

Mailgun API Migration Guide

Migrating from Sendgrid

A quick comparison guide to help you migrate from Sendgrid over to Mailgun API.

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1. Introduction

Whether you're considering switching Email Service Providers (ESPs) or have already made the decision and are planning your migration – the task ahead can feel daunting. Migrating to a new ESP can be a difficult and risky undertaking, but it doesn't have to be. With this guide, we aim to make moving over from Sendgrid to Mailgun as easy to understand as possible, so that you can keep sending email with little to no impact to operations

Before we get started, let's go over some key terms that might change in your migration over to Mailgun. Some of these terms remain the same, but it's important to note those that go by a different name in our systems. More terms will be included throughout the guide, but these basics will help get you started:

Comparable terminology

Mailgun Terms	Sendgrid Terms
Multi User Access	Multiple Credentials
Routes	Inbound Parse Webhook
Substitution Data	Substitutions/Sections
Suppressions	Suppressions
Tags	Categories
Webhooks	Event Webhook
X-headers	X-SMTPAPI
X-Mailgun-Variables	unique_args
Mailjet Email Marketing	Marketing Campaigns

Now, if you haven't already, create a mailgun account to determine how you'd like to send email.



A quick guide to getting started:

Getting started with Mailgun is simple, and it all starts with creating an account. Once you've signed up, you can either add a domain or use the sandbox domain we provide for testing purposes (*.mailgun.org.) It should be noted, however, that sandbox domains are restricted to authorized recipients only, so choose accordingly as you get started. From there, you'll need to decide how you want to send email; either via SMTP or API.

Since you are moving from Sendgrid, chances are you already have a method picked out. However, if you're looking to switch from one or the other, or just want a refresher, there are a few core differences between SMTP and API.

- **SMTP:** Sending via SMTP relay is ideal if you're already using it and have it integrated with your existing applications. It's an easy migration from one provider to the other, and since it is an open protocol, nothing will get lost in translation between endpoints.
- **API:** Sending via an email API is about 3 times faster than an SMTP relay, easier to maintain, and allows for better scalability as your sending increases. Many senders end up switching from SMTP to API if they haven't already, so consider weighing which sending method works best with your needs.

Should you be conflicted between the two options, we recommend using an email API if you aren't already. The ability to scale and integrate with more applications future proofs you for whatever lies ahead.

Once determined, you can begin the planning and implementation step of your platform migration.



2. SMTP migration

If you're currently using SMTP relays for your email sending, switching over to Mailgun is a straightforward process. Given that we support sending via SMTP, there are just a few steps you need to complete in order to move off of Sendgrid. It is important to note that your outgoing SMTP server will change to the following:

Comparable terminology

Sendgrid Server	Mailgun Server (US)	Mailgun Server (EU)
smtp.sendgrid.net	smtp.mailgun.org	smtp.eu.mailgun.org

Once you have determined which Mailgun server to use, note that Mailgun supports the following ports:

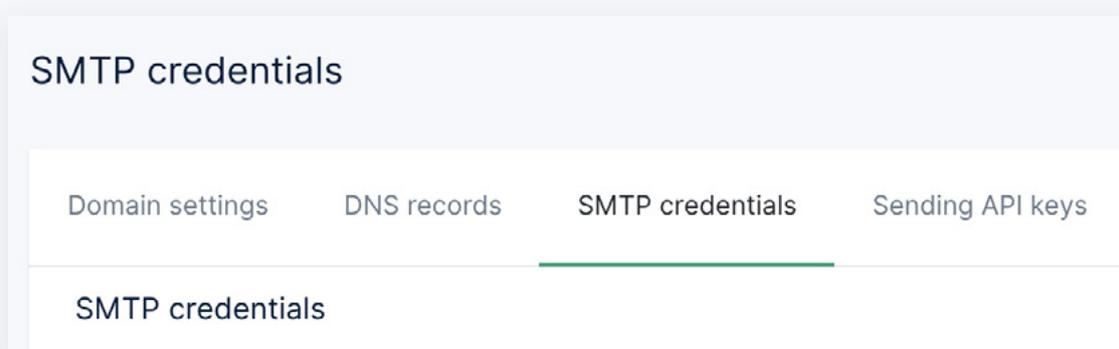
SMTP port overview

Port	Overview
25	A high traffic port, usually blocked by ISPs due to high spam rate coming from this relay.
465	Legacy systems, not recommended as its not in use much today
587	Recommended: Default SMTP relay for email sending, secured with TLS
2525	Backup port, use if all others have trouble connecting with your systems.



