



Grandstream Networks, Inc.

GRP26XX Carrier-Grade IP Phones

Firmware Upgrade Guide



Table of Contents

INTRODUCTION	4
SCENARIO 1: UPGRADE USING GRANDSTREAM PUBLIC SERVER	5
SCENARIO 2: UPGRADE USING A LOCAL SERVER	7
Local Upgrade via HTTP Server.....	7
<i>Installing HTTP Server and Uploading Firmware File(s)</i>	7
<i>Configuring Grandstream devices for local HTTP upgrade</i>	9
Local Upgrade via HTTPS Server	10
<i>Installing HTTPS Server</i>	10
<i>Uploading firmware file(s) to XAMPP HTTPS Server</i>	11
<i>Configuring Grandstream devices for a local HTTPS upgrade</i>	12
Local Upgrade via TFTP Server	13
<i>Installing the TFTP Server</i>	13
<i>Uploading the firmware file</i>	15
<i>Configuring Grandstream devices for local TFTP upgrade</i>	17
SCENARIO 3: UPGRADE THROUGH MANUAL UPLOAD	18
ADVANCED OPTIONS	21
Automatic Upgrade	21
Firmware File Prefix and Postfix.....	22
HTTP/HTTPS User Name and Password.....	23



Table of Figures

Figure 1: Option "Firmware Upgrade and Provisioning" – GRP260X	5
Figure 2 : Option "Firmware Upgrade and Provisioning" – GRP261x, GRP2624 and GRP2634.....	5
Figure 3: Firmware Web GUI section for GRP260X.....	5
Figure 4 : Firmware Web GUI section for GRP261x, GRP2624 and GRP2634	6
Figure 5: Starting the HTTP server	7
Figure 6: Selecting the firmware file to upload on the HTTP server.....	8
Figure 7: Uploading the firmware file to the HTTP Server.....	8
Figure 8: Firmware upgrade progress	9
Figure 9: Firmware File Fully Downloaded	10
Figure 10: Download XAMPP for windows	10
Figure 11: XAMPP Installation	10
Figure 12: XAMPP Control Panel.....	11
Figure 13: Apache Module Started.....	11
Figure 14: XAMPP Directory.....	11
Figure 15: Index of XAMPP Files	12
Figure 16: Example of Configuring the Upgrade via HTTPS on GRP261x, GRP2624 and GRP2634	12
Figure 17 : Example of configuring the Upgrade via HTTPS on GRP260X	13
Figure 18: Downloading the TFTP server.....	13
Figure 19: Selecting Install Version.....	14
Figure 20: TFTP Server Installation.....	14
Figure 21: TFTP Server Interface.....	15
Figure 22: Selecting TFTP Server Services.....	15
Figure 23: Selecting Local Directory containing Firmware File.....	16
Figure 24: Firmware File Upload Verification.....	16
Figure 25: TFTP Server Configuration	17
Figure 26 : Manual Upgrade Start Button on GRP261x, GRP2624 and GRP2634	18
Figure 27 : Firmware upload and upgrading process started for GRP261x, GRP2624 and GRP2634	18
Figure 28 : Manual upload page on GRP260X	19
Figure 29 : Browsing to the Firmware BIN file location For GRP260X.....	19
Figure 30 : Upgrade in progress for GRP260X.....	20
Figure 31: Example of Configuring Automatic Upgrade for GRP261x, GRP2624 and GRP2634	21
Figure 32 : Example of Configuring Automatic Upgrade for GRP260X.....	22
Figure 33: Screenshot of Firmware file Prefix and Postfix fields for GRP261x, GRP2624 and GRP2634	22
Figure 34 : Screenshot of Firmware file Prefix and Postfix fields for GRP260X	22
Figure 35: Configuring the Firmware File Prefix.....	23
Figure 36: Configuring the Firmware File Postfix	23
Figure 37: Firmware Files with Prefix/Postfix on local directory.....	23
Figure 38: HTTP / HTTPS Username/Password Fields for GRP261x, GRP2624 and GRP2634	24
Figure 39 : Screenshot of HTTP / HTTPS Username and Password Fields for GRP260X	24



INTRODUCTION

All Grandstream products' firmware are improved and updated on a regular basis. Latest firmware versions are available in <http://www.grandstream.com/support/firmware>

Published firmware versions in Grandstream official website have passed QA tests and included new enhancements implemented, reported issues fixes for better user experience; all changes are logged in Release Notes documents.

Provided Firmware package is specific to a single product or product series, same as release notes document. For example, *Release_GRP260x_1.0.1.50.zip* and *Release_Note_GRP260x_1.0.1.50.pdf* are specific to GRP260X Carrier Grade IP Phones.

Grandstream recommends reading Release Notes document which may include special firmware upgrade notices, and always keep your devices up to date by upgrading their firmware versions regularly.

This document describes steps needed to upgrade the GRP26XX devices firmware version and covers the following scenarios:

- **Scenario 1:** Upgrade using Grandstream Public HTTP Server.
- **Scenario 2:** Upgrade using a local Server.
- **Scenario 3:** Upgrade through Manual Upload .
- **Advanced options.**

Note: GRP26xx series include GRP260x and GRP261x series as well as GRP2624 and GRP2634.

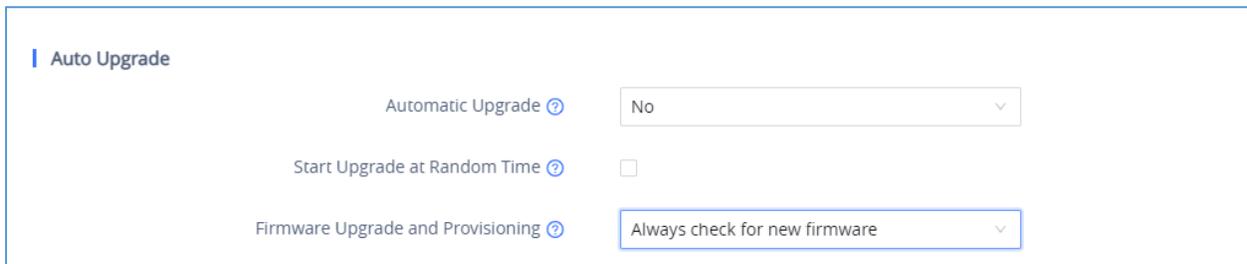


SCENARIO 1: UPGRADE USING GRANDSTREAM PUBLIC SERVER

Grandstream is hosting latest firmware files in a public HTTP server so customers can use it to directly upgrade their Grandstream devices with latest firmware. The same server also hosts BETA firmware when available.

Follow below steps to successfully upgrade your device:

1. Access web interface of your device and go to **Maintenance → Upgrade and Provisioning (For the GRP260X, Go to Provision TAB)**.
2. Make sure to select “Always Check for New Firmware” for “Firmware Upgrade and Provisioning”.



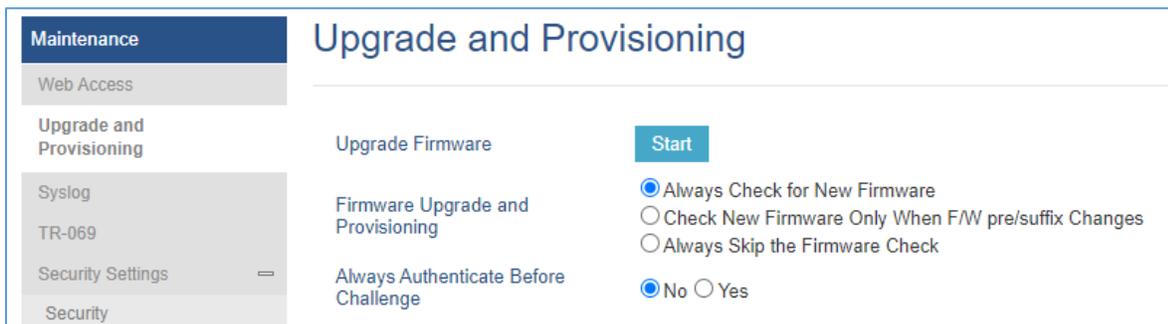
Auto Upgrade

Automatic Upgrade  No

Start Upgrade at Random Time 

Firmware Upgrade and Provisioning  Always check for new firmware

Figure 1: Option "Firmware Upgrade and Provisioning" – GRP260X



Maintenance

Web Access

Upgrade and Provisioning

Syslog

TR-069

Security Settings

Security

Upgrade and Provisioning

Upgrade Firmware **Start**

Always Check for New Firmware

Check New Firmware Only When F/W pre/suffix Changes

Always Skip the Firmware Check

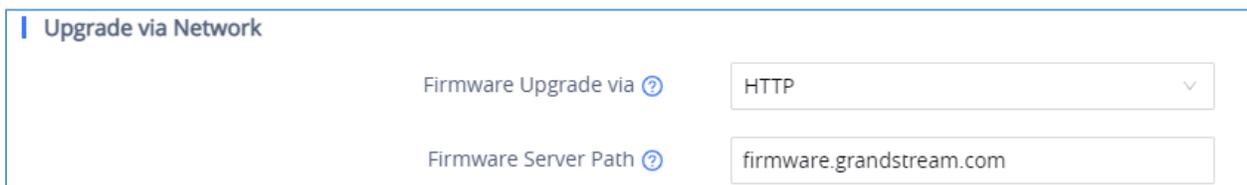
No Yes

Firmware Upgrade and Provisioning

Always Authenticate Before Challenge

Figure 2 : Option "Firmware Upgrade and Provisioning" – GRP261x, GRP2624 and GRP2634

3. Go to “Firmware” Tab and under “Upgrade via Network”,
 - Select “HTTP” for “Firmware Upgrade via”
 - Enter “*firmware.grandstream.com*” under “Firmware Server Path”.



