SpearID FIDO2 Security Keys

User Manual

Version 1.1

12/2022

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IMPORTANT INSTRUCTIONS

Please read this manual before operating your SpearID FIDO2 NFC Security Key and keep it for future reference.

1. Product Overview

SpearID FIDO2 NFC Security Key is a hardware authenticator supporting FIDO2 standard and FIDO U2F standard, as well as NFC and USB communication interfaces. It can be used on FIDO2-enabled or U2F- enabled services and applications' two-factor authentication, multi-factor authentication or passwordless authentication. And multiple interfaces make it easier for you to complete authentication on PCs and mobile devices.

2. Product Pictures

The button on the **SpearID FIDO2 Pro (USB-C, NFC) Security** Key has the following lighting states:

Steady white light:
1. When the SpearID FIDO2 NFC Security Key in plugged into a   computer or a mobile phone's USB port.

2. When the SpearID FIDO2 NFC Security Key is placing on an NFC card reader or on the NFC sensor of a mobile device.

Flashing white light: the SpearID FIDO2 NFC Security Key is receiving an authentication request when it's on USB mode.

The button on the **SpearID FIDO2 Pro (USB-A, NFC, BLE)** has the following lighting states:

Steady blue light: long press the button for 5 seconds to enter the Bluetooth pairing mode for the first time. After paired successfully, the steady blue light turns to flashing blue light.

Flashing blue light: short press the button to enter the Bluetooth mode.

Steady white light: 1. When the SpearID FIDO2 Pro Security Key is plugged into a computer's USB port. 2. When the SpearID FIDO2 Pro Security Key is placing on an NFC card reader or on the NFC sensor of a mobile device.

Flashing white light: the SpearID FIDO2 Pro Security Key is receiving an authentication request when it's on USB or Bluetooth mode.

Flashing red light: low power state. Blinking red light every 5 seconds. Please charge it in time

3. The Basic Operation

3.1 Register (First Time Only)

1. Enter the username and password to log in to any web service that supportsU2F/FIDO2.
2. Insert the SpearID FIDO2 NFC Security Key in your computer or mobile phone over USB connection.
3. Add the SpearID FIDO2 NFC Security Key to your account(s).

Note:If you to plug USB-C into your phone,FIDO's NFC function will be turned off and FIDO will be logged in using USB-C only.

3.2 Signing-In (After Completing Registration)

1. Open the website you want to log in.
2. Enter your usual username and password (for U2F-enabled services).
3. Connect the registered SpearID FIDO2 NFC Security Key to a mobile device or PC.
4. When prompted, press the button on SpearID FIDO2 NFC Security Key to sign in or tap the SpearID FIDO2 NFC Security Key on an NFC sensor.

3.2.1 USB Mode

1. Insert the registered SpearID FIDO2 NFC Security Key to the computer's or mobile phone USB port. The indicator light is white on.
2. When an authentication request is received, the white light blinks. Press the button to confirm this authentication.

3.2.2 NFC Mode

1. Please make sure NFC of the mobile device is turned on.
2. Tap your registered SpearID FIDO2 NFC Security Key on the NFC sensor of mobile device when it's asking for a security key.
3. The indicator light is white on and the authentication will complete in a moment.

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> To use NFC, you need to expose the USB connector and put it close to the NFC field. Metal casing will block the NFC signal, avoid being triggered by mistake when you are not using it

# 4. How to use FIDO2 NFC Security Key for 2-Step Verification

4.1 Register

Register FIDO2 Security Key with your Google account to make it become the second authentication factor.

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> The registration can only be done from a non-mobile device.

