

# TITAN

## Application Note 60

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Scripts - Telegram

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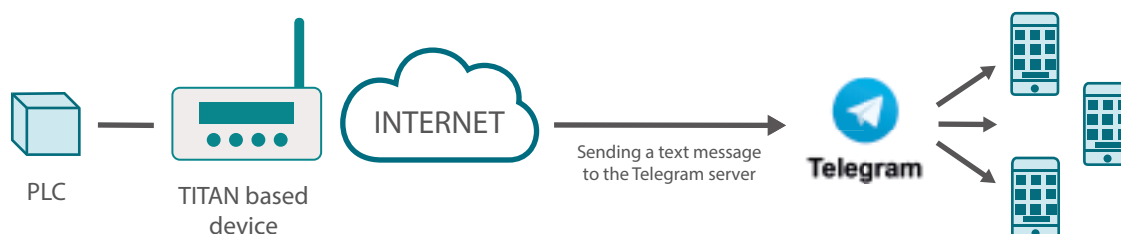
## 1. Scenario Details

TITAN-based devices have all the typical functionalities of 4G/3G/2G routers, as well as a series of added features that make them one of the most feature-packed routers on the market.

One of the added features is the ability to send Telegram text messages, either by executing an AT command or by executing a SCRIPT. This feature requires some prior actions to be performed, we will use a simple example to demonstrate them.

## 2. Description of the Example

In this example, a TITAN-based device will be configured to continuously read a register from a PLC using the Modbus RTU protocol. If the value of the Modbus register changes, the new value will be sent to a Telegram group using a Text message.



In this example, the address of the Modbus register to be read from the PLC will have Modbus address 0x01, and the Modbus read command used will be 0x03. Communication will be done using COM2 (RS485) of the Webdyn EasyTunnel, configured as 9600,8,N,1.

## 3. Preliminary Configuration

In order to send a text message from a TITAN-based device, you must have a Telegram tokenID and chatID. This process is briefly detailed below.

### Obtaining a tokenID

- Open the Telegram app on a mobile device.
- Search for “@BotFather” in the Telegram app.
- Enter the command “/start”
- Enter the command “/newbot”
- Enter the name of your new BOT. For example “Webdyn\_bot”
- Enter the username of your new BOT. For example “Webdyn\_bot”
- The BotFather BOT will create your new BOT and send you the tokenID.

### Creating a Chat Group

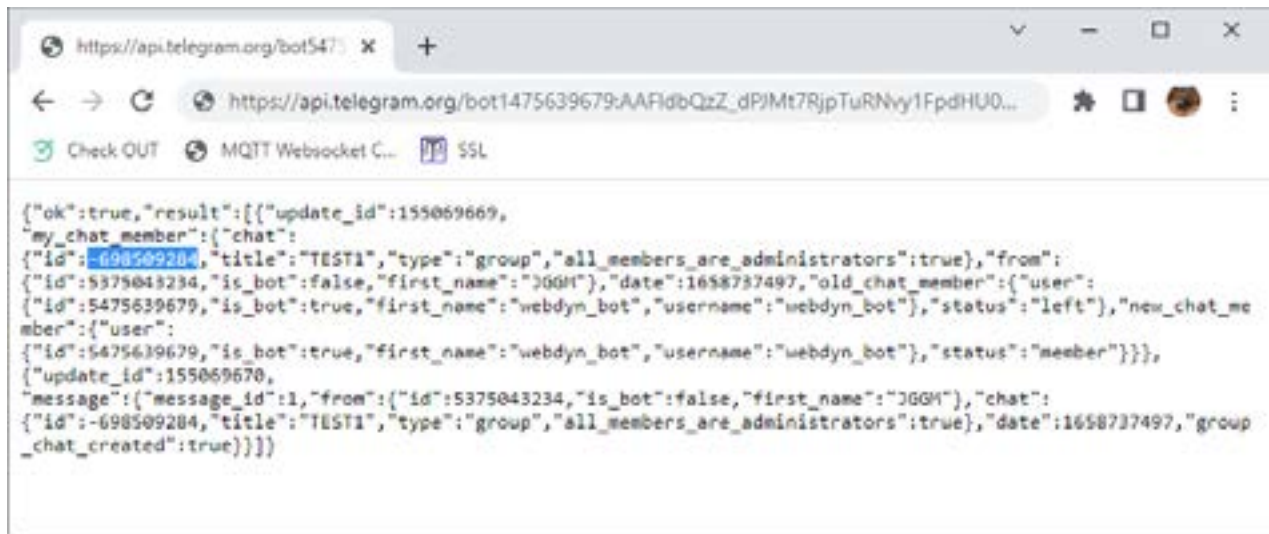
- Create a new chat group using the Telegram app.
- Add the newly created BOT to the group by searching for @Webdyn\_bot (replace Webdyn\_bot with the name of the BOT you just created. Don't forget the @)

