

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			<div>No</div>			<div>No</div>		
TOTP Authenticator 			<div>Yes</div>			<div>Yes</div>		
WALLIX Authenticator			<div>Yes</div>			<div>Yes</div>		
Security Keys			User Verification: discouraged 			<div>Yes</div>		
User certificates			<div>No</div>					
Email			<div>No</div>					

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

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

Enroll a new application

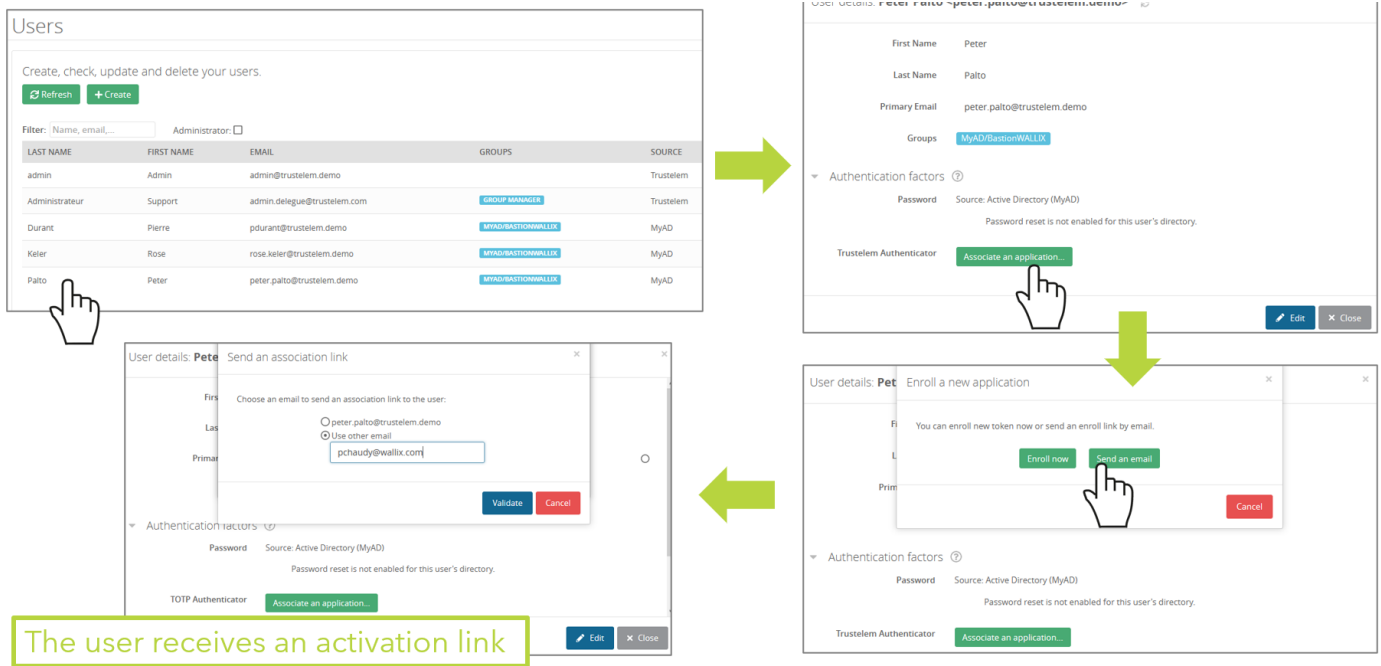
You can enroll new token now or send an enroll link by email.

Enroll now
Send an email

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](#)

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