

Grandstream Networks, Inc.

Firmware Upgrade Guide



Overview

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_GXP16xx_1.0.3.28.zip* and *Release_Note_GXP16xx_1.0.3.28.pdf* are specific to GXP16xx Small Business IP Phones series.

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

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

- Scenario 1: Upgrade using the device's web UI to upload the firmware file.
- Scenario 2: Upgrade using Grandstream Public HTTP Server.
- Scenario 3: Upgrade using local HTTP/HTTPS/TFTP/FTP/FTPS Server.

Scenario 1: Upgrade using the device's web UI to upload the firmware file

Users can directly download new firmware files found on the official Grandstream firmware page, the page can be accessed via the link: https://www.grandstream.com/support/firmware

After the firmware file is downloaded, it can be uploaded directly to the Device's web UI under the Upgrade and provisioning section, depend on the specific model, the WEB UI layout might differ, but the concept of uploading the file on the web GUI is the same, we will take an examp on how to upload a new firmware on the Wi-Fi Phone WP810:

1. Access the WEB UI of the WP810

2. Go to Maintenance => Upgrade and Provisioning => Upgrade Firmware

- 3. Click on Start to upload the firmware file in .bin format.
- 4. Either drag the firmware file to the firmware upgrade pop-up or click on it to upload the firmware file.

Firmware Upgrade and	
Firmware upgrade	
	£
	Please select the firmware file
£	······
Automatic Upgrado	o rest encertor apgrade every rood minute(s)

Example of Manual Firmware Upgrade for WP810

5. After the firmware file is uploaded, click again on

Start to start the firmware upgrade process.



Starting Manual Firmware Upgrade for WP810

6. Once you click Start, a confirmation pop-up will be displayed on the WP810 LCD, click on "Yes" to confirm, after this the firmware will uploading with the following message displayed on the Web UI

Firmware upgrade	
	•
	Upgrading firmware
PL	EASE DO NOT CLOSE THE BROWSER
Manu	ual Upgrade In Progress for WP810

After the firmware is successfully uploaded the device will restart with the new firmware.

Scenario 2: Upgrade using Grandstream Public HTTP 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 hosts also BETA firmware when available.

Follow below steps to successfully upgrade your device:

- 1. Access the web interface of your device and go to the Maintenance Upgrade and Provisioning settings page
- 2. Make sure to select "Always Check for New Firmware".
- 3. Under "Firmware", Select Upgrade via HTTP.
- 4. Enter "firmware.grandstream.com" under Firmware Server Path.
- 5. Press Save and Apply button to apply the new settings.
- 6. **Reboot** the device and wait until the upgrade process is completed.

Upgrade via Network	
Firmware Upgrade via 🕥	HTTP ~
Firmware Server Path ⑦	firmware.grandstream.com
Firmware Server Username ⑦	
Firmware Server Password ⑦	<u>भ</u> र्स

Notes:

- To upgrade using Grandstream HTTP server, the device needs to be connected to Internet.
- To upgrade to BETA firmware (if available), use "firmware.grandstream.com/BETA" in step 4.

Scenario 3: Upgrade using Local HTTP/ HTTPS/TFTP/FTP/FTPS Server

Customers can use their own HTTP, HTTPS 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 needs 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 steps below for the local upgrade using HTTP File Server tool.

Installing HTTP Server and Uploading Firmware File(s)

Please refer to following steps in order to download / install the HTTP server and upload the firmware:

- 1. Launch the install of the tool once it's fully downloaded from the following link: " http://www.rejetto.com/hfs/download "
- 2. Click on Run to launch the HTTP server.



Starting the HTTP server

3. Start the HFS server, browse to locate and select the required firmware files from your local directories by right-clicking on the root direct and selecting **Add files.**

🚔 HFS ~ HTTP File Server 2.3m		Build 300	2.7	- 0	×
🛓 Menu \mid 🖑 Port: 80 🛛 🎎 You are in Expert mode					
🔗 Open in browser http://192.168.0.61/			E	👌 Copy to	clipboard
	ا د د د د د د د د د د د ا د د به د د به د د د ا د د به د د به د د د د		Top spee	d: 0.0 KB/s	··· 0 kbps
Virtual File System		Log			¢
Add files Add folder from disk New empty folder Ins New link Copy URL address Ctrl+C Browse it F9 Set user/pass Purge	12:37:47 Check 12:38:35 Check	update: no new version update: no new version			
Bind root to real-folder Default point to add files] File	Status	Speed	Time	Progress
Properties Alt+Enter					
Connections: 0 Out: 0.0 KB/s In: 0.0 KB/s Tota	al Out: 0 Total In: 0	VFS: 0 items - not saved			

Selecting the firmware file to upload on the HTTP server

4. Choose from your local directory where the firmware files are downloaded and click **Open** to upload the file(s) to your HTTP server.

