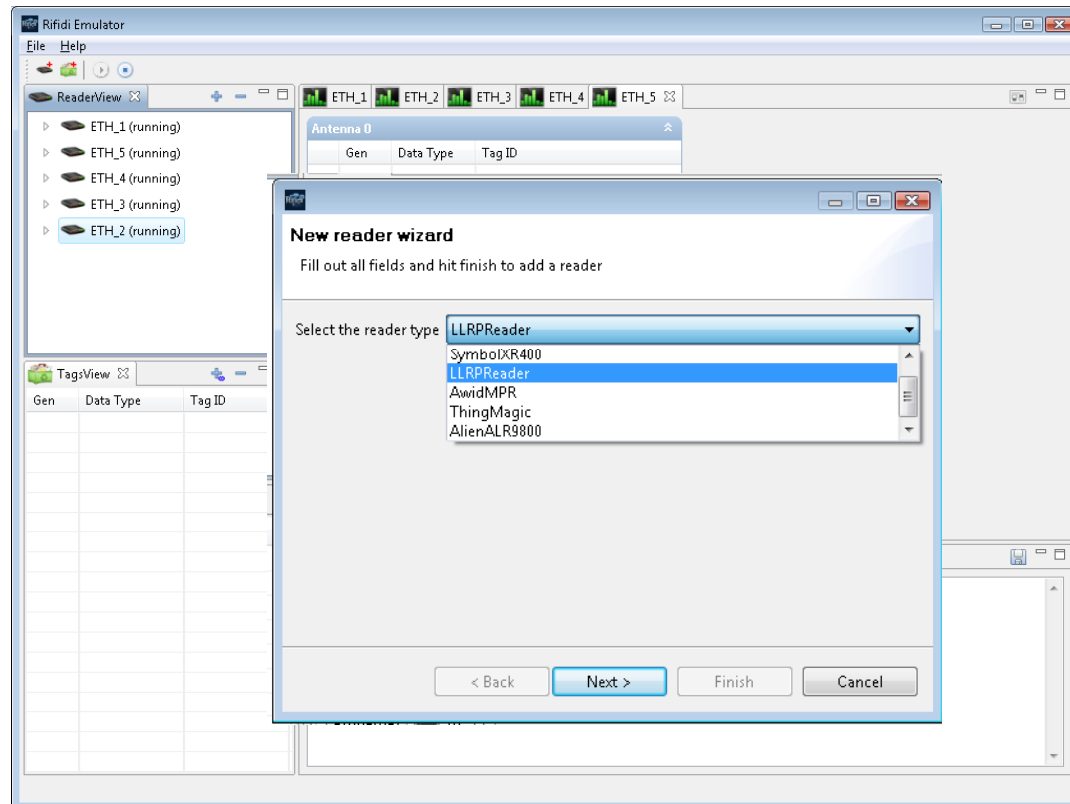
You can fix the reported problems by just pressing the “Fix It!” button.



Setup Rifidi Emulator

If you don't have a Hardware RFID Reader available, you can test the LLRP GUI Client with the Rifidi Software Reader:

1. Setup the Rifidi Emulator via <http://www.rifidi.org/>
2. Create a reader of type „LLRPReader“ and set it to „running“.