Upgrade via Network

Firmware Upgrade via  HTTP

Firmware Server Path  firmware.grandstream.com

Figure 3: Firmware Web GUI section for GRP260X



Firmware

Firmware Upgrade via TFTP HTTP HTTPS FTP FTPS

Firmware Server Path

Figure 4 : Firmware Web GUI section for GRP261x, GRP2624 and GRP2634

4. Click on “**Save and Apply**” button to apply the new settings.
5. **Reboot** the device and wait until the upgrade process is completed.

Notes:

- Internet Access is mandatory for the upgrade using Grandstream HTTP server.
- To upgrade to BETA firmware (if available), use “*firmware.grandstream.com/BETA*” in step 4.

SCENARIO 2: UPGRADE USING A LOCAL SERVER

Customers can use their own HTTP/HTTPS, FTP/FTPS or TFTP server to upgrade Grandstream devices.

To achieve this, first download firmware files for the appropriate device model from <http://www.grandstream.com/support/firmware>. Unzip downloaded package and put extracted files in the root directory of your server.

Notes:

- Devices and your server need to be in same LAN.
- If using remote server, make sure to open/redirect ports in your router, so devices can download firmware files from it.

Reminder:

HTTP (TCP) default port is 80, HTTPS (TCP) default port is 443 and TFTP (UDP) default port is 69.

Local Upgrade via HTTP Server

Please refer to the below steps for a local upgrade using **HTTP File Server** tool.

Installing HTTP Server and Uploading Firmware File(s)

1. Launch the install wizard of the tool once it is fully downloaded.
 - Link: <http://www.rejetto.com/hfs/download>
2. Click on **Run** to launch.

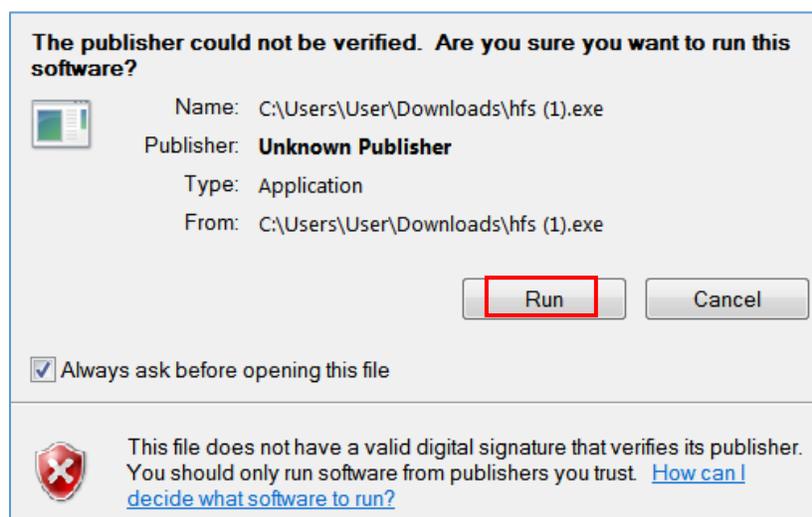


Figure 5: Starting the HTTP server

3. Once HFS starts, browse and select the firmware files from your local directories.
 - Under **Menu** → **Add files**.



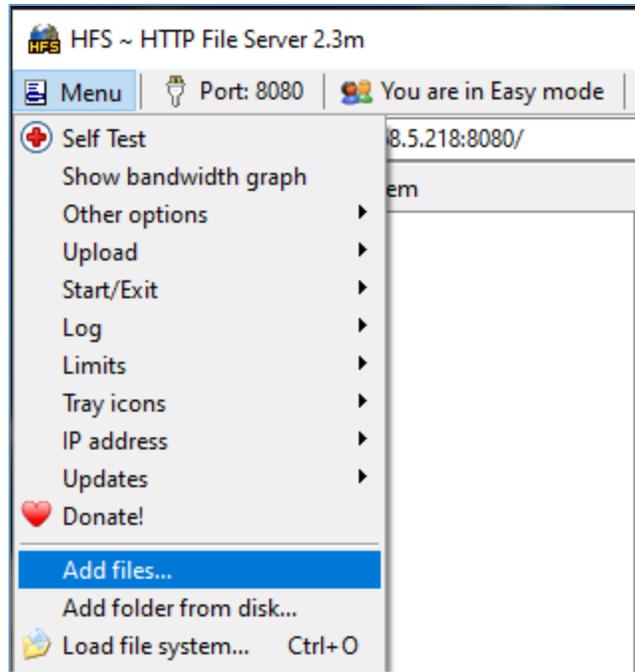


Figure 6: Selecting the firmware file to upload on the HTTP server.

4. Select the file(s) and click **Open** to upload the file(s) to your HTTP server.

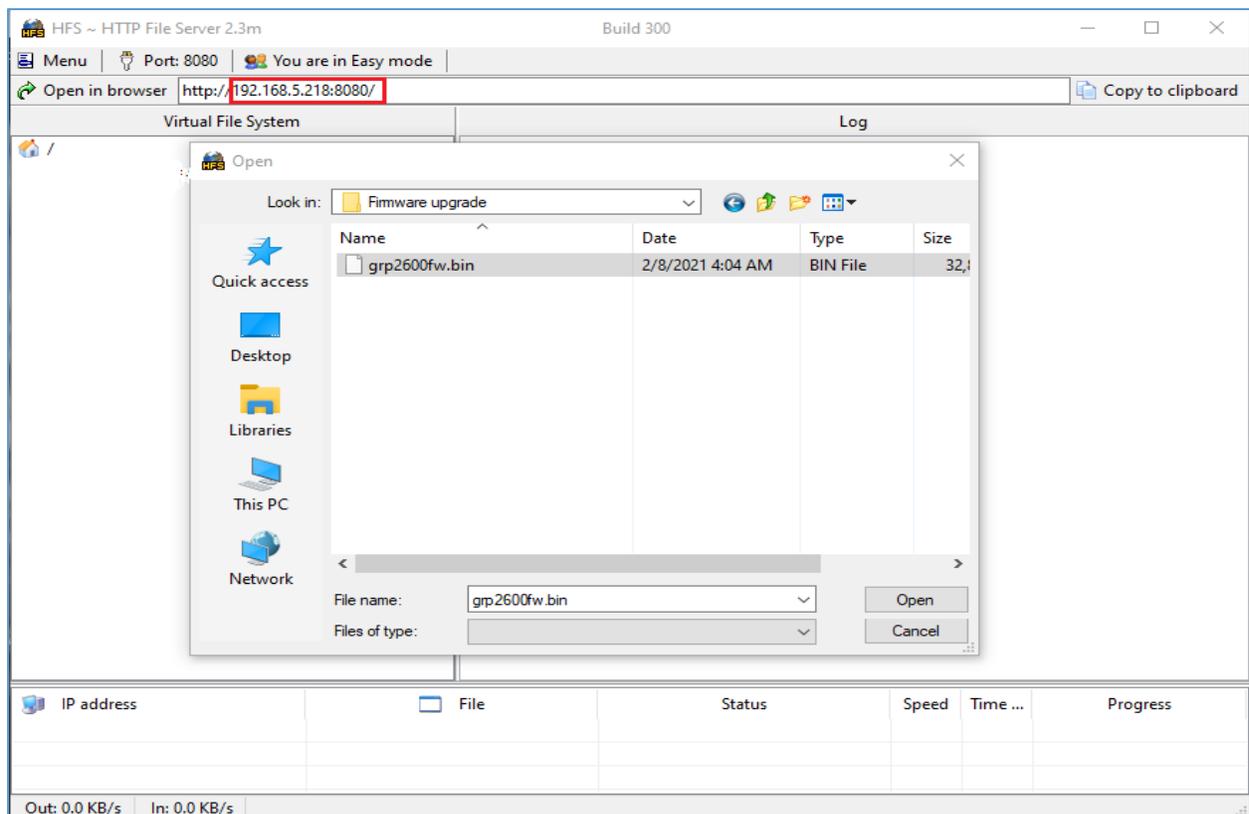


Figure 7: Uploading the firmware file to the HTTP Server.



- Once uploaded to the HTTP server, the firmware file should be available on the link: “<http://192.168.5.218/grp2600fw.bin>” Next to **Open in browser**. As shown on the screenshot:
 - **192.168.5.218** is the IP address of the computer running the local HTTP server.