### Obtaining a Chat ID

- Go to the URL:  
  
`https://api.telegram.org/bot1475639679:AAFIdbQzZ_dPJMt7RjpTuRNvy1FpdHU05B0/getUpdates`

The text highlighted in red should be replaced by the tokenID created beforehand.

The chatID will appear in the returned text, as shown in the following screenshot:

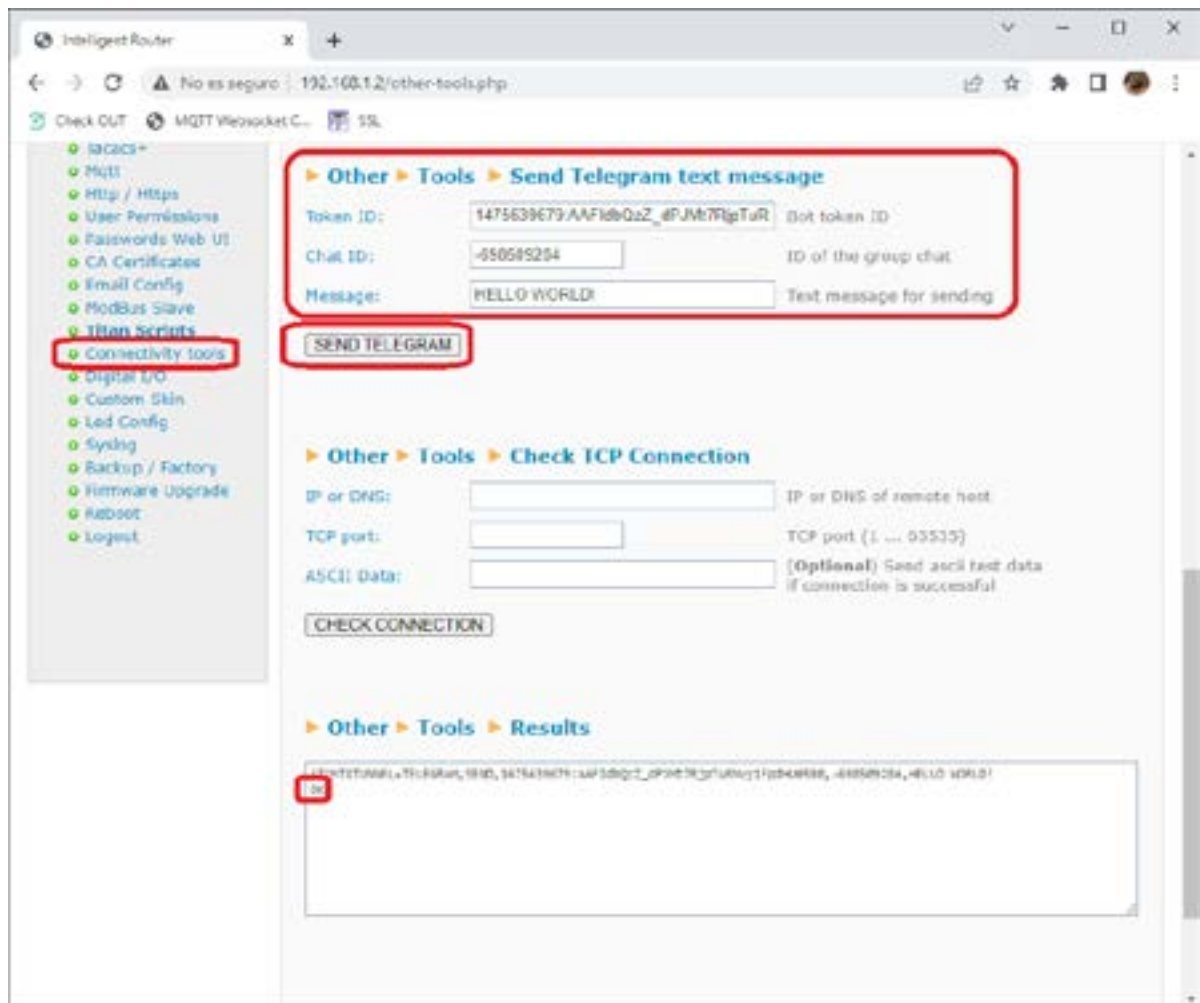


```
{
  "ok": true,
  "result": [
    {
      "update_id": 155069669,
      "my_chat_member": {
        "chat": {
          "id": -698509284,
          "title": "TEST1",
          "type": "group",
          "all_members_are_administrators": true
        },
        "from": {
          "id": 5375043234,
          "is_bot": false,
          "first_name": "JGGH",
          "date": 1658737497,
          "old_chat_member": {
            "user": {
              "id": 5475639679,
              "is_bot": true,
              "first_name": "webdyn_bot",
              "username": "webdyn_bot",
              "status": "left"
            },
            "new_chat_member": {
              "user": {
                "id": 5475639679,
                "is_bot": true,
                "first_name": "webdyn_bot",
                "username": "webdyn_bot",
                "status": "member"
              }
            }
          }
        },
        "update_id": 155069670,
        "message": {
          "message_id": 1,
          "from": {
            "id": 5375043234,
            "is_bot": false,
            "first_name": "JGGH"
          },
          "chat": {
            "id": -698509284,
            "title": "TEST1",
            "type": "group",
            "all_members_are_administrators": true
          },
          "date": 1658737497,
          "group_chat_created": true
        }
      }
    ]
  ]
}
```