LLRP Client Perspective

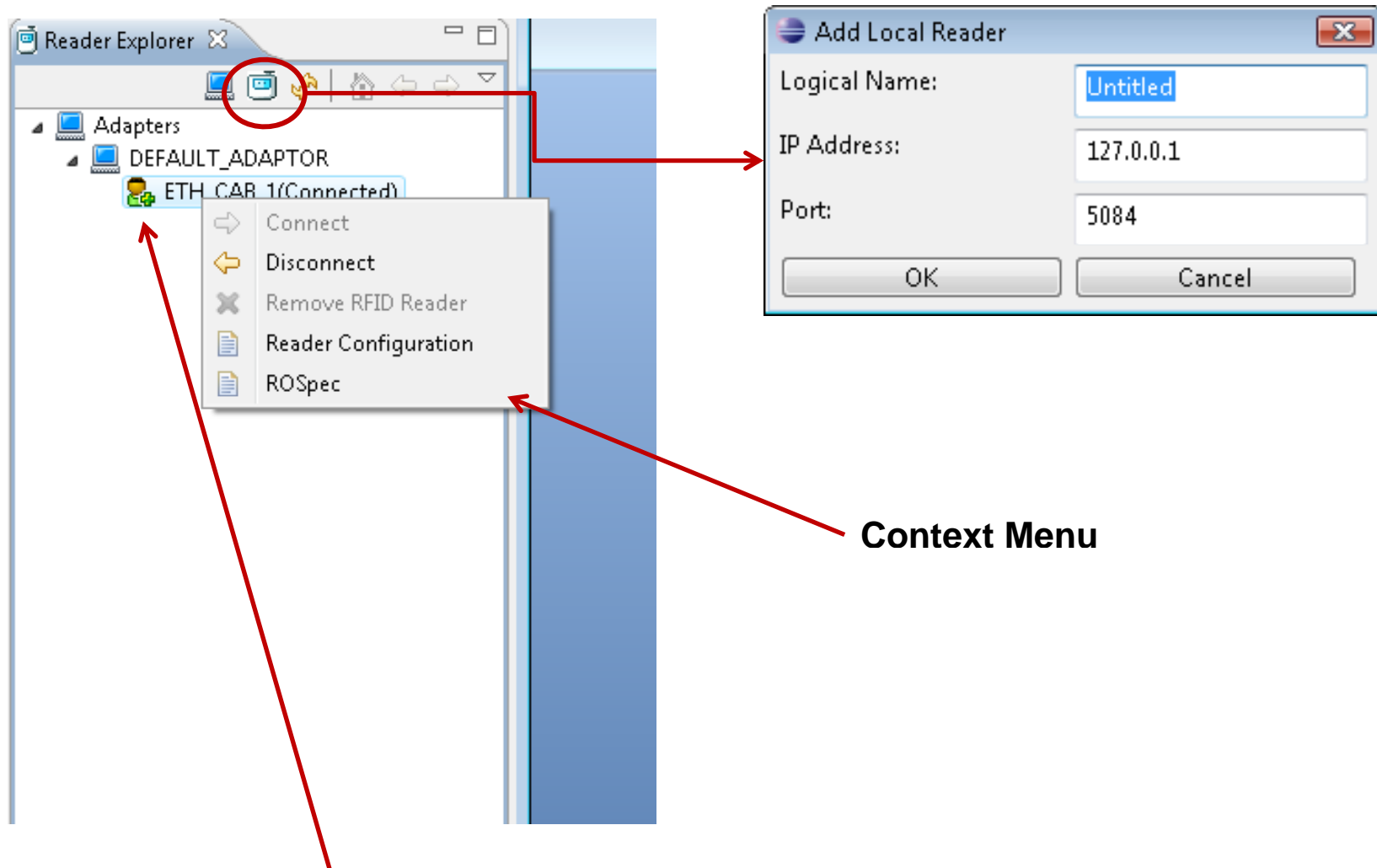
The screenshot displays the LLRP Client Eclipse IDE perspective. The interface is divided into four main areas:

- 1. Project Navigator:** Located on the left, it shows a tree view of the LLRP_CLIENT project. The 'Draft' folder contains several XML files, including GET_READER_CONFIG.xml, which is currently open in the editor.
- 2. Multi-Page Editor:** The central area where the XML file is being edited. It shows the XML content for GET_READER_CONFIG.xml, including elements like <llrp:GET_READER_CONFIG>, <llrp:AntennaID>, <llrp:RequestedData>, <llrp:GPIOPortNum>, and <llrp:GPOPortNum>.
- 3. Message Box:** Located at the bottom, it displays a table of messages. The selected message is a GET_READER_CONFIG_RESPONSE from ETH_CAB_1.
- 4. Reader Explorer:** Located on the right, it shows the list of adapters connected to the system. The selected adapter is ETH_CAB_1 (Connected).