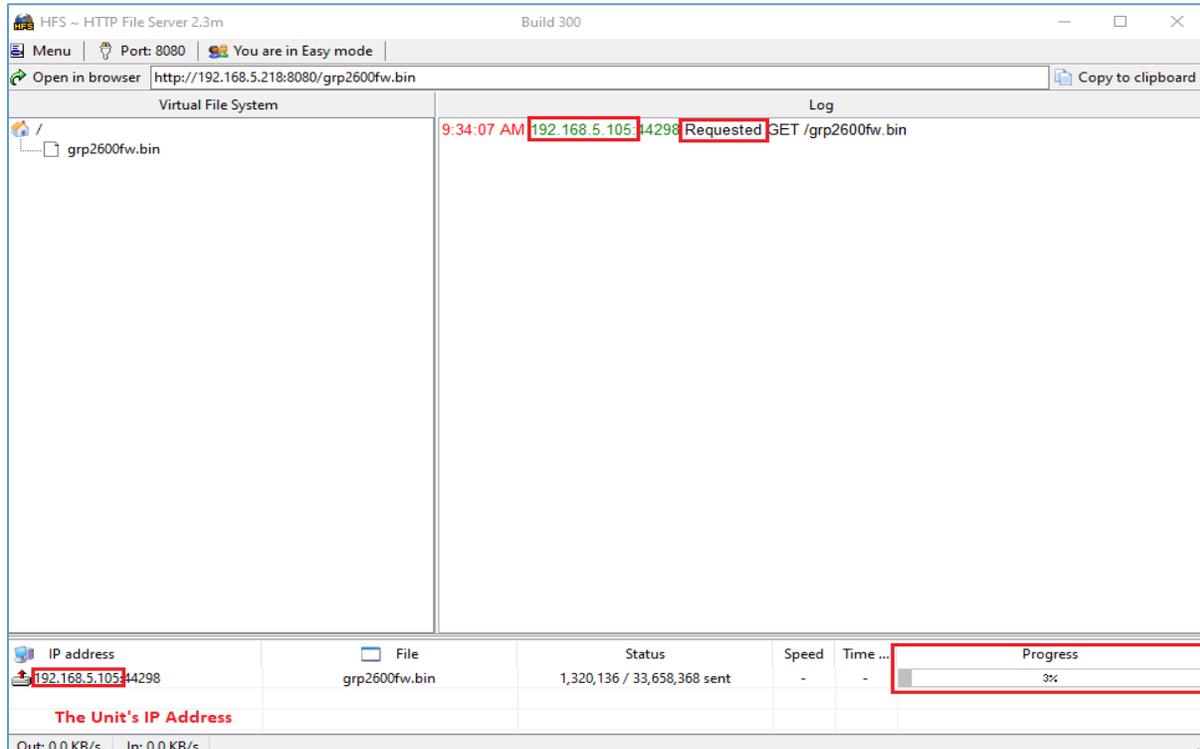
Configuring Grandstream devices for local HTTP upgrade

Configure Grandstream devices to upgrade the firmware via HTTP by doing the following:

- Access the Web GUI and navigate to “**Upgrade and Provisioning**” page.
- Set “Firmware Upgrade and Provisioning” to “**Always Check for New Firmware**”
- Go to “Firmware” section,
 - Select “**HTTP**” for “Firmware Upgrade via”
 - Enter the path (IP address) of your HTTP server containing the firmware file under “Firmware Server Path”.
- Press “**Save and Apply**” at the bottom of the page to apply the new settings.
- Reboot the device and wait until the upgrade process is completed.

Notes:

- In our example, we have configured the firmware server path as: “192.168.5.218”.
- Make sure to not include leading http:// in HTTP Firmware server path.
- You can verify the upgrade progress on the HFS Server as shown blow:



The screenshot shows the HFS ~ HTTP File Server 2.3m interface. The browser address bar shows <http://192.168.5.218:8080/grp2600fw.bin>. The Virtual File System pane shows a file named `grp2600fw.bin`. The Log pane shows a request from `192.168.5.105:44298` for `GET /grp2600fw.bin`. At the bottom, a table displays the upgrade progress:

IP address	File	Status	Speed	Time ...	Progress
192.168.5.105:44298	grp2600fw.bin	1,320,136 / 33,658,368 sent	-	-	3%

Below the table, it indicates "The Unit's IP Address" and shows network statistics: "Out: 0.0 KB/s | In: 0.0 KB/s".

Figure 8: Firmware upgrade progress

- Once completed, a Fully downloaded log will be registered.

```

Log
4:32:41 PM 192.168.5.105:44298 Requested GET /grp2600fw.bin [0-1535]
4:32:42 PM 192.168.5.105:44298 Requested GET /grp2600fw.bin
4:35:32 PM 192.168.5.105:44298 Fully downloaded - 49.9 M @ 299.1 KB/s - /grp2600fw.bin
4:37:31 PM 192.168.5.105:44298 Requested GET /grp2600fw.bin
  
```

Figure 9: Firmware File Fully Downloaded

Local Upgrade via HTTPS Server

Please refer to the below steps for a local upgrade using XAMPP (with built in HTTPS server)

Download link: <https://www.apachefriends.org/download.html>

Installing HTTPS Server

1. Download appropriate version depending on your platform.

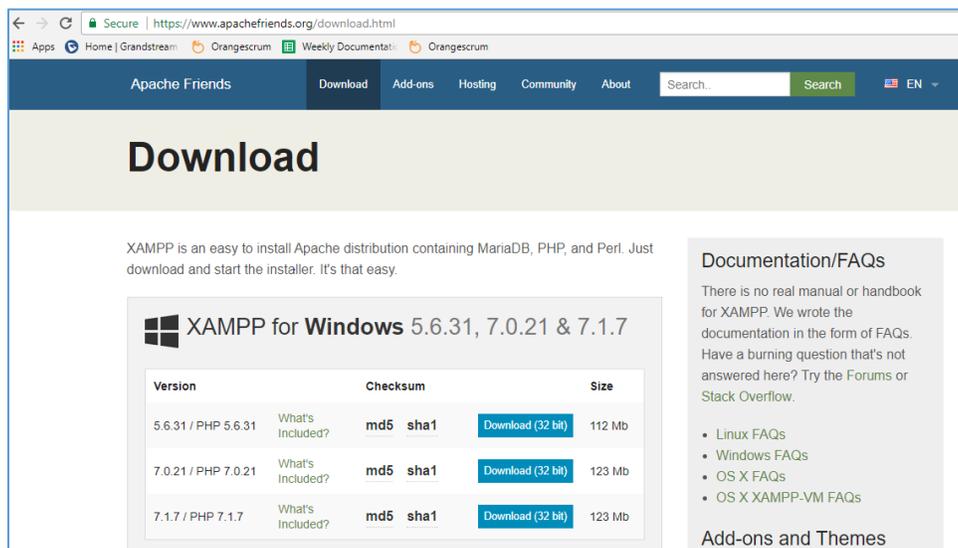


Figure 10: Download XAMPP for windows

2. Launch the install wizard once the file is fully downloaded and follow the installation steps:



Figure 11: XAMPP Installation

3. Launch the XAMPP server. The following interface will be available:



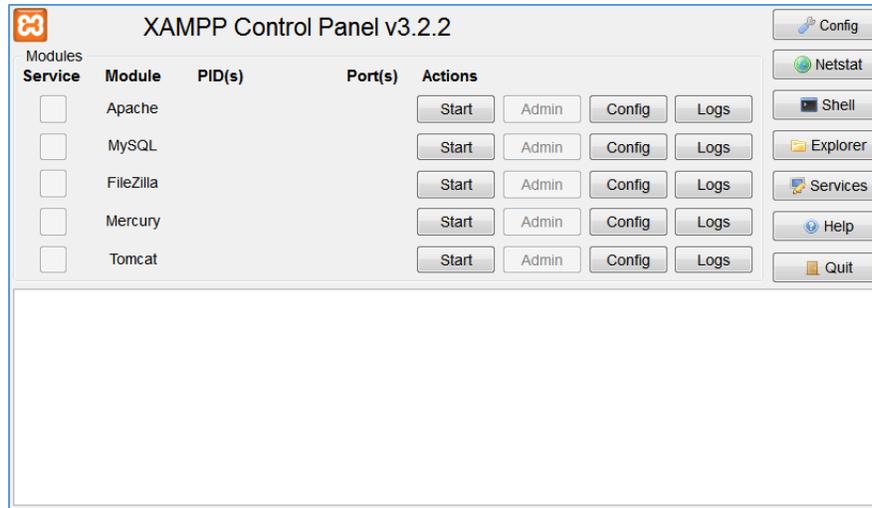


Figure 12: XAMPP Control Panel

Uploading firmware file(s) to XAMPP HTTPS Server

1. Start **Apache** module in order to use the HTTPS server.

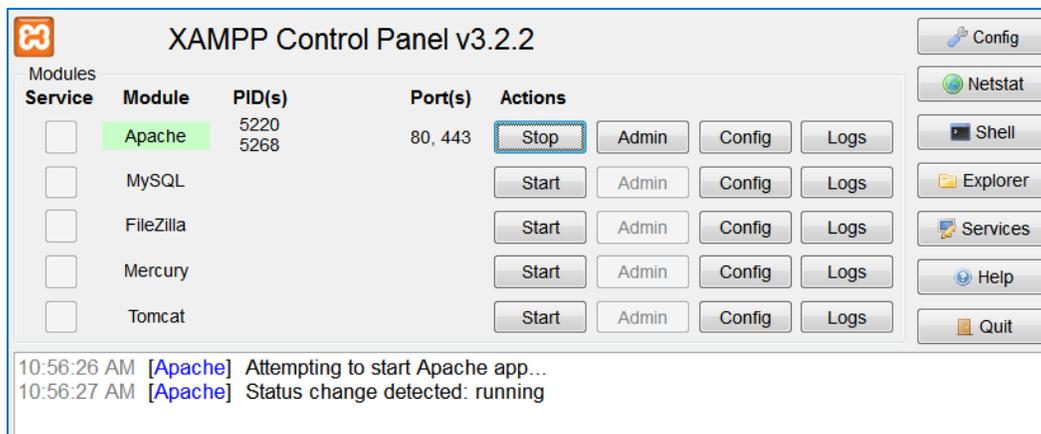


Figure 13: Apache Module Started

2. Access the XAMPP root directory on your computer and put the firmware files on the following path:
“C:\xampp\htdocs\xampp”