In the top drop-down menu, choose the first example (Example 1.- Hello World) and click on “Load Example”.

## 4. Testing the Preliminary Configuration

Once the tokenID and the chatID have been obtained, we recommend you test the operation. Go to the “Other > Connectivity Tools” menu. In this section we can send a test message and check if it is received in the Telegram app on the mobile phone:



## 5. Configuring the COM2 (RS485) Serial Port

The TITAN-based device's serial port must be configured according to the serial port configuration of the PLC, which in this example is 9800,8,N,1. To do this, go to the “Serial Settings > Serial Port-RS485” menu.

Intelligent Router

No es seguro | 192.168.1.2/serial-settings.php?id=2

Check OUT MQTT Websocket C... SSL

**webdyn** powered by **TITAN**  
flexitron group

**Serial Gateway > Com2 Settings**

Baudrate: 9800 Baudrate of serial port  
Data bits: 8 Number of data bit  
Parity: none Parity  
Stop bits: 1 Number of stop bits  
Timeout ms: 50 msec. without serial data before sending (default: 50)

☐ Allow local embedded AT commands Ex.: <MTXTUNNEL>AT</MTXTUNNEL>  
☐ Allow remote embedded AT commands Ex.: <MTXTUNNELK>AT</MTXTUNNELK>  
☐ Allow incoming GSM call (CSD Data Call) Only TCP Server and TCP Client functions or Nothing

☒ Function: Nothing or used by External Device or Script  
☐ Function: Serial - IP Gateway (TCP Server)

## 6. Associating the COM2 Port with the Modbus Service

COM2 must now be associated with the Modbus read service. This is done on the configuration screen of the “External Devices > Modbus Devices” menu.