The LLRP Client icon in the top right corner of the IDE is circled in red.

ID	Reader	Message Type	Time	Comment
2008-Sep-26-17-20-03-881	ETH_CAB_1	GET_READER_CONFIG_RESPONSE	2008-Sep...	
2008-Sep-26-17-20-03-761	ETH_CAB_1	GET_READER_CONFIG_RESPONSE	2008-Sep...	
2008-Sep-26-17-18-23-820	ETH_CAB_1	GET_READER_CONFIG_RESPONSE	2008-Sep...	
2008-Sep-26-17-18-23-410	ETH_CAB_1	READER_EVENT_NOTIFICATION	2008-Sep...	

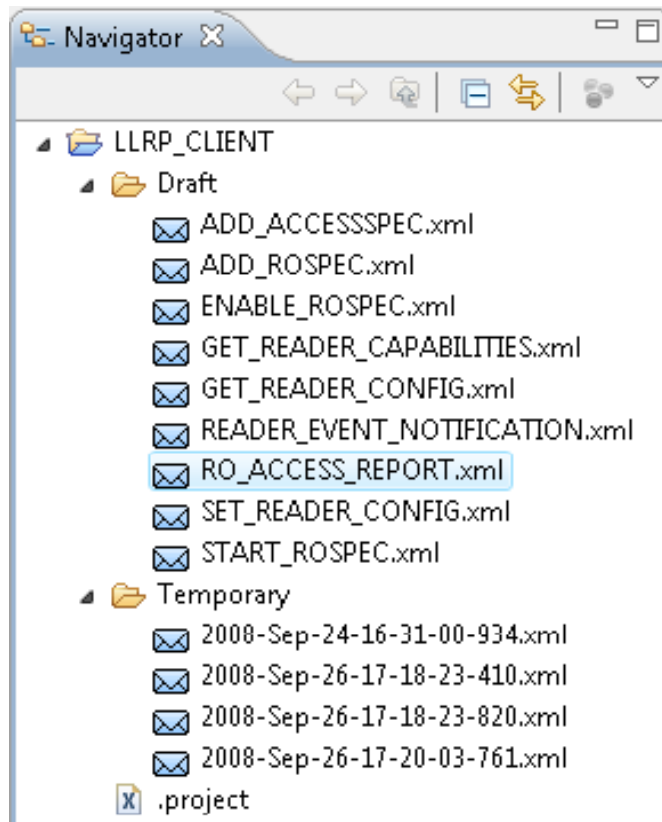
Reader Management



Context Menu

Status (Connected/Disconnected) Indicator

Project Navigator



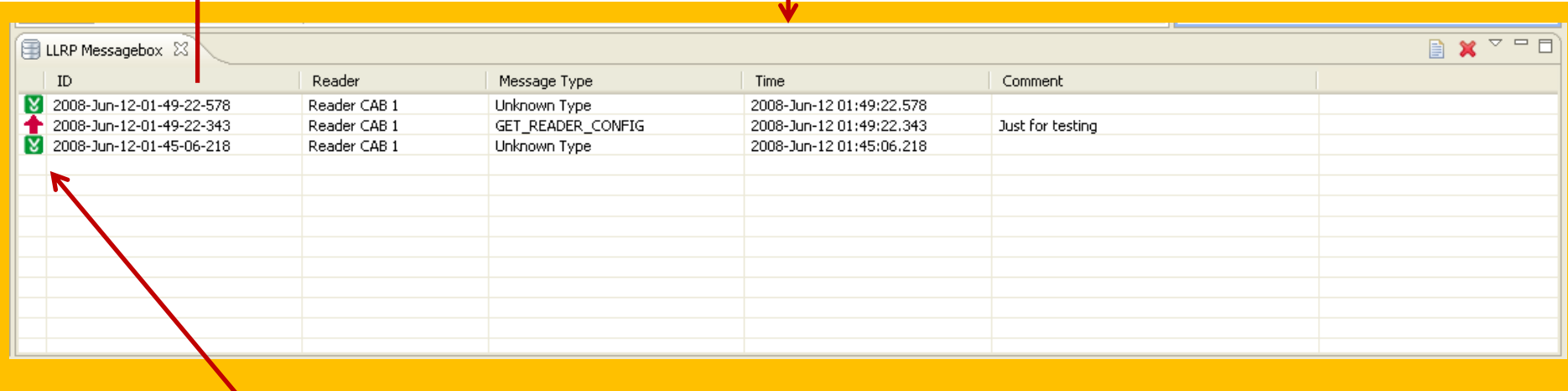
The LLRP client needs a Eclipse project to store editable messages. You can either define a specific project in the Preference Page, or use the default “LLRP_CLIENT” project folder.