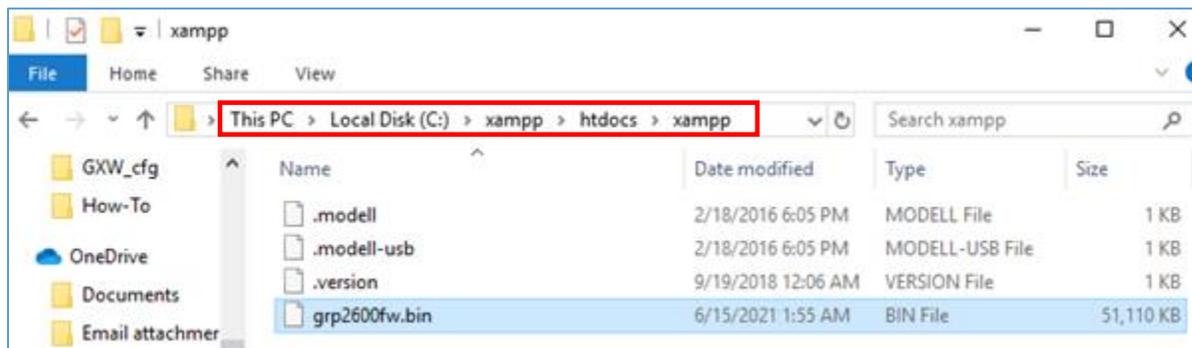
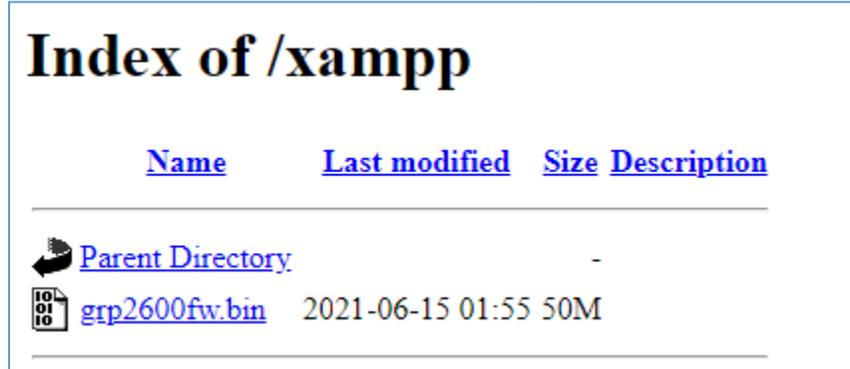


Figure 14: XAMPP Directory



- To list all available firmware files on the root directory, access the local link address “<https://127.0.0.1/xampp/>” from the computer running HTTPS server.



Name	Last modified	Size	Description
 Parent Directory		-	
 grp2600fw.bin	2021-06-15 01:55	50M	

Figure 15: Index of XAMPP Files

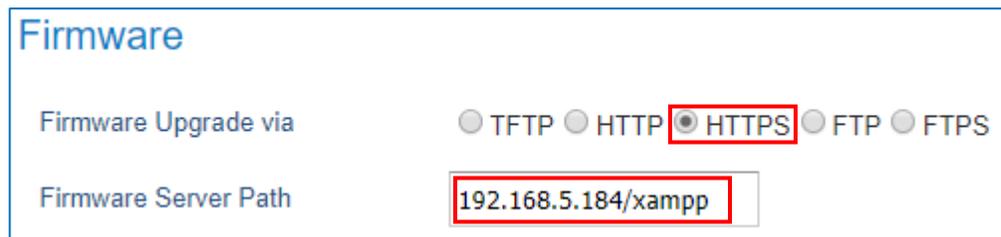
Note: XAMPP has a built-in SSL certificates for HTTPS access. Changing the certificates, is possible by a simple copy/paste of the generated certificates on the following folder: “**C:\xampp\apache\conf** “. The folder contains 3 sub directories: ssl.crt, ssl.csr and ssl.key.

Configuring Grandstream devices for a local HTTPS upgrade

Configure Grandstream devices to upgrade the firmware via HTTPS by doing the following:

- Access the Web GUI and navigate to “**Upgrade and Provisioning**” page.
- Set “**Firmware Upgrade and Provisioning**” to “**Always Check for New Firmware**”
- Go to “**Firmware**” section,
 - Select “**HTTPS**” for “**Firmware Upgrade via**”
 - Enter the HTTPS server URL containing the firmware file in “**Firmware Server Path**” field.
Example: (x.x.x.x/xampp) where x.x.x.x is the IP address of computer running XAMPP.
- Press “**Save and Apply**” at the bottom of the page to apply the new settings.
- Reboot** the device and wait until the firmware upgrade process is completed.

The following screenshot illustrates the steps mentioned above.



Firmware

Firmware Upgrade via TFTP HTTP **HTTPS** FTP FTPS

Firmware Server Path

Figure 16: Example of Configuring the Upgrade via HTTPS on GRP261x, GRP2624 and GRP2634

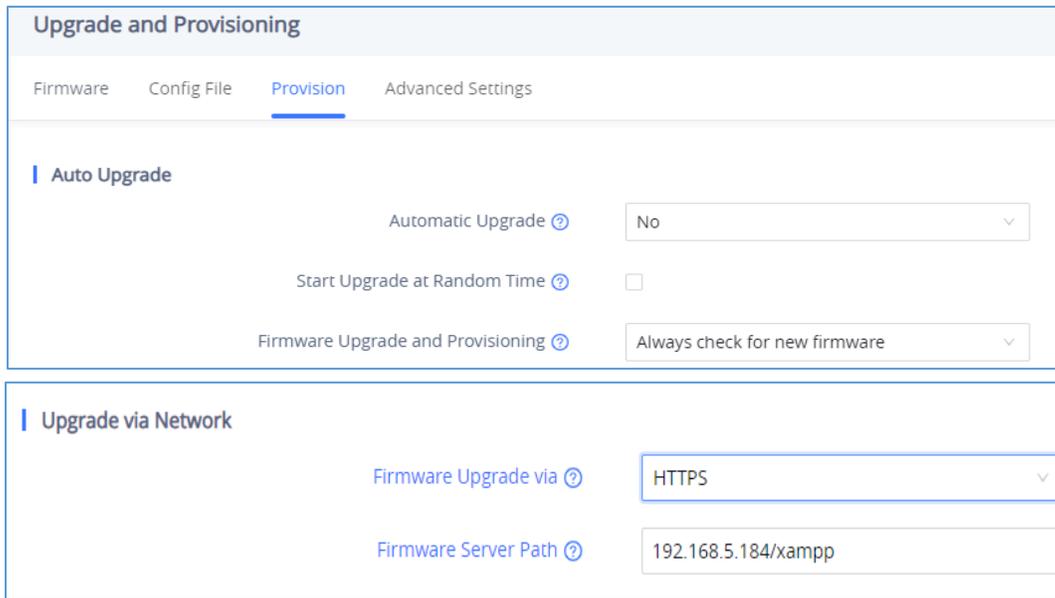


Figure 17 : Example of configuring the Upgrade via HTTPS on GRP260X

Local Upgrade via TFTP Server

To upgrade locally using TFTP protocol, users can download and install a free TFTP server as described in below steps.

