Grandstream Networks, Inc.

GDMS MFA Device – User Guide

GDMS Multi-Factor Authentication (MFA) is a security practice that adds an extra layer of protection to account username and password. When MFA is enabled, the user will be required to enter the login username and password (the first security method) and an authentication code (the second security method) when logging on to the GDMS platform.

Users can use supported physical devices, virtual MFA devices, or email-based authentication depending on the authentication method configured by the administrator.

- **Email MFA**

Email Authentication delivers a one-time code to the user's registered email address. When logging into the GDMS platform, the user must enter the code received in their email to complete authentication. Each code is valid for a single login session and expires after a short period.

- **Authentication App**

Virtual MFA Device is an application that runs and simulates physical device on mobile phones or other devices. Virtual MFA device will generate a six-digit code based on a one-time time-synchronized cryptographic algorithm.

When logging into GDMS platform, the user must type in a valid code from the specific device. Each virtual MFA device assigned to the user must be unique. The user cannot type in the code with another user's virtual MFA device code for authentication. Since the virtual MFA device may be executed on unsafe mobile device, it may not provide the same level of security as physical MFA device.

- **TOTP Hardware Token**

Physical MFA Device is a device can generate a six-digit code based on a one-time time-synchronized cryptographic algorithm.

When logging into GDMS platform, the user must type in a valid code from the specific device. Each physical MFA device assigned to the user must be unique. The user cannot type in the code with another user's physical MFA device code for authentication.

- **FIDO Security Key**

Hardware-based MFA using FIDO-compliant security keys (e.g., YubiKey). Users authenticate by physically connecting the key to their device (USB/NFC) and verifying via PIN or touch. FIDO keys provide phishing-resistant, strong authentication without relying on codes.

Multi-factor Authentication Device

MFA Device Standards

The table below describes the standards based on MFA type:

	Email Authentication	Authentication App	TOTP Hardware Token	FIDO Security Key
MFA Device	No device required	Refer to table below	Purchase physical MFA device	Purchase FIDO MFA device
Cost	Free	Free	Price by supplier	Price by supplier
Physical Device Standard	Any device with access to the registered email account	Smartphone/tablet/PC supporting TOTP-compatible apps	Physical device supporting open TOTP standards	FIDO-compliant hardware key (USB/NFC)

Function	One-time code delivered to the user's registered email address per login	Supports multiple tokens on a single device	Used by financial and IT enterprises	Phishing-resistant hardware authentication

Download Virtual MFA Application

Install virtual MFA application for your smartphone/tablet/PC from your device's app store. The following table lists some applications that are suitable for multiple kinds of smartphones.

Android	**Google Authenticator**; **Authy 2-Factor Authentication**
iPhone	**Google Authenticator**; **Authy**
Windows Phone	**Authenticator**

Suitable Applications

Enable MFA Device

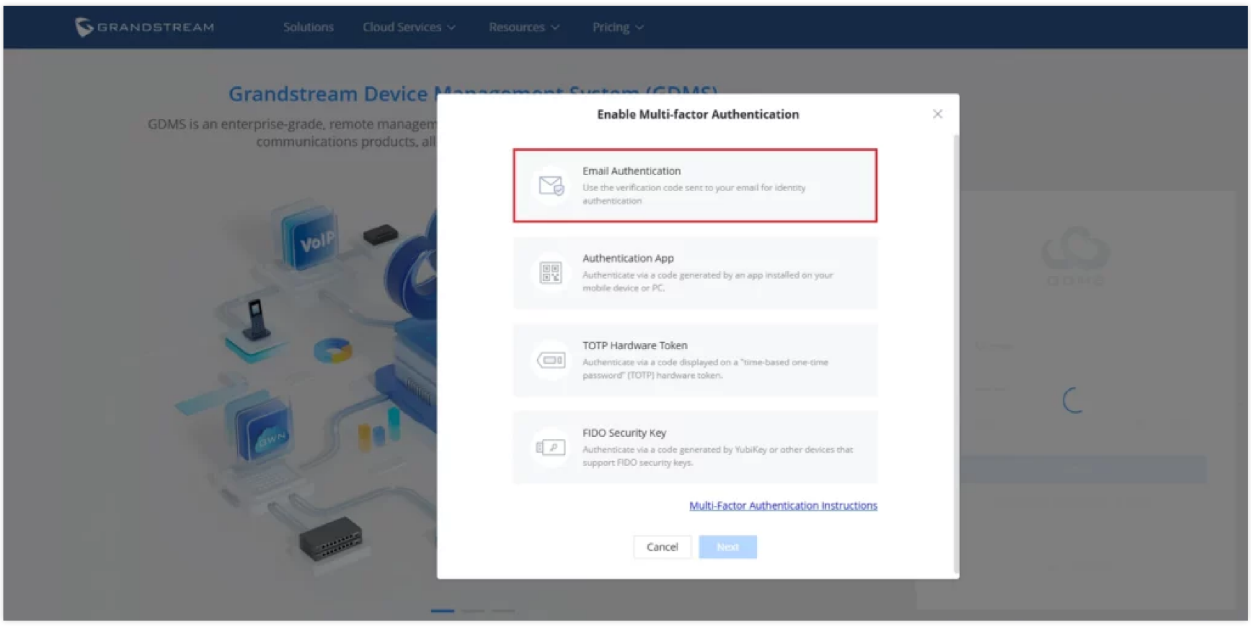
Multi-factor authentication is mandatory for all GDMS accounts. On first login, users will be automatically prompted to configure MFA. If the administrator has set a specific authentication method, that method will be enforced. Otherwise, the user may select their preferred method during the setup prompt.

