webdyn

Flexitron group

# TITAN

## Application Note 1

Accessing an IP Camera Via 4G/3G

# Accessing an IP Camera Via 4G/3G

## 1. Scenario Details

Remote control applications are becoming increasingly common. Many of these applications need to be able to access images and video from remote cameras. These types of places often do not have conventional fibre lines to which an IP camera can be connected. Typical examples are solar farms and unmanned stations, etc. In these cases, 4G/3G-based devices that provide remote access can be suitable solutions.

This application note is intended to be a practical guide with step-by-step examples on how to connect an IP camera to a TITAN-based device and use it. This guide will instruct you on how to access the IP camera on your SmartPhone using a 4G/3G connection and to access the real-time video stream from your camera, as well as how to operate the camera's motors to orient it (up-down / left-right).

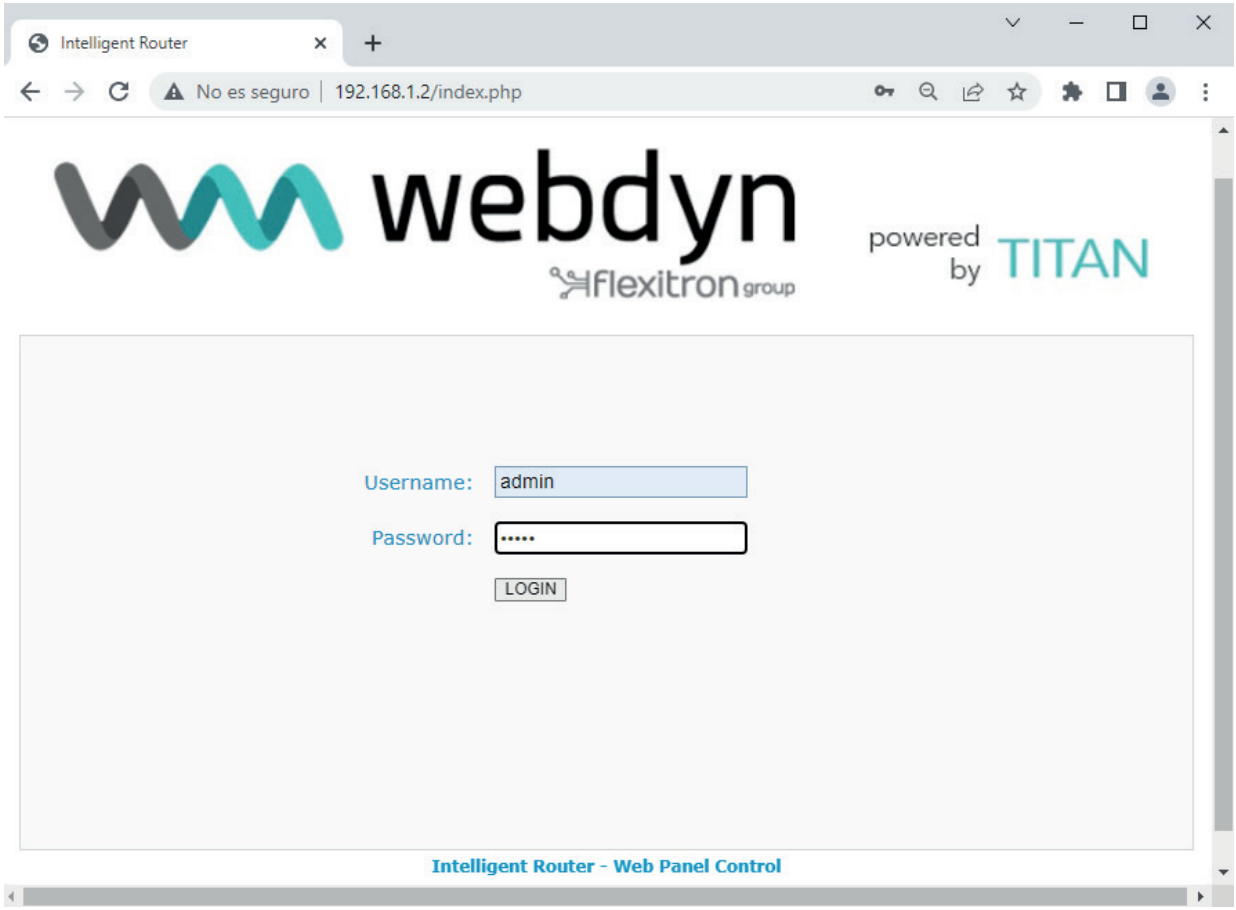
## 2. Required Hardware

- A TITAN-based device with antenna and feeder.
- A motorized IP camera (in this example we are using a Tenvis JPT3815, although any IP camera will do).
- A data-enabled SIM card (4G/3G) (in this example a Movistar SIM card).