Installing the TFTP Server

A free windows version TFTP server is available for download from following link: <http://tftpd32.jounin.net/>

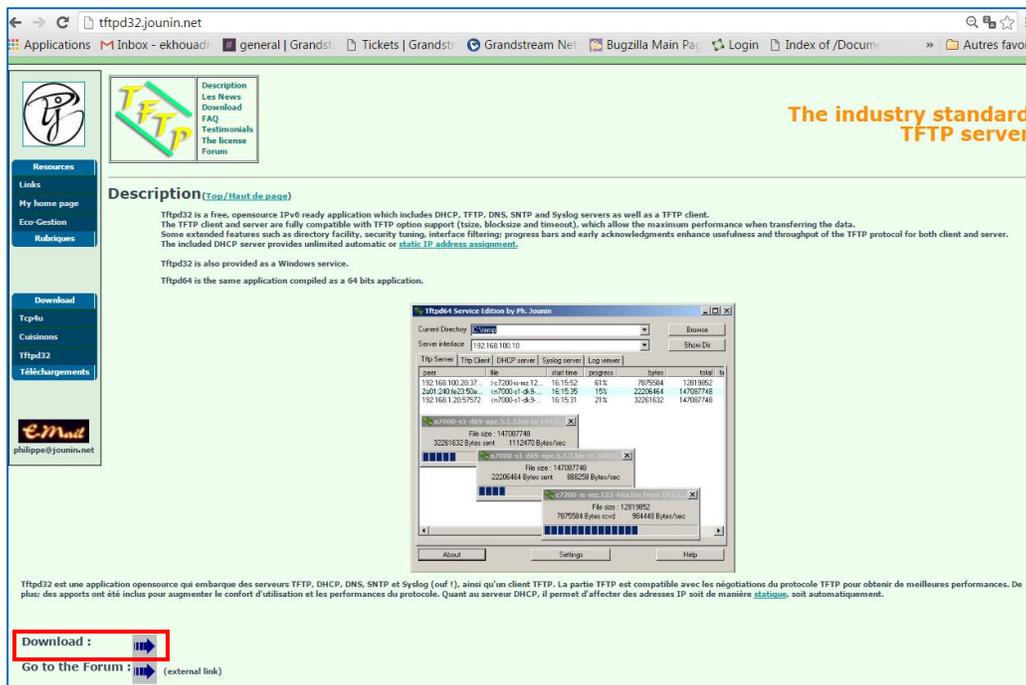
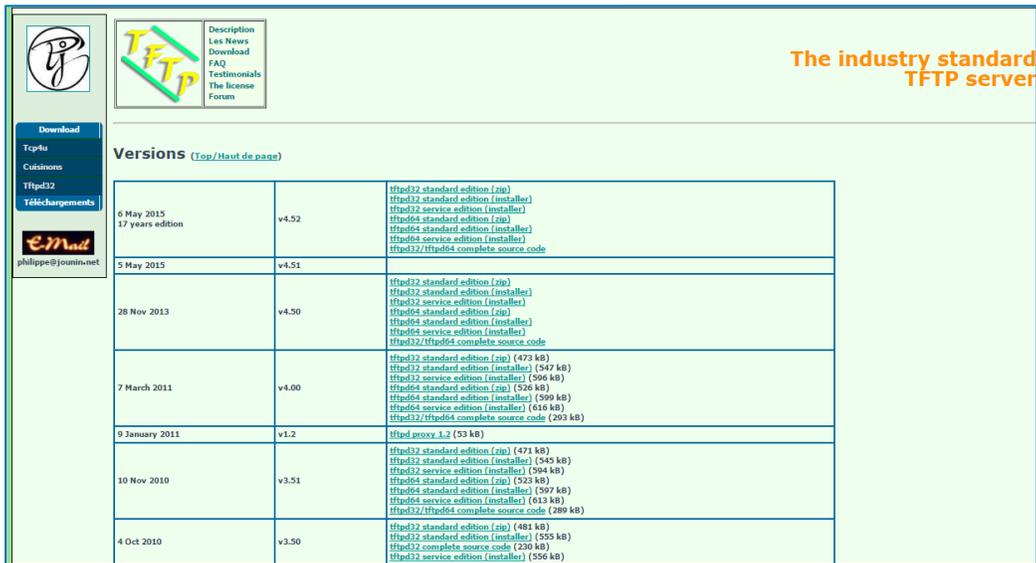


Figure 18: Downloading the TFTP server



1. Select which version is appropriate for your computer, and start downloading it.



Date	Version	Download Links
6 May 2015 17 years edition	v4.52	Tftpd32 standard edition (.zip) Tftpd32 standard edition (installer) Tftpd32 service edition (installer) Tftpd64 standard edition (.zip) Tftpd64 standard edition (installer) Tftpd64 service edition (installer) Tftpd32/Tftpd64 complete source code
5 May 2015	v4.51	Tftpd32 standard edition (.zip) Tftpd32 standard edition (installer) Tftpd32 service edition (installer) Tftpd64 standard edition (.zip) Tftpd64 standard edition (installer) Tftpd64 service edition (installer) Tftpd32/Tftpd64 complete source code
28 Nov 2013	v4.50	Tftpd32 standard edition (.zip) Tftpd32 standard edition (installer) Tftpd32 service edition (installer) Tftpd64 standard edition (.zip) Tftpd64 standard edition (installer) Tftpd64 service edition (installer) Tftpd32/Tftpd64 complete source code
7 March 2011	v4.00	Tftpd32 standard edition (.zip) (473 kB) Tftpd32 standard edition (installer) (547 kB) Tftpd32 service edition (installer) (506 kB) Tftpd64 standard edition (.zip) (526 kB) Tftpd64 standard edition (installer) (599 kB) Tftpd64 service edition (installer) (616 kB) Tftpd32/Tftpd64 complete source code (293 kB)
9 January 2011	v1.2	Tftpd proxy 1.2 (53 kB)
10 Nov 2010	v3.51	Tftpd32 standard edition (.zip) (471 kB) Tftpd32 standard edition (installer) (545 kB) Tftpd32 service edition (installer) (504 kB) Tftpd64 standard edition (.zip) (523 kB) Tftpd64 standard edition (installer) (597 kB) Tftpd64 service edition (installer) (613 kB) Tftpd32/Tftpd64 complete source code (289 kB)
4 Oct 2010	v3.50	Tftpd32 standard edition (.zip) (481 kB) Tftpd32 standard edition (installer) (535 kB) Tftpd32 complete source code (230 kB) Tftpd32 service edition (installer) (556 kB)

Figure 19: Selecting Install Version

2. Launch the TFTP server install wizard.

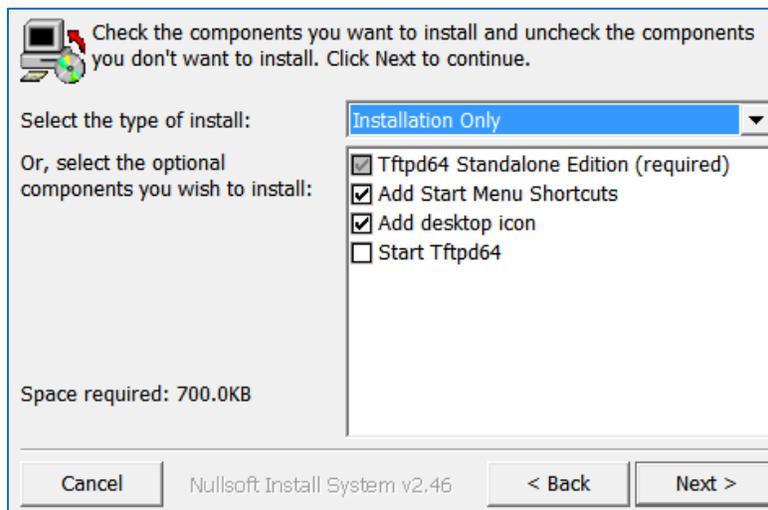


Figure 20: TFTP Server Installation

3. Once the TFTP server is installed, Open TFTP64. The following interface will be displayed:

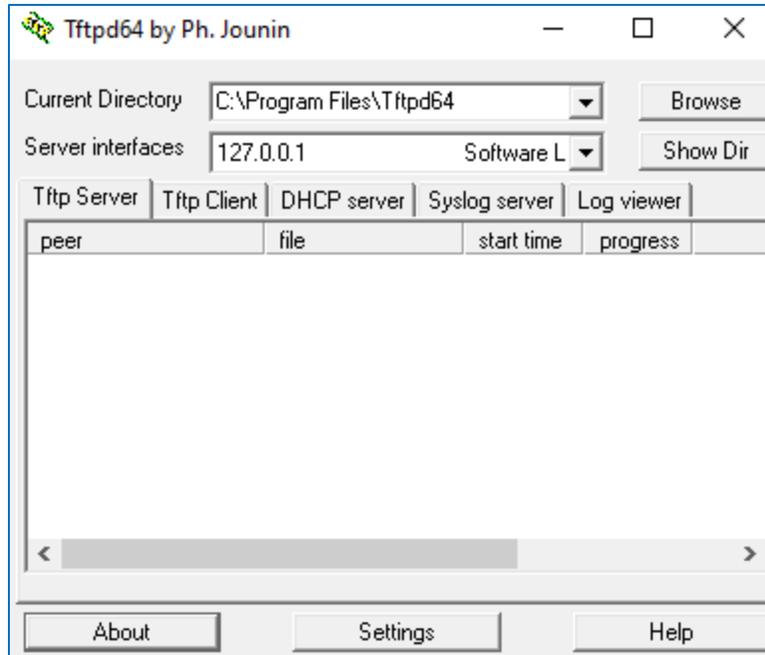


Figure 21: TFTP Server Interface

Uploading the firmware file

1. Make sure that the TFTP service is selected and started under **Settings** → **Global**
 - Select **“TFTP Server”** then click button **OK** to confirm your configuration.