1. Log in to the website: *https://www.google.com* and click *Sign In* on the top right corner. Enter your account name and password.
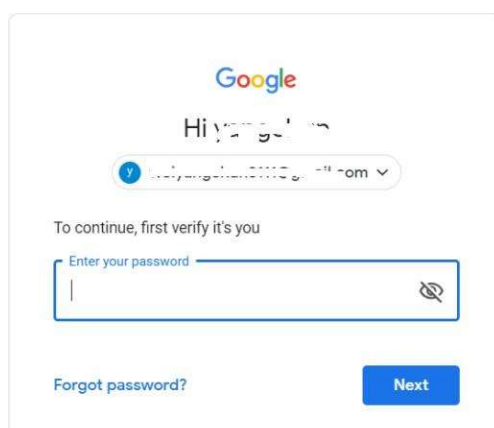
2. Once you have successfully logged in, click on your **Google Account**.
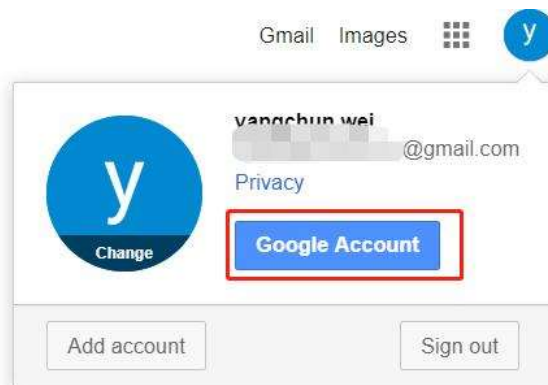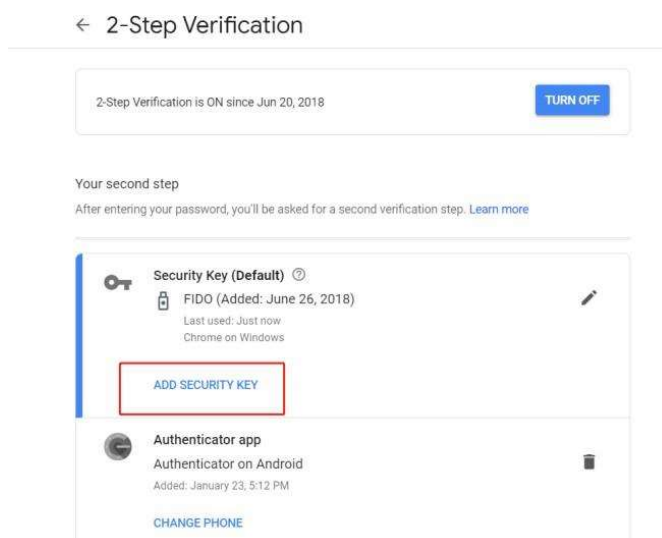

