

eSecu FIDO2 Pro+ Fingerprint Key

User Manual

(V1.2)

Excelsecu Data Technology Co., Ltd.

CONFIDENTIAL information of Excelsecu Data Technology Co., Ltd.

NO WARRANTIES OF ANY NATURE ARE EXTENDED BY THIS DOCUMENT. Any product and related material disclosed herein are only furnished pursuant and subject to the terms and conditions of a duly executed Program Product Licence or Agreement to purchase or lease equipment. The only warranties made by Excelsecu Technology, if any, with respect to the products described in this document are set forth in such Licence or Agreement. Excelsecu Technology cannot accept any financial or other responsibility that may be the result of your use of the information or software material, including direct, indirect, special or consequential damages.

You should be careful to ensure that the use of this information and/or software material complies with the laws, rules, and regulations of the jurisdictions with respect to which it is used. All rights reserved.

Copyright © 2020 Excelsecu Data Technology Co., Ltd.

Table of Contents

1.	Important Instructions	4
2.	Product Overview.....	4
3.	Product Picture.....	4
4.	FIDO2 Fingerprint Key Management.....	5
4.1.	eSecu FIDOManager	5
4.2.	Windows Settings	5
4.3.	Chrome Browser.....	6
5.	The Basic Operation of FIDO2 Pro+ Fingerprint Key	7
5.1.	Register (First Time Only)	7
5.2.	Signing-In (After Completing Registration).....	7
5.2.1.	Bluetooth Pairing Mode (First Time Only)	8
5.2.2.	Bluetooth Mode (Paired Before).....	8
5.2.3.	USB Mode	9
5.2.4.	NFC Mode	9
6.	How to use FIDO2 Pro+ Fingerprint Key with Microsoft for passwordless login.....	9
6.1.	Register the FIDO2 Pro+ Fingerprint Key	9
6.2.	Sign in with FIDO2 Pro+ Fingerprint Key	11
7.	How to use FIDO2 Pro+ Fingerprint Key with Google for 2-Step Verification	12
7.1.	Register.....	12
7.2.	Sign in (USB Mode).....	16
7.3.	Sign in (Bluetooth + Android Mobile Device)	18
7.4.	Sign in (NFC + Android Mobile Device).....	21
7.5.	Sign in (Bluetooth + iPhone).....	22
7.6.	Sign in (NFC Mode + iOS 13.3 and Above).....	26
8.	FAQ.....	27
8.1.	I have two gmail accounts, how many FIDO2 Pro+ Fingerprint Keys do I need to protect two gmail account. Do I need 2 keys?	27
8.2.	What should I do if I lost my FIDO2 Pro+ Fingerprint Key?	27
8.3.	Can I use my FIDO2 Pro+ Fingerprint Key on PC over Bluetooth?.....	27
8.4.	What applications support FIDO2 Pro+ Fingerprint Key?.....	28
8.5.	Why does GitHub say “this browse doesn't support security key” on my iPhone? ...	28
8.6.	Can I register a FIDO2 Pro+ Fingerprint Key over my smart phone?	28
8.7.	How can I know when to charge my FIDO2 Pro+ Fingerprint Key?	28
9.	Product Specs.....	28

1. Important Instructions

Thank you for using eSecu FIDO2 Pro+ Fingerprint Key!

Please read this manual before operating your eSecu FIDO2 Pro+ Fingerprint Key and keep it for future reference.

2. Product Overview

eSecu FIDO2 Pro+ Fingerprint Key is a hardware authenticator supporting FIDO2 standard and FIDO U2F standard, as well as Bluetooth, NFC and fingerprint module. It can be used on FIDO2-enabled or U2F-enabled services and applications' two-factor authentication, multi-factor authentication or passwordless authentication. The fingerprint module and multiple interfaces make it easier and safer for you to complete authentication on PCs and mobile devices.

3. Product Picture



The key has the following lighting states:

Steady red light: Insert the FIDO2 Pro+ Fingerprint Key in the computer's USB port. / Fingerprint verification fail.

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

Flashing green light: Fingerprint enroll / Need to verify fingerprint.

Steady green light: When the FIDO2 Pro+ Fingerprint Key is placing on an NFC card reader or on the NFC sensor of a mobile device.

Steady blue light: long press the fingerprint sensor 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 fingerprint sensor to enter the Bluetooth mode.

4. FIDO2 Fingerprint Key Management

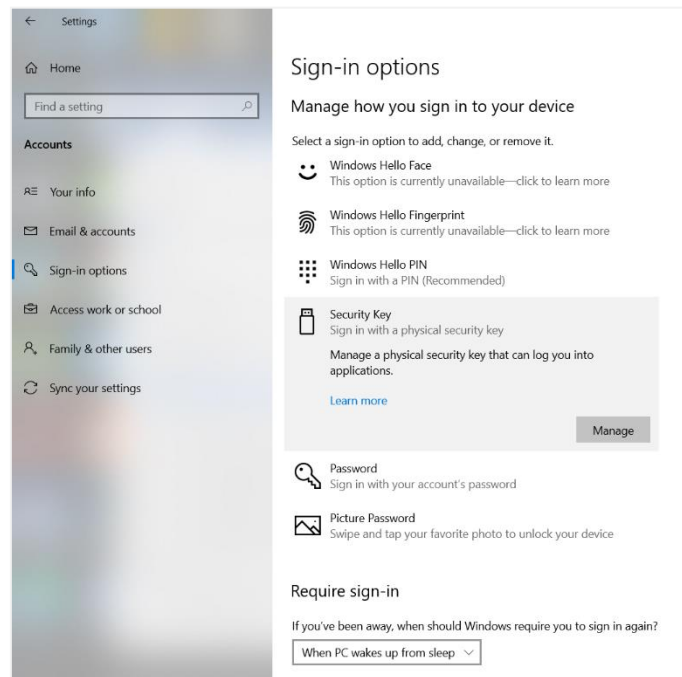
Before using FIDO2 Pro+ Fingerprint Key, fingerprint is always required to be enrolled via USB. Currently, there are three methods to manage FIDO2 Pro+ Fingerprint Key: eSecu FIDOManager, Windows settings and Chrome Browser.

4.1. eSecu FIDOManager

The Software used to configure the FIDO and OTP (HOTP/TOTP) and fingerprint's enrollment, test, remove, reset is described in document of "Excelsecu Manager User Manual", you can refer to it for more details.

4.2. Windows Settings

You can set up your eSecu FIDO2 Pro+ Fingerprint Key straight from **Setting** page if the platform is **Windows 10 version 1903 (build 18298) or above**. In **Setting -> Accounts -> Sign-in options -> Security Key**, you are able to manage fingerprint, PIN or reset your eSecu FIDO2 Pro+ Fingerprint Key.