	.68.5.117/				Copy to clipboard
Virtual File	System		Log		
© /	Copen Look in: Recent Places Desktop	Firmware Upgrade Name		modified 2016 11:19 PM	
	Libraries Computer Other Network	III III File name: Files of type:	•	Open Cancel	
				(1)	

Uploading the firmware file to the HTTP Server

5. Once uploaded to the HTTP server, the firmware file will be available. In our example, on the following link: "192.168.5.101/gxp2170fw.bin shown on the screenshot below (where 192.168.5.101 is the IP address of the computer running the local HTTP server).

🛿 Menu 🛛 🖗 Port: 80 🛛 🕵 You are in Easy mode					
Open in browser http://192.168.5.101/gxp2170fw.bin					
Virtual File System	Log				
gxp2170fw.bin					

IP Address of the local HTTP Server

Please refer to following steps to configure Grandstream devices to upgrade the firmware:

- 1. Access the web GUI of your device and navigate to "Upgrade and Provisioning" settings.
- 2. Make sure to select "Always Check for New Firmware".
- 3. Select Upgrade via HTTP
- 4. Enter the path of your HTTP server containing the firmware file under Firmware Server Path.

Notes:

- In our example, we have configured the firmware server path as: "192.168.5.101".
- Make sure to not include leading http:// in HTTP 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.

You can also verify the status of the upgrade progress on the HFS Server as displayed on the following screenshots:

PHFS ~ HTTP File Server 2.3g		Build 295			
🗟 Menu 🖑 Port: 80 魁 You are in Easy mode					
Provide the second seco	w.bin			Copy t	o clipboa
Virtual File System		Log			
<pre>✓ / └──□ gxp2170fw.bin</pre>	3:54:44 PI	M 192.168.5.87 51608 Requested GET Phone IP Address	/pxp2170fw.bi	n	
💷 IP address	🗖 File	Status	Speed	Time I	Progres
192.168.5.87:51608	gxp2170fw.bin	50,715,628 / 52,502,976 sent	11859	1	96%
192.168.5.87:51641	(-)	idle 0 The progre from the H	ss bar show th ITP Server and	e upload the pho	progress ne
Out: 11859.9 KB/s In: 0.0 KB/s					

Firmware upgrade progress

HFS ~ HTTP File Server 2.3g		E	suild 295				
🗉 Menu 🚏 Port: 80 😫 You are in Ea	asy mode						
Open in browser <u>http://192.168.5.101</u>	l/gxp2170fw.bin	🗈 Already in clipl					
Virtual File System				Log			
<pre>✓ / └──□ gxp2170fw.bin</pre>		3:53:50 PM 192.168.5.87:51608 Requested GET /gxp2170fw.bin 3:53:55 PM 192.168.5.87:51608 Fully downloaded - 50.1 M @ 11.1 MB/s - / Once the phone finish uploading the firmware file from the HTTP server, you will see Fully Downloaded as status on the FHS Server			′s - /gxp2 ₽ rver		
		•	III				
🞐 IP address		File	Status	Speed	Time I	Progres	
192.168.5.87:51608	-		idle 1	8093.2.			
Out: 0.0 KB/s In: 0.0 KB/s							

Local Upgrade via HTTPS Server

Please refer to steps below for the local upgrade using HTTPS.

XAMPP with built in HTTPS server is available in this link (https://www.apachefriends.org/download.html) and can be used.

Installing HTTPS Server

1. Download appropriate version depending on your platform.



Download XAMPP for windows

2. Launch the install of the XAMPP server once it's fully downloaded and follow the installation steps by clicking on Next button.



🖾 Setup	
	Welcome to XAMPP!
	Installing
Unpacking	files
XAMPP Insta	aller < Back Next > Cancel

XAMPP Installation

3. Launch the XAMPP server. Following interface will be available.

XAMPP Co	ntrol Panel v3.2	2.2 [Compiled: Nov 1	L2th 2015]			-	0.000	_ D X
ន	XA	MPP Contro	ol Panel v3	.2.2				Config
Modules Service	Module	PID(s)	Port(s)	Actions				Netstat
	Apache			Start	Admin	Config	Logs	Shell
	MySQL			Start	Admin	Config	Logs	Explorer
	FileZilla			Start	Admin	Config	Logs	Services
	Mercury			Start	Admin	Config	Logs	I Help
	Tomcat			Start	Admin	Config	Logs	Quit