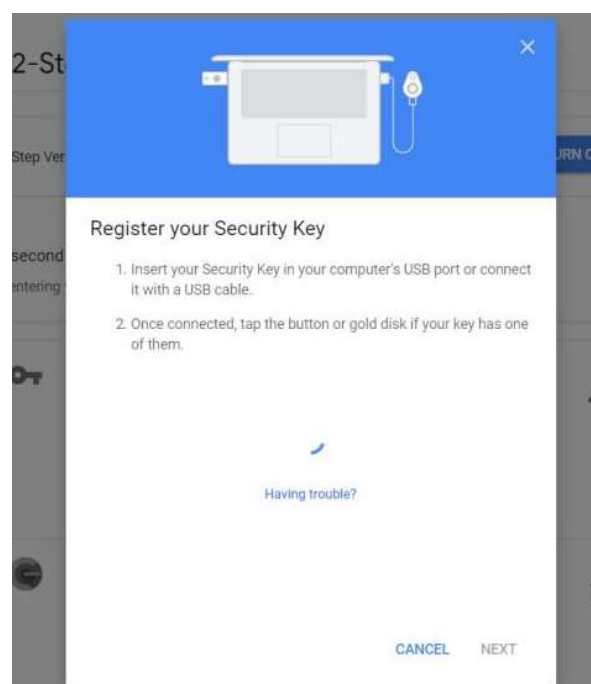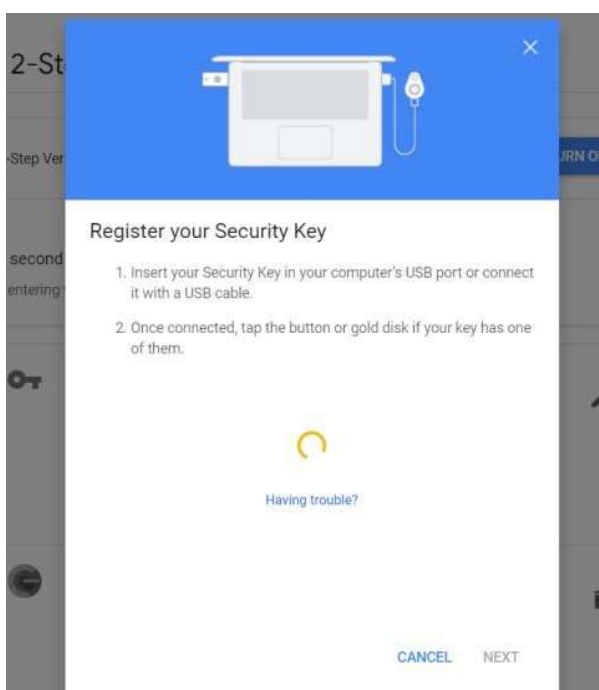3. Select **Security**, and go to **2-Step Verification**.
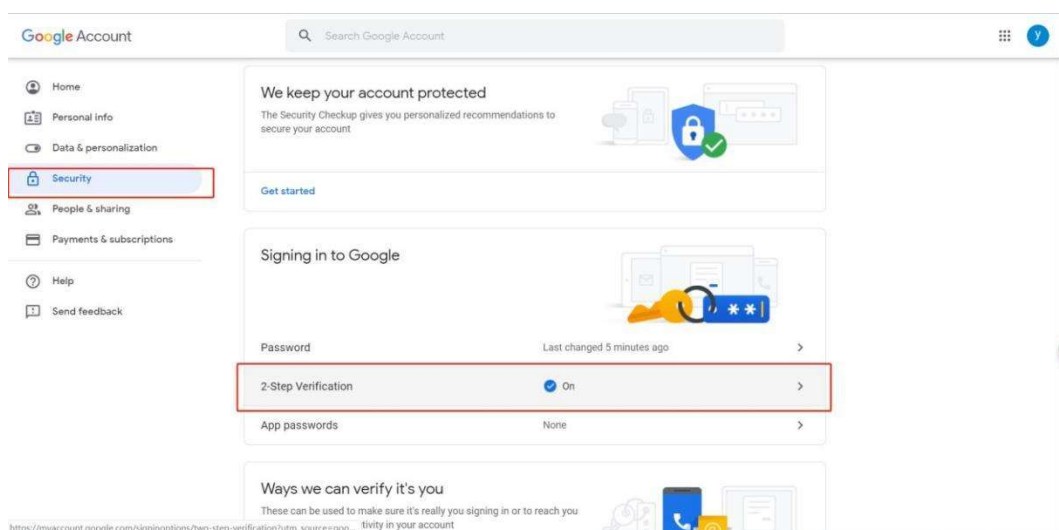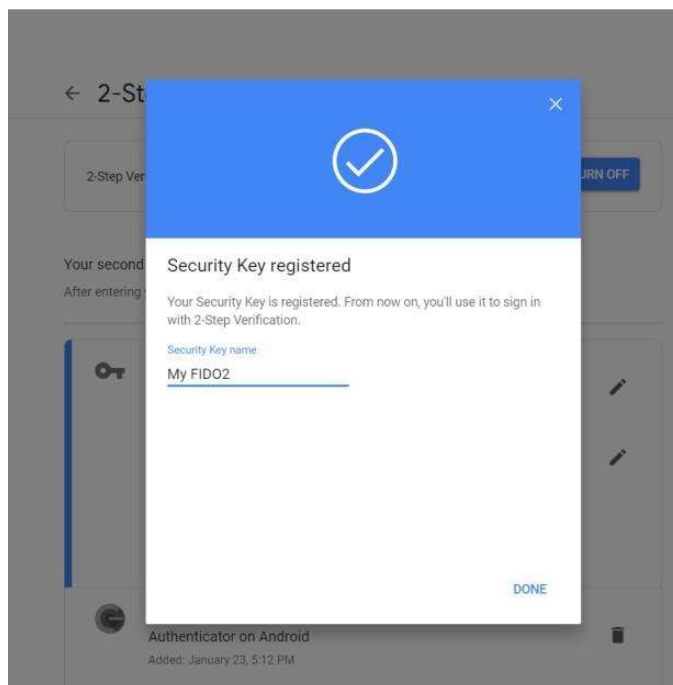

