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| Industrial Serial Card and LuvitRED |
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# Introduction

A visually configurable device agent that is part of the CloudGate solution. The visual editor of LuvitRED is based on the User Interface from IBM's NodeRed. The NodeRed server is rewritten in a Lua server called Luvit.

# LuvitRED editors

As mentioned in the introduction, there are two web interfaces for LuvitRED, one basic interface and one advanced interface. In this section we are going to describe the general features of both interfaces.

Both interfaces are located on the "Plugin" tab under "Serial and GPS settings":



Figure : Plugin tab, Serial and GPS settings.

## Basic interface

The basic interface of LuvitRED is the one shown after entering the Serial and GPS settings page. Without any configuration, the basic interface looks as follows:

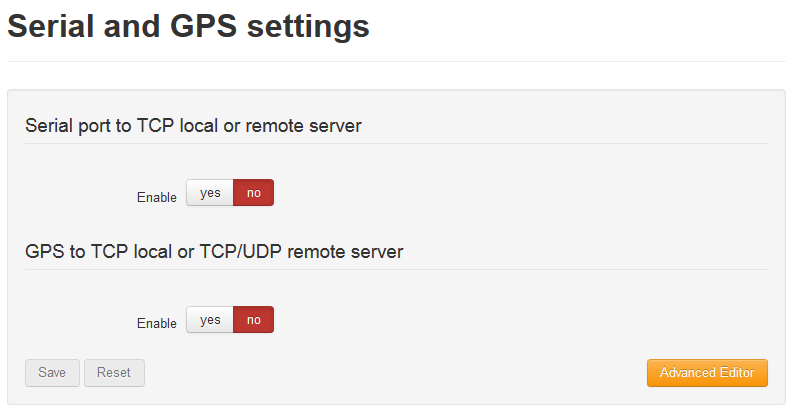


Figure : Basic interface.

Under the basic interface, one has two options:

1. Serial port to TCP local or remote server

This section allows the configuration of one single serial port (RS232 - /dev/ttySP0) to be accesible remotely via a local TCP server running on the CloudGate (See Figure 4) or a remote TCP server running at another location (See Figure 5).



Figure : Serial to local TCP server.



Figure : Serial to Remote TCP server.

This configuration is ideal for setting up the RS232 ports on the following cards:

* Low cost serial expansion card, PN CG1101-11919.
* Industrial serial card (RS232), PN CG1102-11920.
* Telematics card (RS232), PN CG1106-11957, CG5106-11983 and CG5106-11984

This configuration is replicated on the "Advanced editor" explained on section 2.2:



Figure : Same configuration under Advanced editor.

## Advanced Editor

The Advanced Editor allows you to configure more complex applications, such as MODBUS or multiple serial ports. An example would be the Industrial serial card, which has one RS232 and one RS485 port.

At the bottom right corner of the Basic configuration interface there is an orange button that says Advanced Editor.



Figure : Advanced Editor.

By clicking on this button, a new web interface tab is going to open. This new tab is the LuvitRED advanced Editor:

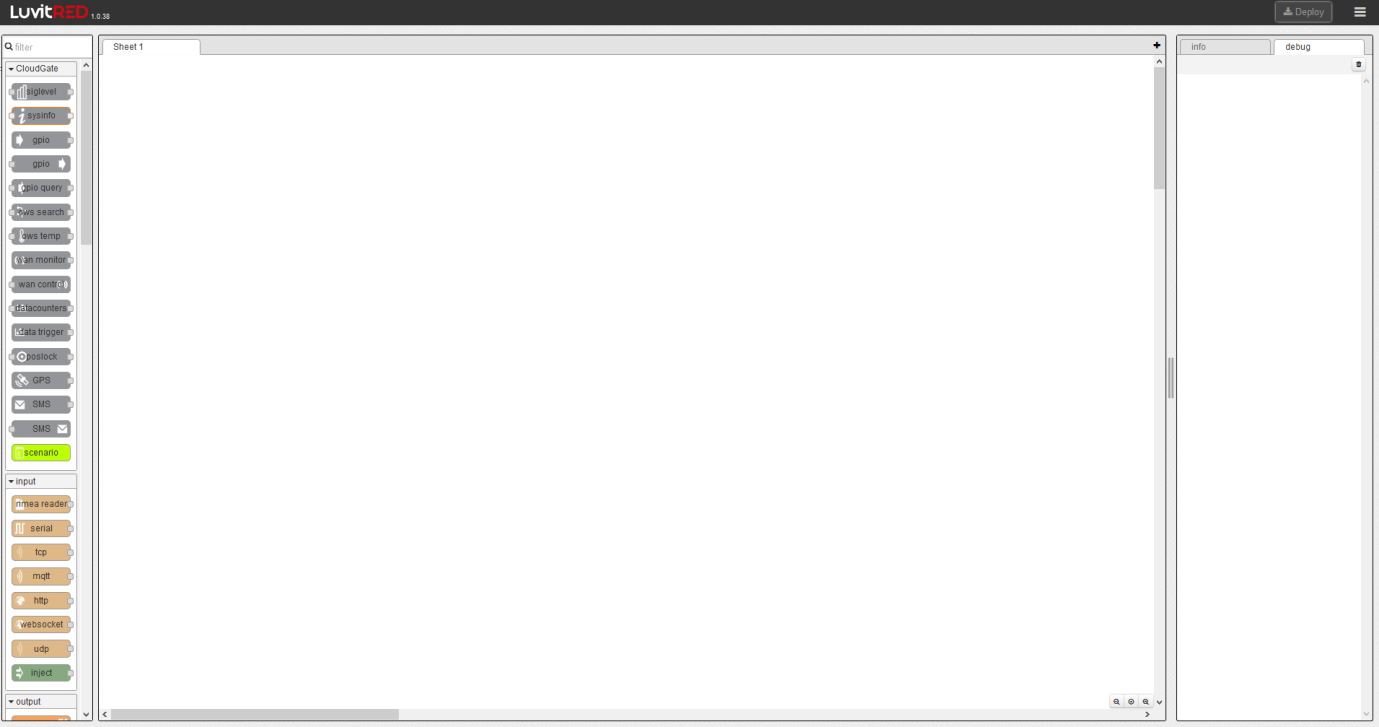


Figure : LuvitRED Advanced Editor.

**NOTE: Please, keep an eye on popup blockers that may not allow this new page to be displayed.**

The Advanced editor is actually running on a separate port than the standard CloudGate web page:

* Port **8080**: When on a http connection (local connection to the CloudGate)
* Port **8081**: When on a https connection (remote connection to the CloudGate)

**NOTE: Please, be aware than when running a remote session to the CloudGate, the right port forwarding rule to port 8081 needs to be in place in order to reach the Advanced Editor.**

The Advanced Editor can be divided into four sections:

1. **Deploy and Menu section:**

Located on the top right corner, it is the place where Deploy button and the Menu button is located:



Figure : Deploy and Menu section.

The Deploy button, as the name already says, is the function that deploys any configuration or modification made on the Editor section.

The Menu button contains multiple options of LuvitRED:

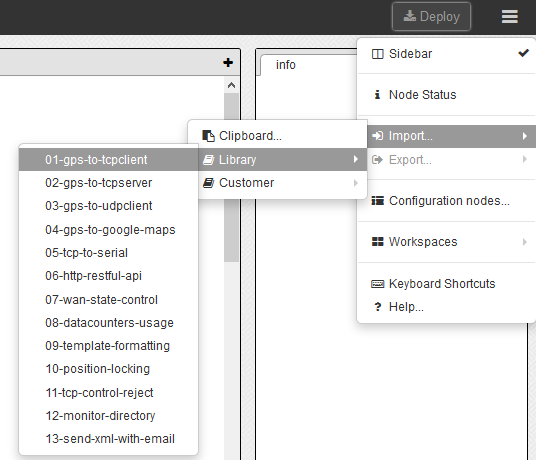


Figure : Menu button.