XAMPP Control Panel

Uploading firmware file(s) to XAMPP HTTPS Server

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

XAMPP Co	ntrol Panel v3.2	2.2 [Compiled: Nov	12th 2015]		_			- • ×
ខា	XA	MPP Contr	ol Panel v3	.2.2				Config
Modules Service	Module	PID(s)	Port(s)	Actions				Netstat
	Apache	5220 5268	80, 443	Stop	Admin	Config	Logs	Shell
	MySQL			Start	Admin	Config	Logs	Explorer
	FileZilla			Start	Admin	Config	Logs	Services
	Mercury			Start	Admin	Config	Logs	I Help
	Tomcat			Start	Admin	Config	Logs	Quit
10:56:27	AM [Apach AM [Apach	ne] Attempting ne] Status char	to start Apache nge detected: r	app unning				

Apache Module Started

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



XAMPP Directory

3. To list available firmware files on the root directory, access local link address (https://127.0.0.1/xampp/) from computer running HTTPS server.



Index of XAMPP Files

Note: XAMPP has a built-in SSL certificates for HTTPS access, if users need to change the certificates, this can be done by copy/paste generate certificates on the following folder: **"C:\xampp\apache\conf "**. This folder contains 3 sub directories (ssl.crt, ssl.csr, ssl.key) where to put SSL certificates.

Configuring Grandstream devices for a local HTTPS upgrade

Please refer to following steps to configure Grandstream devices to upgrade the firmware:

- 1. Access the web GUI of your device and navigate to "Upgrade and Provisioning" settings:
- 2. Make sure to select "Always Check for New Firmware".
- 3. Select Upgrade via HTTPS.
- 4. Enter 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.

- 5. Press "Save and Apply" at the bottom of the page to apply the new settings
- 6. Reboot the device and wait until firmware upgrade process is completed.

The following screenshot illustrates the steps mentioned above.

Firmware Upgrade via	○ TFTP ○ HTTP ● HTTP	S
Firmware Server Path	192.168.5.117/xampp	
Firmware HTTP/HTTPS User Name		
Firmware HTTP/HTTPS Password		
Firmware File Prefix		
Firmware File Postfix		

Example of Configuring the Upgrade via HTTPS

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/



Downloading the TFTP server

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

F	Description Les News Download FAQ The license Forum		The	industry standa TFTP serv
Download Tcp4u Cuisinons	Versions (Top/Hautdepag	e)		
Téléchargements	6 May 2015 17 years edition	v4.52	ftpd32 standard edition (installer) ftpd32 standard edition (installer) ftpd32 service edition (installer) ftpd45 standard edition (installer) ftpd45 standard edition (installer) ftpd45 service edition (installer)	
philippe@jounin.net	5 May 2015	v4.51		-
	28 Nov 2013	v4.50	iftpd32 standard edition [zip] iftpd32 standard edition [installer] iftpd32 strive edition [installer] iftpd64 standard edition [installer] iftpd64 standard edition [installer] iftpd64 service edition (installer] iftpd64 service edition (installer] iftpd64 service edition (installer] iftpd64 service edition (installer) iftpd64 servic	
	7 March 2011	v4.00	Hthd32_standard_adition (sin) (473 kB) Hthd32_standard_adition (sintaller) (547 kB) Hthd32_standard_adition (sintaller) (586 kB) Hthd64_standard_adition (sintaller) (596 kB) Hthd64_standard_adition (sintaller) (599 kB) Hthd64_standard_adition (sintaller) (599 kB) Hthd64_standard_adition (sintaller) (509 kB)	
	9 January 2011	v1.2	tftpd proxy 1.2 (53 kB)	7
	10 Nov 2010	v3.51	Hindb2 standard edition (sin) (47.1 kB) tflub22 standard edition (sintaller) (545 kB) tflub22 standard edition (sintaller) (594 kB) tflubd61 standard edition (sintaller) (597 kB)	
	4 Oct 2010	v3.50	tftpd32 standard edition (zip) (481 kB) tftpd32 standard edition (installer) (555 kB) tftpd32 complete source code (230 kB) tftpd32 ervice edition (installer) (556 kB)	

Selecting Install Version

2. Launch the TFTP server install wizard.



TFTP Server Installation

3. Once the TFTP server is installed, Open TFTPD64. The following interface will be displayed:

🔖 Tftpd64 by Ph. Jo	unin	_	o x
Current Directory	Program Files\Tftpd64	4 💌	Browse
Server interfaces 12	7.0.0.1	Software L 💌	Show Dir
Tftp Server Tftp Clier	nt DHCP server S	yslog server Log v	viewer
peer	file	start time pro	gress
<			>
About	Settings		Help

TFTP Server Interface

Uploading the firmware file

1. Make sure that the TFTP services are selected and started under **Settings** \rightarrow **Global** and click button **OK** to confirm your configuration.