Enable Email MFA

GDMS allows setting email multifactor authentication to reinforce the security of account access in case the password of the user has been compromised in some way. After having enabled multi-factor authentication using the email, the user is required to enter a code sent to the email of the user to be able to log into the account.

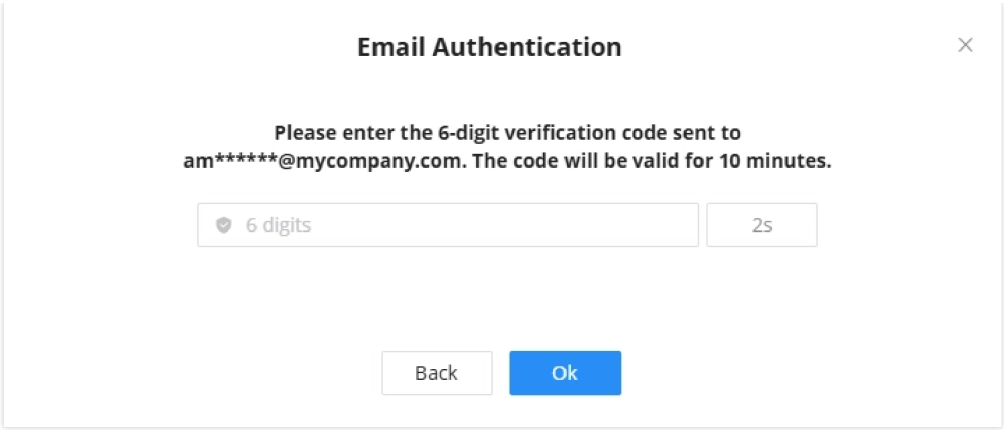
Follow the steps below to enable multi-factor authentication using email.

1. Log in to the GDMS platform. On first login, you will be automatically prompted to configure MFA.
2. If the administrator has enforced a specific method, the setup will proceed with that method. Otherwise, select "Email Authentication" and click "Next" to continue.



