LastPass in combination with DUO
Use Case documentation

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1 Introduction

Shift in IT landscape:

With cloud applications all over the place, teleworking being the new normal and employees working on all sorts of devices, from mobile corporate devices to BYOD, security has taken a new turnaround.

There is clearly a shift in IT landscape where the perimeter has been evolving meaning that the business challenges are also evolving. The attack surface and access possibilities are increasing and the CISO's visibility and control over users, devices, applications and the broader network is decreasing.

Basically, accessing IT systems happens from everywhere on all sorts of devices.

How can you gain visibility and control over that shattered network and all those devices?

How can you prevent risks and reduce it before a breach occurs?

The secret lies in the Zero Trust approach where you need to shift from a traditional security approach, i.e. trust being based on the network location that an access request is coming from, to this Zero Trust approach where every access request needs to be verified, regardless where the request is coming from.

Zero Trust:

Do you need to block everything and work only via corporate devices which are centrally managed?

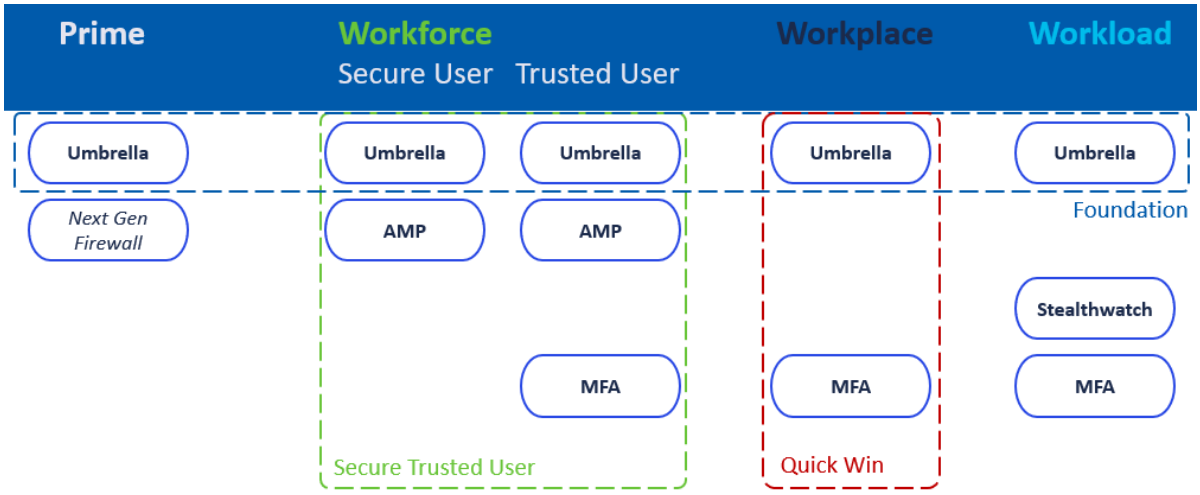
You need to extend trust to support a modern enterprise with BYOD, cloud apps, hybrid environments and more.

Secure access across your applications, network and ensure that only the right users and devices have access.

Silta created a framework, working with Cisco's finest SASE (Security Access Service Edge) solutions to help you implement your Zero Trust approach, organized around three pillars:

- Workforce:
  - Is the user who he says he is?
  - Does he have access to the right applications?
  - Is the device secure and trusted?
- Workload:
  - What applications are used in the enterprise?
  - What is communicating with these applications and data?
  - Is the communication trusted?
- Workplace:
  - Do users and devices authenticate for network access?
  - What access are they granted
  - Are devices on the network secure
  - Is there network segmentation based in trust?

Silta's security product portfolio:



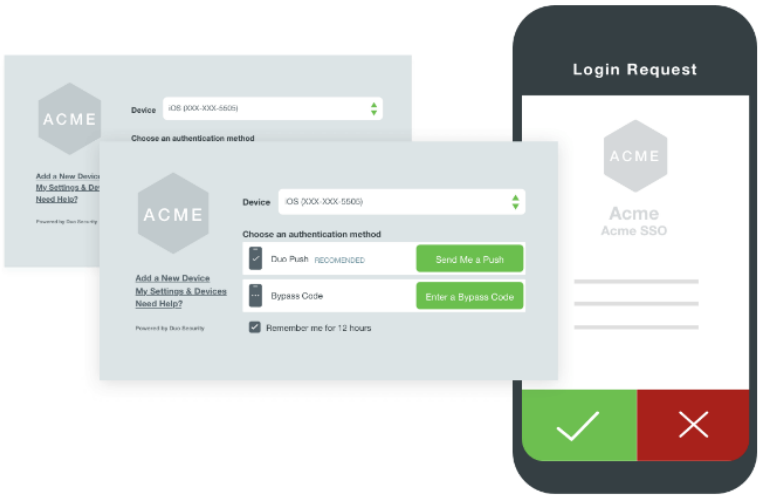
For every organisation there is a solution that can be built around those pillars. From the Silta Prime solution with basic DNS protection using Cisco Umbrella in combination with already existing Firewalling, to a combination of multiple pillars and products for a trusted, secure user accessing secure workloads from a secure workplace.

Use Case:

In this use case document, we will explain how to implement DUO as a multi factor authenticator (MFA) in combination with accessing the LastPass password vault. The principle of adding an application is always the same.

2 Cisco DUO

Multi-factor authentication from Cisco's Duo protects your applications by using a second source of validation, like a phone or token, to verify user identity before granting access. Duo is engineered to provide a simple, streamlined login experience for every user and application, and as a cloud-based solution, it integrates easily with your existing technology.