4. You will be asked to log in again.

5. Click *ADD SECURITY KEY*.

6. You will be prompted to insert your FIDO2 security key into a USB port. Click *NEXT* to continue.

7. When the white light of the key is flashing, short press the button on the Spear ID FIDO2 NFC Security Key.

8. Rename your security key, click *DONE* to finish.
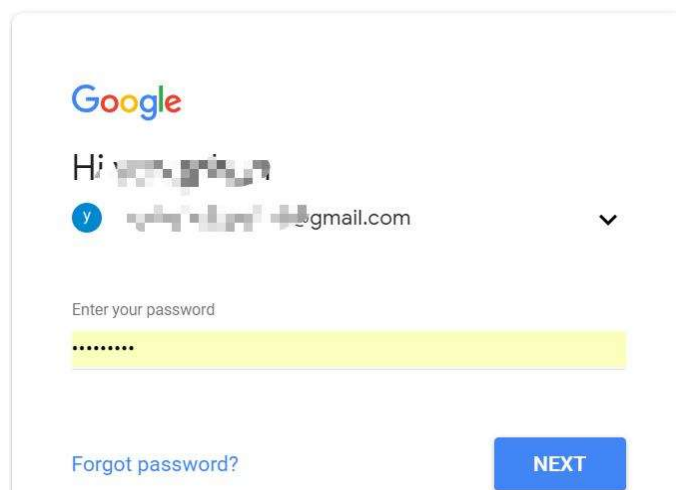
9. The Spear ID FIDO2 NFC Security Key becomes the default second authentication factor of your account. You will be asked to use it to complete 2-Step Verification when sign in to Google in the future.
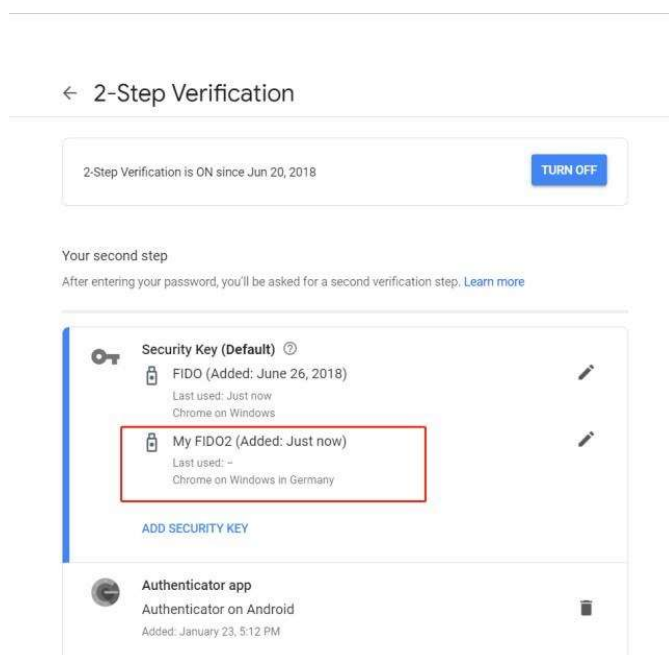
4.2 Sign in (USB Mode)

1. Sign into Google with username and password. Since you have an SpearID FIDO2 NFC Security Key as the strong second authentication factor, you can simplify your password (e.g. 4-digit PIN) without compromising security.

2. Insert SpearID FIDO2 NFC Security Key to a USB port and tap the button on the key. You will be authorized to access your Google account now.

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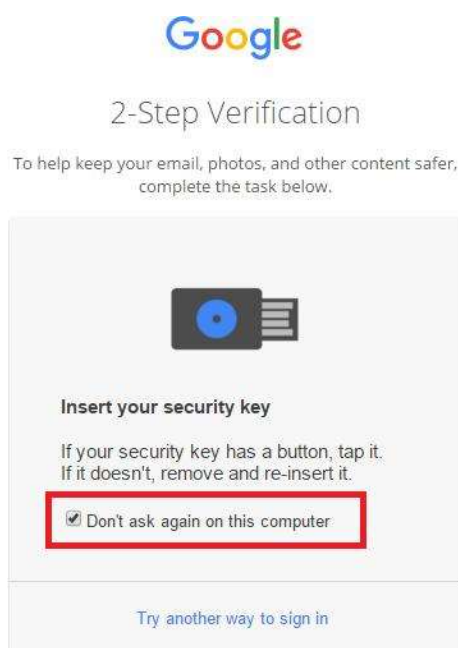By default, "Don't ask again on this computer" is checked. After checking the box, the next login will skip the two-step verification and log in directly with the user name and password.
You can undo trusted devices in settings to restore the use of two-step verification

Click **Revoke All** to clear the trusted device and restore the use of two-step verification.