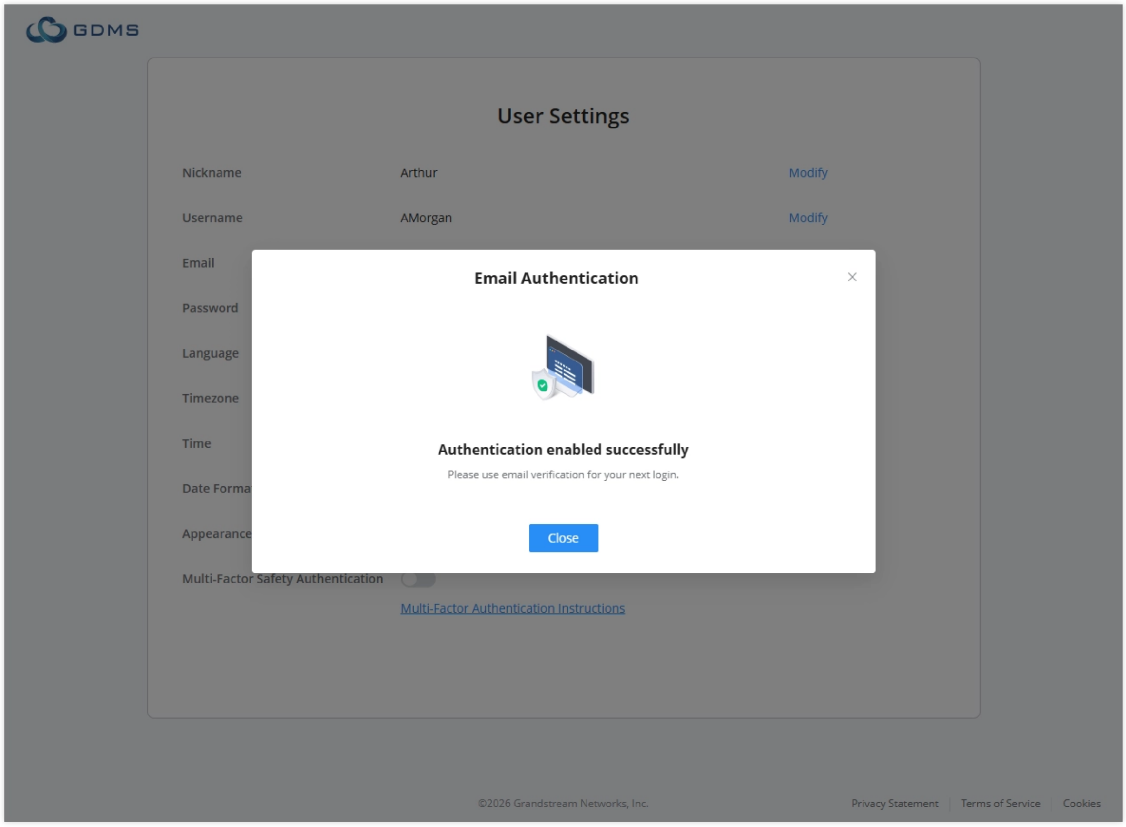
Email Authentication Option

4. Enter the code sent to you on your email address to enable email multi-factor authentication.



Email Authentication

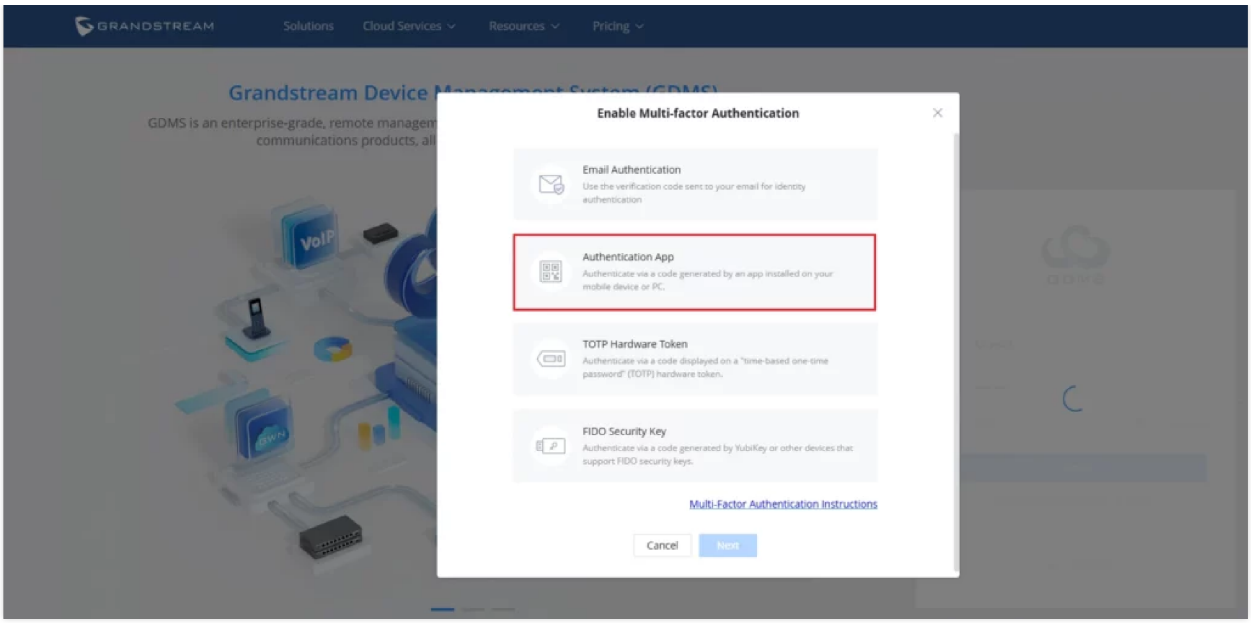
5. Once email multi-factor authentication is completed successfully, the following message will appear. All the subsequent logins will require that the user provide the one-time code sent to the user on their email address.



Enable Authentication App

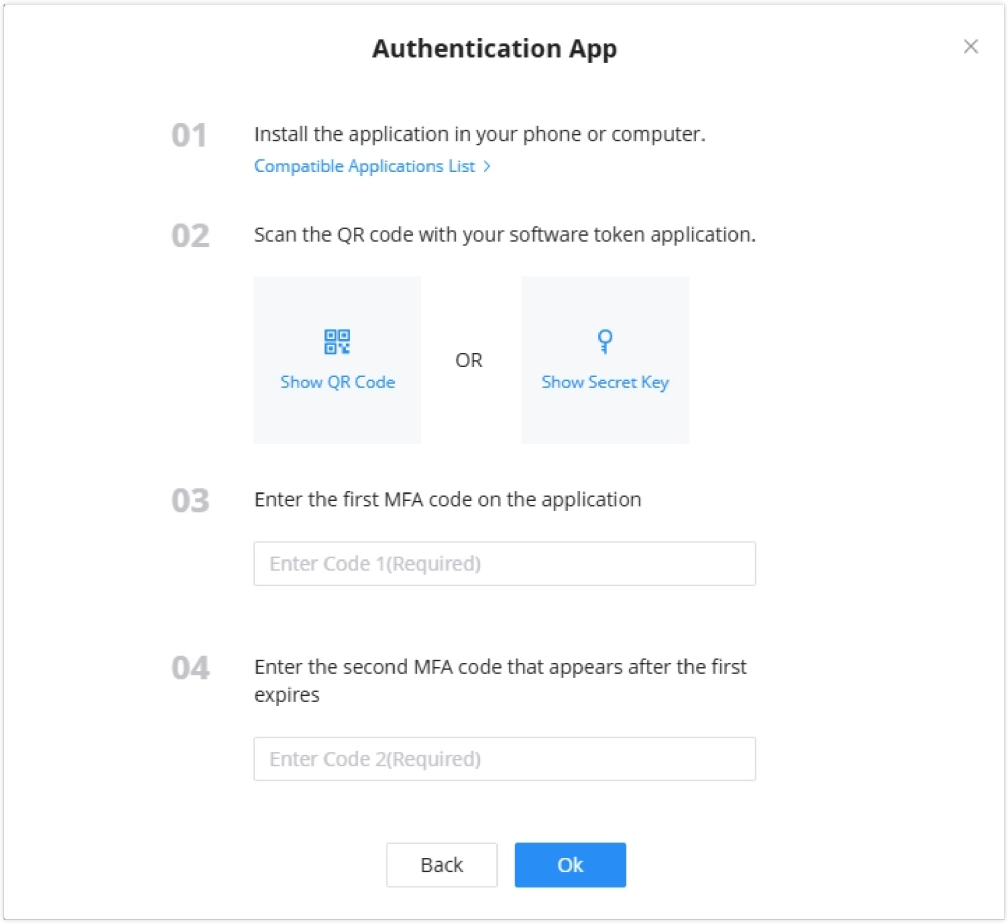
Prerequisite: Users need to install a virtual MFA application on their smartphone/tablet/PC before configuring the virtual MFA device.

1. Log in to the GDMS platform. On first login, you will be automatically prompted to configure MFA.
2. If the administrator has enforced a specific method, the setup will proceed with that method. Otherwise, select “Virtual MFA Device” and click “Next” to continue.



Authentication App Option

3. Then, it will generate and display the configuration information of the virtual MFA device, including QR code graphics. This figure represents the configuration of the virtual MFA device as a secret key, users can scan the QR code to finish setting virtual MFA device.
4. Users can also input the secret key manually into the smartphone/tablet/PC in order to finish setting virtual MFA device if your smartphone/tablet/PC does not support to scan QR code.