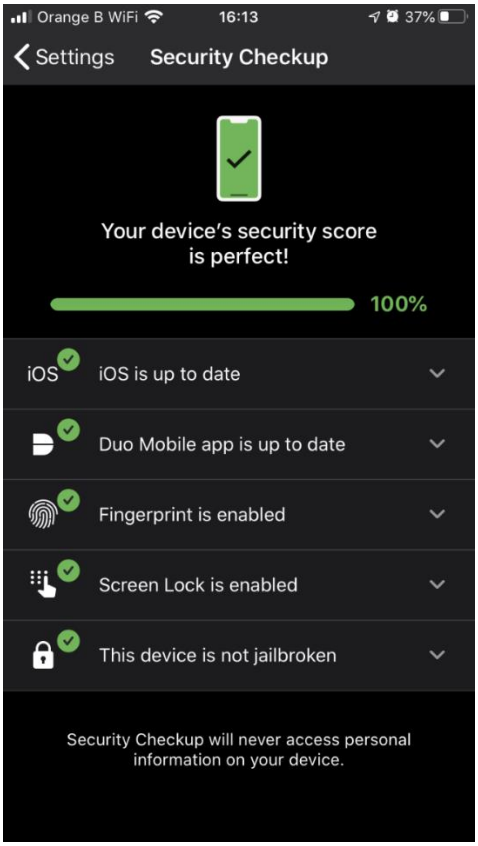


With DUO MFA, you can easily manage your users, but also the devices linked to those users. DUO gives you insight in de login attempts, in the OS versions of your phones, in the operating systems of your end points, etc.

Not just a regular MFA

It's way more than just an MFA. It enables you to create policies on how DUO is used (e.g. for every login attempt) and helps you in managing the devices' operating systems by giving you OS insights.

A security check-up is also embedded in the DUO mobile app and gives the user an insight in regards to the health status of his device and the DUO application:

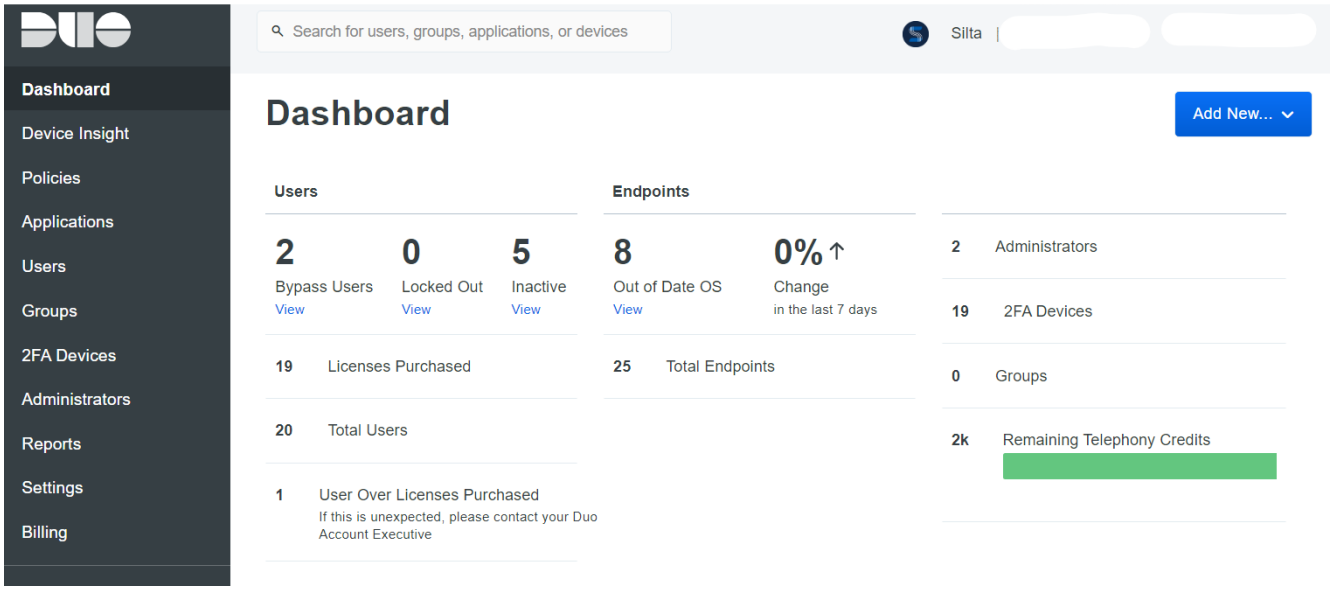


Administrator user interface

DUO offers administrators a comprehensive user interface where the licenses, users, devices and devices can be managed.