Devices that do not need a second step

You can skip the second step on devices you trust, such as your own computer.

Devices you trust

Revoke trusted status from your devices that skip 2-Step Verification.

REVOKE ALL

4.3 Sign in (NFC + Android Mobile Device)

1. Turn on NFC on your mobile device. Open the Chrome browser on your Android mobile device, and go to *https://www.google.com*, then click the *Sign in* button on the top right corner, then enter the username and password.

ALL   IMAGES   Sign in

Google

2. If the 2-step Verification of your Google account is turned on, you will be asked to use your Security Key for verification, click on *Use your Security Key with NFC.*

3. Hold your registered SpearID FIDO2 NFC Security Key flat against the NFC sensor of your mobile device,a white indicator light on the key shall steady on.

4. The authentication will complete in a while, and you will be authorized to login with your account.
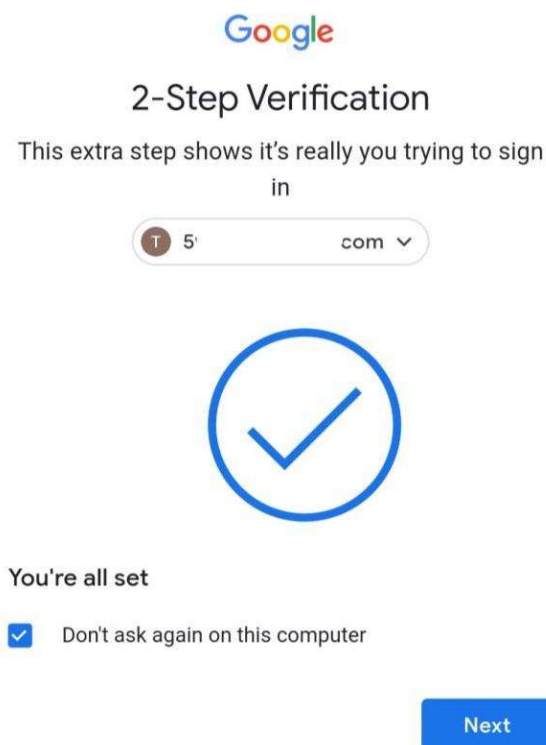
4.4 Sign in (NFC Mode + iOS13.3 and Above)

Only iOS 13.3 and above supports FIDO security key over NFC connection. Here we take GitHub as an example.