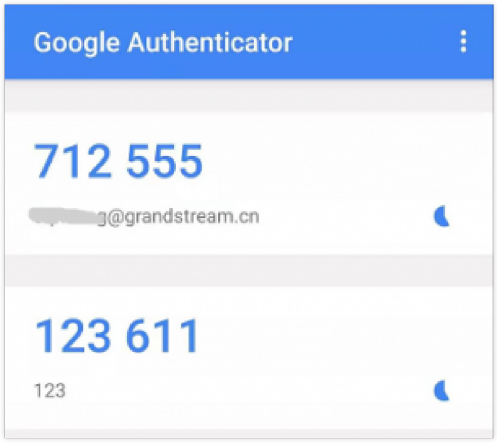
Scan QR Code

5. Open virtual MFA application in your smartphone/tablet/PC, ensure that whether if the application in your smartphone/tablet/PC supports to scan QR code, and then perform one of the following actions below:
   - If the MFA application supports QR code scanning, use the application to scan the QR code to finish setting up the virtual MFA device. For example, select the camera icon or QR code scanning option to use the device's camera to scan the code.
   - If the smartphone/tablet/PC does not support QR code scanning, click "Show Secret Key" and input the secret key manually into the MFA application.

If a virtual MFA application supports multiple virtual MFA devices or accounts, the user can select the appropriate options to create new virtual MFA devices or accounts.

6. When the operations above are completed, users can use the virtual MFA device to generate one-time passwords.

In the MFA secret code box Code 1, the user enters the one-time password which is displayed in the virtual MFA device currently. Then, wait for 30 seconds so that the virtual MFA device will generate a new one-time password, the user enters the second one-time password in the MFA secret code box Code 2.



Input MFA Secret Code

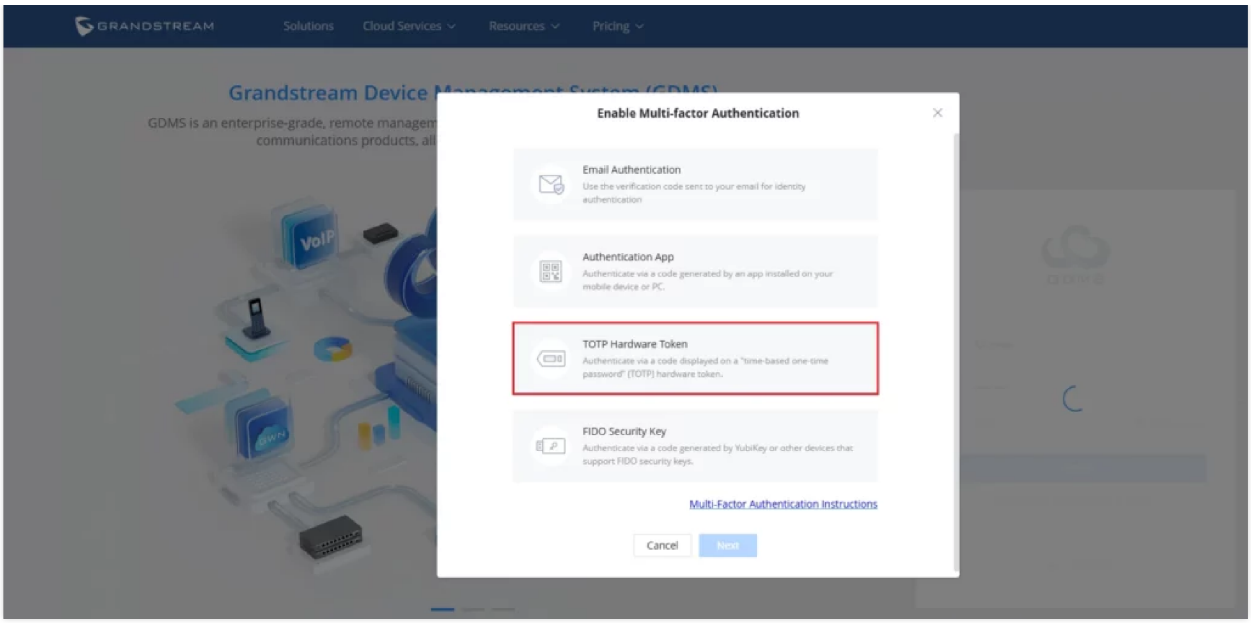
7. Click on "Start Verification" option to start to verify the password. When the verification is pass, the GDMS account and the virtual MFA device has been bound successfully. When the user tries to log in the GDMS platform, the user must input the MFA device code.

1. When the secret code is generated, the user needs to use the secret code to proceed verification process immediately. If the user does not submit the secret code and wait for too long time, the one-time secret code (TOTP) may be expired. Then, the user may need to start the verification process again from the beginning.
2. The user can only bind the virtual MFA device to a single account.