Reference Tftpd64: Settings	
GLOBAL TFTP DHCP SYSLOG	
- Start Services	
TFTP Server	
SNTP server	
Syslog Server	
OK Default Help Cancel	-

Selecting TFTP Server Services

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

🔖 Tftpd64 by Ph. Jo	ounin				
Current Directory				.	Browse
Server interfaces	192.168.5.117	P	lealtek PCIe (Show Dir
Tftp Server Log vie	wer				
peer	file	start ti p	orogr	bytes	total tii
Rrows	e For Folder			×)	
Image: state of the	Computer Network Applications CrazyHook143 Documentation Firmware Upgr Support Firmware Upg	n ade rade K	Canc	2el	4
About		Settings			Help

Selecting Local Directory containing Firmware File

3. Press **Show Dir** to see if the firmware file is uploaded on the TFTP server.

Current Directory	Jounin C:\Users\User\	Desktop\Fi	rmware Upgra	d 🗸 🗌	Browse
Server interfaces	192.168.5.117		Realtek PCIe	G▼	Show Dir
Tftp Server Logs	viewer				
peer	file	start ti	progr	bytes	total ti
Tftpd64	: directory				X
avp2170fv	/ hin	5/31/2016	53137856		
Clos	e		Сору	Explore	
•					

Firmware File Upload Verification

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

🎨 Tftpd64 by Ph. Jo	unin				X
Current Directory	C:\Users\User\E)esktop\Firmware	Upgrad 🔻	Brow	se
Server interfaces	192.168.5.117	Realte	< PCle G 🔻	Show	Dir
Tftp Server Log vie	127.0.0.1 192.168.5.117 192.168.56.1	Realte Softwar Realtel VirtualE	<pre>PCIE G ▼ re Loopback k PCIe GBE 3ax Host-On</pre>	PS to	tal ti
About		III Settings		Help	4

TFTP Server Configuration

Configuring Grandstream devices for local TFTP upgrade

To configure your Grandstream devices for upgrading via your TFTP server, please follow the steps below:

^{1.} Access the web GUI of your device and navigate to "Upgrade and Provisioning" settings:

- 2. Make sure to select "Always Check for New Firmware"
- 3. Select Upgrade via TFTP
- 4. Enter the path of your TFTP server containing the firmware file under "Firmware Server Path"
- 5. Press "**Save and Apply**" at the bottom of the page to apply the new settings 6- **Reboot** the phone and until the upgrade process is completed.

	Automatic Upgrade: No Yes, every 10080 minutes(30-5256000). Yes, daily at start hour 1 (0-23), at end hour 22 (0-23). Yes, weekly on day 1 (0-6). Randomized Automatic Upgrade: No Yes
	Always Check for New Firmware at Boot up Check New Firmware only when F/W pre/suffix changes Always Skip the Signature Check
	O Always skip the Filmware Check
Firmware Upgr Provi	rade and Upgrade Via TFTP HTTP HTTPS FTP FTPS isioning: Firmware Server Path: 192.168.5.117 Config Server Path:
	XML Config File Password:
	HTTP/HTTPS/FTP/FTPS User Name:
	HTTP/HTTPS/FTP/FTPS Password:
	Firmware File Prefix: Firmware File Postfix: Config File Prefix: Config File Postfix:

Example of Configuring the Upgrade via TFTP on HT8xx

Local Upgrade via FTP/FTPS Server

The following section contains the steps to upgrade using a local FTP/FTPS server.

Installing the FTP/FTPS Server

Users can download a free FTP server for windows using this link : http://filezilla-project.org

EFileZilla The Free FTP solution



FTP/FTPS Server Download Page

1. Choose the option "Download FileZilla Server" and launch the Install wizard;

👶 FileZilla Server 1.8.1 Setup	-		×
Choose Install Location Choose the folder in which to install FileZilla Server 1.8.1.		;	₿
Setup will install FileZilla Server 1.8.1 in the following folder. To install in click Browse and select another folder. Click Next to continue.	a differe	nt folder,	
Destination Folder <u>C:\Program Files\FileZilla Server</u>	Brow	/se	
Space required: 28.9 MB Space available: 392.0 GB			
Nullsoft Install System v3.09	t>	Cano	el
		_	

FTP/FTPS Server Install Wizard

2. During the installation process, you will be prompted to enter the **listening port for the administration interface** as well as a **password** (We chose the default port number "14148").