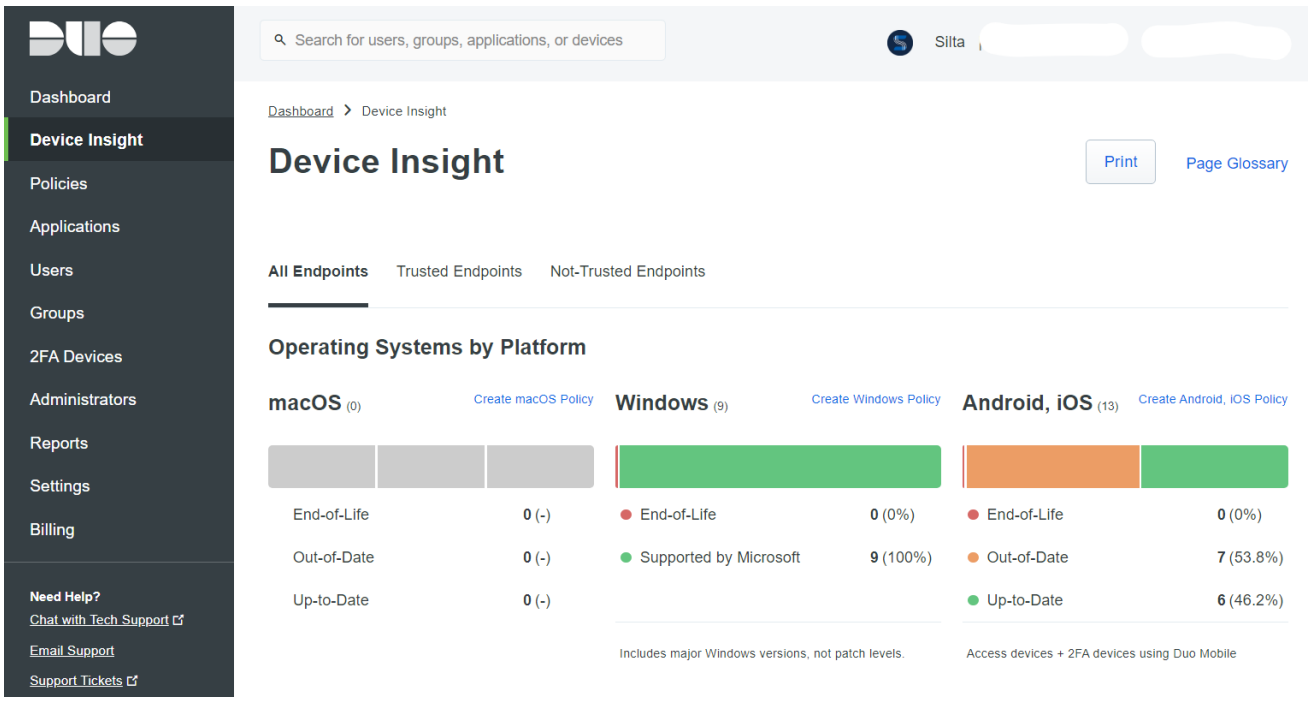
By creating a profile/account via https://duo.com/ and test the free trial, you get access to the admin pane of duo-security.

***Dashboard**:*



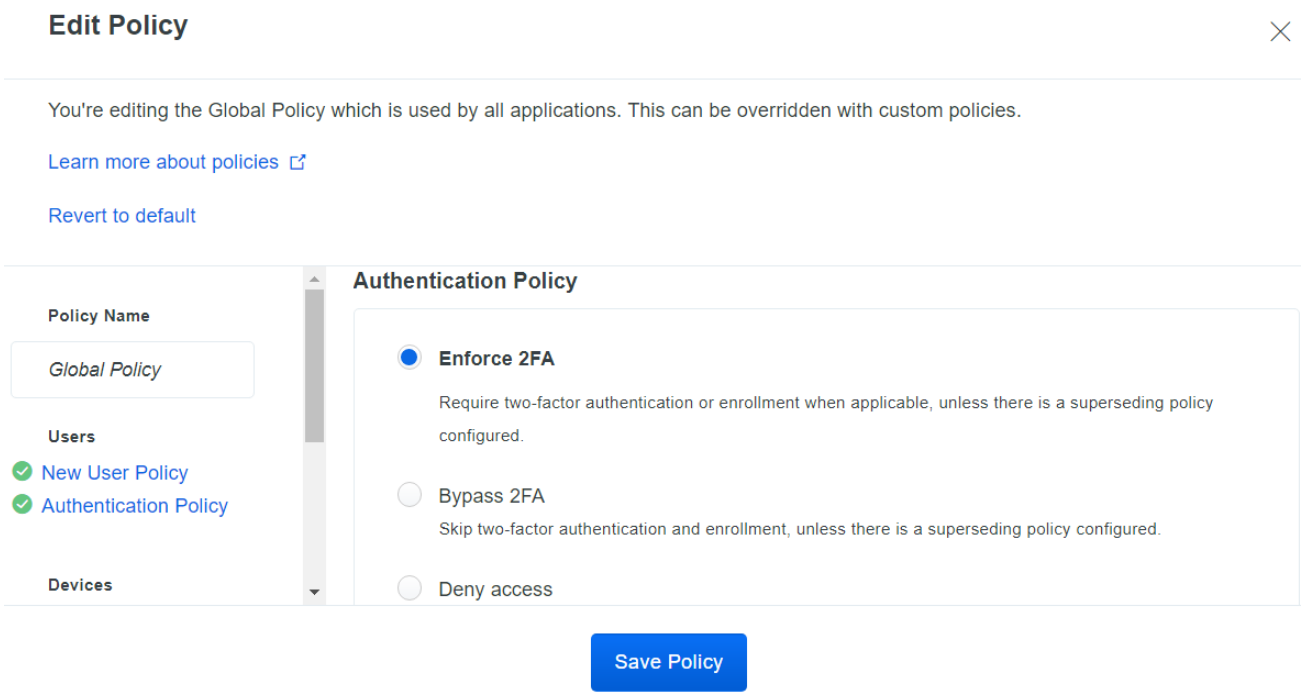
The dashboard is an overview page.