Enable TOTP Hardware Token

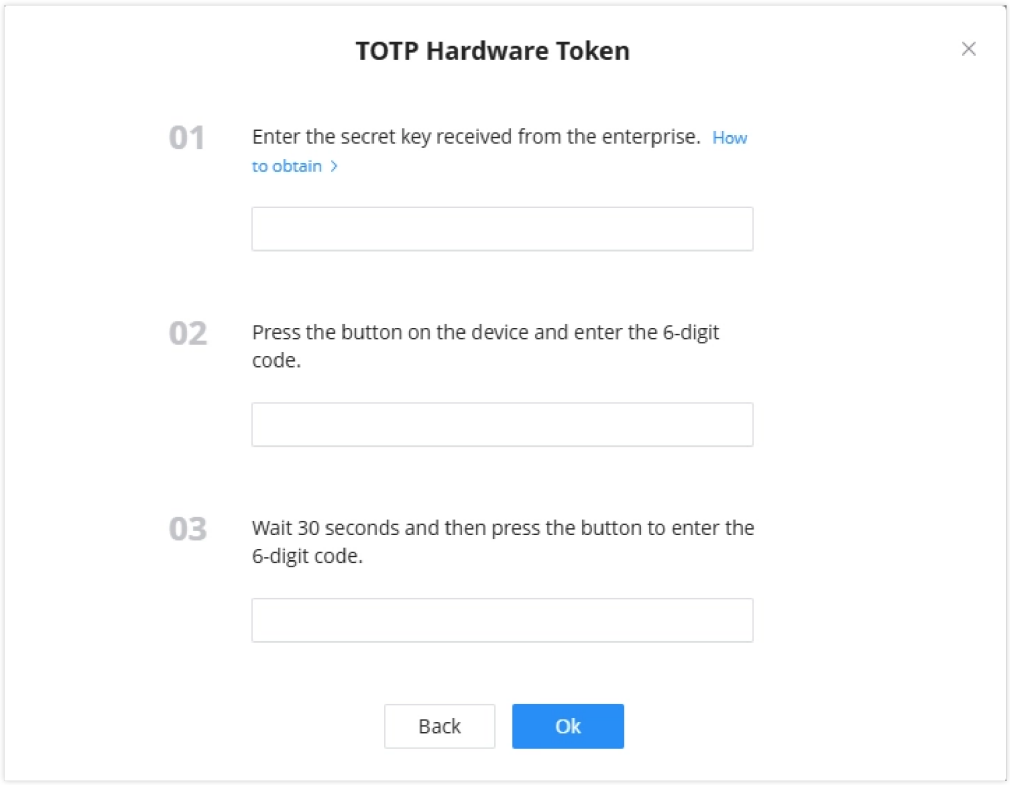
Prerequisite: The user needs to purchase the physical MFA device before using this verification function.

1. Log in to the GDMS platform. On first login, you will be automatically prompted to configure MFA.
2. If the administrator has enforced a specific method, the setup will proceed with that method. Otherwise, select "TOTP Hardware Token" and click "Next" to continue.



TOTP Hardware Option

3. Enter the interface to bind the physical MFA device with the GDMS account.



TOTP Hardware Token Codes

4. Input the secret key of the device. Please contact with the manufacturer for the secret key.

   The key format is required to be "**DEFAULT HEX SEEDS**" (seeds.txt), or "**BASED32 SEEDS**".

   Examples:

   HEX SEED: B12345CCE6DA79B23456FE025E425D286A116826A63C84ACCFE21C8FE53FDB22

   BASE32 SEED: WNKYUTRG3KE3FFTZ7UIO4QS5FBVBC2HJKY6IJLCP4QOH7ZJ12YUI====

5. In the MFA secret code box Code1, the user enters the six-digit one-time password which is displayed in the physical MFA device currently. The user needs to press the button on the front of the physical MFA device to display the secret code.
6. Wait for 30 seconds and press the display button on the front of the physical MFA device again, so that the MFA device will generate the second six-digit one-time password. The user needs to enter the second one-time password in the MFA

secret code box Code 2.

Physical MFA Device

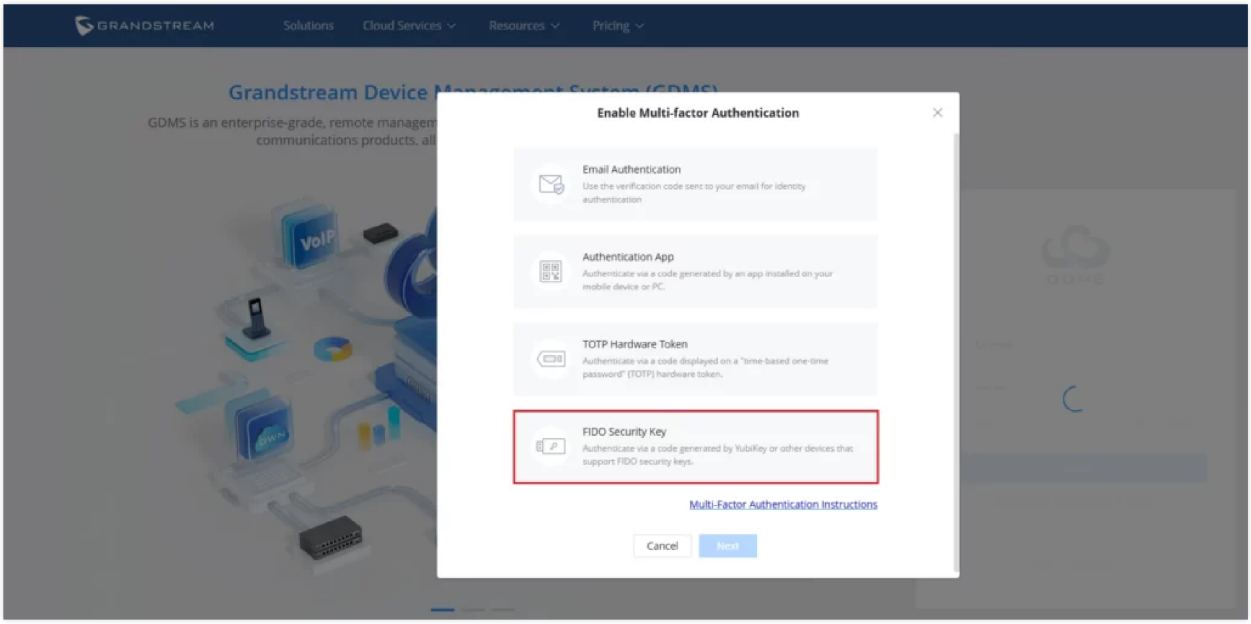
7. Click on "Start Verification" option to start to verify the password. When the verification is pass, the GDMS account and the physical MFA device has been bound successfully. When the user tries to log in the GDMS platform, the user must input the MFA device code.