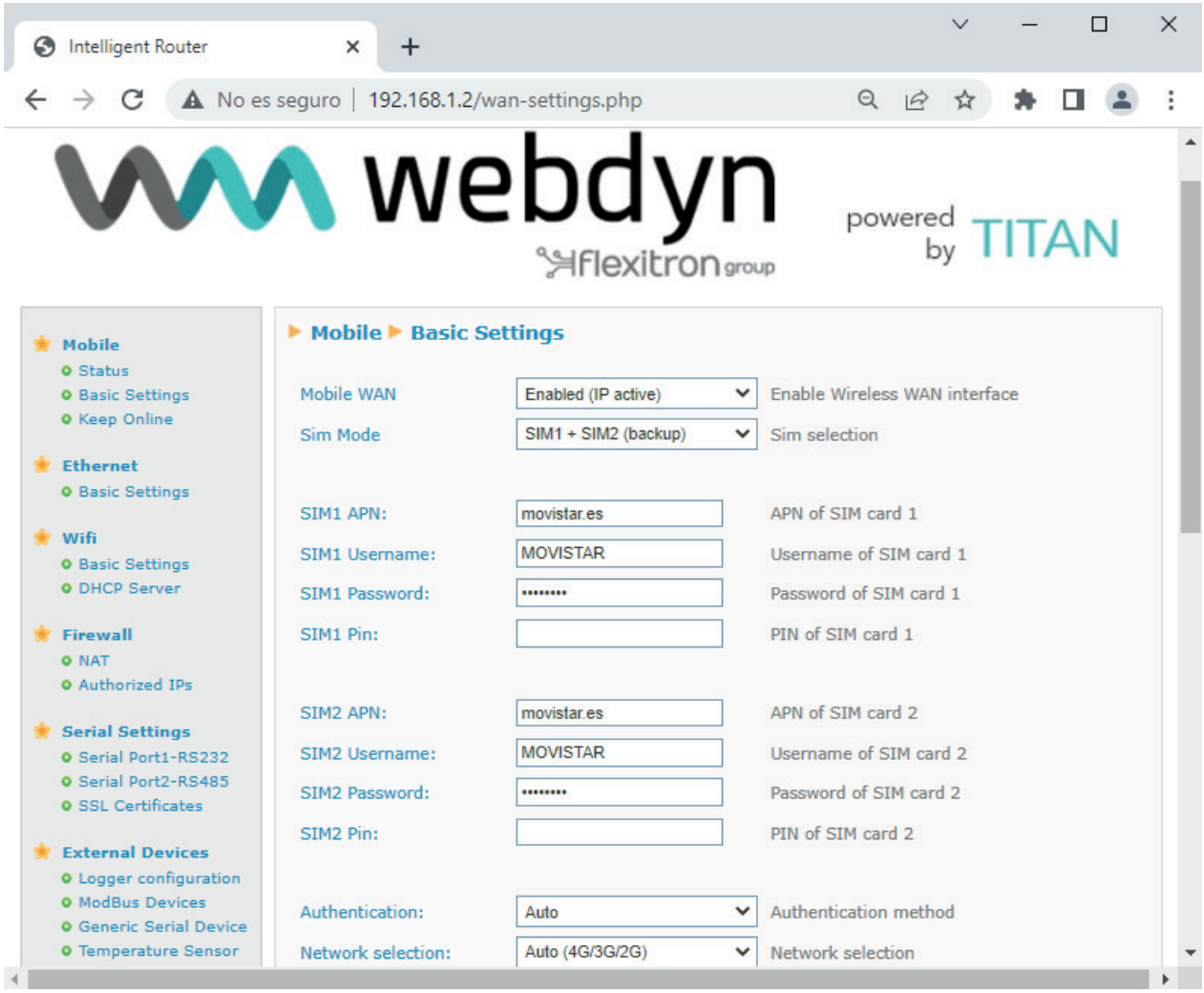
# 3. Configuring the TITAN-based Device

The first step in the process is to configure the TITAN-based device. To do this, connect your PC to the TITAN-based device using a network cable. Then open your Web browser. TITAN-based devices default to static IP address 