

Passkeys and 2FA

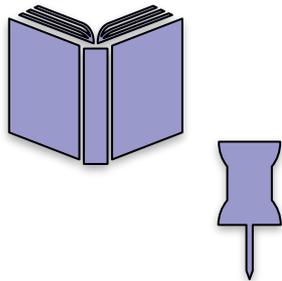
Claudio Cannizzaro, 21.01.2025

Agenda

- 2FA Fundamentals
- What are Passkeys
- What's new in B-Fabric
- Demo

2FA Fundamentals

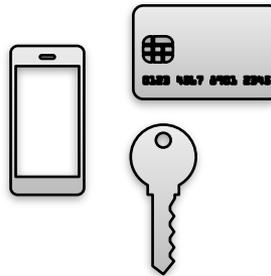
Knowledge



"something
only the user
knows"

- Passwords
- PINs

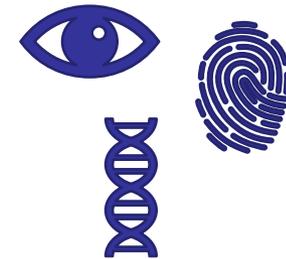
Possession



"something only
the user has"

- Security Key
- Your Phone
- Authenticator Apps

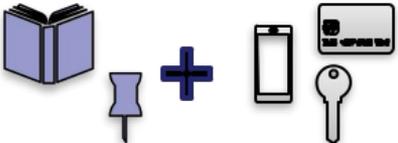
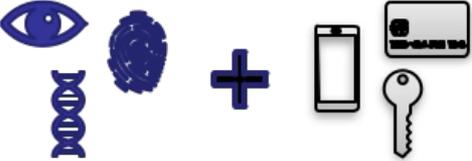
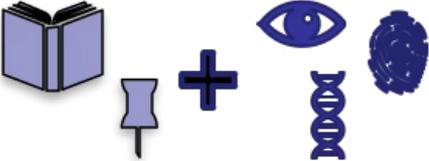
Inherent



"something
the user is"

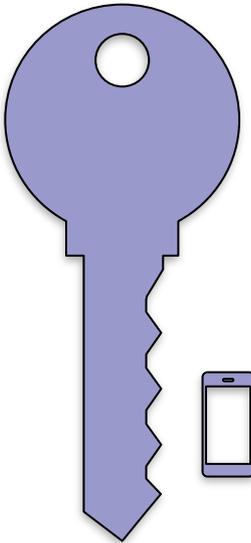
- Fingerprint
- Face
- DNA

Common 2FA Combination

	Examples
	ATM, UZH/ETH Email Login, Paying with Card (over a certain number)
	Paying with the Phone, Unlocking phone, Passkeys, Banking App
	Online Banking (browser with phone confirmation)
	Rarely used in practice

What are Passkeys?

Cryptographic Key Pair



Private



Public



Why Passkeys?

The foundation of authentication is fundamentally flawed

When our primary factor is passwords...

77%

Hacking-related breaches involve stolen credentials
(Verizon)

42%

Gave up on a purchase because they forgot their password
(FIDO Alliance)

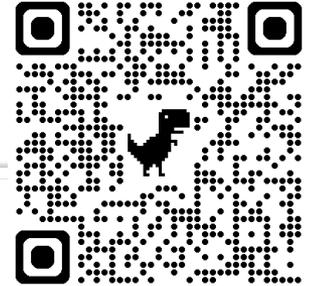
76%

Rise in direct financial loss from successful phishing attacks from 2022-2023
(Proofpoint)

78%

Use the same password for more than one account
(Forbes)

Easily phished or socially engineered, difficult to use and maintain



<https://fidoalliance.org/wp-content/uploads/2026/01/FIDO-Membership-Overview.pdf>