🔁 FileZilla Server 1.8.1 Setup —	×
Server settings FileZilla Server administration settings	橰
Choose the listening port for the administration interface (1025-65535): 14148 Choose the administration password:	
•••••	
Retype the chosen password:	
•••••	
Nullsoft Install System v3.09	
< Back Next >	Cancel

FTP/FTPS Server Admin Settings

3. Once the installation is finished, you can open the FTP/FTPS server and connect using your **admin port** and **password**.

127.0.0.1 Port: 14148 Password: Save the password Automatically connect to this server at startup OK Cancel	Host:	
Port: 14148 Password: Save the password Save the password Automatically connect to this server at startup OK Cancel	127.0.0.1	
14148 Password: Save the password Automatically connect to this server at startup OK Cancel	Port:	
Password: Save the password Automatically connect to this server at startup OK Cancel	14148	
Save the password Automatically connect to this server at startup OK Cancel	Password:	
Save the password Automatically connect to this server at startup OK Cancel	•••••	
Automatically connect to this server at startup OK Cancel	Save the password	
OK Cancel	Automatically connect to this server a	t startup
	ок с	ancel

FTP/FTPS Server Connection Page

Configuring the FTP Server

1. To configure the FTP server, in the "Server" drop-down menu, select "Configure".

Administration interface - FileZilla Se Server Window Help	rver 1.8.1		
Connect Disconnect Configure Network Configuration Wizard Export configuration Import configuration	Ctrl-H Ctrl-D Ctrl-F Ctrl-N Ctrl-E Ctrl-I	ng ng ng	Message Disconnected from server 127.0.0.1:14148 without any errors. Successfully connected to server 127.0.0.1:14148. Server's versie In order to access the server from the internet first you need to You will also need to forward the same range of ports in your r The Network Configuration Wizard might help you with that, y
Check for updates Quit	Ctrl-U		

FTP Server Configuration Option

2. Select the Users page and click the "Add" button under "Available users" (In this scenario we're naming our user "FTPClient").

lect a page:	Rights manag	ement / Users	;		
Server listeners Protocols settings FTP and FTP over TLS (FTPS) Rights management Groups Users Administration Logging	Available use <system user<br="">FTPClient</system>	rrs *>	General Filters Lin User is enabled Authentication: Do not require auther Member of groups:	nits	
Let's Encrypt® Updates			Mount points:		 :
					Add a mountpoint first.
			Ac Description:	ld Remove	You can use placeholders in native paths.
	Add	Remove			
	D. F. I	D			

Example of adding FTP user

3. For authentication, choose the option "Require a password to log in" and enter the user's password.

Rights manage	ement / Users					
Available use	rs	General	Filters	Limits		
<system td="" user<=""><td>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</td><td>🔽 User i</td><td>is enabled</td><td></td><td></td><td></td></system>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	🔽 User i	is enabled			
FTPClient		Authent	ication:			
		Require	a passwor	d to log i	in	
		•••••	••			
		Member	of groups	:		
		Mount p	oints:			
		Virtual	path		Native path	Mount options
						Add a mountpoint first.
		Descript	ion:	Add	Remove	You can use placeholders in native paths.
Add	Remove					
Duplicate	Rename					

FTP user authentication

4. On the computer running the FTP Sever, create a **Folder** containing the firmware files and copy the **folder path**.

FTP_Server	× +			
$\leftarrow \rightarrow \land c$	C:\FTP_Server			
⊕ New ~ 🔏 🖸	C:\FTP_Server			
A Home	Name	Date modified	Туре	Size
Gallery	🗋 grp2610fw	4/5/2024 11:20 AM	BIN File	65,246 KB
> 🦱 OneDrive - Personal				
E Desktop	*			
🚽 Downloads	*			
Documents	*			
Z Pictures	*			
🕖 Music	*			
🔀 Videos	*			

Copying the Folder Path for FTP user

5. In the settings of the FTP user created, add the copied folder path under "Native Path" and provide a name in "Virtual path".

6. To configure the user's rights, choose one of the options in the "Access mode" drop-down menu. (For this example we selected "Read + Write").