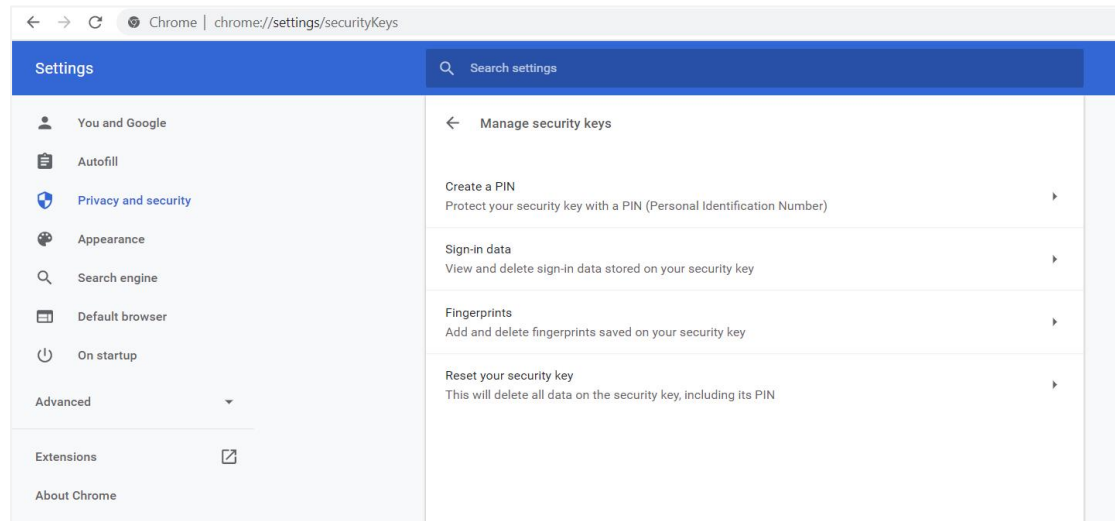
4.3. Chrome Browser

Chrome Version 79 or above on Windows, Mac or Linux are able to manage eSecu FIDO2 security keys. Here we take Windows as an example.

Note: if you are using Chrome on Windows 1903, you need override this by running Chrome as Administrator with the command line flag:

--disable-features=WebAuthenticationUseNativeWinApi.

Go to **chrome -> settings -> Privacy and security -> more -> Manage security keys**, or directly visit the link: <chrome://settings/securityKeys>, then you are able to manage PIN, sign-in data, fingerprints and reset.



5. The Basic Operation of FIDO2 Pro+ Fingerprint Key

5.1. Register (First Time Only)

1. Enter the username and password to log in to any application that supports FIDO U2F/FIDO2.
2. Insert the FIDO2 Pro+ Fingerprint Key in your computer over USB connection.
3. Add the FIDO2 Pro+ Fingerprint Key to your account(s).

5.2. 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 FIDO2 Pro+ Fingerprint Key to a mobile device (Bluetooth/NFC mode) or PC (USB mode).
4. When prompted, authenticate with a simple touch of the fingerprint module to sign in or tap the Key on an NFC sensor.

5.2.1. Bluetooth Pairing Mode (First Time Only)

1. Long touch metal edge of the sensor for 5 seconds to enter the Bluetooth pairing mode for the first time. The indicator light is steady blue. If there is no pairing request received in 60 seconds, the indicator light goes out and the FIDO2 Pro+ Fingerprint Key exits Bluetooth pairing mode.
2. Scan Bluetooth devices on your client side (e.g. a smart phone). Connect to the device which has the same SN as printed on the back of the FIDO2 Pro+ Fingerprint Key.
3. Input 6-digits PIN as printed on the back of the FIDO2 Pro+ Fingerprint Key. When paired successfully, the blue light should start blinking.
4. When an authentication request is received, the light blinks red, place the finger on sensor to verify to complete the authentication.



For security purpose, the FIDO2 Pro+ Fingerprint Key will be forced to shut down after 30 seconds.

5.2.2. Bluetooth Mode (Paired Before)

1. Touch metal edge of the sensor to enter the Bluetooth pairing mode. The indicator light blinks blue.
2. When an authentication request is received, the light blinks red, place the finger on sensor to verify to complete the authentication.



For security purpose, the FIDO2 Pro+ Fingerprint Key will be forced to shut down after 30 seconds.

5.2.3. USB Mode

1. Insert the registered FIDO2 Pro+ Fingerprint Key to the computer's USB port. The indicator light is red on all the time.
2. When an authentication request is received, the light blinks red, place the finger on sensor to verify to complete the authentication.

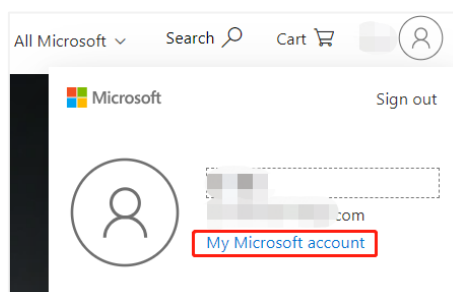
5.2.4. NFC Mode

1. Please make sure NFC of the mobile device is turned on.
2. Tap your registered FIDO2 Pro+ Fingerprint Key on the NFC sensor of mobile device when it's asking for a security key.
3. When an authentication request is received, the light blinks red, place the finger on sensor to verify to complete the authentication.

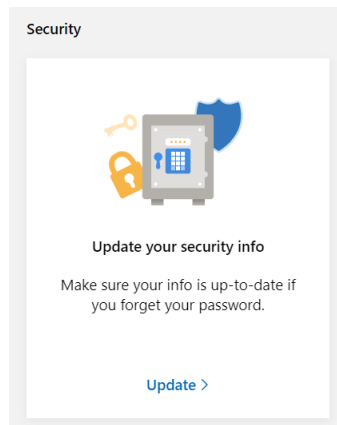
6. How to use FIDO2 Pro+ Fingerprint Key with Microsoft for passwordless login

6.1. Register the FIDO2 Pro+ Fingerprint Key

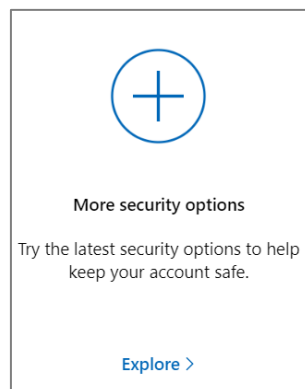
1. Click "My Microsoft account" after signing in.



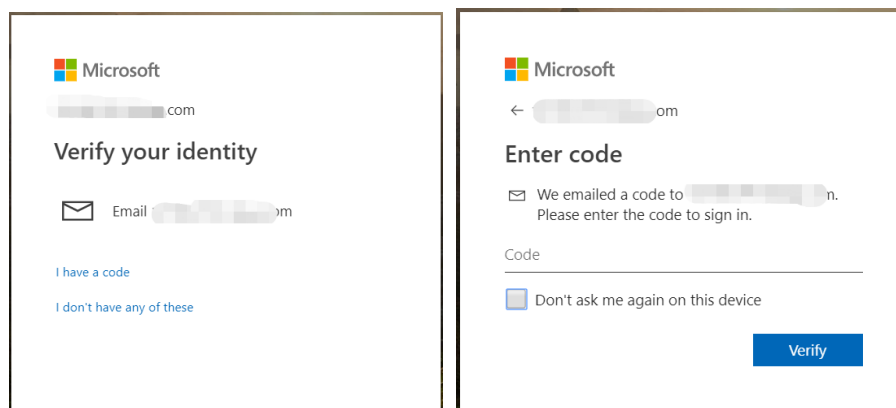
2. Select "Security".