Device Insight

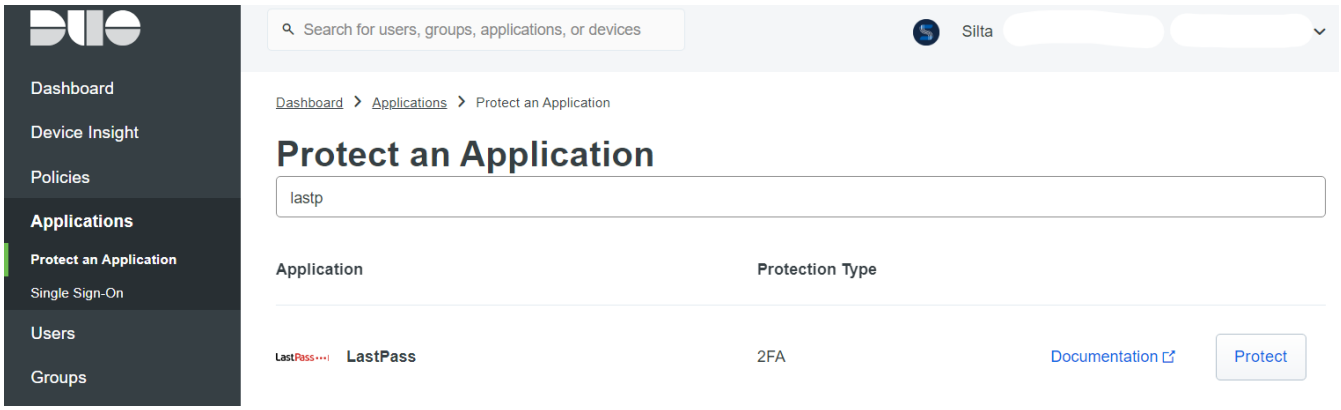


This page gives an overview of the mobile devices and their operating systems. Interesting is to look at the mobile phones. Here you see that 7 devices have an out of date operating system.

The policies pane gives you the possibility to configure policies in regards to the use of 2FA, e.g. by enforcing the use of 2FA for authentication purposes as shown hereunder:



Applications



An application is every 3rd party app that you want to protect with MFA. But it could also be meant for another operating system (like MacOS).

All the necessary documentation is foreseen to help you with the setup of the specified application or operating system.

3 LastPass

(Source: LastPass Technical Whitepaper)

LastPass encourages users to enable multifactor authentication to add an additional layer of protection to an account. Multifactor authentication requires another piece of information before access is granted.

Companies can mandate use of multifactor authentication with LastPass through policies available in the admin dashboard.

Multifactor authentication requires two or more authentication factors, including something the user

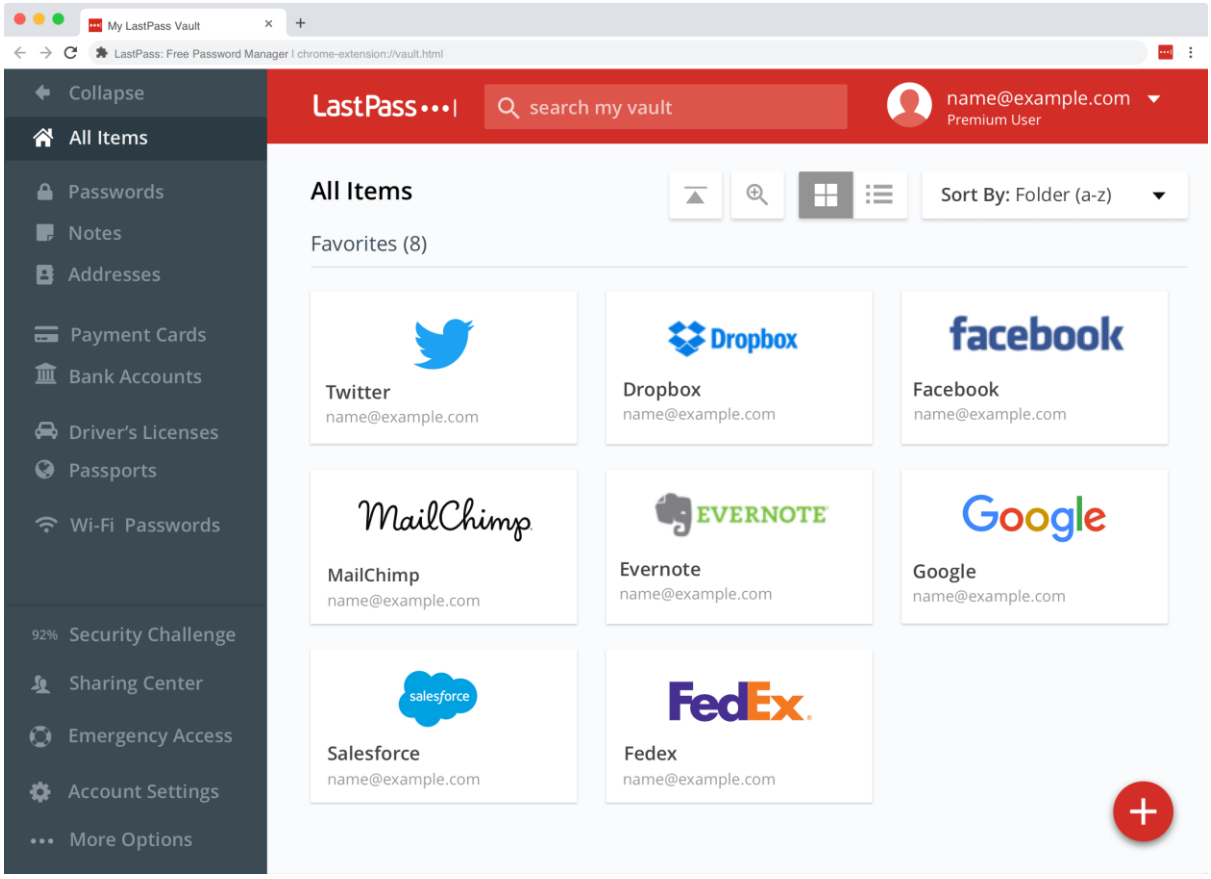
knows (the master password), in addition to something they have (a code, a key) and/or something they are (a fingerprint). By requiring not only the master password, but also an additional login step (like a

one-time password, a fingerprint swipe, a randomly-generated 6-digit code), a user adds another layer of protection against unauthorized access to their account.