192.168.1.2, so you should give your PC a static IP within the range 192.168.1.X, e.g. set your PC to LAN address 192.168.1.10

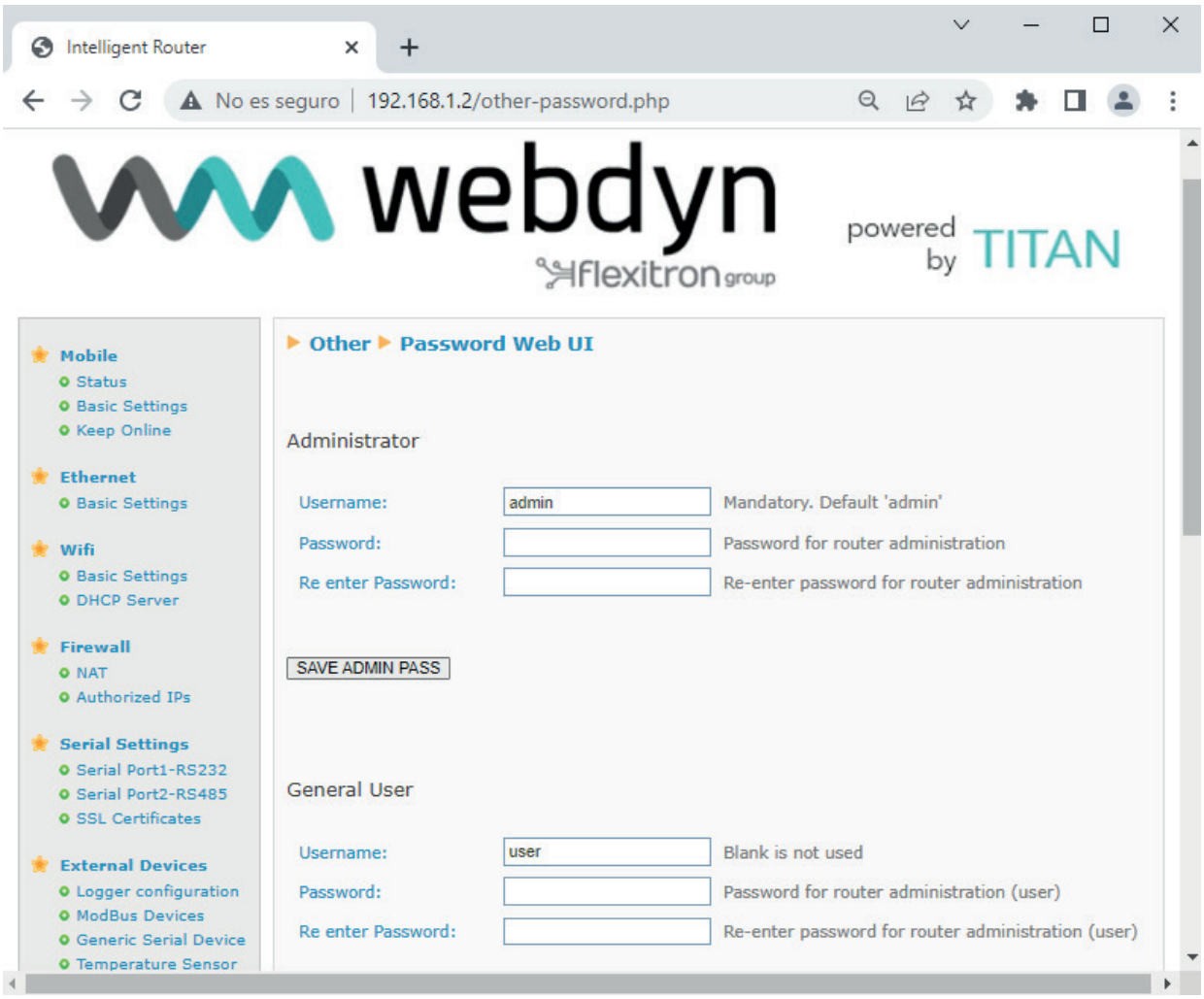
Next, type http://192.168.1.2 into the browser's address bar and you will be taken directly to the TITAN-based device's configuration home screen.