3. Click “more security options”.



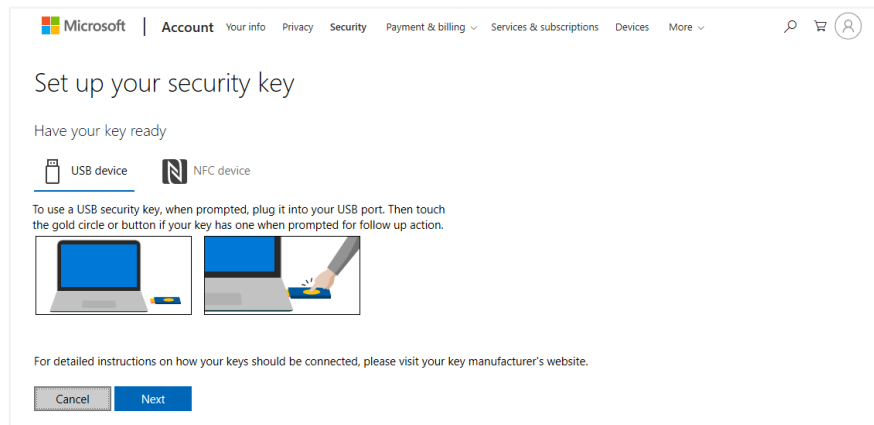
4. You will be asked to verify your identity.



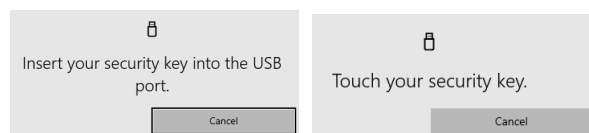
5. After the verification is passed, enter the “Additional security options” page, and click “Set up a security key” under “Windows Hello and security keys”.



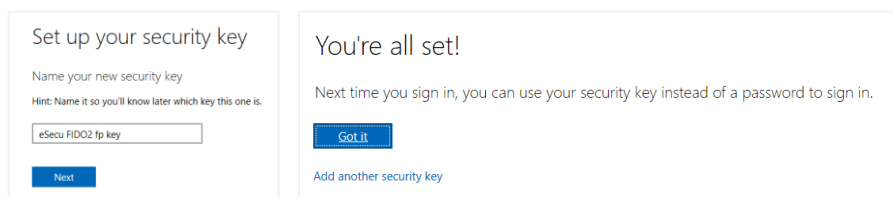
- Identify what type of key you have (USB or NFC) and click next.



- Insert your key into the USB port and touch your key to verify the fingerprint when the key flashes green light.

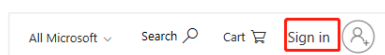


- Name your FIDO2 Pro+ Fingerprint Key, and the registration is finished.

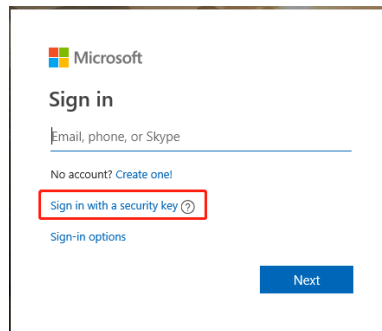


6.2. Sign in with FIDO2 Pro+ Fingerprint Key

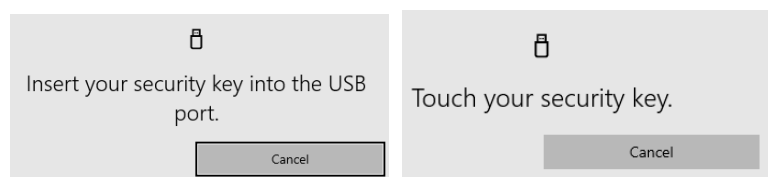
- Click "Sign in".



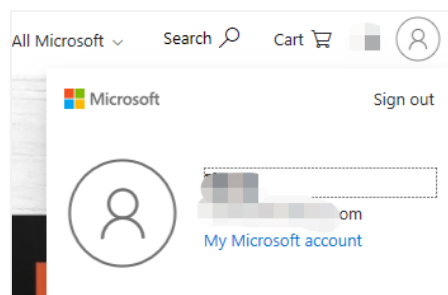
- Click "Sign in with a security key".



3. Insert your key into the USB port and touch your key to verify the fingerprint when the key flashes green light.



4. Sign in successfully.

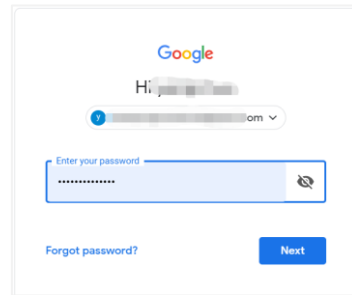


7. How to use FIDO2 Pro+ Fingerprint Key with Google for 2-Step Verification

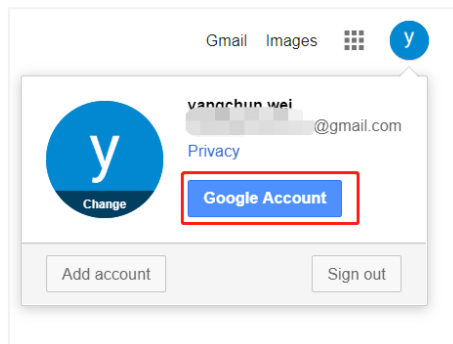
7.1. Register

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

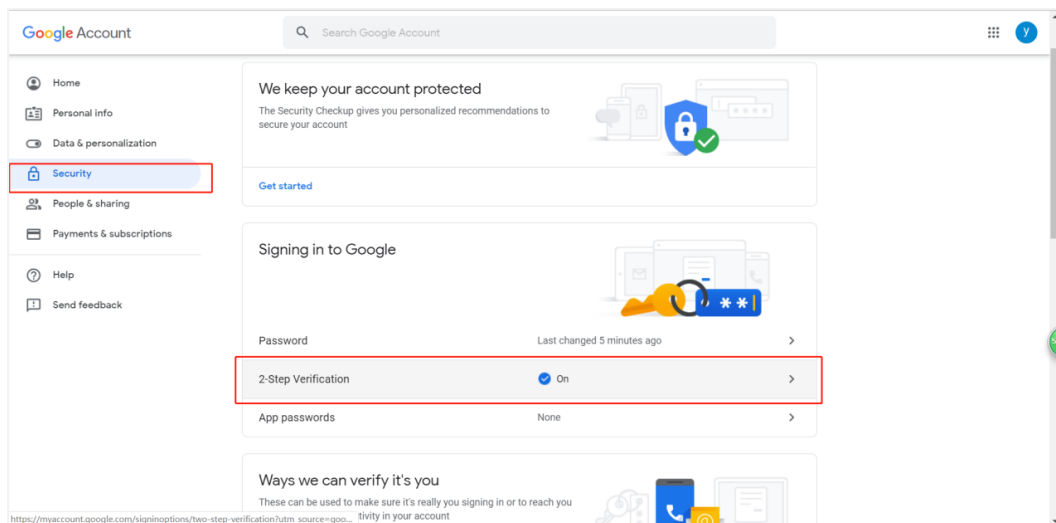
1. Log in to the website: <https://www.google.com/> and click Login in the top right corner.
Enter your account name and password.