Two Different Types of Passkeys



Device-Bound

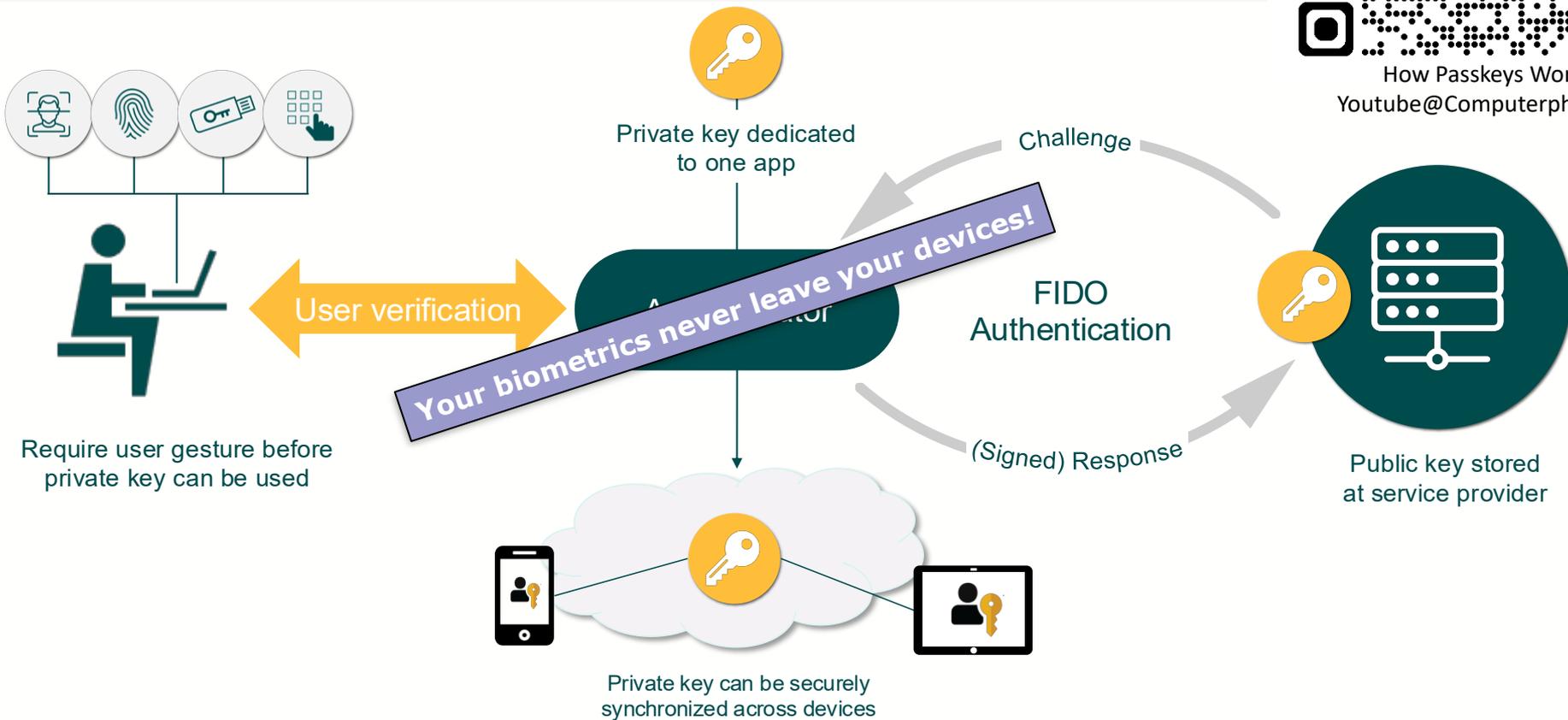


Synced

How do Passkeys work?



How Passkeys Work - Youtube@Computerphile



Why Passkeys?

Phishing resistant



Fake sites cannot trick you

Leak proof



Server breaches cannot expose your credentials

Simple & Fast



Just use Fingerprint/Face

Who Does Passkeys?