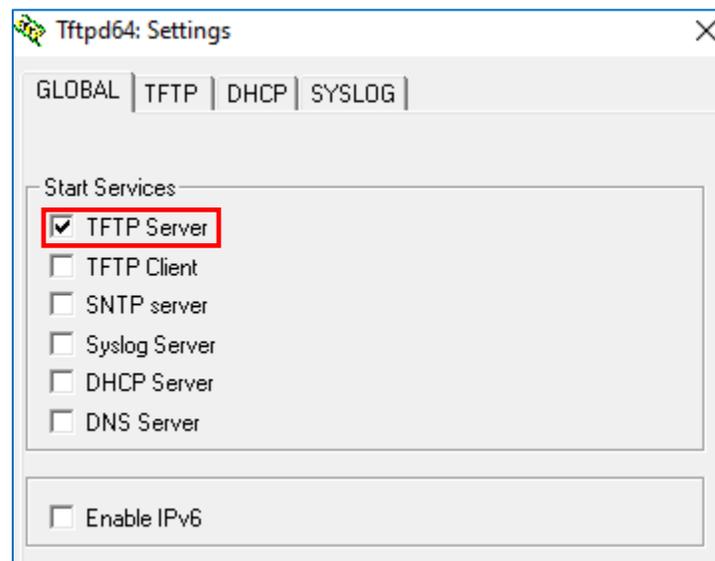


Figure 22: Selecting TFTP Server Services

2. **Browse** to locate and select the required firmware file from your local system.

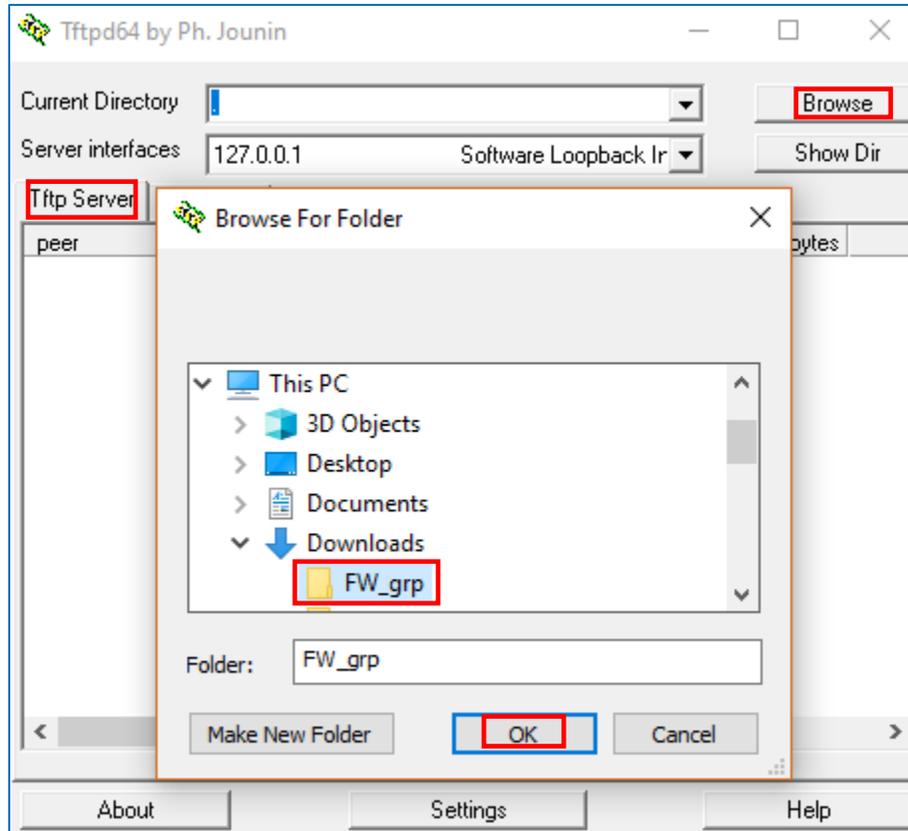


Figure 23: Selecting Local Directory containing Firmware File

3. Press **Show Dir** to see if the firmware file was successfully linked to the TFTP server.

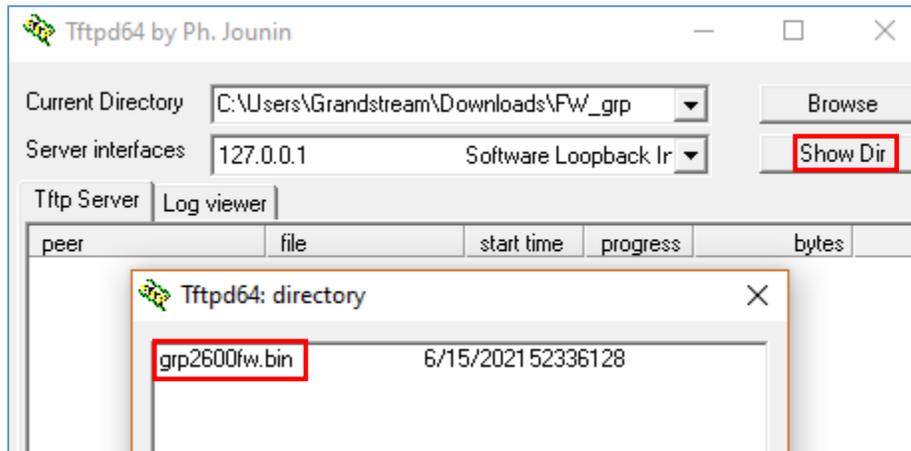


Figure 24: Firmware File Upload Verification

4. Select the interface of the computer running the TFTP server on **Server Interfaces**.

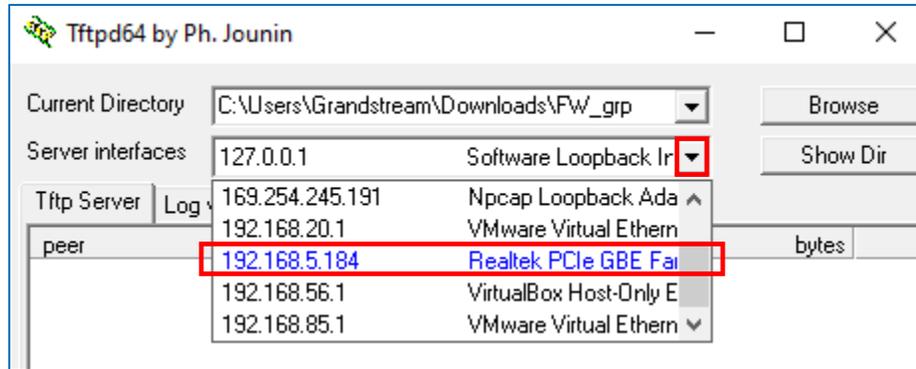


Figure 25: TFTP Server Configuration

Configuring Grandstream devices for local TFTP upgrade

Configure Grandstream devices to upgrade the firmware via HTTPS by doing the following:

1. Access the Web GUI and navigate to “**Upgrade and Provisioning**” page.
2. Set “**Firmware Upgrade and Provisioning**” to “**Always Check for New Firmware**”
3. Go to “**Firmware**” section,
 - Select “**TFTP**” for “**Firmware Upgrade via**”
 - Enter the path of your TFTP server containing the firmware file under “**Firmware Server Path**”.
4. Press “**Save and Apply**” at the bottom of the page to apply the new settings.
5. **Reboot** the phone and wait until the upgrade process is completed.

SCENARIO 3: UPGRADE THROUGH MANUAL UPLOAD

It is also possible to perform the firmware upgrade manually from the GRP260X Web GUI.

To achieve this, first download firmware files for the appropriate device model from <http://www.grandstream.com/support/firmware>. Unzip downloaded package.

This method can only be done from the Web GUI.

We start by accessing the Web GUI and we navigate to **Maintenance >> Upgrade and Provisioning**.