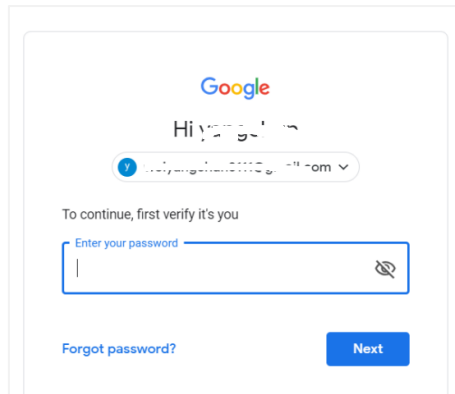
2. Once you have successfully logged in, click on your Google Account.



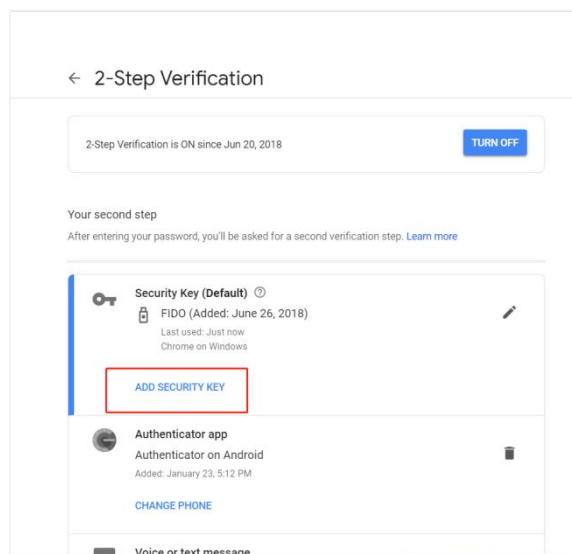
3. Select security->2-step verification.



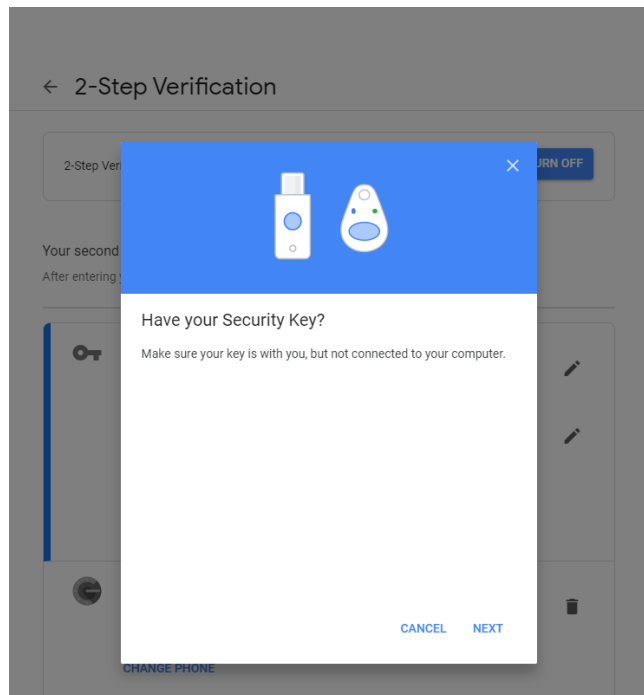
4. You will be asked to log in again.



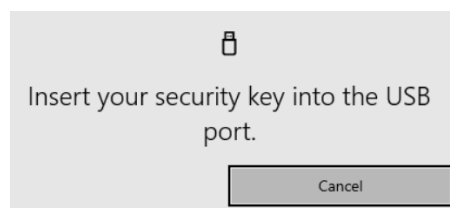
5. Click ADD SECURITY KEY.



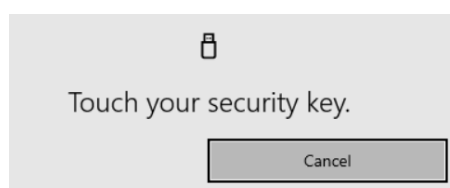
6. Click NEXT to continue.



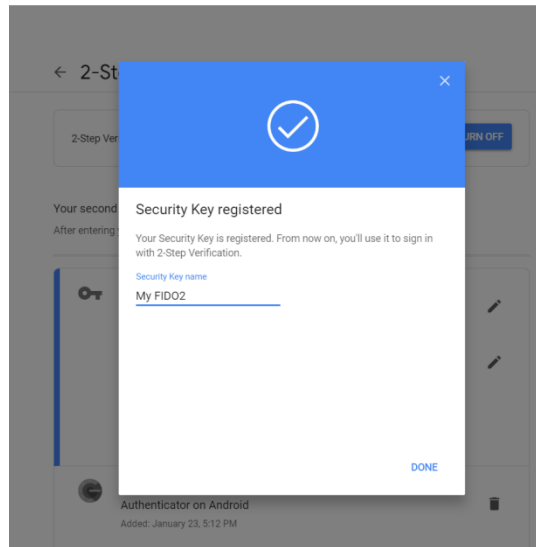
7. You will be prompted to insert your FIDO2 Pro+ Fingerprint Key into a USB port.



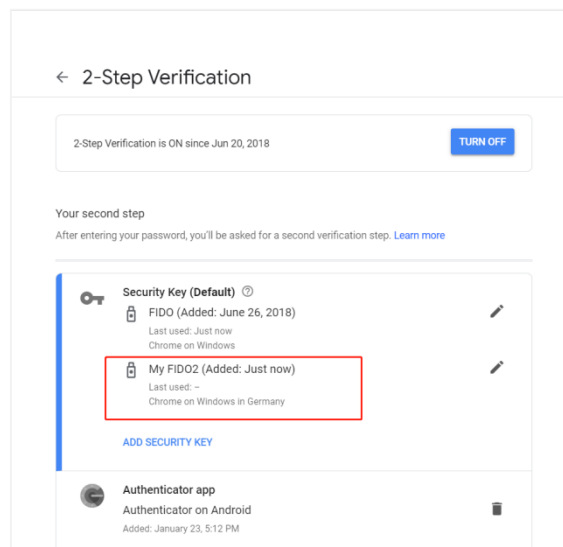
8. When the red light of the key is flashing, it means you are required to touch the key. Press the fingerprint module on FIDO2 Pro+ Fingerprint Key.



