

# Multi factors authentication

## Contents

- What is a Multi factors authentication?
- Existing 2nd factors on Trustelem
- Possible authentications depending on the protocols
- Setup
- Create an access-rules for MFA

## What is a Multi factors authentication?

There are 3 kinds of authentication factors:

- Something you know --> password, pin...
- Something you possess --> smartphone, security key, certificate...
- Something you are --> fingerprint, face, eye iris, voice...

A Multi factors authentication is the combination of 2 factors. *Example: login + password + email one time password = MFA*

BUT a strong authentication is the combination of 2 different kinds of factors.

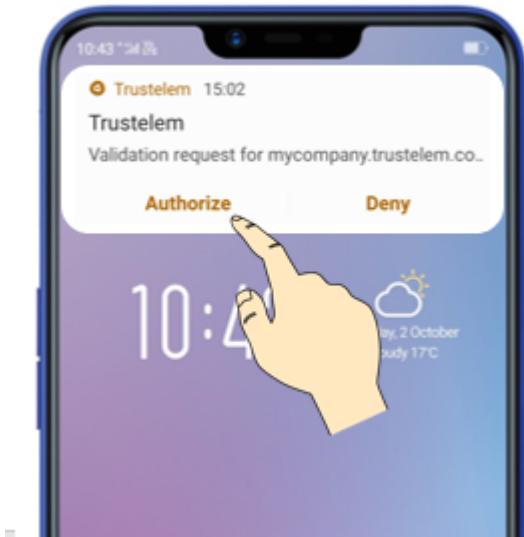
*The previous example is not a strong authentication*

*Example: login + password + mobile phone application one time password = strong authentication*

## Existing 2nd factors on Trustelem

Trustelem factors, used in addition to the password, are:

- **SMS:** users receive a SMS with a code on their mobile phone - additional cost, not available by default
- **TOTP Authenticator:** user can use any kind of Time based One Time Password (TOTP) which is a code provide:
  - by an **application** (Google Authenticator, Microsoft Authenticator...)
  - or a **device** (usually setup with NFC).
- **WALLIX Authenticator:** the mobile (IOS/Android) and desktop application made by Trustelem; if the network is up the user receives a push notification, otherwise he can use a TOTP



- **Security key:** user has to plug a fido key. The fido key can be for example: <https://www.yubico.com/fr/works-with-yubikey/catalog/trustelem/>
- **Email:** a code is sent using an email address to be used a second factor. *This is not a strong authentication, so it is disable by default*

#### Notes:

- The desktop version of WALLIX Authenticator can be downloaded in the Microsoft store only.  
It uses a specific Microsoft protocol for push notification named **WNS**.  
It can be necessary to open some flow for this protocol in the firewall.  
The needed URLs can be found here <https://learn.microsoft.com/fr-fr/windows/apps/design/shell/tiles-and-notifications/firewall-allowlist-config>
- TOTP codes are calculated using a secret and the time of the device. If the time is incorrect, the code will not work.

## Possible authentications depending on the protocols

### Web logging - Admin page + SAML / OpenID Connect applications

The user provides his Trustelem login + password, then the 2nd factor.  
If he has multiple 2nd factors, he can choose to use another one:

## WALLIX Authenticator

Waiting for device approval

Cancel



[Use a generated code from the application](#)

### Alternatives

Use a security key

Ask for a rescue code (if no other method can be used)

Connect using another identity

## LDAP applications

The LDAP protocol is not designed to do MFA. But with Trustelem, there are 2 ways of doing it:

- You can use push notifications with LDAP.  
*The user provides his Trustelem login + password in the application, then Trustelem sends a push notification and answer to the LDAP request after the notification validation.  
To make it works, be sure to set a response time / timeout long enough on your application.*
- You can use a code with LDAP (TOTP or OTP).  
*The user provides his Trustelem login, and in the same form the password and the code sticked together.*
- You can't use security keys: the protocol can't read USB device.

## Radius applications

Radius authentications have lot of possibilities:

- login + password + 2nd factor using Radius  
*The user provides his Trustelem login + password, then his 2nd factor*
- login + password using another protocol + 2nd factor using Radius  
*The user provides a login + password from another source, then Trustelem 2nd factor*
- login + password then no answer from Trustelem before the validation of a push notification  
*The user provides his Trustelem login + password then validate a push notification*
- login + password and the code sticked together  
*The user provides his Trustelem login + password and code sticked together*
- You can't use security keys: the protocol can't read USB device.

## Setup

To setup the allowed factors, , go on Trustelem admin page, **Security settings** and **Authentication factors**

The first part, **Manage authentication factors**, has 2 parameters: **Login**, and **User can reset token**

## Security (Trustelem Demo)

General Password management Authentication factors Application certificates Social Login Emails Service providers

Manage authentication factors

Edit

	Login	User can reset token
SMS	No	No
TOTP Authenticator ?	Yes	Yes
WALLIX Authenticator	Yes	Yes
Security Keys      User Verification: discouraged ?	Yes	Yes
User certificates	No	
Email	No	

## Login parameter

For a chosen factor, you can activate the option **login** for all users or for specific users.  
When it's done:

- Users can use the selected factor for a multi factors authentication.
- An administrator can do a manual enrollment for users.

## User can reset token parameter

For a chosen factor, you can activate the option **User can reset token** for all users or for specific users.  
When it's done, the defined users can use their dashboard to reset this factor:

`https://mydomain.trustelem.com/#security`

Security parameters

Password

Google Authenticator
No device registered

Security key
No device registered

+

Trustelem Authenticator

samsung SM-G950F (Android 9, v2.1.9) - Added: 2020-06-25 13:25

+

Close

When you have enabled the chosen factors, you can start the enrollment.

