

Remote Input/Output control between two Teltonika devices

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Introduction

This article contains instructions on how to configure SMS and script/HTTP alerts using I/O Juggler and SMS Utilities between two RUT955 routers.

Configuration overview and prerequisites

Before we begin, let's take a look at the configuration that we are attempting to achieve and the prerequisites that make it possible. On a RUT1, an I/O Juggler action is created to execute a command when Input 1 is being triggered to a state of "high" by a sensor to change the output state to "high" on a RUT2 and trigger the second sensor.



Prerequisites:

- Two RUT95X series routers;
- An end device (PC, Laptop, Tablet, Smartphone) for configuration;
- Device to trigger input;

If you're having trouble finding any page or some of the parameters described here on your device's WebUI, you should turn on "**Advanced WebUI**" mode. You can do that by **clicking** the "**Basic**" button **under "Mode,"** which is located at the top-right corner of the WebUI.



I/O control via SMS

This section contains a detailed guide on how to configure an alert to send a SMS command to RUT2 to change the output state when RUT1 Input 1 is triggered.

RUT 2

This section contains information on how to configure the RUT2 device.

SMS Utilities configuration

The [SMS Utilities section](#) contains a list of rules that perform certain actions when they are activated by SMS messages. To setup a SMS Utilities:

- Log into RUT2 WebUI;
- Go to the **Services → Mobile Utilities → SMS Utilities** page and scroll down for **Add new rule**;
- Enter **desired SMS text** command (1) and **select action** (2);
- **Add new instance** (3);



After this you should be redirected to configuration page for that rule:



- **Open General** tab (1);
- Check **Enable** (2);
- Action (3) - **Change I/O state**;
- I/O (4) - **Output**(4);
- State (5) - **High**
- SMS text (6) - Enter your desired **SMS text**;
- Save and apply changes (7);

Note: Fields that are not indicated can be left as defaults.

RUT 1

This section contains the RUT1 I/O Juggler configuration.

I/O Juggler configuration

The [I/O Juggler](#) is a feature that provides the possibility to create automated rules that perform certain actions based on Input state changes and other conditions.

Actions configuration

The [Actions section](#) is used to manage and create new actions that can be executed by the I/O Juggler Rules. To configure I/O Juggler Actions, follow these steps:

- Log into Router 1 WebUI and go to the **Services → Input/Output → I/O Juggler → Actions (1)** page;
- **Enter** the desired action **instance name (2)** and select **desired action type (3)**;
- Click **add (4)**;



This will open a new configuration page:



- Type **(1) - SMS**;
- Text message **(2) - RUT2 password** and the **SMS rule** that have been created on RUT2;
- Recipient's phone number **(3) - RUT2 SIM cards number**;
- Save and apply changes **(4)**;

Note: Fields that are not indicated can be left as defaults.

General configuration

The [General section](#) is used to define Input Trigger Rules, which can perform a specified user-configured action when the Input state changes. Once the I/O Juggler Action tab is configured to be open:

- **General** tab **(1)** and **enable** it **(2)**;
- Add **new instance** role **(3)**;
- Click **Add (4)**;



After that, you will be prompted to edit an instance:



1. Check **Enable (1)**;
2. Trigger **(2) - Raising**;
3. Add actions **(3) - Action name** that was created previously;

Note: Fields that are not indicated can be left as defaults.

I/O control via Public IP and HTTP

For this configuration, you will need a Static or Dynamic Public IP address on RUT2. You can read more on this in our article on [Private and Public IP Addresses](#). The action will run a script/HTTP and execute the POST/GET command that will set the RUT2 output state to "high" using the RUT2 public IP.

RUT 2

This section contains information on how to configure the RUT2 device.

Remote access configuration

The [Access Control](#) page is used to manage remote and local access to devices. Navigate to:

- **System → Administration → Access Control**
- Open **General** tab **(1)** and locate the **WebUI** section;
- **Enable** remote **HTTP (2)** and **HTTPS** access **(3)**;
- **Save** and **apply changes (4)**;



I/O Post/Get configuration

Post/Get allows you to perform action requests by writing them in the URL after your device's IP address. Go to the:

- **Services → Input/Output → Post/Get**;
- **Enable** Post/Get **(1)**;
- **Set a username (2)** and **password (3)**;
- **Save** and **apply changes (4)**;



RUT 1

This section contains information on how to configure the RUT1 device. A guide on how to [configure](#)

[I/O Juggler](#) can be found above.

Actions (Public IP) configuration

Navigate to **Services → Input/Output → I/O Juggler** and create an Action instance.

1. Type **(1) - Script**;
2. Specify path **(2)** - you can choose between **specifying** the **script path** or **uploading** a **script file** directly;
3. Script file **(3)** - depending on what you have chosen in the field above, you will be asked to enter a **script directory** or **upload a script** file;
4. Save and apply changes **(4)**

Note: Fields that are not indicated can be left as defaults.



A script example can be seen below:

```
#!/bin/sh
```

```
curl -X GET  
"http://84.XX.XXX.XX/cgi-bin/io_state?username=YOUR_USERNAME&password=YOUR_PASSWORD&pin=dout1&state=on"
```

```
exit 0
```

Note: Replace **YOUR_USERNAME** and **YOUR_PASSWORD** with your POST/GET created username and password.

Actions (HTTP) configuration

Navigate to **Services → Input/Output → I/O Juggler** and create an Action instance.

1. Type **(1) - HTTP**;
2. Method **(2) - GET**;
3. URL **(3)** - Enter your **POST/GET URL**;
4. Save and apply changes **(4)**

Note: Fields that are not indicated can be left as defaults.



Note: Replace **YOUR_USERNAME** and **YOUR_PASSWORD** with your Post/Get created username and password.

More information about **POST/GET** command syntax [here](#).

I/O control via RMS VPN

If having a public IP is not an option, RMS VPN could be used as an alternative to access your device over the internet. [RMS VPN](#) is a service designed for remote efficient, low-cost management of large-scale networks. In contrast to point-to-point VPN services, RMS VPN enables the instant creation of encrypted VPN tunnels for secure access to multiple endpoints.

RMS VPN configuration

A guide on how to set up an RMS VPN hub can be found [here](#).



Both RUT1 and RUT2 have to be added to the RMS VPN Hub.

Script

Adjust the script accordingly to the RMS VPN Hub's assigned IP for RUT2. [Script example](#) can be found above.

Results

If configured correctly, you should be able to see that the RUT1 Input 1 state is being changed to high



as well as RUT2 Output.

