

# Multi factors authentication

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## 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

Users

Create, check, update and delete your users.

Refresh
Create

Filter: Name, email, ...
Administrator:

LAST NAME	FIRST NAME	EMAIL	GROUPS	SOURCE
admin	Admin	admin@trustelem.demo	Trustelem	
Administrateur	Support	admin.delegate@trustelem.com	GROUP MANAGER	Trustelem
Durant	Pierre	pdurant@trustelem.demo	MYAD/BASTIONWALLUX	MyAD
Keler	Rose	rose.keler@trustelem.demo	MYAD/BASTIONWALLUX	MyAD
Palto	Peter	peter.palto@trustelem.demo	MYAD/BASTIONWALLUX	MyAD

User details: Peter Palto <peter.palto@trustelem.demo>

First Name
Peter

Last Name
Palto

Primary Email
peter.palto@trustelem.demo

Groups
MyAD/BASTIONWALLUX

Authentication factors ⓘ

Password
Source: Active Directory (MyAD)

Password reset is not enabled for this user's directory.

Trustelem Authenticator
Associate an application...

User details: Peter Palto <peter.palto@trustelem.demo>

Enroll a new application

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:

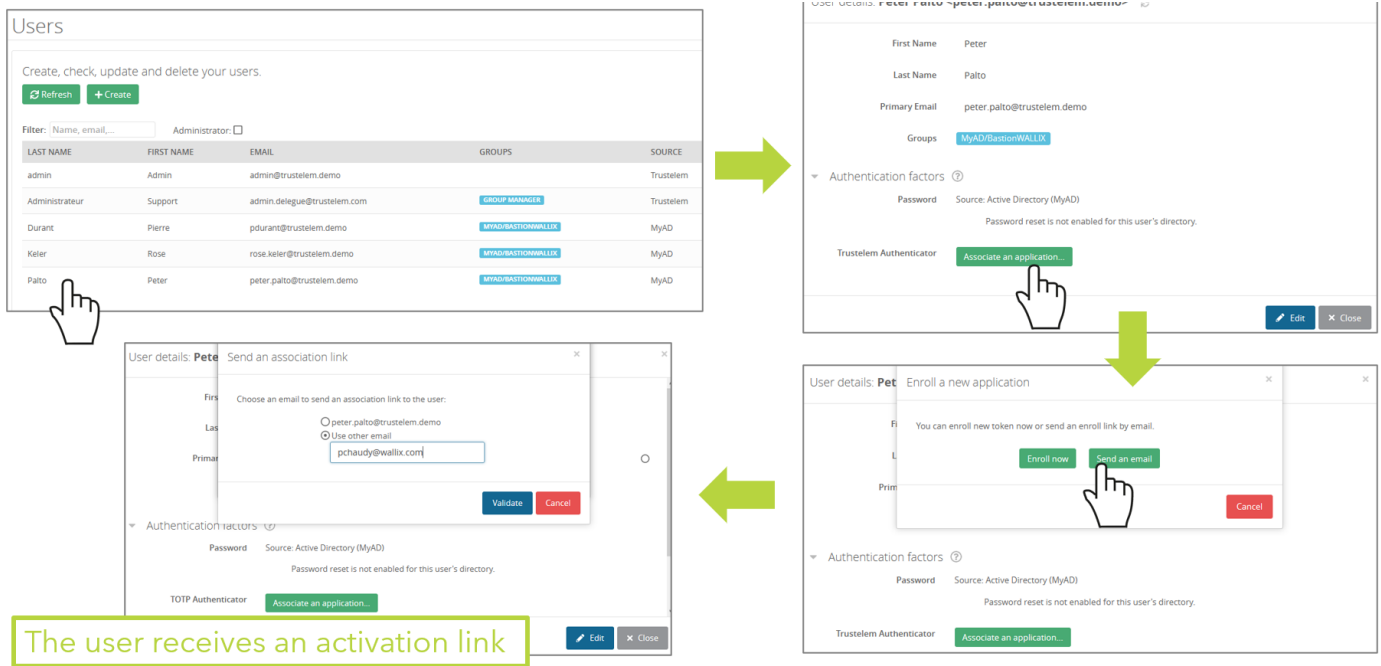
- As an alternative, you may use the following code to register the device: ESHWZZP-268CAD

Waiting for device registration

Cancel

## 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.



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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