If an attacker were to discover a user's Master Password, it's unlikely that they would also have access to a valid multifactor token, therefore minimizing the chance that they would be unable to gain access to the user's account.

Admins can mandate multifactor authentication through policies in the admin dashboard, requiring use of any supported multifactor authentication option or requiring use of only specific, company-approved multifactor authentication options.

Administrator pane



LastPass is able to create different folders, e.g. a private folder and a shared folder, shared with a certain group or team.

LastPass can be used to keep the passwords safe of all the different customer environments that you manage, in combination with a mandatory MFA step for user authentication. A user which is disabled in DUO will no longer have access to LastPass, even with valid LastPass credentials.

4 Application set up

(source: https://duo.com/docs/lastpass)

The setup is described for LastPass Free and Premium editions.

1. Sign up for a Duo account. The Duo Free plan is free for up to ten users with unlimited applications.
2. Log in to the Duo Admin Panel and navigate to **Applications**.
3. Click **Protect an Application** and locate **LastPass** in the applications list. Click **Protect this Application** to get your **integration key**, **secret key**, and **API hostname**. (See Getting Started for help.)

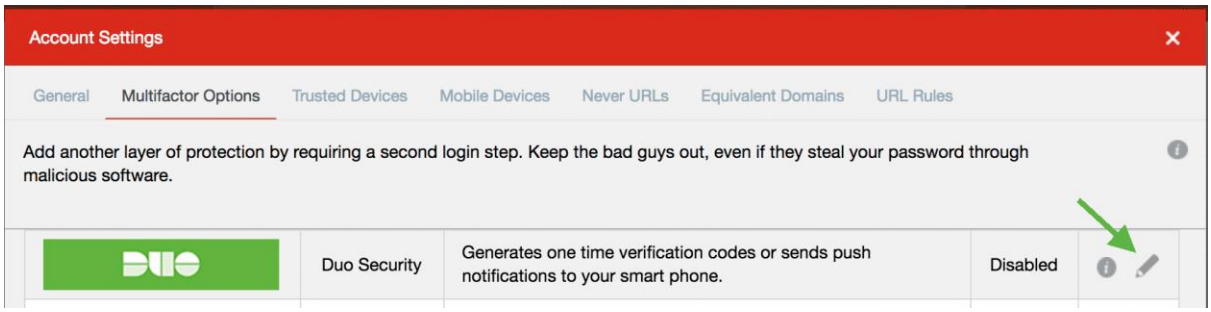
Treat your secret key like a password

The security of your Duo application is tied to the security of your secret key (skey). Secure it as you would any sensitive credential. Don't share it with unauthorized individuals or email it to anyone under any circumstances!

If you followed a Duo sign-up link from the LastPass site then we'll automatically create a LastPass application for you!

Configure Duo Security

1. Log in to your LastPass vault.
2. Once logged in to LastPass go to **Account Settings** → **Multifactor Options**.
3. Click the pencil icon to the right of the **Duo Security** multifactor option.