* Node Status: Adds an extra information line bellow some nodes.
* Import: Contains a Library of configurations. It is also a good to to import configurations using the Clipboard (copy and paste from a text file).
* Export: Can export a configuration into Clipboard, Library or Customer.
* Configuration nodes...: Shows the configuration nodes that are currently used and by which nodes on the editor.
* Workspaces: Place to manage the different workspeces on the editor.
* Keyboard Shortcuts
* Help.

1. **Nodes section:**

Located at the left side of the page, it contains a list of the nodes that can be used to create a customer configuration on the editor. It contains a filter to quickly find nodes in the list:

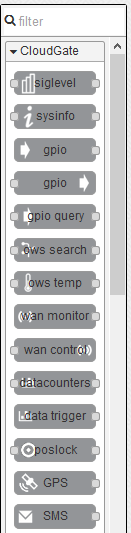


Figure : A reduced view of the Nodes section.

1. **Editor section:**

The editor is the central section of the Advanced Editor, this is the place where nodes are dragged to and where flows are created. Multiple workspaces can be created on the Editor:

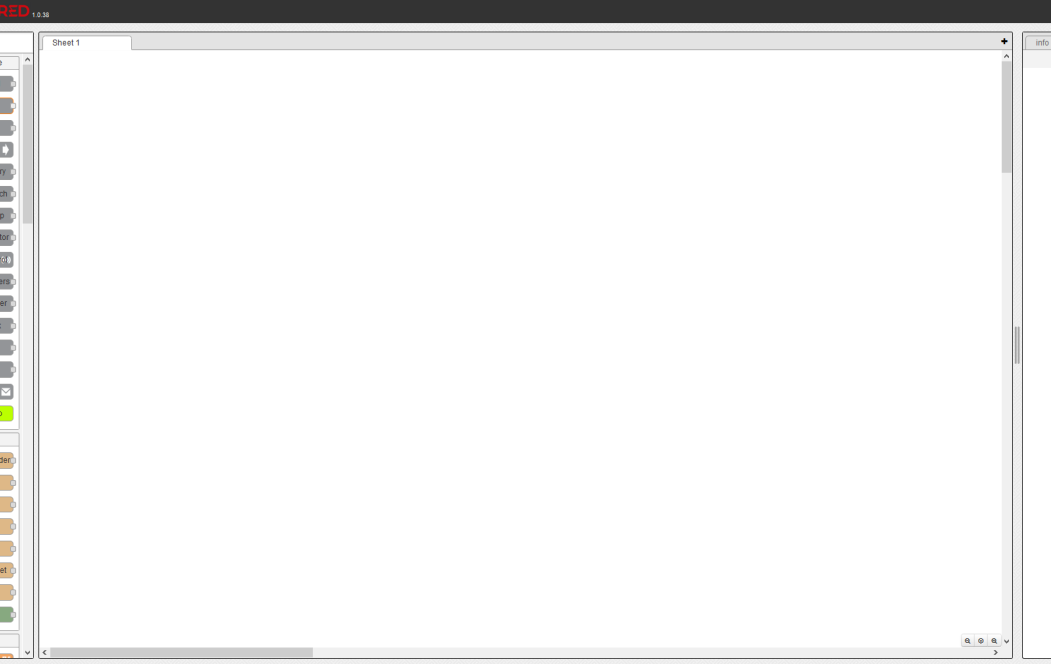


Figure : Editor section.

1. **Info and Debug section:**

The Info and Debug panel is where information about each node is presented (by clicking on the node - Info tab), debug from the debug nodes is shown (debug tab) and, if the configuration nodes option is selected under the menu button, configuration nodes are shown (config tab):

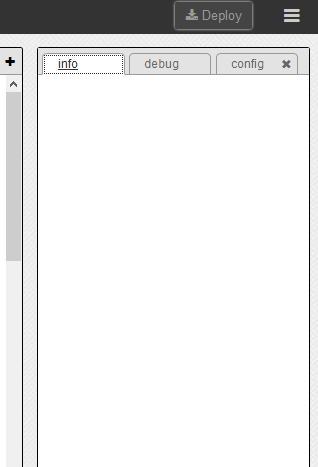


Figure : section.