Rights management / Users	5		
Available users	General Filters Li	mits	
<system user=""></system>	🔽 User is enabled		
FTPClient	Authentication:		
	Require a password	to log in	~
	•••••		
	Member of groups:		
	Mount points:		Y
	Virtual path	Native path	Mount options
	/Firmware	C:\FTP_Server	Access mode:
			Read + Write ~
			Apply permissions to subdirectories
			Writable directory structure
			Create native directory if it does not exist
	Ac	ld Remove	You can use placeholders in native paths.
	Description:		
Add Remove			A
Duplicate Rename	<u></u>		•
			OK Cancel Apply

Adding Mount points for FTP user

Important :

The Virtual path name should begin with a forward slash character "/" (In this example we chose "/Firmware").

7. In order to enable FTP Passive Mode, select the page "FTP and FTP over TLS (FTPS)" and click on the "Passive Mode" tab.

8. Check the option to "Use custom port range" and enter the suggested port range.

😥 Settings for server 127.0.0.1:1414	18	×
Select a page:	Protocols settings / FTP and FTP over TLS (FTPS)	
FrP and FTP over TLS (FTPS) FTP and FTP over TLS (FTPS) Groups Users Administration Logging Let's Encrypt® Updates	Connection Security Welcome message Passive mode Connection Security Welcome message Passive mode Guse custom port range: From: (suggested is 49152) 49152 To: (suggested is 65534) 65534 Use the following host (leave empty to keep the default one): Ves the default host for local connections Ves the default host for local connections	
	OK Cancel Ap	ply

FTP Passive Mode

FTP Passive Mode :

FTP passive mode is a configuration option in FTP (File Transfer Protocol) where the data connection is established by the client rather than the server. This mode is particularly useful in local FTP server configurations where the server is behind a firewall or NAT (Network Address Translation) device.

- 9. Now that we have created a user and defined the port range for FTP Passive Mode, the next step is to **open FTP port** (TCP port 21) as we the **FTP Passive Mode port range** (TCP ports 49152-65534) on the **firewall**. (*In this case, we're using Windows Defender Firewall*).
- 10. Open Windows Defender Firewall with Advanced Security and create a "New Rule" under "Inboud Rules".

A Windows Defender Firmuell with	h Advanced Converter				
windows Derender Firewait with	n Advanced Security			_	U
File Action View Help					
🗢 🄿 🙍 🖬 📾 🖬					
P Windows Defender Firewall witl	Inbound Rules			Actions	
Cutbound Rules	Name	Group	Profile	Inbound Rules	
Connection Security Rules	🔮 AnyDesk		Private	🐹 New Rule	
> 🖳 Monitoring	🔮 AnyDesk		Domain	Filter by Profile	
	🕑 AnyDesk		Domain		
	🔮 AnyDesk		Public	Filter by State	
			Public	Y Filter by Group	
	🔮 anydesk.exe		Private	View	
	🔮 anydesk.exe		Private	B. Befrech	
	🕑 anydesk.exe		Public	Ca Kerresh	
	🕑 anydesk.exe		Public	Export List	
	🛇 anydesk_custom_client (5)(1).exe		Public	🛛 🛛 Help	
	🛇 anydesk_custom_client (5)(1).exe		Public		
	Firefox (C:\Program Files\Mozilla Firefox)		Private	FTP	

Windows Defender Firewall with Advanced Security (Inbound Rules)

11. Choose "Port" as a "Rule Type" and "21, 49152-65534" in "Protocols and Ports".

🔗 New Inbound Rule Wizard			×				
Protocol and Ports							
Specify the protocols and ports to	which this rule applies.						
Steps:							
Rule Type	Does this rule apply to TCP or U	DP?					
Protocol and Ports	O TCP						
 Action 	⊖ UDP						
Profile							
Name	Does this rule apply to all local p	Does this rule apply to all local ports or specific local ports?					
	All local ports						
	Specific local ports:	21, 49152-65534					
		Example: 80, 443, 5000-5010					
		Rack Next S Con					

Protocols and Ports for the New Inbound Rule

- 12. Check the option "Allow connection" in "Action" and leave the "Profile" settings as default.
- 13. The last step in creating this Inbound Rule is providing a "Name" and clicking on the Finish button.

🔗 New Inbound Rule Wizard		
Name		
Specify the name and description	of this rule.	
Steps:		
Rule Type		
Protocol and Ports		
Action		
Profile	Name:	
Name		
	Description (optional):	
	< Back Finish Cancel	

New Inbound Rule Name

Configuring the FTPS Server

In order to configure the FTPS server, users will have to follow the same instructions in the section [Configuring the FTP Server] and add the following steps :

- 1. Select "Configure" from the "Server" Menu.
- 2. On the "Server listeners" page, after removing all the entries by clicking on the "Remove" button, enter "0.0.0.0" under Address, "21" in port and "Require explicit FTP over TLS" for Protocol.