The LLRP client automatically generates two folders for the project folder:

- 1.Draft:** to hold the pre-built sample LLRP message files;
- 2.Temporary:** to hold the incoming message files when users load them from the repository.

When you modify the files in the “**Temporary**” folder, the changes will not be written to the Repository. In addition, if you purge the JavaDB, the files under “**Temporary**” folder will not be removed.

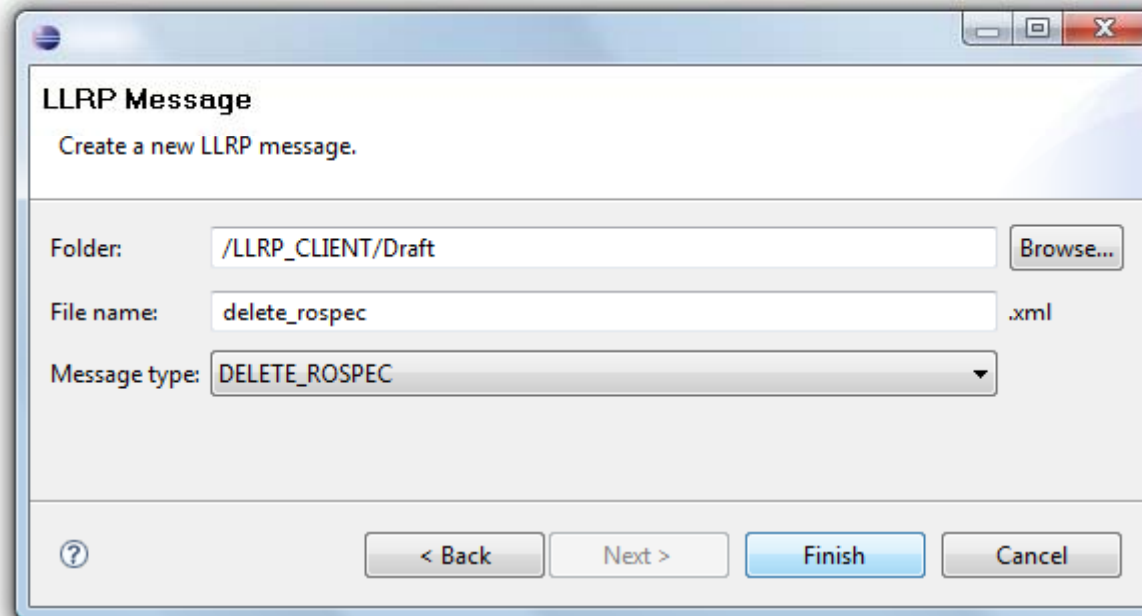
Every time Eclipse starts up, the “Health Check” can detects whether the project exists or the folder structure is corrupted. If yes, you can easily recover it by the “Auto Fix” function.