    1. When the secret code is generated, the user needs to use the secret code to proceed verification process immediately. If the user does not submit the secret code and wait for too long time, the one-time secret code (TOTP) may be expired. Then, the user may need to start the verification process again from the beginning.
    2. The user can only bind the physical MFA device to a single account.

Enable FIDO Security Key

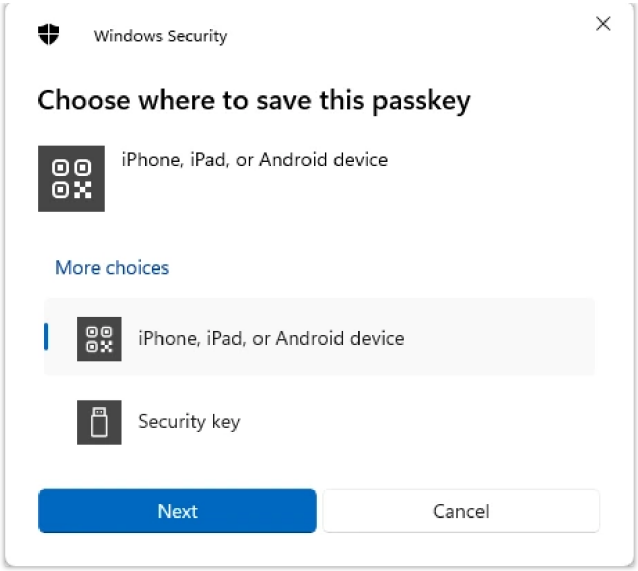
Prerequisite: User must have a FIDO-compliant security key to enable this method.

1. Log in to the GDMS platform. On first login, you will be automatically prompted to configure MFA.
2. If the administrator has enforced a specific method, the setup will proceed with that method. Otherwise, select "FIDO Security Key" and click "Next" to continue.



FIDO Security Key

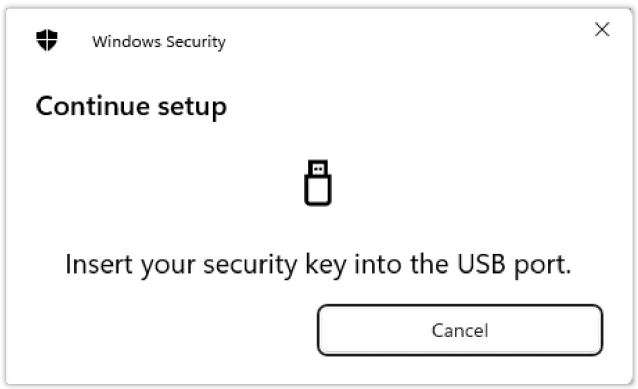
3. Select where to store your passkey: on your iPhone, iPad, Android device, or a physical security key.



Storage Method for FIDO Passkey

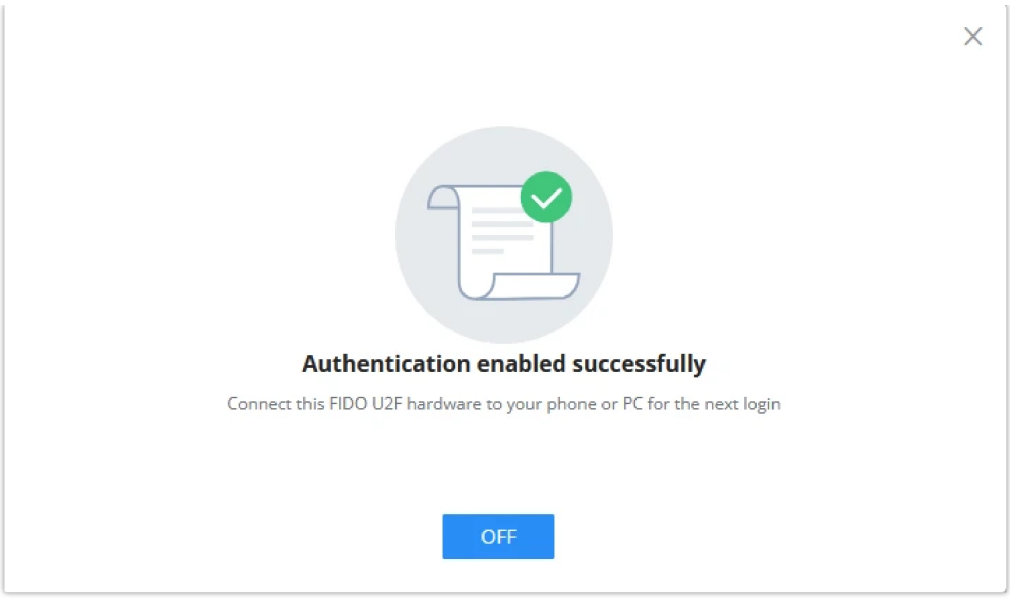
4. If an iPhone, iPad, or Android device is selected, a QR code will be displayed on the next screen to be scanned using the device's camera. If a security key is chosen, the key will need to be inserted into the computer's USB port.