## Manual enrollment using dashboard

This has to be done by a Trustelem administrator

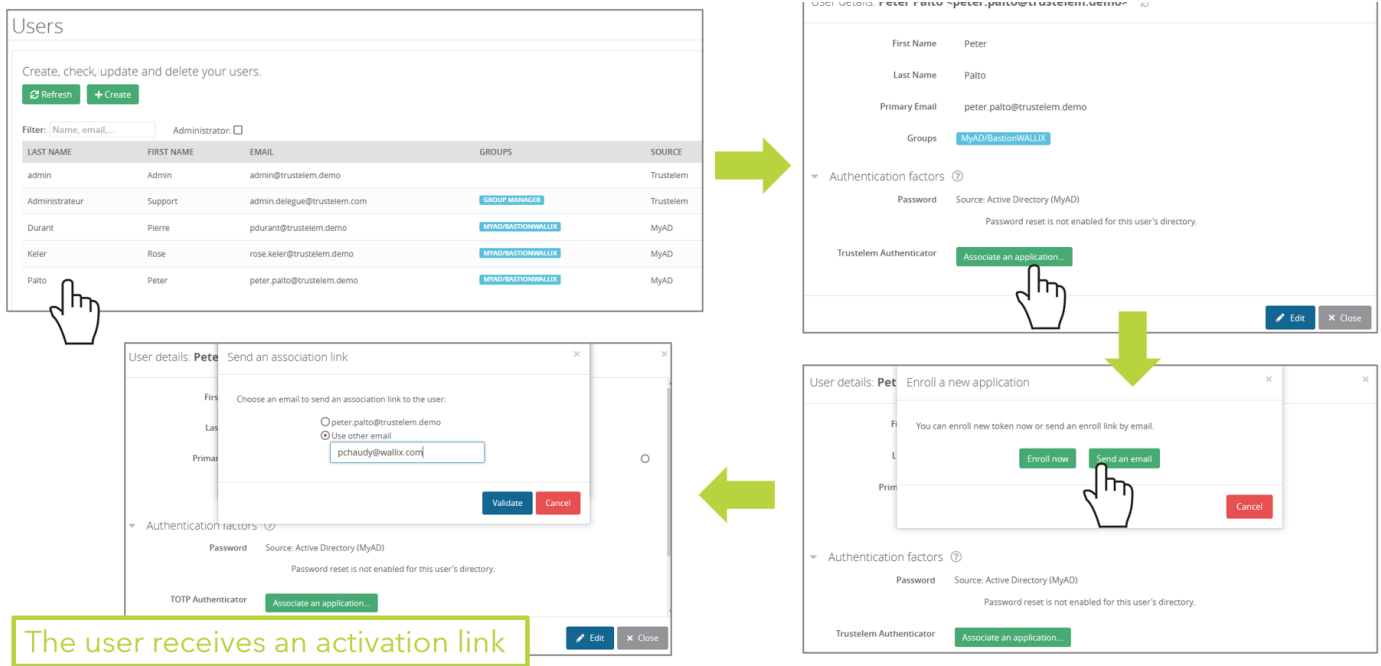
The diagram illustrates the manual enrollment process for a user named Peter Palto. It consists of four main steps:

- Users Dashboard:** A table listing users. Peter Palto is highlighted with a hand cursor.
- User Details:** A modal showing user information for Peter Palto. The 'Trustelem Authenticator' section has an 'Associate an application...' button, which is clicked by a hand cursor.
- Enroll a new application (QR Code):** A modal titled 'Enroll a new application' showing a QR code for device registration. It includes instructions: 'You may now associate Trustelem Authenticator with this account. Ensure Trustelem Authenticator is installed on this user's mobile device. Start the application and select "Add an Account". Use the device camera to scan the following QR code.' It also provides an alternative code: 'ESHWZZP-268CAD'. A hand cursor is shown near the QR code.
- Enroll a new application (Email Link):** A modal titled 'Enroll a new application' showing options to 'Enroll now' or 'Send an email'. A hand cursor is shown clicking the 'Enroll now' button.

Green arrows indicate the flow from the Users dashboard to User details, then to the QR code enrollment modal, and finally to the email link enrollment modal.

## Manual enrollment using email


This has to be done by a Trustelem administrator. You can send the enrollment link to Trustelem **Primary Email** or choose another one.



## Enrollment campaign

- The enrollment can be using campaigns.
- Users in the selected groups will be involved in the enrollment process only if they don't already have a 2nd factor.
- If you select multiple factors, users will have a selector to enroll only one of them.
- if you enable **Automatic enroll by email** emails with the enrollment link are sent automatically. If you don't, you have buttons to do it manually.
- If you enable the **Automatic enroll during login**, every time users authenticate on Trustelem login page, they will have a window asking them to enroll a new factor. They can skip the enrollment, but the window will continue to appear after the next authentications until they do the enrollment.



 Amy Farrer  
(amy.farrer@mycompany.com)

Please proceed to associate **Trustelem Authenticator** with your Trustelem account.

- Install Trustelem Authenticator on your mobile device. Once started, select 'Add an Account'
- Use your device camera to scan the following barcode:



- As an alternative, you may use the following code to register your device: 6XLVRHDH-24LC2B

Waiting for device registration

Cancel

Register later



## Create an access-rules for MFA

If you already have users and applications, you can now create access-rules in order to force multi factors authentication.

You can find the detail using the URL: [access rules](#)

Revision #17

Created 1 July 2022 08:24:56 by WALLIX Admin

Updated 24 October 2023 16:12:32 by WALLIX Admin