Request/Response Indicator

“New LLRP Message” Wizard

The “New LLRP Message” wizard assists you in creating new LLRP messages from scratch. To start the wizard choose *File/New/Other.../LLRP/LLRP Message*.



The screenshot shows a Windows-style dialog box titled "LLRP Message". Below the title bar, it says "Create a new LLRP message." The dialog contains three input fields: "Folder:" with the text "/LLRP_CLIENT/Draft" and a "Browse..." button to its right; "File name:" with the text "delete_rospec" and a ".xml" extension to its right; and "Message type:" with a dropdown menu showing "DELETE_ROSPEC". At the bottom of the dialog, there is a help icon (question mark in a circle) on the left, and four buttons: "< Back", "Next >", "Finish" (highlighted in blue), and "Cancel".

After pressing “Finish” a new message of the selected type will be created in the specified folder with the given file name. The message will have all fields initialized by default values and all mandatory parameters set. It will be automatically opened in the editor where you can adapt it to your needs.

Graphical Editor

Expand all tree elements.

Collapse all tree elements.

Click on hyperlink to jump to the invalid parameter.

Move mouse over error icon to get information on why the field value is invalid.

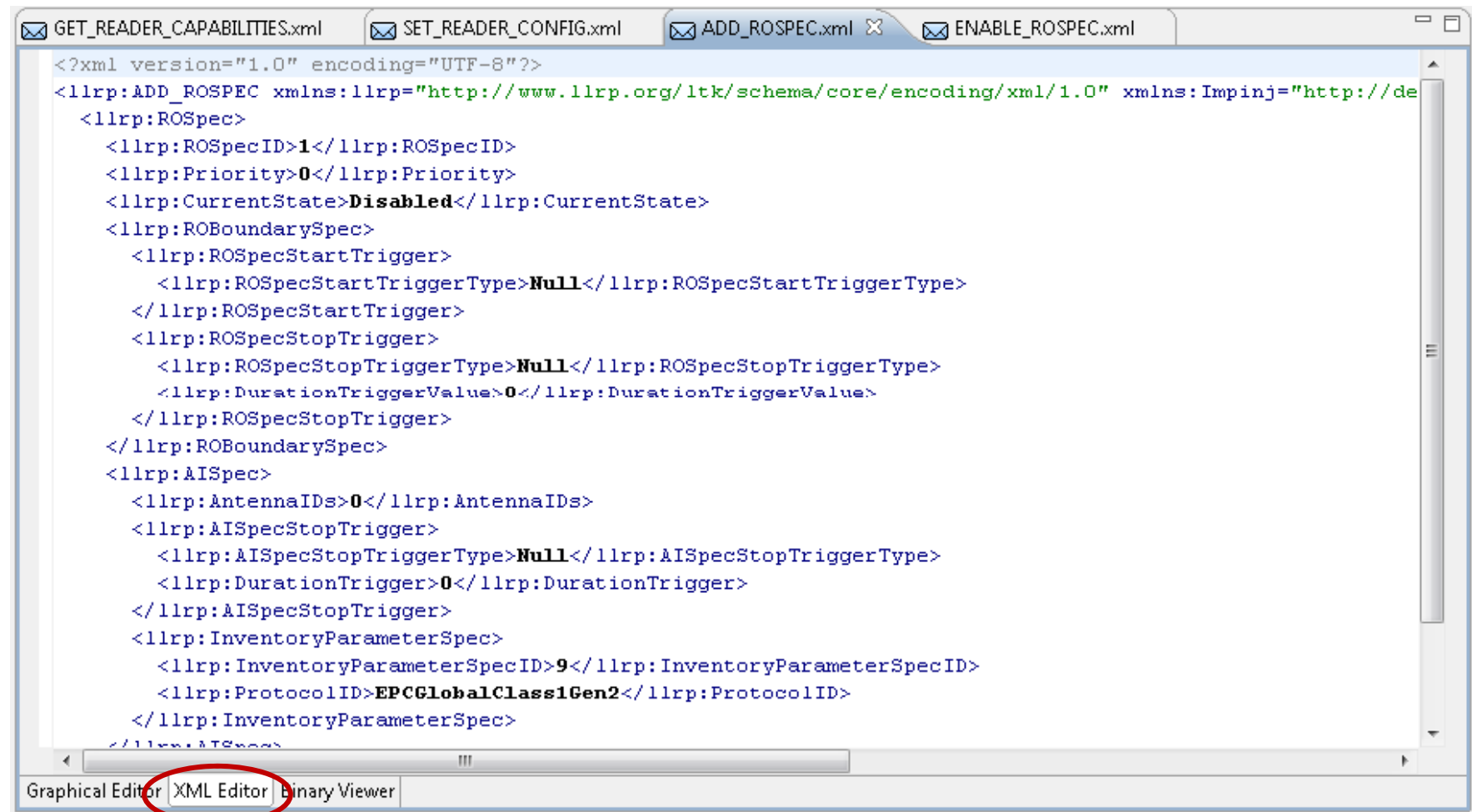
Set vertical or horizontal orientation.