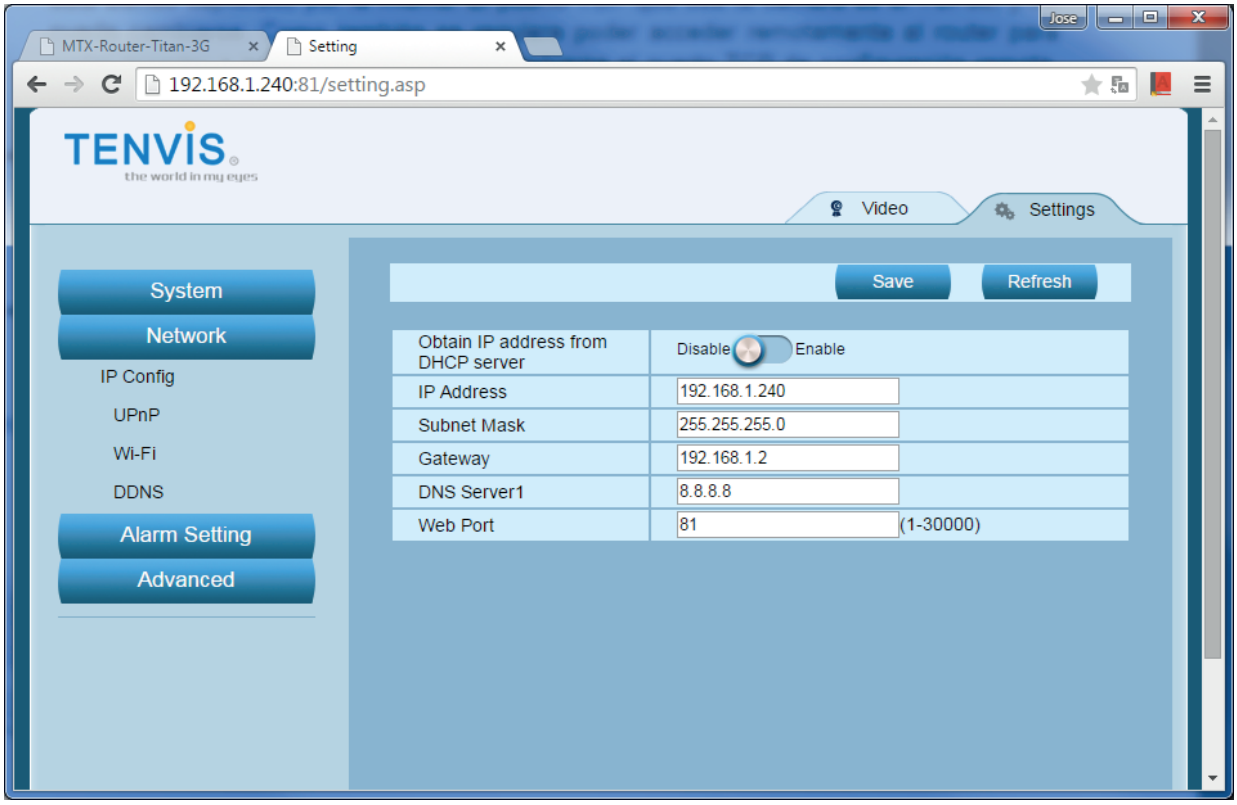
The default Username and Password are as follows: admin / admin, enter those credentials and click on “LOGIN”. We will start by configuring the network parameters for the SIM card. To do this, go to the “Wan > Basic Settings” menu. In the configuration shown on the following screen, you only have to adjust the following parameters if you use a SIM card other than Movistar: APN, Username and Password. If you do not know these, check with your phone provider. Remember that you must have a SIM card with a public IP address (if it's private, such as 10.x.x.x, it won't work).