Saving Passkey on iPhone iPad or Android Device



Saving Passkey on a Security Key

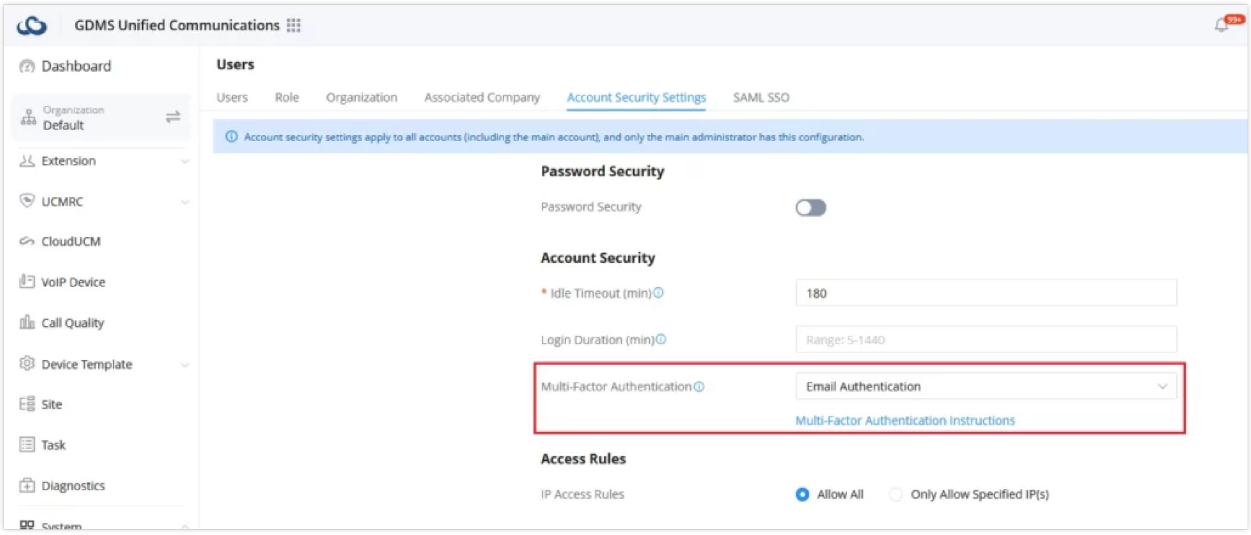
5. Follow the instructions based on the selected method. Once completed, a confirmation window will appear to verify that FIDO authentication has been successfully enabled.



FIDO Authentication Enabled Successfully

Set Global MFA Method

Administrators can enforce a single Multi-Factor Authentication (MFA) method across all subaccounts to meet security and compliance requirements. This setting is configured under **Users→Account Security Settings→Multi-Factor Authentication**.



GDMS Account Security Settings

Based on the available options shown in the interface, administrators can select one of the following global MFA methods:

- **No Limit:** Users can choose any supported MFA method.
- **Email Authentication:** MFA codes are delivered via email.
- **Authentication App:** Time-based one-time passwords (TOTP) via authenticator apps (e.g., Google Authenticator).
- **TOTP Hardware Token:** Physical token-based OTP generation.
- **FIDO Security Key:** Hardware-based authentication using FIDO-compliant keys.

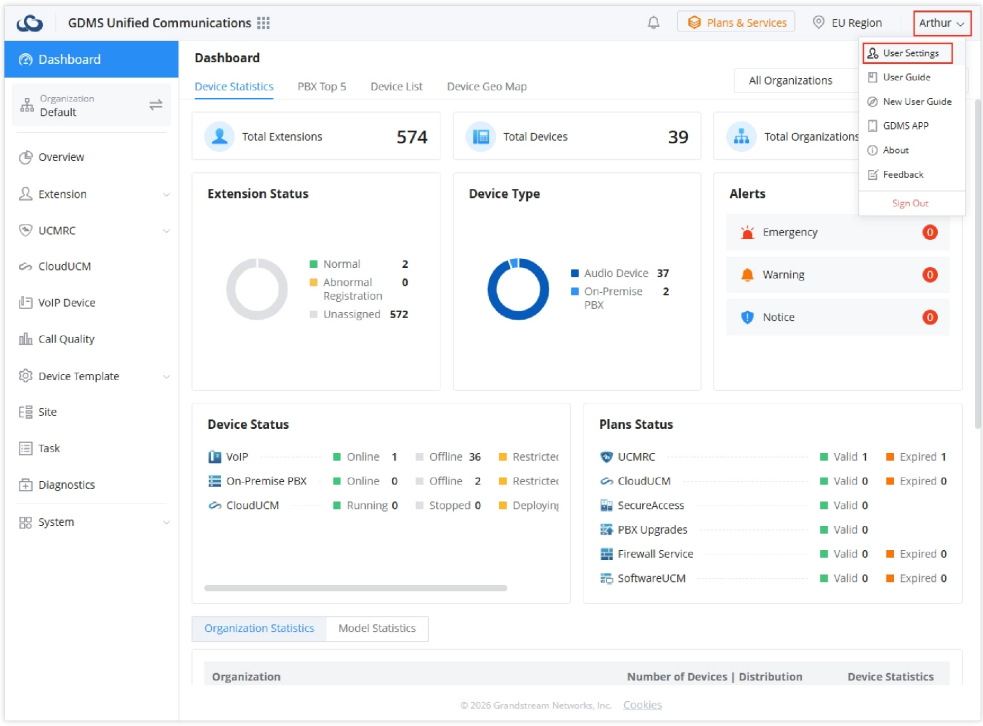
> **Note:**
>
> Once a global MFA method is selected, all subaccounts are required to use that specific method. Users who already have MFA enabled **are not forced to switch** to the newly configured global method.

Change MFA Method

Users and administrators can modify their Multi-Factor Authentication (MFA) method directly from their account settings in GDMS.