9. Rename the FIDO2 Pro+ Fingerprint Key, click DONE to finish.

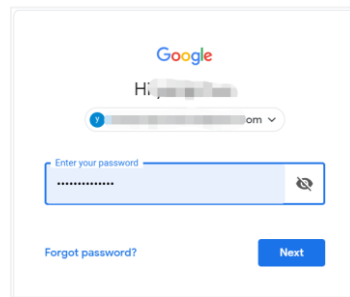


10. The FIDO2 Pro+ Fingerprint Key becomes the default second authentication factor of your account. You will be asked to use it to complete 2-Step Verification when sign in to Google in the future.

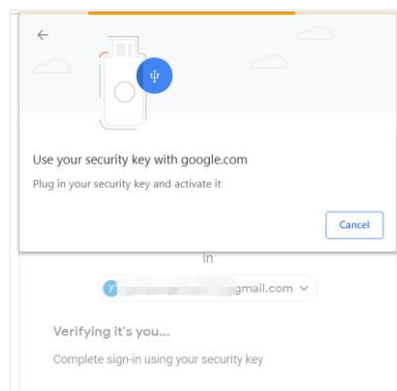


7.2. Sign in (USB Mode)

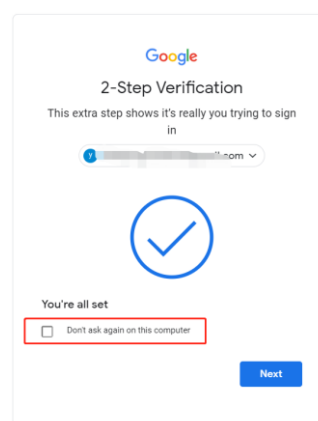
1. Log in to the website: <https://www.google.com/> and click Login in the top right corner.
Enter your account name and password, then click “Next”.



2. You will be prompted to insert your FIDO2 Pro+ Fingerprint Key into a USB port. When the red light of the key is flashing, press the fingerprint module on FIDO2 Pro+ Fingerprint Key.



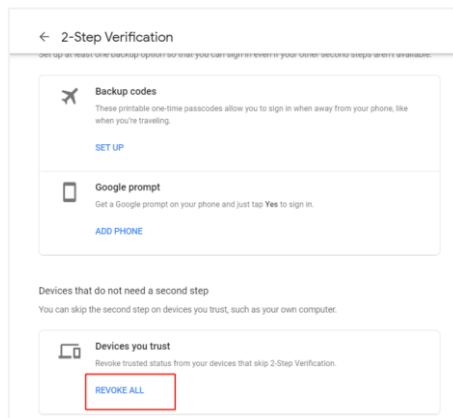
3. Click Next to login.



Note:

- 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.

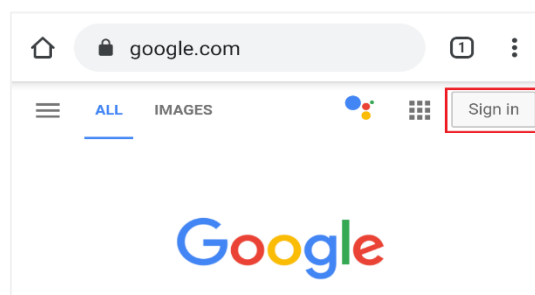
- You can undo trusted devices in settings to restore the use of two-step verification. Click “Revoke All” to clear the trusted device.



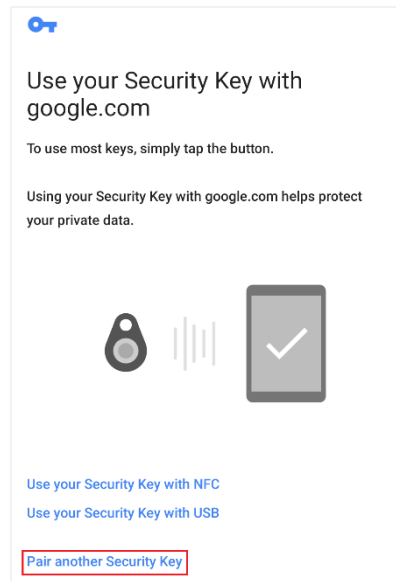
7.3. Sign in (Bluetooth + Android Mobile Device)

When using the FIDO2 Pro+ Fingerprint Key on an Android mobile device for the first time with Bluetooth connection, you need to pair them first.

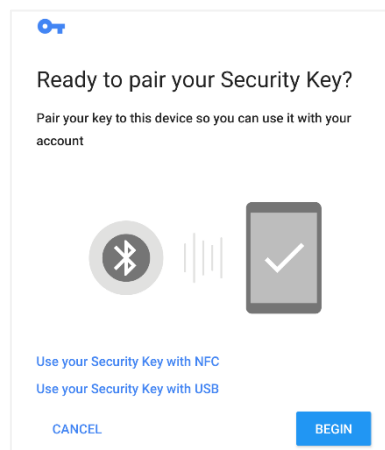
1. Make sure the FIDO2 Pro+ Fingerprint Key is registered to your Google account.
2. Turn on the Bluetooth connection on your Android device. Open the Chrome browser, and go to <https://www.google.com>, click the Sign in button on the top right corner, then enter the username and password.



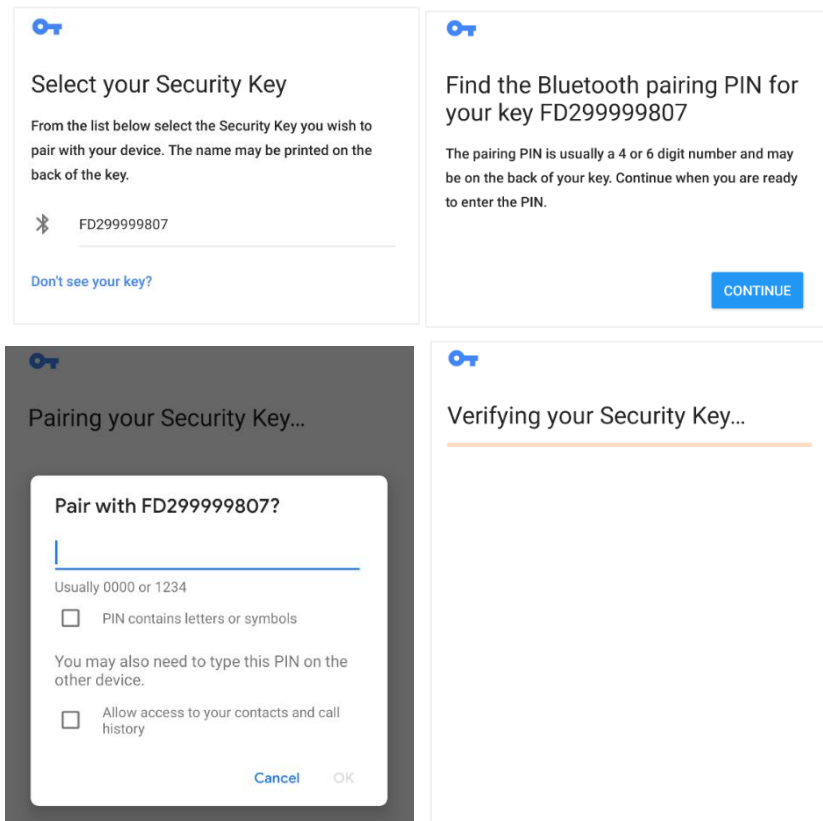
3. If the 2-step Verification of your Google account is turned on, you will be asked to use your Security Key for verification. Click on **Pair another Security Key**.