Next, it is important to change the “admin” user’s password. To do this, to go to the “Other > Password” menu and change it there. Click on “Save Admin Pass” to save the changes.

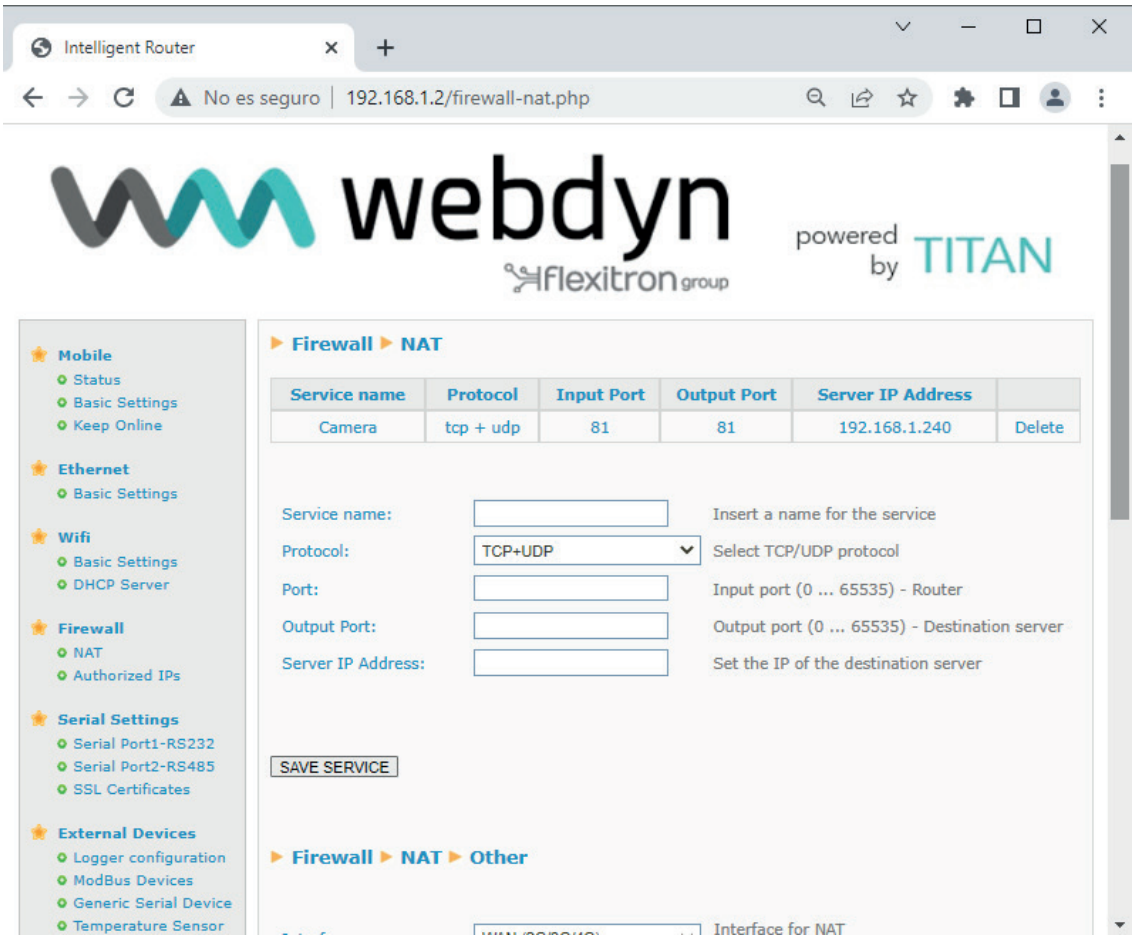


The last step is to configure the NAT. Each IP camera model is different, so this application note will not go into depth in regards to its configuration. This application note refers to a Tenvis JPT3815 commercial IP camera. The network configuration for this example is shown in the following image:




The IP camera and the LAN IP address are given the fixed IP address (DHCP disabled) 192.168.1.240, the network mask is 255.255.255.0. As the camera's Gateway IP address must be set to the LAN IP address of the TITAN-based device, in this example we will enter the address 192.168.1.240. Lastly, for simplicity's sake, we will use TCP port 81 to access to the camera (meaning that we can remotely access the configuration of the Titan-based device itself using port 80, and the IP camera using port 81).

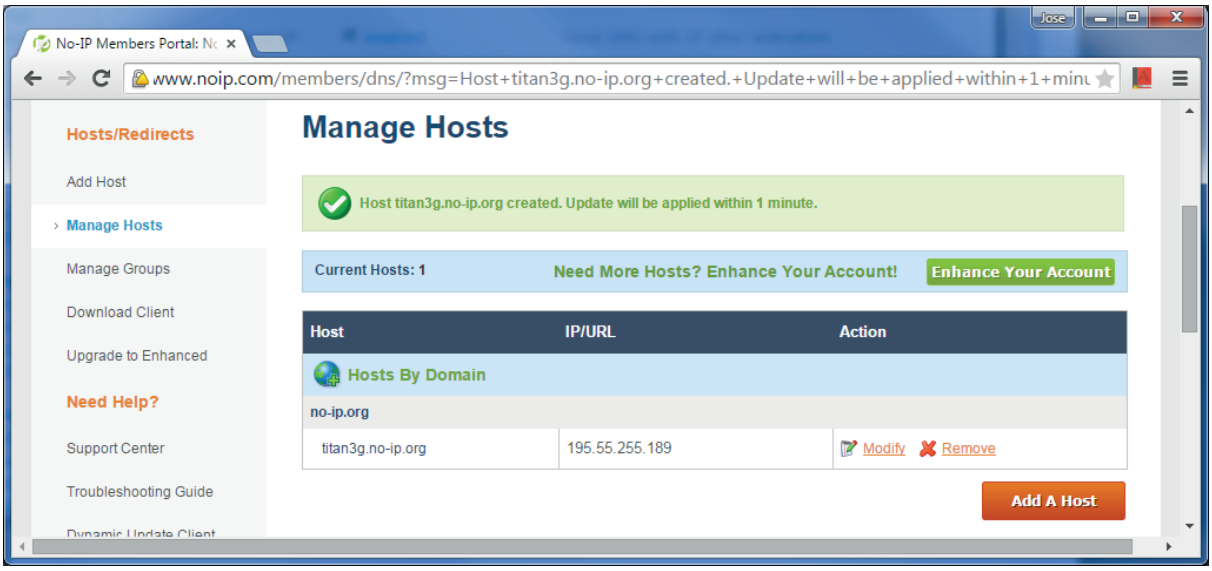
Once these parameters have been configured, we can configure the NAT of the TITAN-based device. To do this, go to the “Firewall > Nat” menu and add the following rule:




This rule basically makes sure all traffic entering the TITAN-based device (via 3G) through Port 81 is redirected to Port 81 of IP 192.168.1.240, i.e. to Port 81 of the camera’s IP.