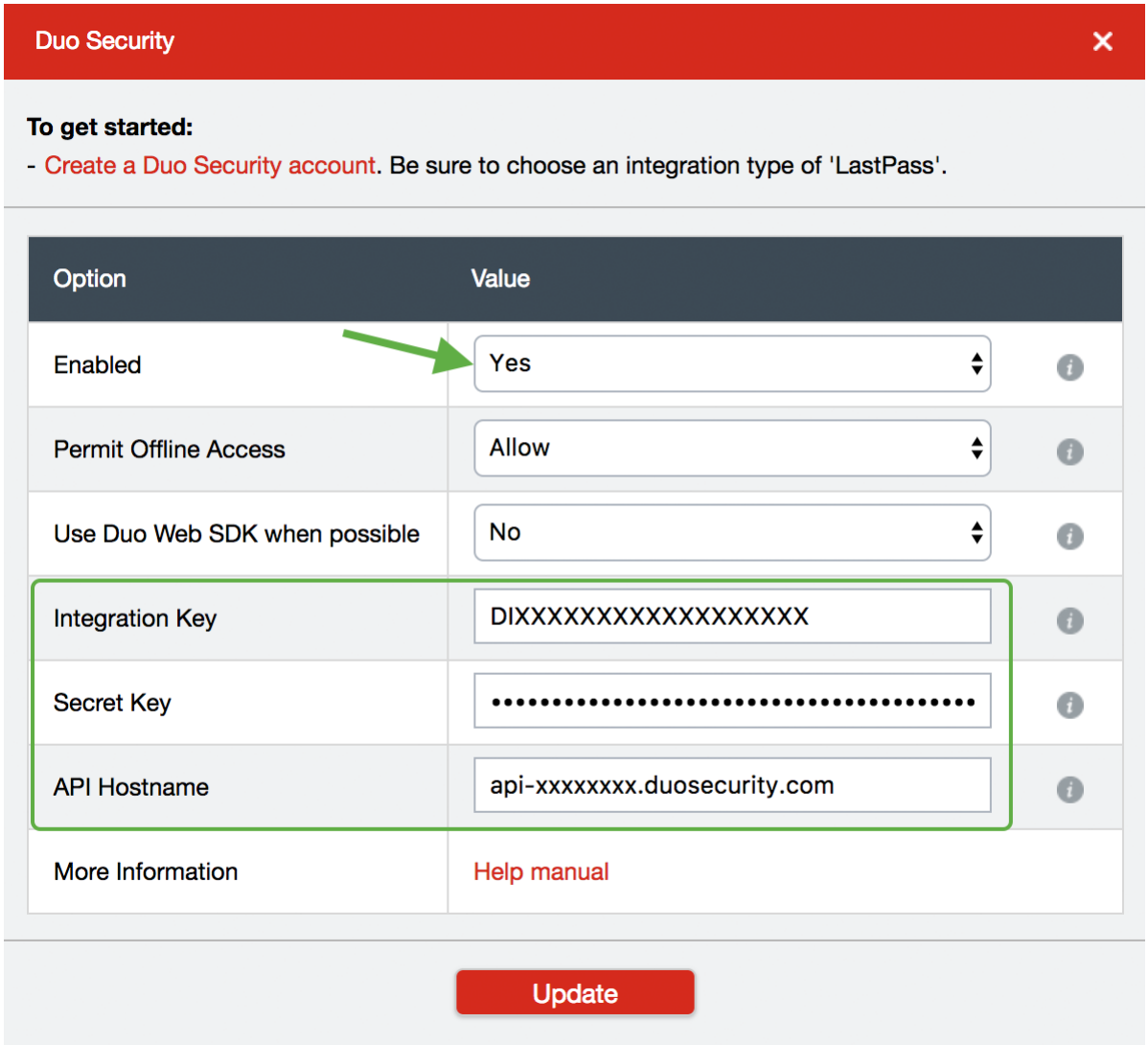


4. Configure the Duo Security options as follows:

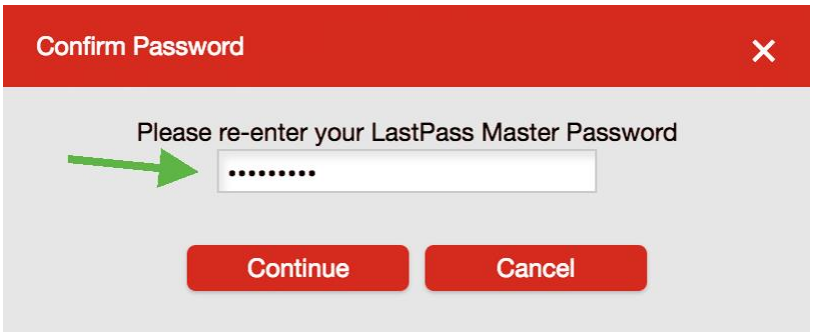
Option	Value
Enabled	Select **Yes**.
Permit Offline Access	Set to **Allow** if you want access to your password vault even when LastPass is unreachable. For more information about this option please see the topic "Offline Access to Your LastPass Vault" in the LastPass User Manual.

Option	Value
Use Duo Web SDK when possible	The default setting (No) means that all types of clients see the same LastPass Duo prompt. If you'd like to enable the interactive authentication prompt for web browser logins to LastPass, change this setting to **Yes**.
Integration Key	Copy and paste in the **integration key** from the LastPass application you created earlier in the Duo Admin Panel.
Secret Key	Copy and paste in the **secret key** from the LastPass application you created earlier in the Duo Admin Panel.
API Hostname	Copy and paste in the **API hostname** from the LastPass application you created earlier in the Duo Admin Panel.

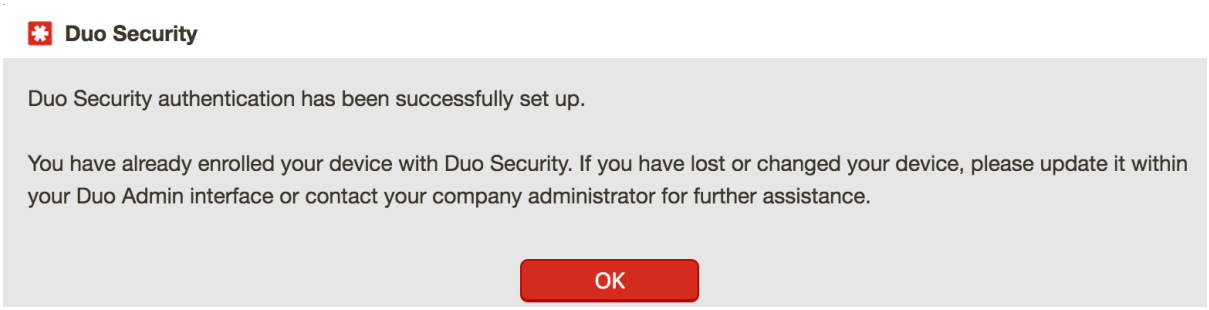
5. Click **Update** when done.



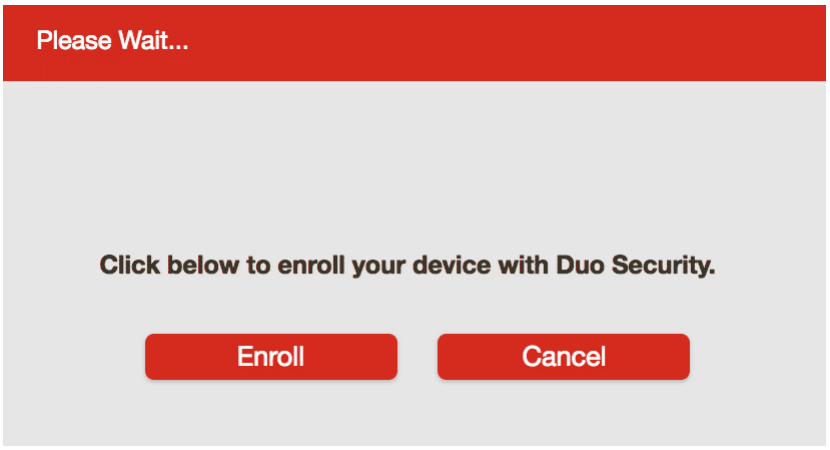
6. Enter your LastPass password to confirm the change to your account.