Backed by 300+ global tech leaders



Browser/OS

Implements



Writes Specifications

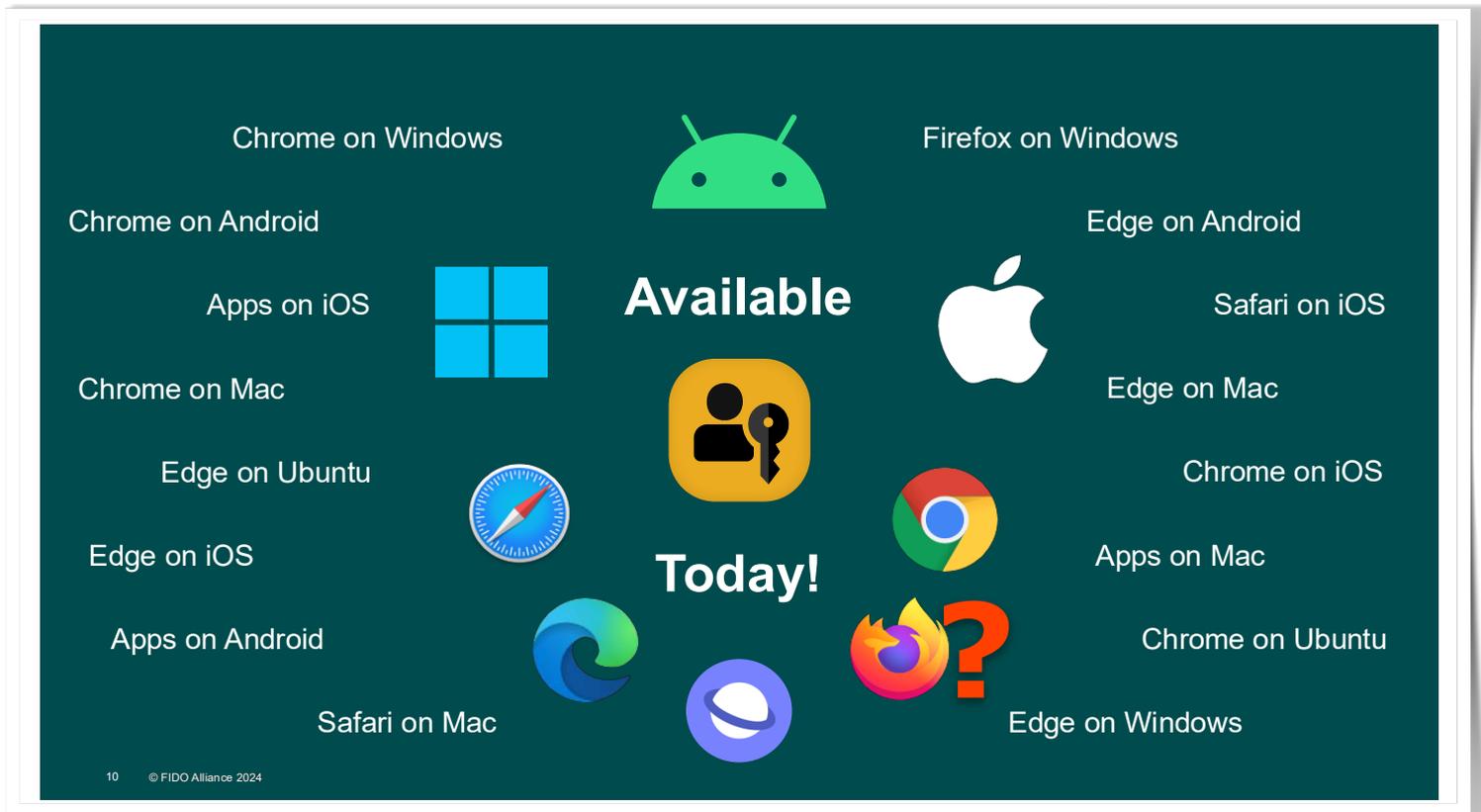
WebAuthn

Publishes Webstandard

FIDO logo: By Unknown author - <https://web.archive.org/web/20251204205318/https://fidoalliance.org/wp-content/themes/frost/assets/images/fido-logo-v2.svg>, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=180571078>