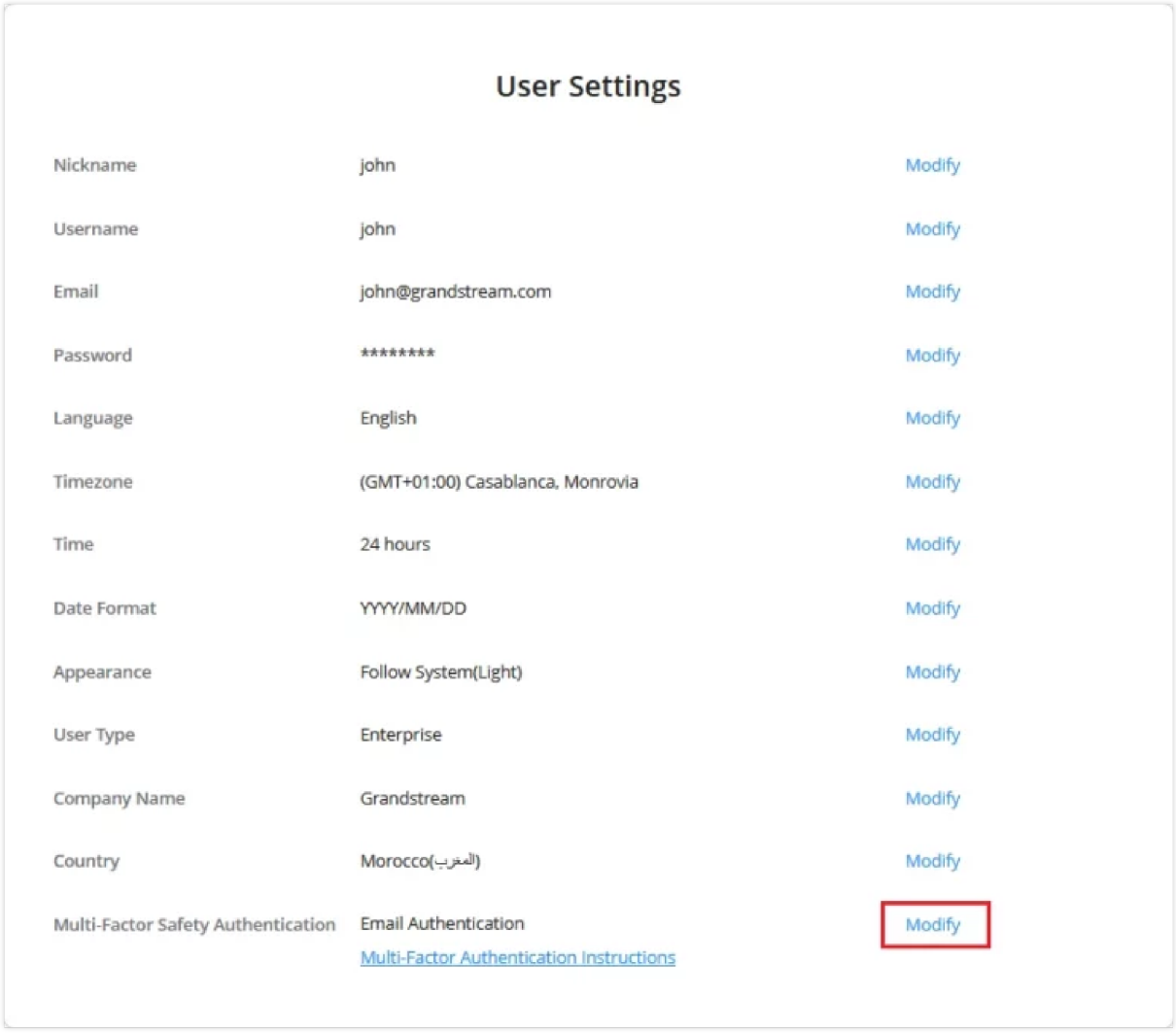
1. Log in to the GDMS platform using your account credentials.

2. Click on your username in the upper-right corner of the interface, and select **User Settings**.



GDMS Main Page

3. Under **Multi-Factor Safety Authentication**, click **Modify**.



GDMS User Settings

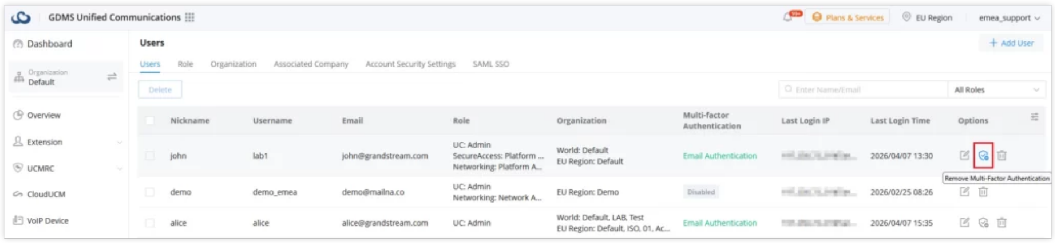
4. Select and configure the desired MFA method.

5. The system evaluates whether a Global MFA Method is enforced:
    - **If global MFA limitation:** The user can freely select and apply any available MFA method.
    - **If a global MFA method is configured:** The setting is locked, and the user cannot proceed with a different method.

Remove MFA Method

Users cannot remove MFA independently as MFA is mandatory for all accounts. MFA removal is handled as follows:

- **Sub-accounts:** The administrator can remove MFA for a subaccount from the User Management page. This is intended for cases such as a lost or malfunctioning MFA device. After removal, the subaccount user can log in with their password and reconfigure their MFA device.
- **Administrator account:** If the administrator account cannot access the GDMS platform due to an MFA issue, the account owner must contact Grandstream Technical Support. Technical Support will send a removal confirmation email to the user, who must then verify their account password to complete the removal.



Remove MFA for Subaccount