Setting up your SMTP connection

First, create a new SMTP user under Sending -> Domain Settings -> SMTP Credentials in your control panel.



Mailgun automatically creates a secure SMTP password to use. However, if you'd rather set up a custom SMTP password, the [Domain API](#) can be used to generate those passwords.

Once you have these credentials, switch over to your email client and configure your SMTP settings. In addition, you can then use various headers within your email messages to customize how the message is sent, tracked, and secured. We've included our list of headers below as an at a glance reference, but they can also be found in our documentation.

Custom Headers

Header	Description
X-Mailgun-Tag	Tag string used for aggregating stats. See Tagging for more information. You can mark a message with several categories by setting multiple X-Mailgun-Tag headers.
X-Mailgun-Dkim	Enables/disables DKIM signatures on per-message basis. Use yes or no .
X-Mailgun-Deliver-By	Desired time of delivery. See Scheduling Delivery and Date Format.
X-Mailgun-Drop-Message	Enables sending in test mode. Pass yes if needed. See Sending in Test Mode.
X-Mailgun-Track	Toggles tracking on a per-message basis, see Tracking Messages for details. Pass yes or no .



Custom Headers continued

Header	Description
X-Mailgun-Track-Clicks	Toggles clicks tracking on a per-message basis. Has higher priority than domain-level setting. Pass yes , no or htmlonly .
X-Mailgun-Track-Opens	Toggles opens tracking on a per-message basis. Has higher priority than domain-level setting. Pass yes or no .
X-Mailgun-Require-TLS	Use this header to control TLS connection settings. See TLS Sending Connection Settings
X-Mailgun-Skip-Verification	Use this header to control TLS connection settings. See TLS Sending Connection Settings
X-Mailgun-Recipient-Variables	Use this header to substitute recipient variables referenced in a batched mail message. See Batch Sending
X-Mailgun-Variables	Use this header to attach a custom JSON data to the message. See Attaching Data to Messages for more information.
X-Mailgun-Delivery-Time-Optimize-Period	Toggles STO on a per-message basis. String should be set to the number of hours in [0-9]+h format. See Sending a message with STO for details.
X-Mailgun-Time-Zone-Localize	Toggles TZO on a per-message basis. String should be set to preferred delivery time in HH:mm or hh:mm:aa format, where HH:mm is used for 24 hour format without AM/PM and hh:mm:aa is used for 12 hour format with AM/PM. See Sending a message with TZO for details.



3. API migration

Mailgun API offers a RESTful HTTP API for easier integration into your applications. Simply pick your preferred programming language to get started.

To best demonstrate the changes between our API and Sendgrid's, we advise taking a look at both API references for each ESP and compare the two. No two senders are alike, which means your individual needs in migration will differ greatly depending on how you're using the API to send email. To make things easier for you, we've compiled a list of the API references for both ESPs below.

Please note, that these API references cover various aspects of your email program like sending emails, domain management, inbound routing, and anything else you might need to configure within your app.

API references

API Name	Mailgun	Sendgrid
API Basics	Introduction	Mail Send - Sendgrid's sub navigation on the left-hand side will direct you to different API reference sections, however, they cannot be linked
Email Sending	Messages	
Domain & IP Management	Domains IP IP Pools	
Email Tracking	Events Stats Tags	
Receiving Email	Routes	
Suppressions	Bounces Unsubscribes Complaints Allow Lists	
Webhooks	Webhooks	
Mailing Lists	Mailing lists	
Email Templates	Template Storage Handlebarsjs (external documentation)	