1. Log into your GitHub account on your PC, go to *Settings -> Security,* enable *Two-factorauthentication*, and register your SpearID FIDO2 NFC Security Key.
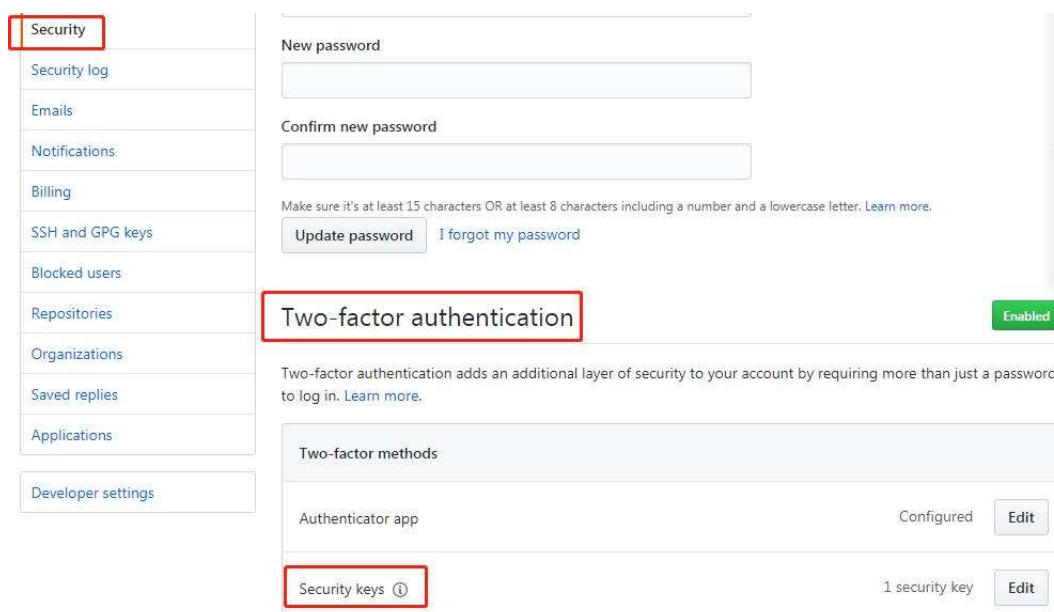
2. Turn on NFC on your iPhone, open Safari, and go to https://www.github.com, sign in with theusername and password, then press *Use security key*.
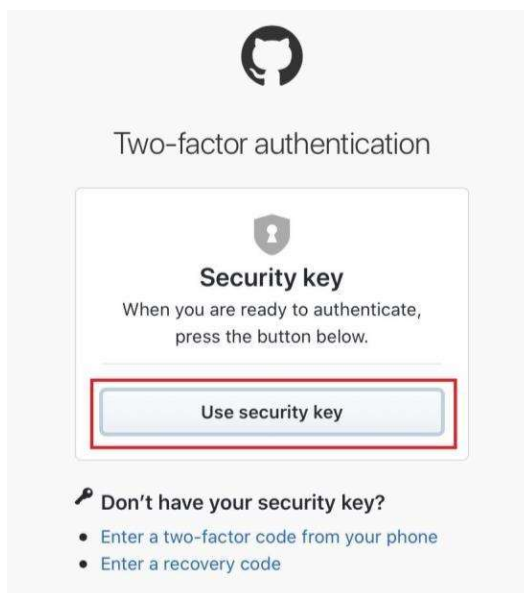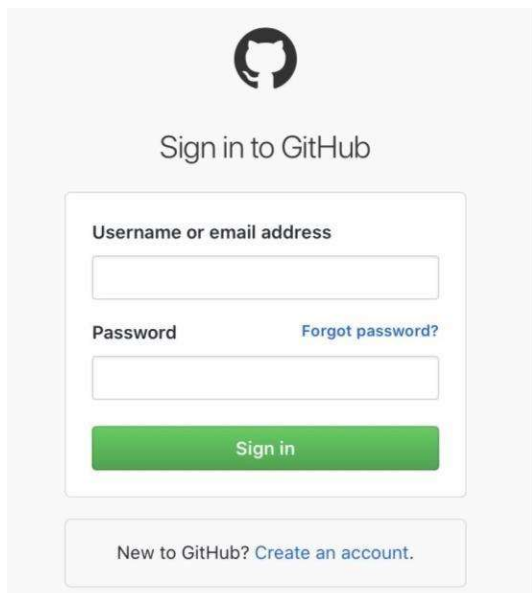
3. Hold your registered SpearID FIDO2 NFC Security Key near the top of your iPhone, a white indicator light on the key shall steady on. The authentication will complete in a while, and you will be authorized to login automatically.
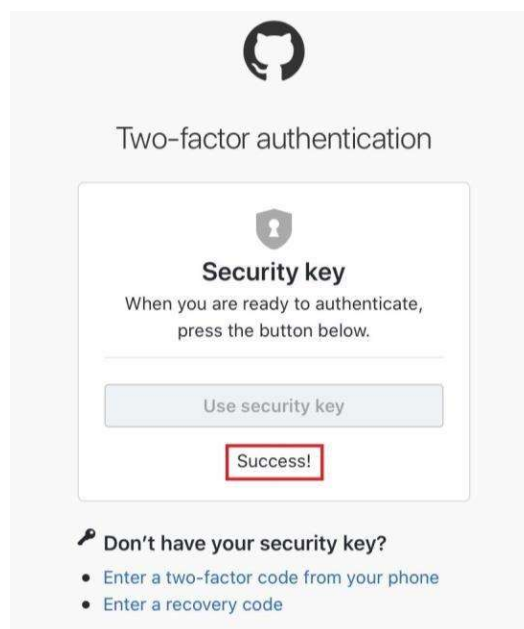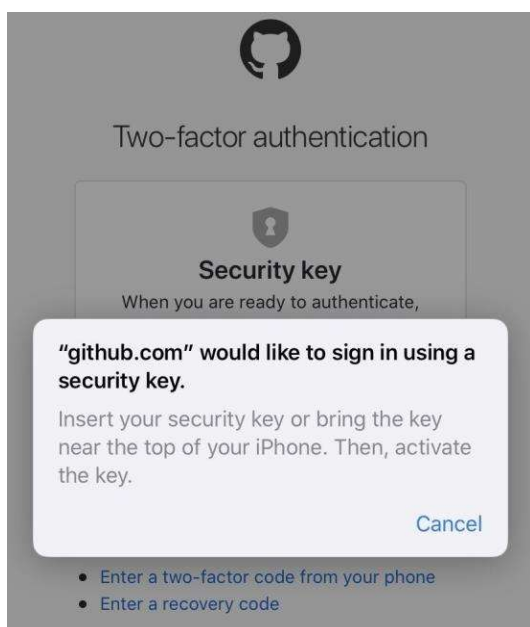
4.4 Sign in (Bluetooth + Android device)