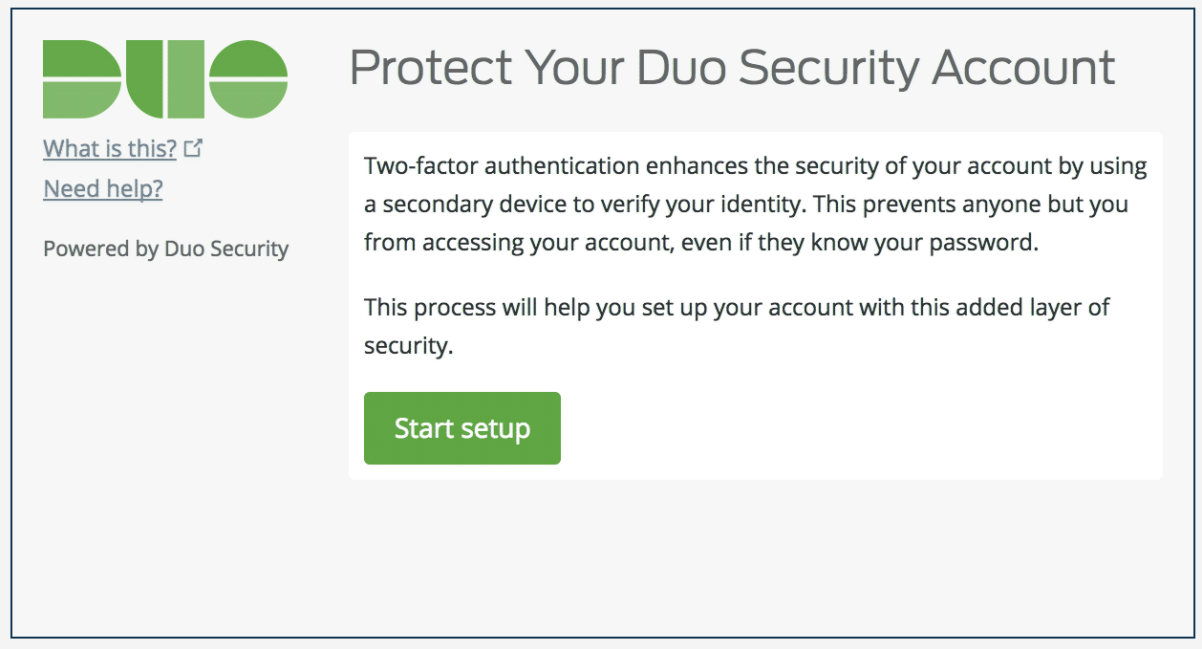
7. If your LastPass email address is already enrolled in Duo there are no additional enrollment steps required.



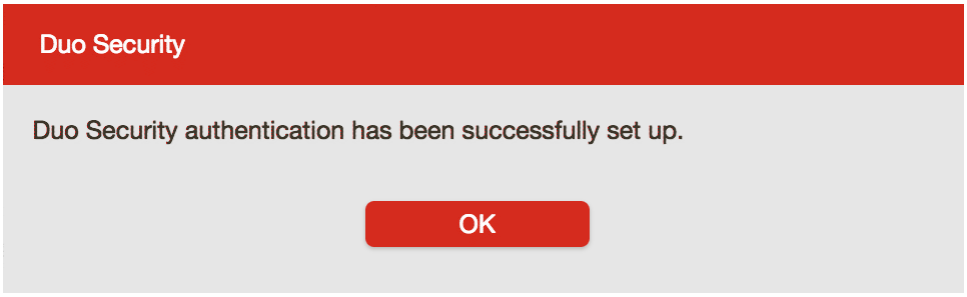
If the email address you use to log on to LastPass is not enrolled as a user in your Duo account, LastPass prompts you to complete Duo enrollment in a new browser tab.



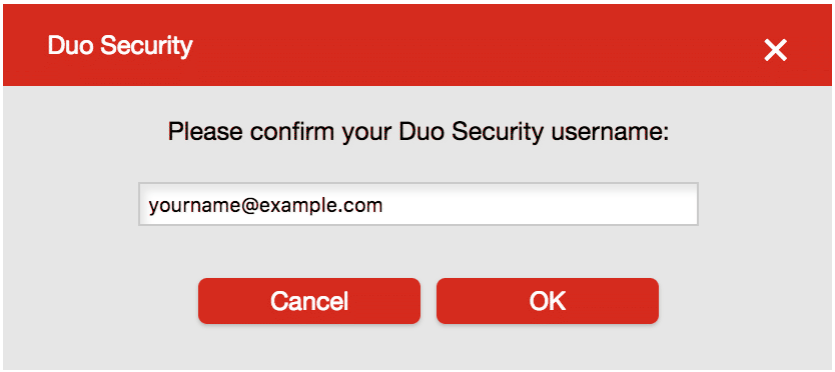
Follow the on-screen steps to complete device enrollment. Please see the user guide to enrollment for more information.