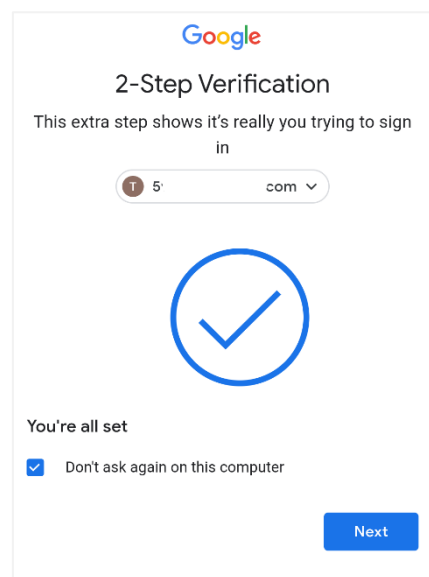
4. Press the fingerprint sensor on your FIDO2 Pro+ Fingerprint Key for over 5 seconds to activate the Bluetooth pairing mode, the blue indicator light on the key shall steady on.



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 FIDO2 Pro+ Fingerprint Key for pairing. When paired successfully, the indicator light on the key shall flashing blue, and the Google service will automatically verify your security key.

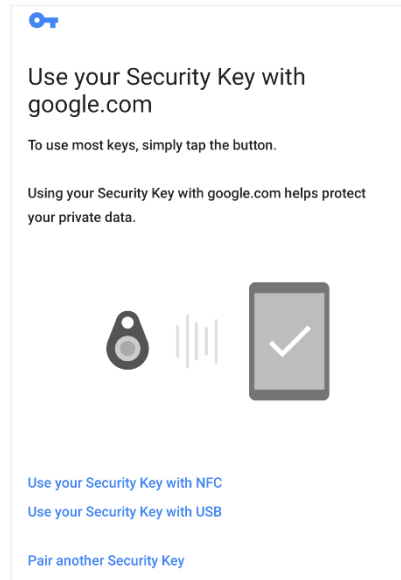


6. When the FIDO2 Pro+ Fingerprint Key receives an authentication request, the indicator light changes to flashing red from flashing blue, short press the button on the key to confirm the authentication, then you will be authorized to login with your account.



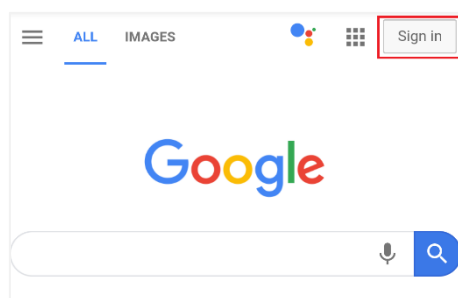
7. When you are asked to do the 2-Step Verification on a paired Android device again, go through the Step 1~3 above, no need click on **Pair another Security Key**, just short press

the fingerprint sensor enter the Bluetooth mode, and the indicator light shall flash blue. When the key receives an authentication request, the indicator light changes to flashing red from flashing blue, short press the fingerprint sensor again on the key to confirm the authentication, then you will be authorized to login with your account.

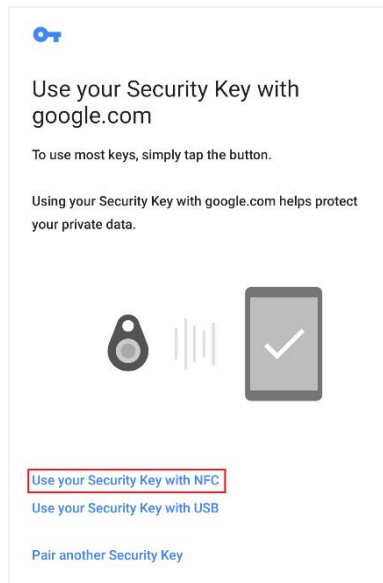


7.4. Sign in (NFC + Android Mobile Device)

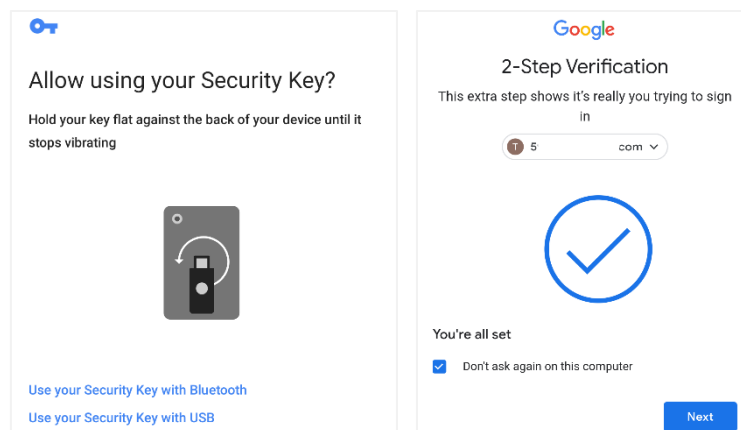
1. Turn on NFC on your mobile device. Open the Chrome browser on your Android mobile device, and go to <https://www.google.com>, then click the **Sign in** button on the top right corner, then enter the username and password.



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 FIDO2 Pro+ Fingerprint Key flat against the NFC sensor of your mobile device. The authentication will complete in a while, and you will be authorized to login with your account.