Settings for server 127.0.0.1:1414	8			×
Select a page:	Server listeners			
Server listeners	Address	Port	Protocol	Add
FTP and FTP over TLS (FTPS)	0.0.0.0	21	Require explicit FTP over TLS \sim	Remove
 Rights management Groups Users Administration Logging Let's Encrypt® Updates 				
			OK Cancel	Apply

Explicit FTP over TLS configuration

Explicit FTP over TLS :

In Explicit FTP over TLS, the client initially connects to the server's standard port 21 without encryption. After the client sends a "AUTH TLS" command, the server responds by negotiating a secure TLS connection. This approach allows for both secure and non-secure FTP connections on the same port.

By default, Filezilla uses a self-signed X.509 TLS certificate. We can choose the minimum allowed TLS version by going to the "**FTP and FTP ov TLS (FTPS)**" page from the server's configuration settings.

lect a page:	Protocols settings / FTP and FTP over TLS (FTPS)					
Server listeners	Connection Security Welcome message Passive mode					
Protocols settings	Minimum allowed TLS version: v1.2					
Rights management	TLS certificate:					
Groups Users	Use a self-signed X.509 certificate					
- Administration	Generate new					
Updates						
	Information about the certificate					
	Information about the certificate Fingerprint (SHA-256): a8:4e:da:f1:4f:6b:1e:57:a2:99:83:b3:7f:37:be:f4:2f:da:e2:f0:74:1d:71:8a:90:05:18:67:60:74:3f:fe					
	Information about the certificate Fingerprint (SHA-256): a8:4e:da:f1:4f:6b:1e:57:a2:99:83:b3:7f:37:be:f4:2f:da:e2:f0:74:1d:71:8a:90:05:18:67:60:74:3f:fe Activation date: 4/9/2024 10:08:34 AM					
	Information about the certificate Fingerprint (SHA-256): a8:4e:da:f1:4f:6b:1e:57:a2:99:83:b3:7f:37:be:f4:2f:da:e2:f0:74:1d:71:8a:90:05:18:67:60:74:3f:fe Activation date: 4/9/2024 10:08:34 AM Expiration date: 4/10/2025 10:13:34 AM					
	Information about the certificate Fingerprint (SHA-256): a8:4e:da:f1:4f:6b:1e:57:a2:99:83:b3:7f:37:be:f4:2f:da:e2:f0:74:1d:71:8a:90:05:18:67:60:74:3f:fe Activation date: 4/9/2024 10:08:34 AM Expiration date: 4/10/2025 10:13:34 AM Distinguished name: CN=filezilla-server self signed certificate					
	Information about the certificate Fingerprint (SHA-256): a8:4e:da:f1:4f:6b:1e:57:a2:99:83:b3:7f:37:be:f4:2f:da:e2:f0:74:1d:71:8a:90:05:18:67:60:74:3f:fe Activation date: 4/9/2024 10:08:34 AM Expiration date: 4/10/2025 10:13:34 AM Distinguished name: CN=filezilla-server self signed certificate Applicable hostnames: localhost					

TLS Certificate

Configuring Grandstream devices for local FTP/FTPS upgrade

Please follow the steps below to configure Grandstream devices to upgrade their firmware via FTP:

- 1. Access the Web GUI and navigate to "Upgrade and Provisioning" page.
- 2. In the "Provision" section, Set "Firmware Upgrade and Provisioning" to "Always Check for New Firmware".
- 3. Go to the "Firmware" section,
- 4. Select "FTP" or "FTPS" for "Firmware Upgrade via".

5. Enter the path of the FTP/FTPS server containing the firmware file under "Firmware Server Path".

FTP Server Path

The "Firmware Server Path" should follow this format : **x.x.x.Virtual Path** Where **x.x.x.x** is the IP Address of the computer running the FTP Server and the **Virtual Path** is the one defined for the FTP User. In this example, the IP address is 192.168.5.195 and the Virtual Path for the user we created (FTPClient) is "/Firmware". In this case, the "Firmware Server Path" is : **192.168.5.195/Firmware**

6. Fill in the "Firmware Server Username" and the "Firmware Server Password" fields with the credentials of the FTP/FTPS user created.