When using the SpearID FIDO2 Pro Security Key on an Android mobile device for the first time with Bluetooth connection, you need to pair them first. (Google account used as an example)

1. Make sure the SpearID FIDO2 Pro Security Key is registered to your Google account.

2. Turn on the Bluetooth connection on your Android device. Open the Chrome browser, and go to https://www.google.com, click the Sign in button on the top right corner, then enter the username and password.

3. If the 2-step Verification of your Google account is turned on, you will be asked to use your Security Key for verification. Click on Pair another Security Key. By default, "Don't ask again on this computer" is checked. After checking the box, the next login will skip the two-step verification and log in directly with the user name and password. You can undo trusted devices in settings to restore the use of two-step verification.

4. Press and hold the button on your SpearID FIDO2 Pro Security Key for over 5 seconds to active the Bluetooth pairing mode, the blue indicator light on the key shall steady on.

5. When the Android device detects the signal of the key, the serial number printed on the back of the key will show on the page. Select the serial number, click on CONTINUE and enter the 6-digit PIN as printed on the back of the SpearID FIDO2 Pro for pairing. When paired successfully, the indicator light on the key shall flashing blue, and the Google service will automatically verify your security key.

6. When the SpearID FIDO2 Pro Security Key receives an authentication request, the indicator light changes to flashing white from flashing blue, short press the button on the key to confirm the authentication, then you will be authorized to login with your account.

7. When you are asked to do the 2-Step Verification on a paired Android device again, go through the Step 1~3 above, no need click on Pair another Security Key, just short press the button on the SpearID FIDO2 Pro Security Key to enter the Bluetooth mode, and the indicator light shall flash blue. When the key receives an authentication request, the indicator light changes to flashing white from flashing blue, short press the button again on the key to confirm the authentication, then you will be authorized to login with your account.

4.4 Sign in (Bluetooth + iPhone)

When using the SpearID FIDO2 Pro Security Key on an iPhone for the first time with Bluetooth connection, you need to pair them first. (Google account used as an example)

1. Make sure the SpearID FIDO2 Pro security key is registered to your Google account.

2. Turn on Bluetooth connection on your iPhone. Open Safari, and go to https://www.google.com, click on Sign in on the top right corner, then enter the username and password of your Google account.

3. If the 2-step Verification of your Google account is turned on, then you will be asked to use your Security Key, and make sure the Google Smart Lock app is installed. Click on Install if it's not installed. Then click on Already installed, and open it.

4. Click on More options, select Pair another Bluetooth security key.

5. Click on Next, and press the button of the SpearID FIDO2 Pro for at least

5 seconds to enter the Bluetooth pairing mode, make sure the blue light is steady on.

6. When the phone detects the signal of the key, the serial number printed on the back of the key will show on the page. Select the serial number, click on Next and enter the 6-digit PIN as printed on the back of the SpearID FIDO2 Pro for pairing.