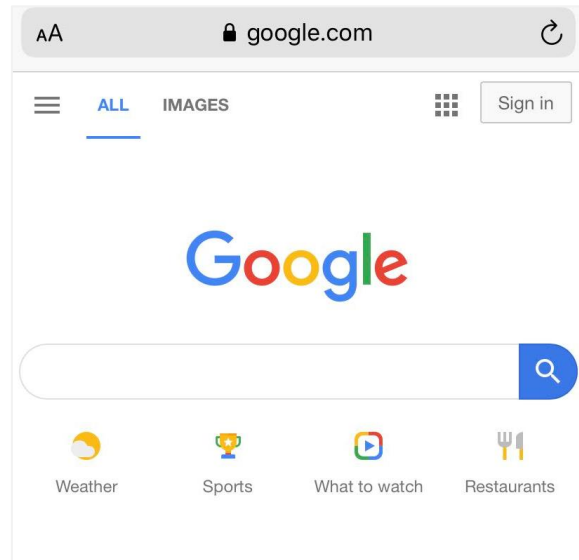


7.5. Sign in (Bluetooth + iPhone)

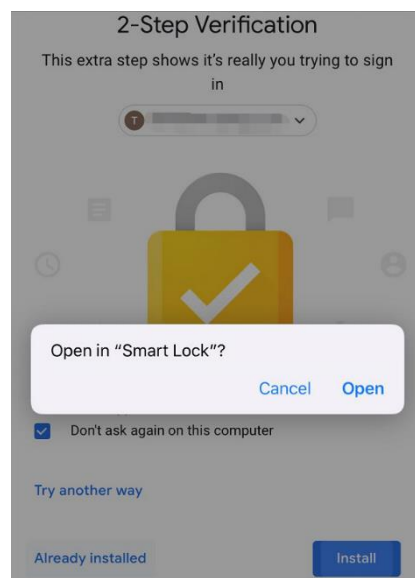
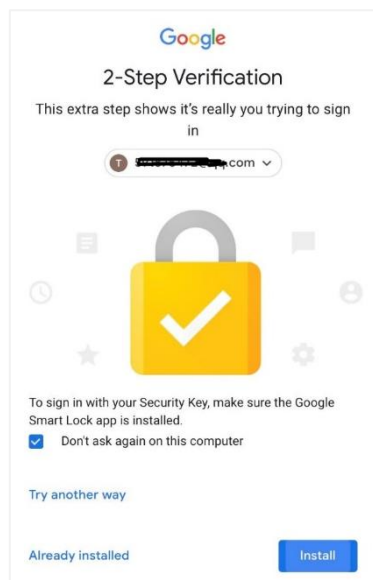
When using the FIDO2 Pro+ Fingerprint Key on an iPhone for the first time with Bluetooth connection, you need to pair them first.

1. Make sure the FIDO2 Pro+ Fingerprint Key is registered to your Google account.

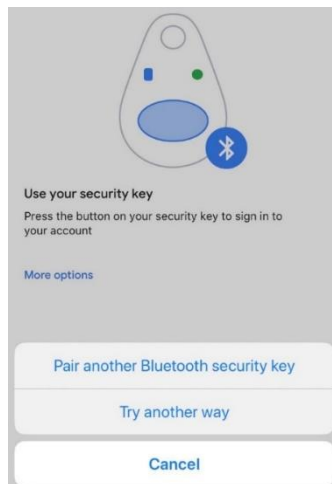
- Turn on Bluetooth connection on your iPhone. Open Safari, and go to <https://www.google.com>, click on **Sign in** on the top right corner, then enter the username and password of your Google account.



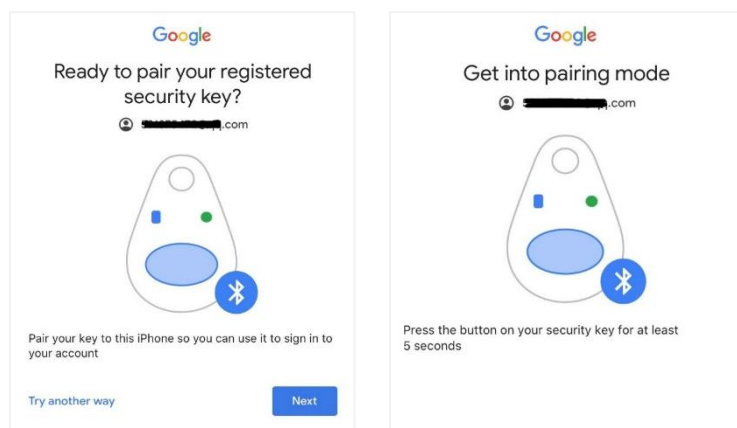
- If the 2-step Verification of your Google account is turned on, then you will be asked to use your Security Key, and make sure the Google Smart Lock app is installed. Click on **Install** if it's not installed. Then click on **Already installed**, and open it.



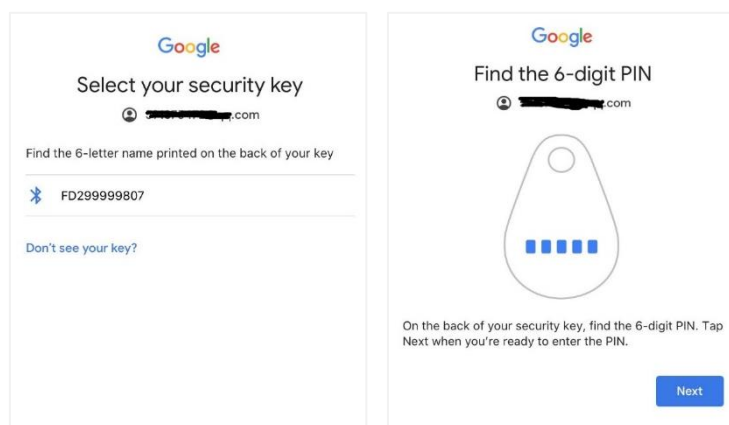
- Click on **More options**, select **Pair another Bluetooth security key**.



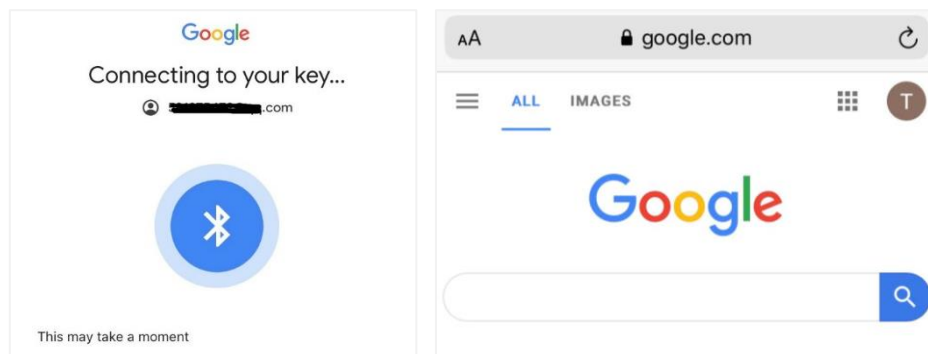
5. Click on **Next**, and press the fingerprint sensor of the FIDO2 Pro+ Fingerprint Key for at least 5 seconds to enter the Bluetooth pairing mode, make sure the blue light is steady on.



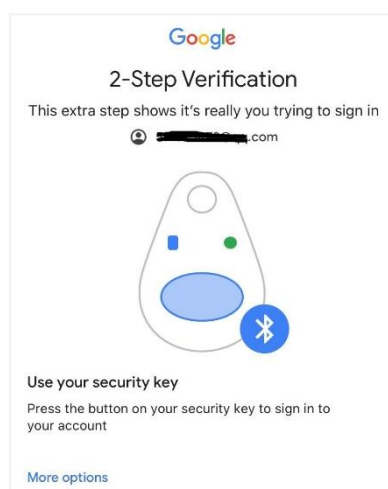
6. When the phone detects the signal of the key, the serial number printed on the back of the key will show on the page. Select the serial number, click on **Next** and enter the 6-digit PIN as printed on the back of the FIDO2 Pro+ Fingerprint Key for pairing.