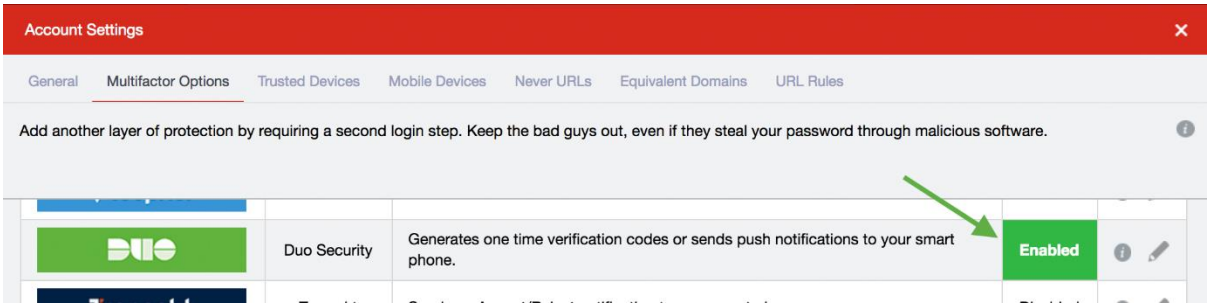
8. You can close the Duo browser tab when you see the message "Enrollment successful!" The LastPass browser window displays a message letting you know your setup is complete.



9. Verify your LastPass account email address to apply all changes.



10. The Duo Security option now shows as "Enabled" on the LastPass Multifactor Options page.



Instructions for configuring LastPass with Duo are also available in the LastPass User Manual.

Test Your Setup

Enable Hostname Whitelisting

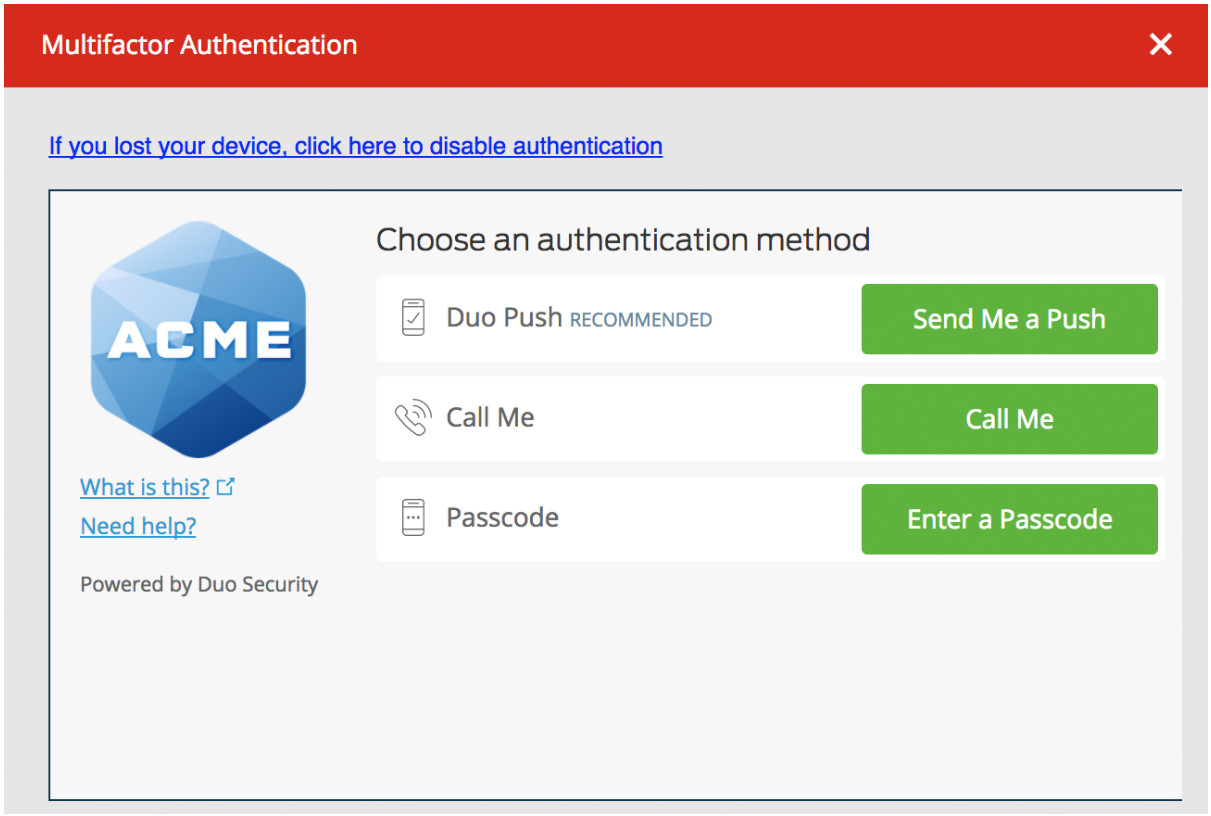
If you plan to permit use of WebAuthn authentication methods (security keys, U2F tokens, or Touch ID), Duo recommends enabling hostname whitelisting for this application and any others that show the inline Duo Prompt before onboarding your end-users.

After completing multifactor setup, you'll see the Duo authentication prompt when you log in to LastPass. You can approve a Duo Push authentication request on your smartphone or tablet, approve authentication over the phone, or enter a passcode generated via the Duo Mobile app, text message, or hardware token.

5 User Login Experience

After completing multifactor setup, users see the Duo authentication prompt when they log in to LastPass. Users can approve a Duo Push authentication request from a smartphone or tablet, approve authentication over the phone, or enter a passcode generated via the Duo Mobile app, text message, or hardware token.

If you did enable the Duo Web SDK policy for your organization, browser logons to LastPass show the interactive Duo prompt, while mobile app logins continue to show the original LastPass multifactor prompt.



When your LastPass Enterprise users view their multifactor options for Duo, the setting shows as enforced by company policy.

Ready for your first implementation? Do not hesitate to contact us directly or via the website.