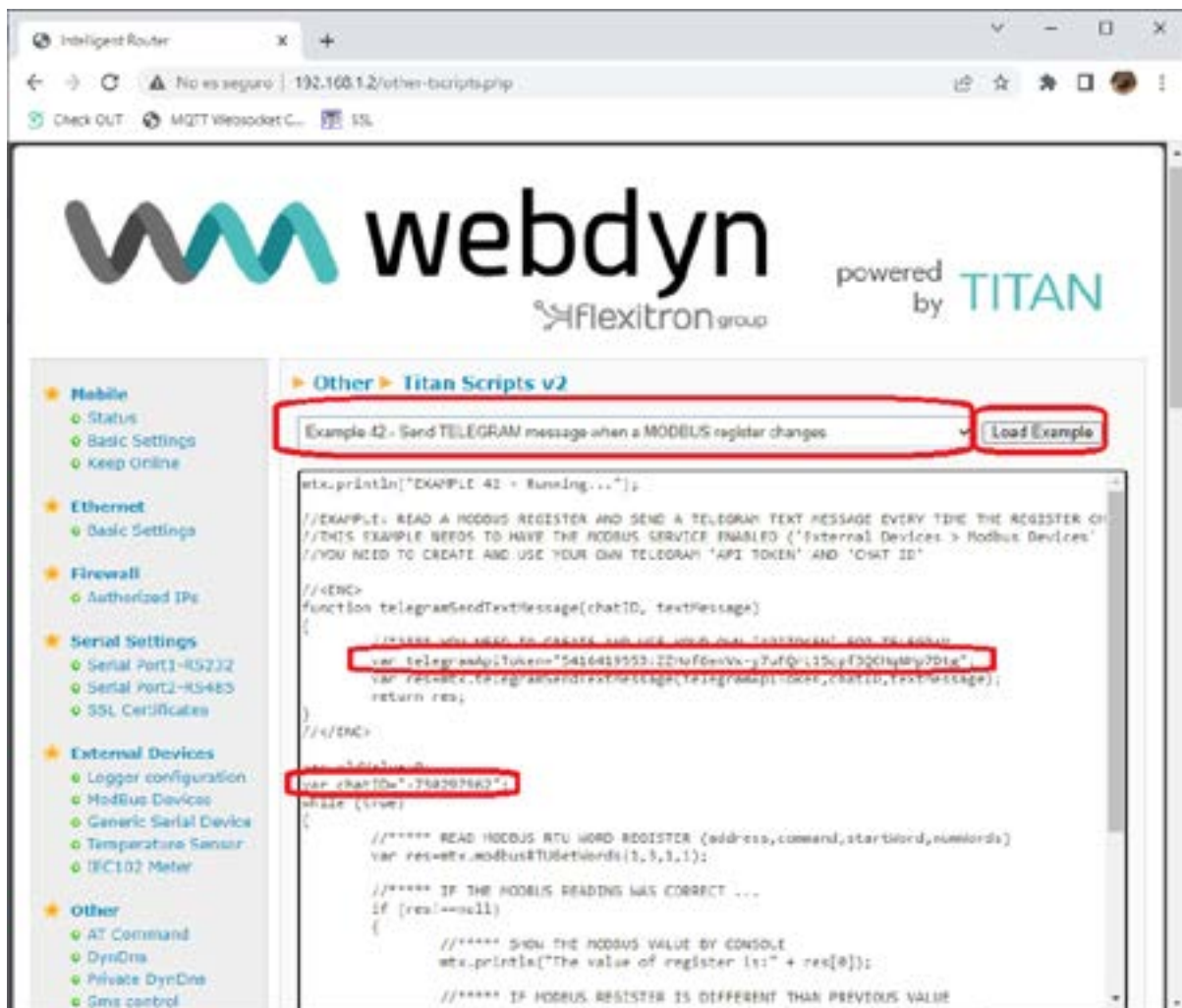
The screenshot shows the webdyn configuration interface for Modbus RTU / TCP. The 'Enabled' checkbox is checked, and 'Serial Port 2' is selected in the dropdown menu. The 'Logger' checkbox is unchecked. The 'SAVE CONFIG' and 'VIEW LOG' buttons are visible. Below the configuration options is a table with columns: Dev. name / ID, Addr., Command, Start, Num word/bit, Reg Type, and Period. The 'Modbus Devices' option in the left sidebar is highlighted with a red box.

Dev. name / ID	Addr.	Command	Start	Num word/bit	Reg Type	Period
Device name / ID:						
Address:						
Command:		0x01				
Start:						

Having configured the serial port and associated it with the Modbus service, restart the device from the “Other > Reboot” menu.

## 7. Programming the Powered by Titan Script

To program the script, go to the “Other > Powered by Titan Scripts” menu. From the examples drop-down menu, select the example that most closely resembles this application note, which in this case will be example 42. Then click on “Load Example”.



In the example code, you must replace the telegramApiKeyToken variable with the ID token obtained beforehand, do the same with the chatID variable.

Once the variables have been updated, click on “Run Script” to test the app.