Upgrade and Pr	ovisioning				
Firmware Config	File Provision	Advanced Settings			
Upgrade via Man	ually Upload				
	Upload Fi	rmware File to Update 徬) 스 Uplo	ad	
Upgrade via Netv	vork				
		Firmware Upgrade via	FTP		~
		Firmware Server Path @	192.168.5	5.195/Firmware	
	Firmv	ware Server Username 徬	FTPClient	[
	Firm	ware Server Password @	••••••	•	<i>ک</i> ہرد
		Firmware File Prefix			
		Firmware File Postfix			
			Save	Save and Apply	Reset

Example of configuring the Upgrade via FTP on GRP1x

7. Press "Save and Apply" at the bottom of the page to apply the new settings.

8. Reboot the device and wait until the firmware upgrade process is completed.

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.

Automatic Upgrade can be enabled from web configuration interface Upgrade and provisioning settings.

Automatic Upgrade	⊖ No
	O Yes, check for every 10080 minute(s)
	● Yes, check for every day
	◯ Yes, check for every week
Randomized Automatic Upgrade	
Hour of the Day (0-23)	Start 1 End 23
Day of the Week (0-6)	1

Example of Configuring Automatic Upgrade on GSC3610

The automatic upgrade can be configured based on following options:

- Every 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) If the firmware is available, it will be downloadec and the device will be upgraded automatically.

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 \rightarrow Maintenance \rightarrow Upgrade and provisioning.

◎Firmware File Prefix	
Firmware File Postfix	

Screenshot of Firmware file Prefix and Postfix fields for GSC3610

Use Case Example:

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

• If Firmware File Prefix is set to 1.0.3.14 on GXP1600 series phone, for example, requested firmware file will be 1.0.3.14gxp1600fw.bin

Firmware File Prefix	1.0.3.14	
Firmware File Postfix		

Configuring the Firmware File Prefix

• If Firmware File Postfix is set to 1.0.2.22 on GXP1600 series phone, for example, requested firmware file will be gxp1600fw.bin1.0.2.22

Firmware File Prefix	
Firmware File Postfix	1.0.2.22

Configuring the Firmware File Postfix

Firmware Server Username and Password

A username and password need to be configured if the firmware server requires authentication to access and download firmware files.

To begin the 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 firmware server Username 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 fil before being challenged by the server. The default setting is "No".



Screenshot of Firmware Server Username and Password Fields for GRP261x

Upgrade via Firmware Server Supported Devices

CategoryModelsFirmwareFirmwareFirmwareFirmwareFirmwareModelsUpgrade viaUpgrade viaUpgrade viaUpgrade viaUpgrade viaHTTPHTTPSTFTPFTPFTPS

	GRP Series IP Phones							
	GRP Series IP Phones							
IP Voice Telephony	GRP260x	~	~	~	~	~		
	GRP261x	~	~	~	~	~		
	GRP262x	~	~	~	~	~		
	GRP263x	~	~	~	~	~		
	GRP2650	~	~	~	~	~		
	GRP2670	~	~	~	~	~		
	GXP Series IP Phones							
	GXP16xx	~	~	~	~	~		
	GXP17xx	~	~	~	×	×		
	GXP21xx	~	~	~	~	~		
	GHP Series Hotel Phones							
	GHP61x	~	~	~	~	~		
	GHP62x	~	~	~	~	~		
	GHP63x	~	~	~	~	~		
	DECT Cordless							
	DP75x	~	~	~	~	~		
	DP760	~	~	~	~	~		
	Wi-Fi Cordless IP Phones							
	WP810	~	~	~	~	~		
	WP820	~	~	~	×	×		
	WP822	~	~	~	~	~		
	WP825	~	~	~	~	~		
			GXV Series of I	P Video Phones				
IP Video Telephony	GXV33xx	~	~	~	×	×		
	GXV34xx	~	~	~	×	×		

	Analog VoIP Gateways							
Gateways & ATAs	GXW4104/4108	~	×	~	×	×		
	GXW42xx v1	~	~	~	×	×		
	GXW42xx v2	~	~	~	~	~		
	GXW45xx	~	~	~	×	×		
	Analog Telephone Adapters							
	HT841/HT881	~	~	~	~	~		
	HT8xx	~	~	~	~	~		
Business	Audio Conferencing							
	GAC2500	~	~	~	×	×		
	GAC2570	~	~	~	×	×		
Conferencing	Video Conferencing							
	GVC3212	~	~	~	×	×		
	GVC3220	~	~	~	×	×		
	Control Stations							
	GSC3570	~	~	~	~	~		
	IP Video Surveillance							
	GSC3610	~	~	~	×	×		
Facility	SIP Intercoms & Paging							
Management	GSC350x	~	~	~	×	×		
	GSC351x	~	~	~	×	×		
	Facility Access Systems							
	GDS370x	~	~	~	×	×		
	GDS371x	~	~	~	×	×		