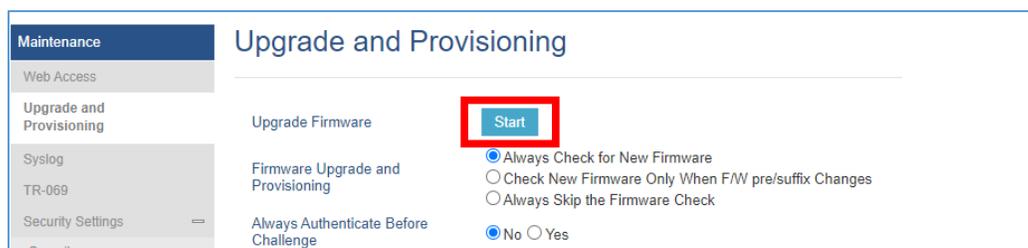


Figure 26 : Manual Upgrade Start Button on GRP261x, GRP2624 and GRP2634

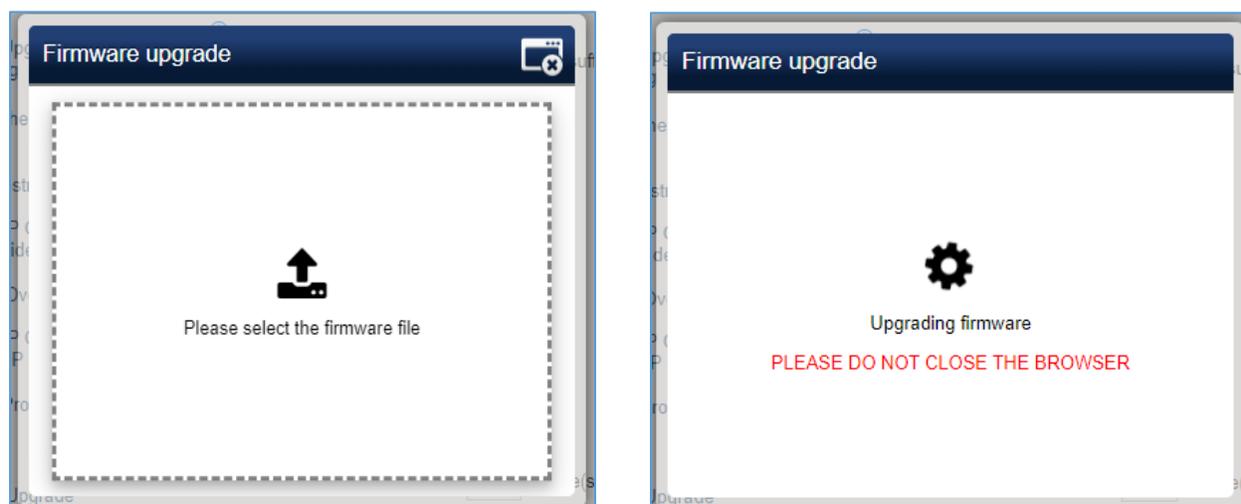


Figure 27 : Firmware upload and upgrading process started for GRP261x, GRP2624 and GRP2634

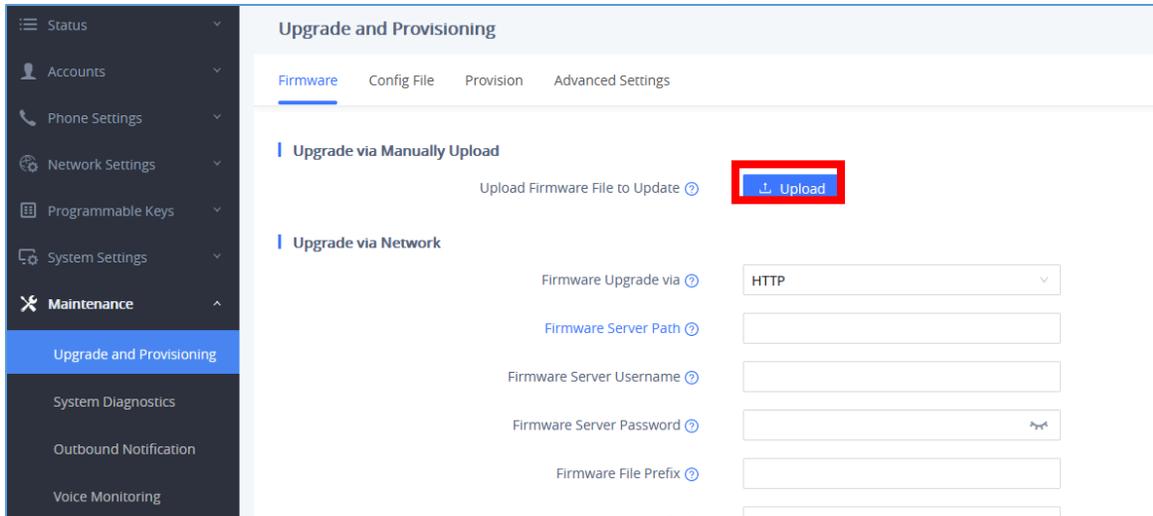


Figure 28 : Manual upload page on GRP260X

And we click on Upload, and we browse to the firmware file downloaded and unzipped, this file is in BIN format, and we click on Open.

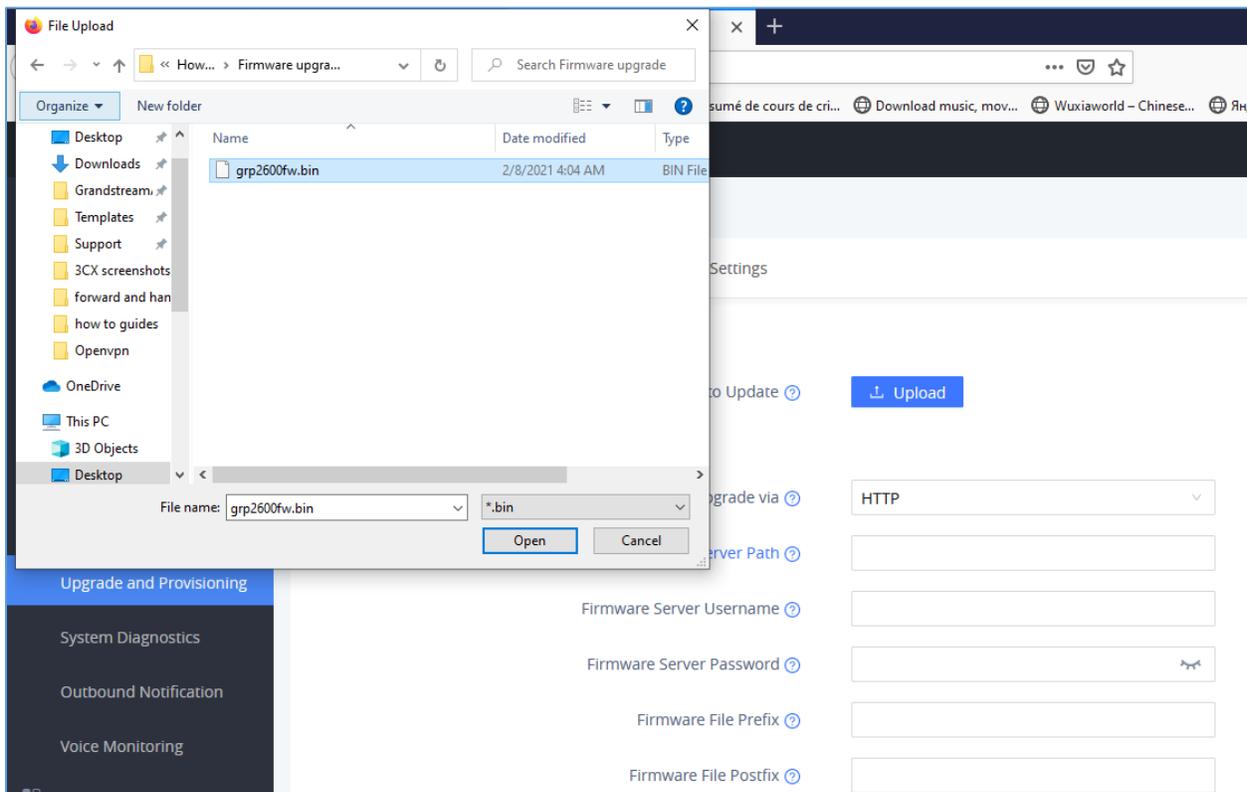


Figure 29 : Browsing to the Firmware BIN file location For GRP260X



And then the Phone GUI will show a bar describing the progress of the firmware upgrade, wait until the GRP260x finishes the firmware Upgrade, and the phone will automatically reboot showing, once the firmware upgrade is done.

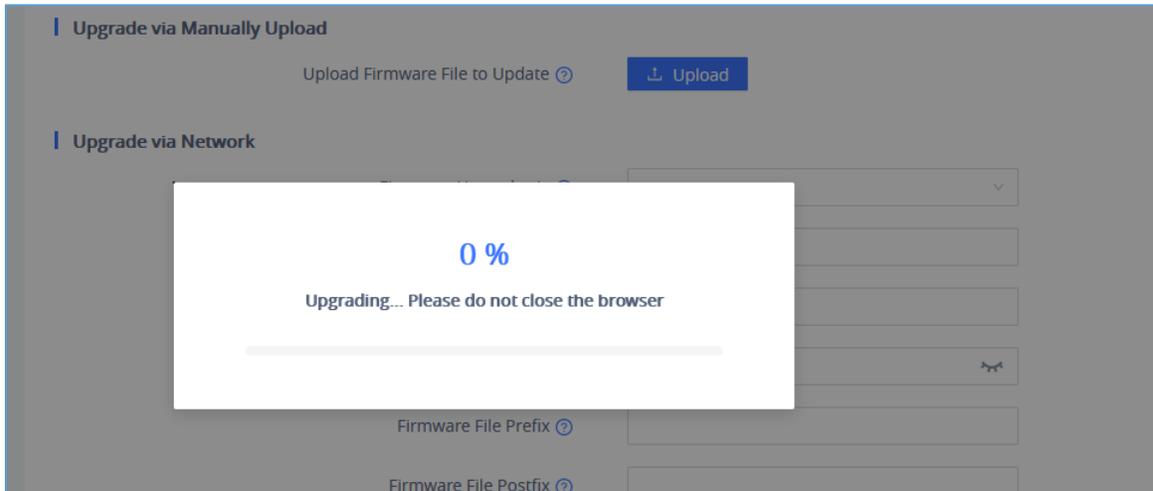


Figure 30 : Upgrade in progress for GRP260X

Important :

Do not close the browser when performing the Manual Upgrade.