7. The indicator light of the key shall flash blue and the Google service will automatically verify your security key. When the SpearID FIDO2 Pro Security Key receives an authentication request, the indicator light changes to flashing white from flashing blue, short press the button on the key to confirm the authentication, then you will be back to Safari automatically with your Google account logged in.

8. When you are asked to do the 2-Step Verification on a paired iPhone again, go through the Step 1~3 above, after you open the Smart Lock app, short press the button on the SpearID FIDO2 Pro Security Key to enter the Bluetooth mode, and the indicator light shall flash blue. When the key receives an authentication request, the indicator light changes to flashing white from flashing blue, short press the button again on the key to confirm the authentication, then you will be back to Safari automatically with your Google account logged in.

5. Usage of FIDO Manager and OTP

The Software used to configure the FIDO and OTP (TOTP/HOTP) is called SpearID FIDO2 Manager. If you have use for the software, please contact us for more information.

6. FAQ

Question 1: I have two Gmail accounts, how many FIDO2 NFC Security Keys do I need to protect two gmail account. Do I need two FIDO2 NFC Security Keys?

Answer: You can use one FIDO2 NFC Security Key with multiple accounts, but that is not recommended. Regardless of if you're protecting one gmail account, or two - you should register multiple keys (if the service allows it). That way, if you lose your key, or it's damaged, or it's stolen, you will still have a backup key ready to use.

Question 2: What should I do if I lost my FIDO2 NFC Security Key?

Answer: Just go to the website your key already registered. On the 2-step verification tab or similar tab, delete the device. Two FIDO2 NFC Security Keys are recommended, one for normal use, the other for backup.

Question 3: Why does GitHub say "this browse doesn't support security key" on my iPhone?

Answer: Please make sure your iPhone is updated to iOS 13.3 and sign in with Safari.

Question 4: What applications support FIDO2 NFC Security Key?

Answer: The applications support FIDO U2F/FIDO2 include but not limited to: Google, Facebook, Dropbox, GitHub, Dashlane, DUO, StrongAuth etc.

Question 5: Can I register a FIDO2 NFC Security Key over my smart phone?

Answer: No. You can always authenticate the FIDO2 NFC Security Key with your mobile devices, but registration can only be done from a non-mobile device.

7. Product Spec

SpearID FIDO2 Pro (USB-C, NFC) Security Key

Product	SpearID FIDO2 Pro (USB-C, NFC) Security Key
System	Windows, macOS, Linux
Browser	Edge, Chrome, Firefox, Opera, Safari
Functions	FIDO U2F, FIDO2, HOTP, TOTP
Algorithm	SHA256, AES, HMAC, ECDH, ECDSA
Size	44.9*16.0*9.2(mm)
Interface	USB-C, NFC
Data Retention	≥10 years
Rewrite Cycle	≥100,000 times
Operating Voltage	5V±10%

Operating Current	Max <40mA
Button	Single button
Button Endurance	≥100,000 times
Operating Temperature	-10~60°C
Storage Temperature	-20~60°C
Indicator Light	White
Material	AL, PC
Certificate	CE, FCC, RoHS, WEEE, FIDO2 L1

SpearID FIDO2 Pro (USB-A, NFC, BLE) Security Key

Product	SpearID FIDO2 Pro (USB-A, NFC, BLE) Security Key
System	Windows, macOS, Linux
Browser	Edge, Chrome, Firefox, Opera, Safari
Functions	FIDO U2F, FIDO2, HOTP, TOTP
Algorithm	SHA256, AES, HMAC, ECDH, ECDSA
Size	52.6x18.0x11.0 (mm)
Interface	USB-A, NFC, BLE
Data Retention	≥10 years
Rewrite Cycle	≥100,000 times
Operating Voltage	5V±10%
Operating Current	Max <40mA
Button	Single button
Button Endurance	≥100,000 times
Operating Temperature	–10~60°C
Storage Temperature	–20~60°C
Indicator Light	White, Blue, Red
Material	AL, PC
Certificate	CE, FCC, RoHS, WEEE, FIDO2 L1

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Bluetooth (BLE) is only available in our SpearID FIDO2 Pro (USB-A, NFC, BLE)