API references continued

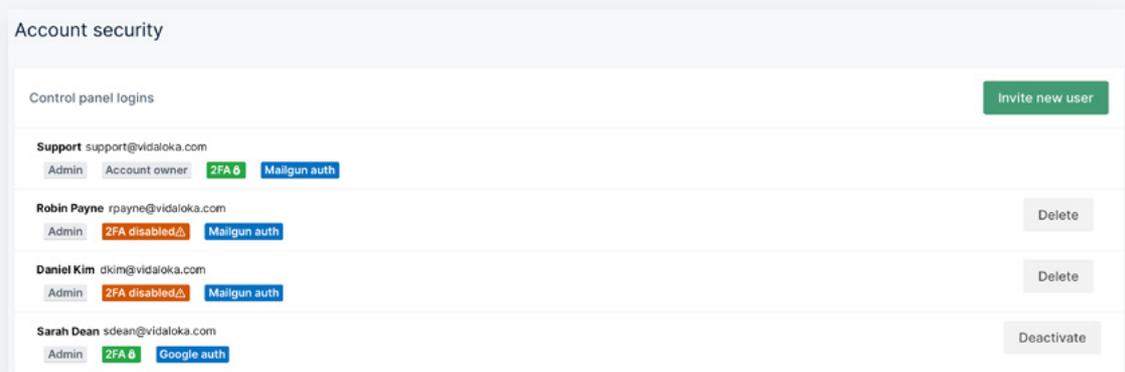
API Name	Mailgun	Sendgrid
Email Verifications	Single Verifications Bulk Verifications Bulk Verifications Preview	Note that the only comparable API reference on the Sendgrid side would be for the single verifications.
Inbox Placement	Inbox Placement	Not supported
Send Time Optimization (STO)	Send Time Optimization	Not supported



5. Account security and settings

As you button up your migration, it's imperative to make sure all needed users are added and given the correct level of clearance to your Mailgun account. Otherwise, you put your email program at risk of being compromised. To mitigate this, we advise that you set up permissions and 2-factor authentication upon account creation.

As an admin of your Mailgun account, you have the ability to add, remove, and edit users and their permissions at any time via the security and users tab of the settings folder.



From here, you can view active sessions, activate 2FA, and set user permissions for everyone connected to your account.



6. Email reputation

Last but not least it's important to remember that as you migrate over to Mailgun, now is the best time to start off on the right foot. Your Domains and IPs might need to be [warmed up](#) before you start sending your full volume, and much of this depends on your overall send volume and email program.

For example, sending from a shared IP means that you don't need to start an IP warm up, but that does mean that other senders on that same IP can affect your sending. This option best fits senders that do not send enough email to justify the extra cost of a dedicated IP.

Dedicated IPs, on the other hand, need to be warmed up before they can be used. This requires a cushion of time ahead of your sending to slowly ramp up messages being sent from that IP to show inbox service providers (MBPs) that your traffic is legitimate, and not a spammer posing as your business.

A similar sentiment pertains to domains as well, but much of still depends on the age and usage of your IPs. Generally, new domains need to go through a similar process to establish a solid domain reputation with the inbox service provider.

For more detailed explanations for the above scenarios and other deliverability tips and tricks, we recommend reading the following articles:

- [Shared IPs vs. Dedicated IPs](#)
- [Automated dedicated IP warm up](#)
- [Email Authentication](#)
- [Domain warm up and reputation](#)
- [Deliverability with Gmail](#)



7. Conclusion

Whether you plan on migrating quickly or over several weeks, Mailgun is prepared to support your email traffic from day one. Email program migrations take time but rest assured that when you are ready to send, so are we.

Should you need any assistance during your migration process, reach out to our support team! They're available 24/7 to help you reach the finish line in getting your email program started.

Lastly, we want to hear from you! Let us know how you're using Mailgun or leave migration guide feedback by reaching out to Sales@mailgun.com.





Over 100,000 companies worldwide use Mailgun by Sinch to create elegant email experiences for their customers through world-class infrastructure. Brands like Microsoft, Lyft, and Dell trust Mailgun's innovative technology and reliable infrastructure to send billions of emails every year. Built with development teams in mind, Mailgun makes sending, receiving, and tracking emails effortless for email senders of all sizes.

Mailgun was founded in 2010 as a response to the lack of developer-friendly, API-based email services. Since then, Mailgun has joined **Sinch**, a leading Communication Platform as a Service (CPaaS) provider, to become the developer-first email solution for their global customer base. GDPR, HIPAA, and SOC I & II compliant, Mailgun aims to provide the best email service possible with the utmost security and privacy.

For more information, please visit www.mailgun.com.