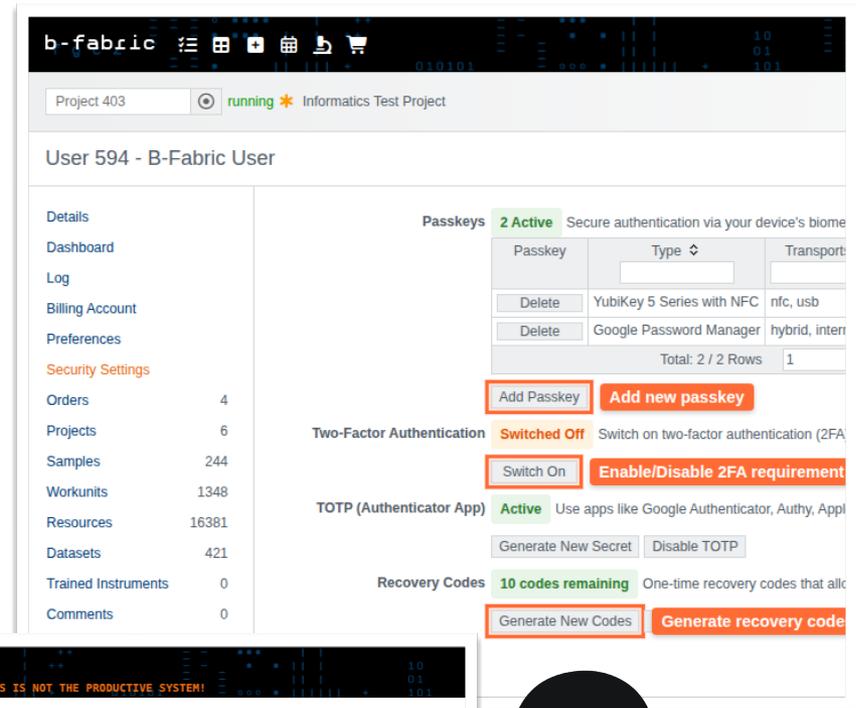
WebAuthn logo: By JamesCullum - <https://github.com/webauthn-open-source/webauthn-logos>, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=165354505>

Passkeys



What's Coming To B-Fabric?

- B-Fabric will support:
 - Authenticator Apps
 - Recovery Codes
 - Passkeys



b-fabric Project 403 running Informatics Test Project

User 594 - B-Fabric User

Details

- Dashboard
- Log
- Billing Account
- Preferences
- Security Settings
- Orders: 4
- Projects: 6
- Samples: 244
- Workunits: 1348
- Resources: 16381
- Datasets: 421
- Trained Instruments: 0
- Comments: 0

Passkeys 2 Active Secure authentication via your device's biome

Passkey	Type	Transport
Delete	YubiKey 5 Series with NFC	nfc, usb
Delete	Google Password Manager	hybrid, inter

Total: 2 / 2 Rows 1

[Add Passkey](#) [Add new passkey](#)

Two-Factor Authentication Switched Off Switch on two-factor authentication (2FA)

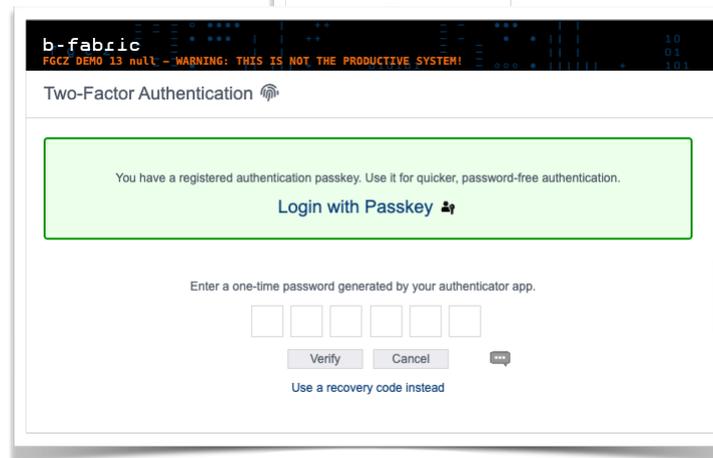
[Switch On](#) [Enable/Disable 2FA requirement](#)

TOTP (Authenticator App) Active Use apps like Google Authenticator, Authy, Appl

[Generate New Secret](#) [Disable TOTP](#)

Recovery Codes 10 codes remaining One-time recovery codes that all

[Generate New Codes](#) [Generate recovery code](#)



b-fabric FGCZ DEMO 13 mult - WARNING: THIS IS NOT THE PRODUCTIVE SYSTEM!