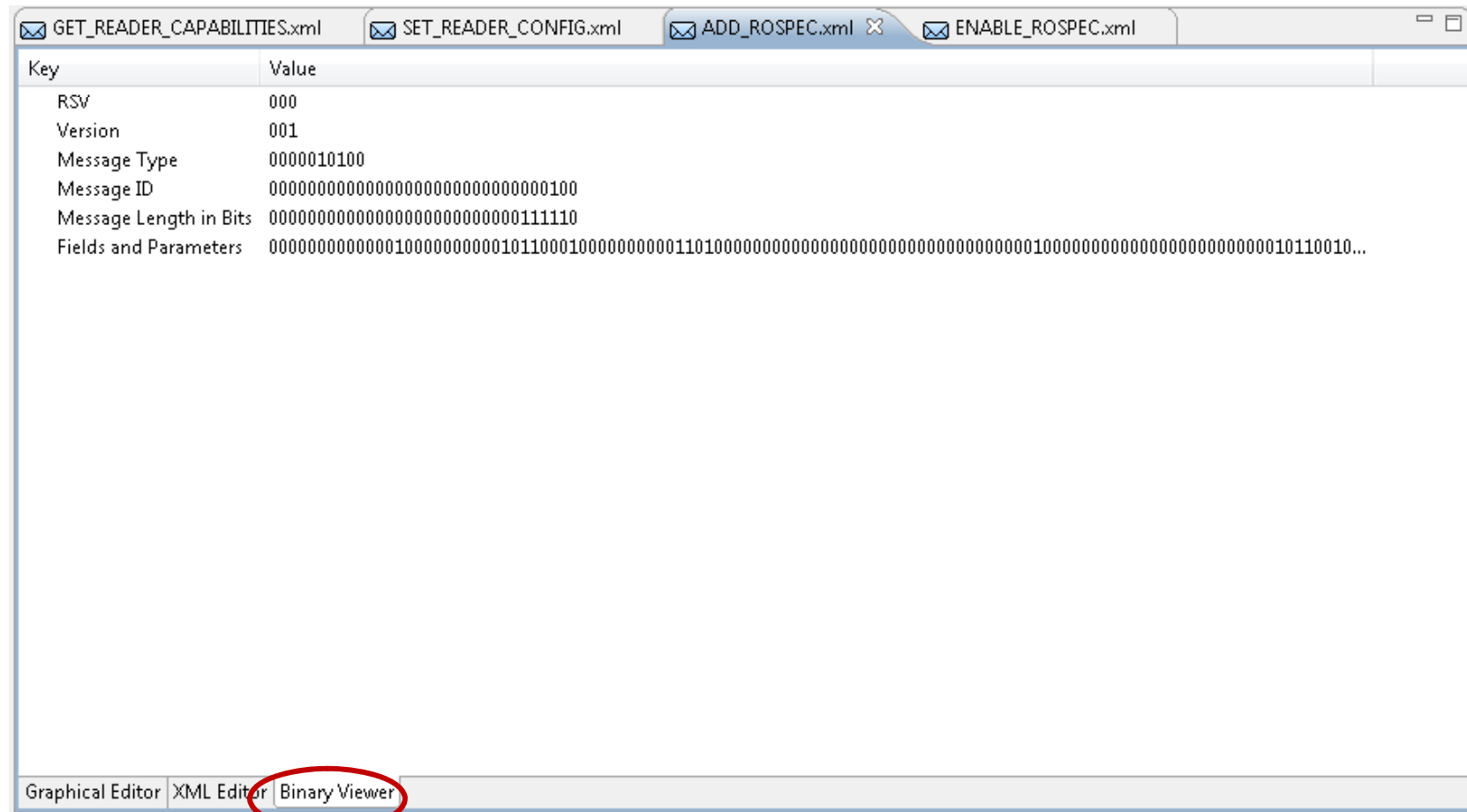
Right-click on a tree element to delete it or to add new sub-parameters.