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



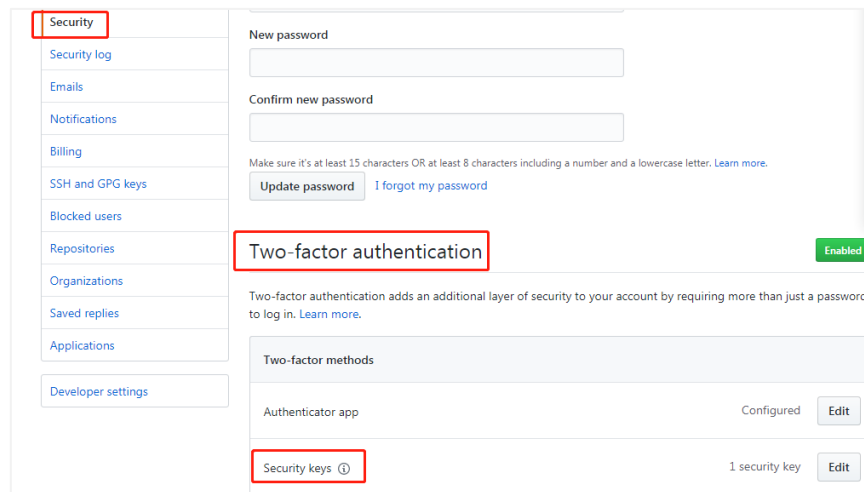
8. When you are asked to do the 2-Step Verification on a paired iPhone again, go through the Step 1~3 above, after you open the Smart Lock app, short press the button on the FIDO2 Pro+ Fingerprint Key to enter the Bluetooth mode, and the indicator light shall flash blue. When the key receives an authentication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



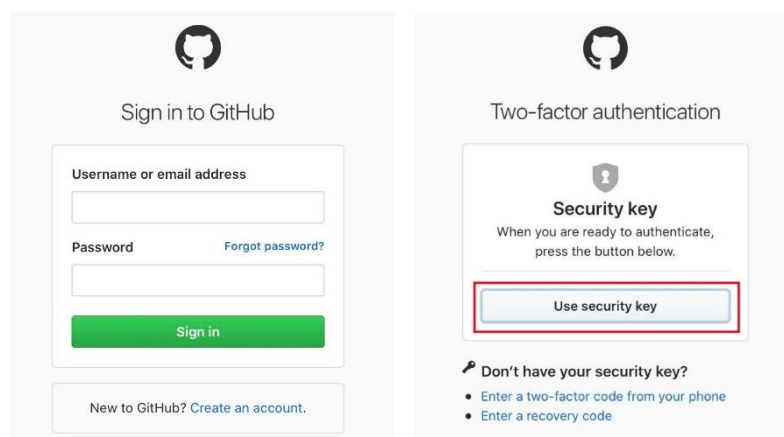
7.6. Sign in (NFC Mode + iOS 13.3 and Above)

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

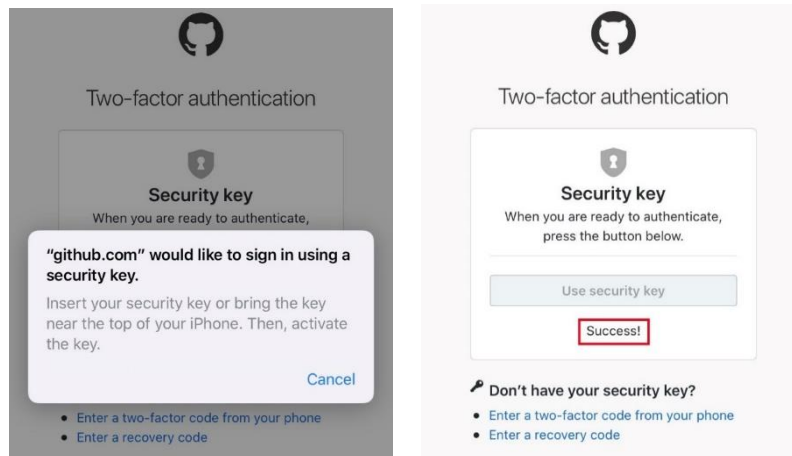
1. Log into your GitHub account on your PC, go to **Settings -> Security**, enable **Two-factor authentication**, and register your FIDO2 Pro+ Fingerprint Key.



2. Turn on NFC on your iPhone, open Safari, and go to <https://www.github.com>, sign in with the username and password, then press **Use security key**.



3. Hold your registered FIDO2 Pro+ Fingerprint Key near the top of your iPhone. The authentication will complete in a while, and you will be authorized to login automatically.



8. FAQ

8.1. I have two gmail accounts, how many FIDO2 Pro+

Fingerprint Keys do I need to protect two gmail account.

Do I need 2 keys?

Answer: You can use one FIDO2 Pro+ Fingerprint 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.

8.2. What should I do if I lost my FIDO2 Pro+ Fingerprint 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 Pro+ Fingerprint Key s are recommended, one for normal use, the other for backup.

8.3. Can I use my FIDO2 Pro+ Fingerprint Key on PC over Bluetooth?

Answer: Yes, if your PC has Bluetooth connection and the web service you want to login

supports FIDO2 Pro+ Fingerprint key over Bluetooth connection. Currently Mac OS does not support FIDO security key over Bluetooth connection.

8.4. What applications support FIDO2 Pro+ Fingerprint Key?

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

8.5. Why does GitHub say “this browser doesn't support security key” on my iPhone?

Answer: Please make sure your iPhone is updated to iOS 13.3.

8.6. Can I register a FIDO2 Pro+ Fingerprint Key over my smart phone?

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

8.7. How can I know when to charge my FIDO2 Pro+ Fingerprint Key?

Answer: When a red indicator blinks every 5 seconds a time, the FIDO2 Pro+ Fingerprint Key is in low power state. Charging process starts automatically when FIDO2 Pro+ Fingerprint Key is plugged in the USB port of the PC.

9. Product Specs

Product	eSecu FIDO2 Pro+ Fingerprint Key (FD213)
System	Windows, macOS, Linux
Browser	Edge, Chrome, Firefox, Opera, Safari
Functions	FIDO U2F, FIDO2, HOTP, TOTP

Algorithm	SHA256, AES, HMAC, ECDH, ECDSA
Size	65.2 x 19 x 12.2 (mm)
Interface	USB-A, NFC, BLE
Data Retention	≥10 years
Rewrite Cycle	≥100,000 times
Operating Voltage	5V±10%
Operating Current	Max <40mA
FP Sensor Resolution	508dpi
Verification Time	<1s
False Accept Rate	< 0.001%
False Reject Rate	< 1%
Storage	30 fingerprints
Operating Temperature	-10°C~60°C
Storage Temperature	-20°C~60°C
Indicator Light	3 LED (Red, Green, Blue)
Material	AL, PC
Certificate	CE, FCC, RoHS, WEEE, FIDO2 L1