Two-Factor Authentication

You have a registered authentication passkey. Use it for quicker, password-free authentication.

[Login with Passkey](#)

Enter a one-time password generated by your authenticator app.

[Verify](#) [Cancel](#)

[Use a recovery code instead](#)



Demo Time: Device Bound



Demo Time: Password Manager



Demo Time: Cross-Device Authentication



Questions

➔ 2FA is currently optional, but we encourage you to use Passkeys

AI Comment Composer

Integrated in B-Fabric



Comment Composer ✨

- What?
 - Use AI to improve your Comments
 - Similar to Apple Intelligence
- Why?
 - Mentioned at Retreat
 - AI warm-up
- Where?

Comment Composer ✨

Add Comment

Parent Order 36884

Internal

Subject

Comment Template

Comment

Attachments

Workunits

Send Email Notification Yes

<input checked="" type="checkbox"/> [Requester, Contact, BudgetOfficer, Member]	<input checked="" type="checkbox"/> [Coach, CoachBackup, Bioinformatician, ServiceTracker]			
<input checked="" type="checkbox"/> Requester	<input checked="" type="checkbox"/> Contact	<input checked="" type="checkbox"/> BudgetOfficer	<input checked="" type="checkbox"/> Member	<input checked="" type="checkbox"/> Coach
<input checked="" type="checkbox"/> CoachBackup	<input checked="" type="checkbox"/> Bioinformatician	<input checked="" type="checkbox"/> ServiceTracker	<input checked="" type="checkbox"/> ServiceTypeTracker	

Proofread

Translate to English

Friendly

Professional

Concise

Working on it

Suggest Subject

Undo Last Change

Context: Your message

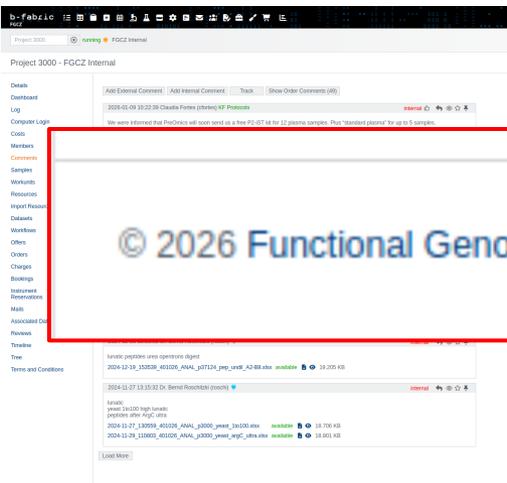
Context: Your message
+ 10 most recent comments
+ Reply To

Comment Composer ✨

- Why not just use ChatGPT?
 - Privacy
 - It's right there
 - Integration creates opportunities
- Disclaimer
 - Our local LLM is 10-20 times smaller than ChatGPT

Your turn!

- Try it out on: <https://fgcz-bfabric-test.uzh.ch/bfabric/>
- Two Issues have been opened. Will send you the link.



b-fabric

Project 3000 - FGZ Internal

Details

Dashboard

Log

Compute Log

Costs

Members

Comments

Samples

Workflows

Resources

Project History

Datasets

Workflows

Others

Charges

Bookings

Instances

Resources

Mails

Associated Cl...

Projects

Timeline

Tree

Terms and Conditions

2024-05-09 10:22:39 Claude Forme (owner) **KT Protocols**

We were informed that ProChips will soon send us a total PE-SET kit for 12 plants samples. Plus "standard protocol" for up to 5 samples.

internal

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kinetic_pipelines_unix_operators_digist

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2024-11-27 13:15:32 Dr. Severin Rivoirakis (project)

kinetic

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2024-11-29_110809_401006_ANAL_03000_yeast_1a1000.xlsx **available** 13,801 KB

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