ADVANCED OPTIONS

Automatic Upgrade

Automatic Upgrade allows to periodically check if a newer firmware is available to download and upgrade the device. This option will help to keep the devices up to date. It can be enabled from **web GUI → Maintenance → Upgrade and provisioning** page.

For the **GRP260X** you need to navigate to **Maintenance → Upgrade and provisioning** under **Provision** Tab.

Automatic Upgrade	<input checked="" type="radio"/> No <input type="radio"/> Yes, check for upgrade every <input type="text" value="1008"/> minute(s) <input type="radio"/> Yes, check for upgrade every day <input type="radio"/> Yes, check for upgrade every week
Randomized Automatic Upgrade	<input checked="" type="radio"/> No <input type="radio"/> Yes
Hour of the Day(0-23)	Start <input type="text" value="1"/> End <input type="text" value="0"/>
Day of the Week (0-6)	<input type="text" value="1"/>

Figure 31: Example of Configuring Automatic Upgrade for GRP261x, GRP2624 and GRP2634

The automatic upgrade can be configured based on following parameters:

- Every [Time interval] in minute(s)
- Every day (“Hour of the Day” should be configured)
- Every week (“Hour of the Day” and “Day of the Week” should be configured, 0 is Sunday)

The device will check the firmware file availability in the specified time interval. If found, it will be downloaded, and the upgrade process will be initiated automatically.

Note :

For the GRP260X, in order to have the access to edit the check for the firmware schedule, we will need at first to change the Automatic Upgrade from No to one of the following :

- Yes, check for upgrade every Minute,
- Yes, check for upgrade every Day,
- Yes, check for upgrade every Week.

And then we can adjust the settings according to our deployment and our needs,

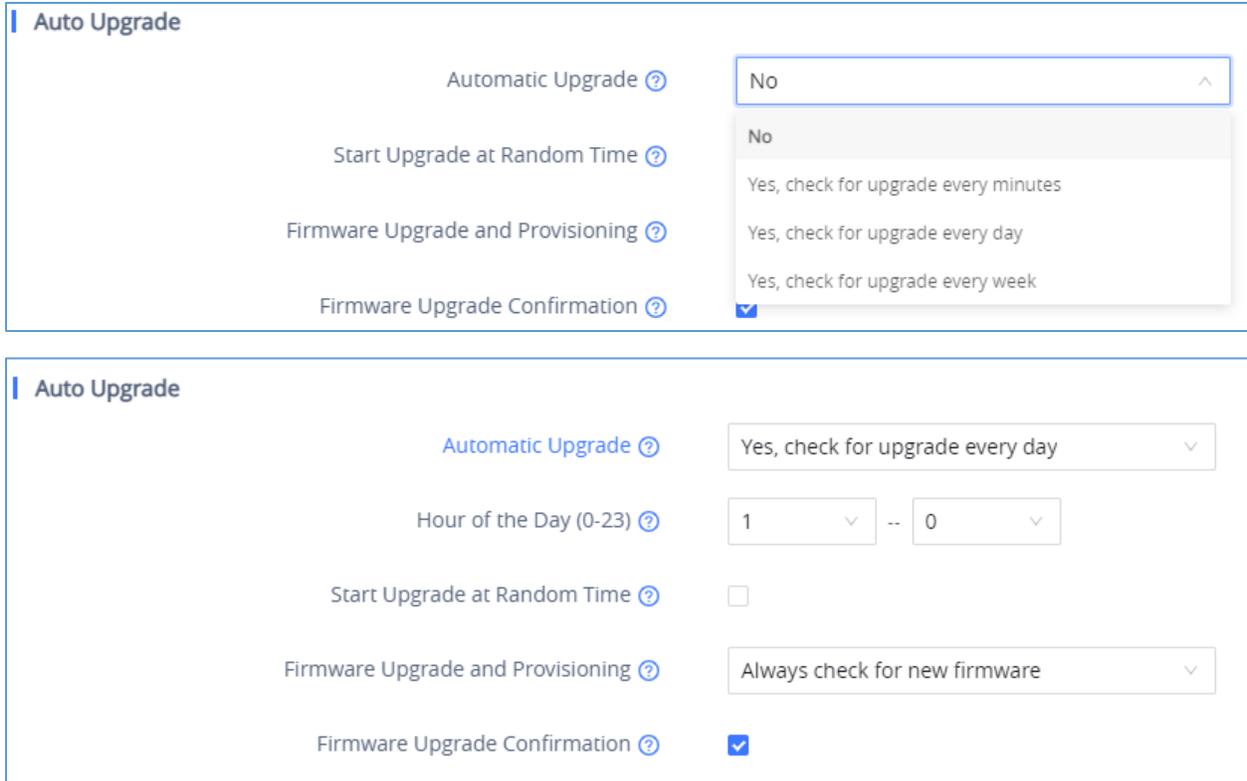


Figure 32 : Example of Configuring Automatic Upgrade for GRP260X

Firmware File Prefix and Postfix

Firmware prefix and postfix are two options which can be configured by users to lock the firmware update, then only the firmware with the matching prefix and/or postfix will be downloaded and flashed into phone.

Firmware file prefix and postfix can be configured from **Web GUI → Maintenance → Upgrade and provisioning**.

For the **GRP260x**, this can be found under the Firmware Tab.



Figure 33: Screenshot of Firmware file Prefix and Postfix fields for GRP261x, GRP2624 and GRP2634

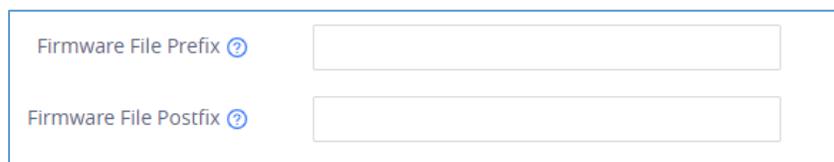


Figure 34 : Screenshot of Firmware file Prefix and Postfix fields for GRP260X



Use Case Example:

Using firmware prefix and postfix, users store different firmware versions in same folder and only upgrade to specific version.

- If **Firmware File Prefix** is set to *1.0.9.22* on a GRP26XX series phone, for example, requested firmware file will be *1.0.9.22grp2610fw.bin*

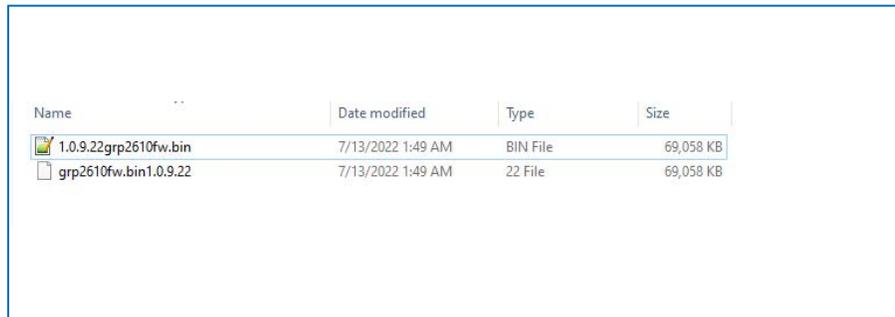


Figure 35: Configuring the Firmware File Prefix

- If **Firmware File Postfix** is set to *1.0.9.22* on a GRP26XX series phone, for example, requested firmware file will be *grp2610fw.bin1.0.9.22*



Figure 36: Configuring the Firmware File Postfix



Name	Date modified	Type	Size
 1.0.9.22grp2610fw.bin	7/13/2022 1:49 AM	BIN File	69,058 KB
 grp2610fw.bin1.0.9.22	7/13/2022 1:49 AM	Text File	69,058 KB

Figure 37: Firmware Files with Prefix/Postfix on local directory

HTTP/HTTPS User Name and Password

HTTP/HTTPS User Name and Password need to be configured if HTTP/HTTPS server requires authentication to access and download firmware files.

To begin firmware upgrade process, the phone sends an initial request to download firmware files from the server, the request will be challenged by the server to provide valid credentials, the phone sends same request including configured HTTP/HTTPS User Name and Password, if accepted, firmware upgrade process can start.

If **Always Authenticate Before Challenge** is set to “Yes”, the phone includes configured credentials in initial request to download firmware files before being challenged by the server. The default setting is “No”.

Firmware Server Username	<input type="text"/>
Firmware Server Password	<input type="password"/>

Figure 38: HTTP / HTTPS Username/Password Fields for GRP261x, GRP2624 and GRP2634

Firmware Server Username ?	<input type="text"/>
Firmware Server Password ?	<input type="password"/> 

Figure 39 : Screenshot of HTTP / HTTPS Username and Password Fields for GRP260X