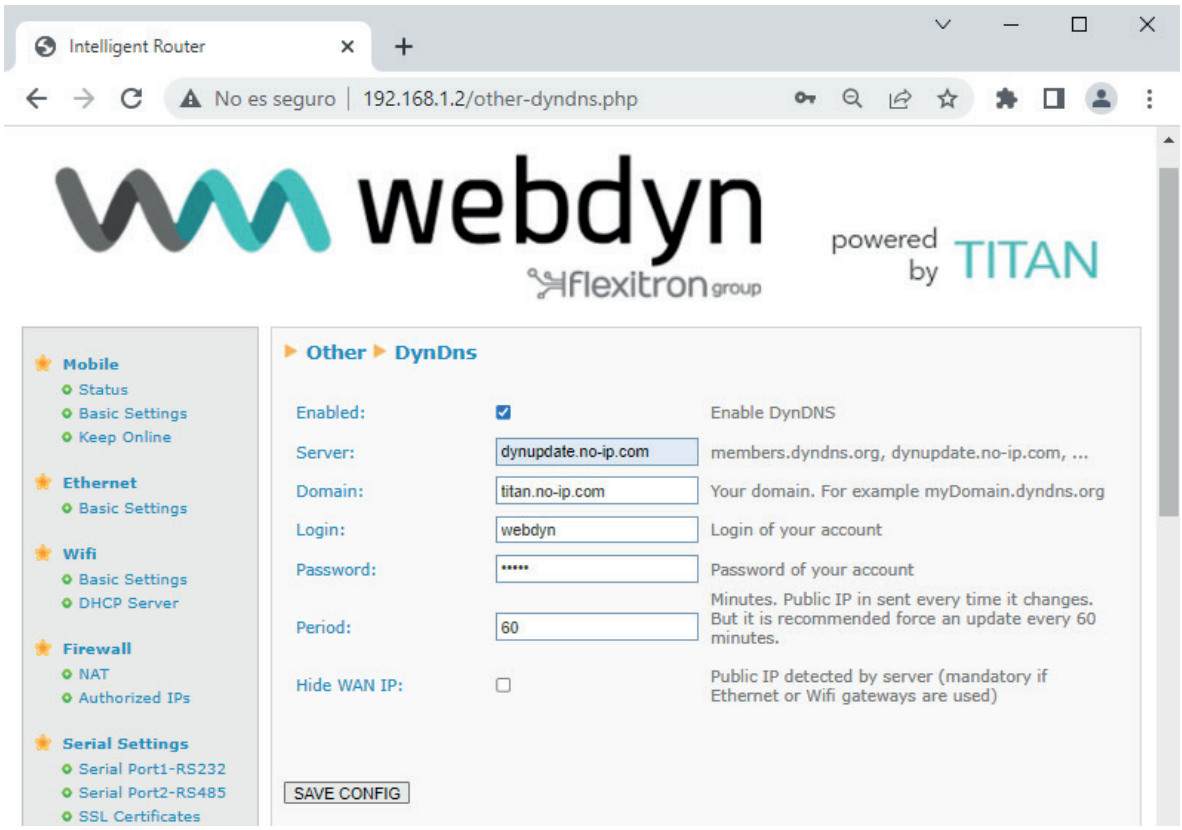
Lastly, we must configure the TITAN-based device to obtain its public IP address if we are using a SIM card with a dynamic IP address. To do this, we are going to configure the TITAN-based device to use the free NO-IP service.

To use the www.noip.com service you must create an account and add a host. In this example, the host “titan3g.no-ip.org” has been created, as can be seen in the following screen:




Don’t worry, we’re almost done.

We can now configure the TITAN-based device to be able to use the NO-IP account we just created. Go to the “Other > DynDNS” menu and configure the following:



Everything can be left the same as the previous screen except for the “Domain” fields (in which you must enter the host you created in www.no-ip.com) and your “Login” and “Password”.

Now we must restart the TITAN-based device so that it accepts the configuration changes we made. Go to the “Other > Reboot” menu and click on Reset.

Now all that remains is to connect the IP camera to the TITAN-based device using an Ethernet cable and wait for it to get an IP address and update the NO-IP server. It may take less time, but we'll wait a couple of minutes to make sure the TITAN-based device has connected to the Internet.

## 4. 3. Accessing the IP Camera Via the TITAN-based Device

To test that everything is correct, the first thing to do is to check that we can remotely access the configuration page of the TITAN-based device. Open a browser page on the PC and using the host that we created and enter the URL created in no-ip.com. In this case: http://TITAN.no-ip.org:81