Show information about the parameter.

The screenshot shows the Graphical Editor window with a tab labeled 'ADD_ROSPEC.xml'. The main window is titled 'Graphical Editor' and has a status bar at the bottom with three tabs: 'Graphical Editor' (which is circled in red), 'XML Editor', and 'Binary Viewer'. The interface is divided into three main sections. On the left is the 'Message Tree' which displays a hierarchical structure of parameters. A right-click context menu is open over the 'ROSpec' node, showing options like 'Add' (with a right arrow), 'Delete' (with a red X), 'ROBoundarySpec', and 'ROReportSpec'. The tree shows 'ADD_ROSPEC' expanded, containing 'ROSpec' (which has an error icon), 'SpecParameter', and 'InventoryParameterSpec'. 'SpecParameter' contains 'AISpec', which in turn contains 'AISpecStopTrigger', 'InventoryParameterSpec', 'AntennaConfiguration', 'Custom', and another 'Custom' folder. The 'InventoryParameterSpec' node is also expanded. The middle section displays the configuration for the selected 'ROSpec' parameter. It includes fields for 'ROSpecID' (value 0), 'Priority' (value 0), 'CurrentState' (a dropdown menu set to 'Disabled'), 'ROBoundarySpec' (a hyperlink to 'ROBoundarySpec'), 'SpecParameter' (a button with an icon and the text 'AISpec'), and 'ROReportSpec' (a hyperlink to 'ROReportSpec'). An information icon (i) is located to the right of the 'ROSpec' header. The right section shows a tooltip for the 'ROSpec' parameter, stating: 'This parameter carries the information of the Reader inventory and survey operation.' Red arrows point from the text annotations to specific UI elements: from 'Expand all tree elements.' to the '+' icon in the Message Tree; from 'Collapse all tree elements.' to the '-' icon in the Message Tree; from 'Click on hyperlink to jump to the invalid parameter.' to the 'ROSpecID' field; from 'Move mouse over error icon to get information on why the field value is invalid.' to the error icon next to 'ROSpecID'; from 'Set vertical or horizontal orientation.' to the orientation icons in the top right; from 'Right-click on a tree element to delete it or to add new sub-parameters.' to the right-click context menu; from 'Show information about the parameter.' to the information icon and the tooltip.

XML Message Editor

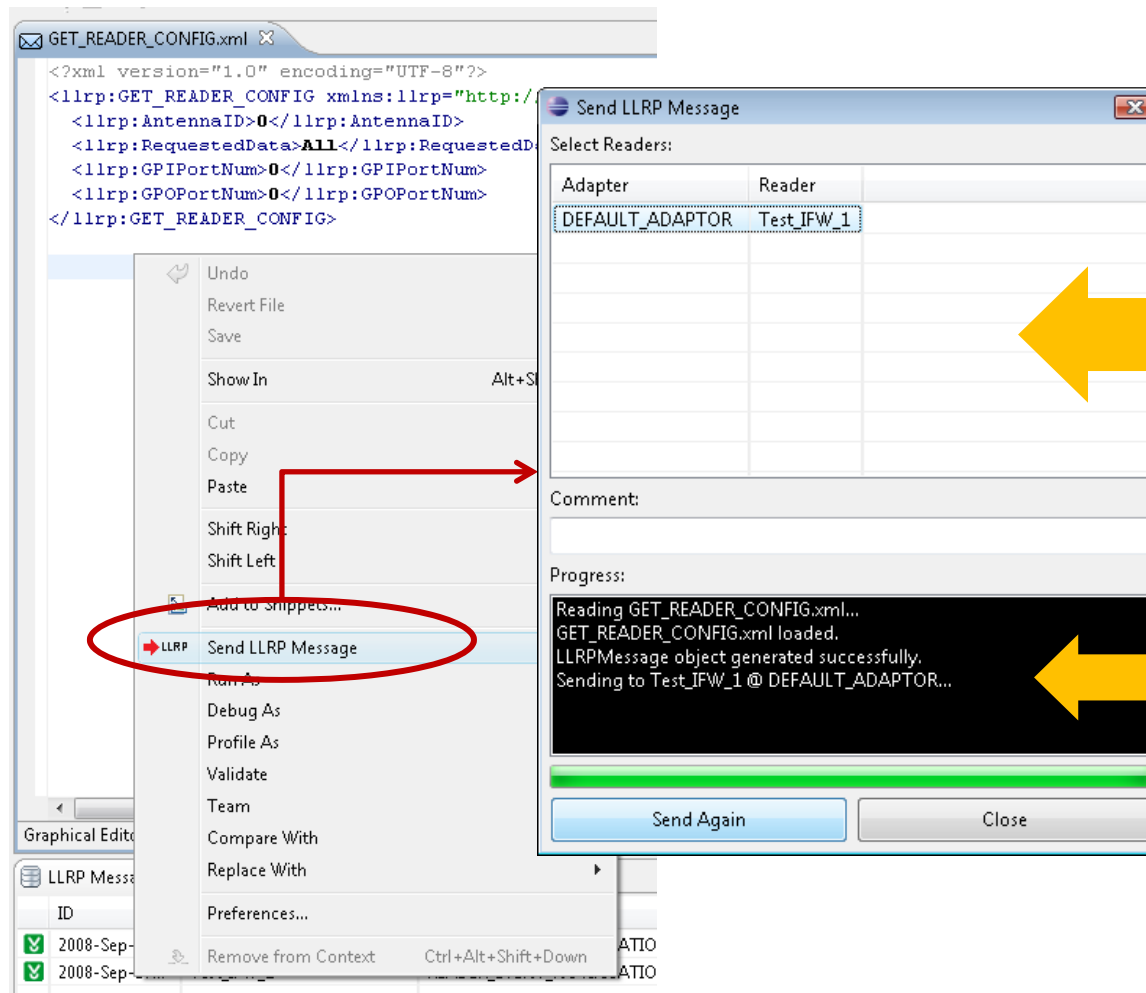




Send Messages

To send a message, proceed as follows:

1. Open the message in the editor.
2. Click on “Send LLRP Message” in the context menu of the xml editor/binary viewer or on the “Send LLRP Message” icon in the toolbar.



All connected readers are listed here. You can select multiple readers to send the message to multiple readers simultaneously.

You can see the sending progress here (Text and Percentage)