



Server-Side Tagging with Google Tag Manager

What server-side tagging is, why it matters, and how to implement it correctly.



GUIDE INTRO

Web analytics has changed a lot in recent years — and **server-side tagging (SGTM)** is one of the biggest shifts so far. Instead of running tracking scripts in the browser, data is now processed on your **own server**. The result? **More control, better accuracy, and cleaner performance.**

In this guide, you'll learn what server-side tagging actually is, why it's becoming a **must-have for modern analytics** (from cookie control to faster load times), and how to set it up with **Google Tag Manager** and **Stape.io**.



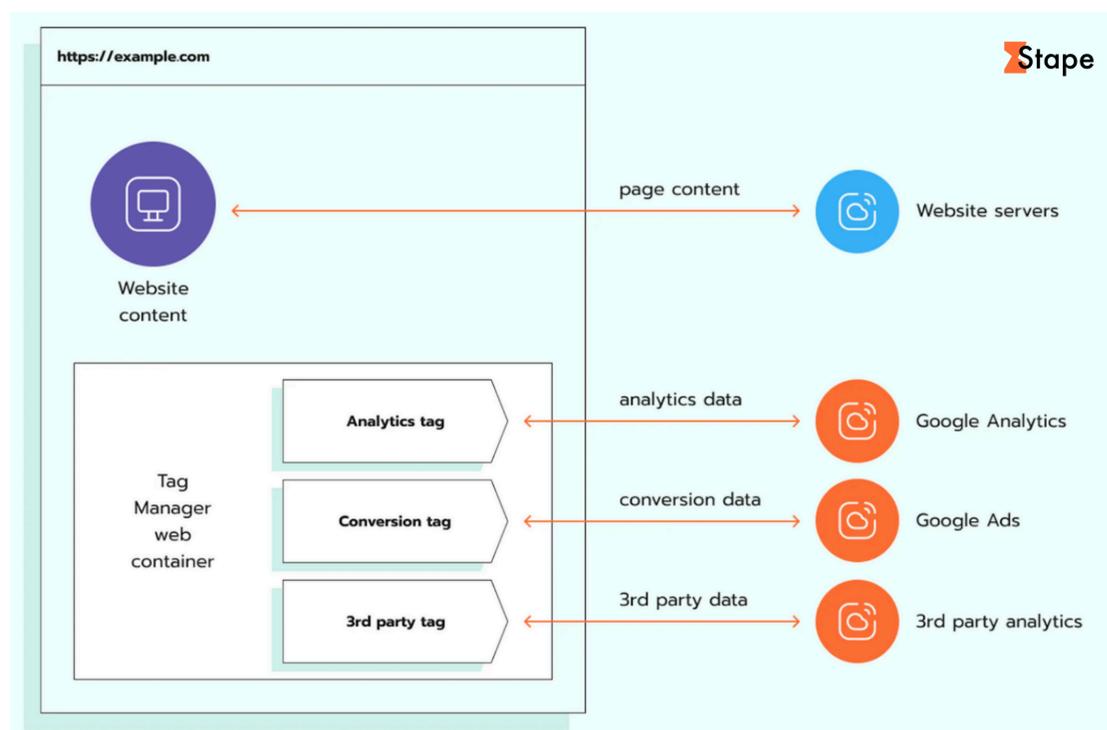


What Is Server-Side Tagging?

Introduced in public beta in 2020, server-side tagging marks a **major shift in how data is collected**, moving processing from the user's browser to your own server infrastructure or that of a specialized provider.

In traditional tracking — known as *client-side tagging* — the Google Tag Manager (GTM) container and tags such as Google Analytics 4 (GA4) run directly in the user's browser. JavaScript scripts collect data and send it straight to third-party platforms like Google Analytics.

Server-side tagging (SGTM) adds an extra layer to this data flow — your own server, which hosts a GTM server container. In this setup, data from your website is first sent to your server container. The server processes the data, adjusts it if needed, and then forwards it to destinations such as Google Analytics, Meta (Facebook) Conversions API, or Google Ads.



Note: While this guide focuses on SGTM, you'll still need a good understanding of traditional client-side tracking with a GTM web container and the data layer.



Benefits and Challenges of Server-Side Tagging

Introducing SGTM brings several advantages, but it also requires a certain level of **technical knowledge** and **financial investment**.

SGTM Benefits

1. Reduced page load and faster performance:

Instead of running multiple analytics and marketing scripts directly in the browser, you can load just one — or a few — lightweight scripts that send all data to your server container. The server then handles the heavy work, processing and forwarding the data to several platforms at once (for example, Google and Meta).

2. More control over data (privacy): With server-side tagging, you have full control over which data is sent to third-party providers. While standard JavaScript libraries often collect additional details about the user's device or page (fingerprinting), the server container allows you to define exactly what gets passed on. Personally identifiable information (PII) can be removed or encrypted (hashed) before being sent.

3. Better resistance to ad blockers:

Many browser extensions block requests sent to domains like *google-analytics.com* or *googletagmanager.com*. With SGTM, data is sent through your own subdomain (for example, *analytics.yourdomain.com*), which most ad blockers currently recognize as first-party tracking and therefore do not block.

4. Extended cookie lifetime (ITP):

Intelligent Tracking Prevention (ITP) in browsers such as Safari limits the lifetime of cookies set via JavaScript to seven days or less. When cookies are set on the server side, their validity can be extended (for example, up to two years), improving long-term attribution. To make this work, the first two numbers of the IP address of your web server and SGTM server must match — typically achieved by using the same load balancer.





Challenges and Requirements

Switching to SGTM isn't just a tool upgrade — it's a **shift in infrastructure**. With greater control over data come new technical demands. To avoid surprises and ensure a smooth setup, you should understand the **four key aspects of this system**.

Four Key Aspects of Server-Side Tracking

Hosting costs: The GTM server container is free, but it requires cloud hosting to function. This adds an extra cost compared to the standard, browser-based GTM. If you want to know how much hosting with Stape.io would cost per month, reach out to us [here](#).

Technical complexity: In certain cases, SGTM requires a higher level of technical knowledge — understanding how servers and data processing work, and, if needed, some knowledge of JavaScript.

More demanding debugging: Debugging becomes more complex because it requires access to the GTM server container to see what happens inside the server.

Legal compliance (GDPR/CCPA): SGTM alone does not guarantee compliance with data protection laws such as GDPR. It is still necessary to obtain valid user consent for tracking.





Hosting Options: Stape.io vs Google Cloud

Because the GTM server container runs on a server rather than in the browser, it **requires suitable hosting**. Although Google recommends its own Google Cloud Platform (GCP) by default, specialized alternatives such as **Stape.io** have become established on the market, often offering a better balance between cost and ease of use.

Stape.io: Cost Optimization and Fast Deployment



Stape.io is a **dedicated hosting provider for SGTM**, designed to reduce the complexity and cost associated with managing server infrastructure for tracking.

Feature	Strategic importance and details
Cost efficiency	Stape is by far the most affordable hosting option for SGTM. Paid plans start at around \$20 per month , and there is also a free plan suitable for testing and non-commercial use. This low entry point significantly lowers the financial effort required to switch to server-side tagging.
Location and GDPR compliance	Stape allows the server to be hosted in EU regions , which is important for companies operating in the European Union and a key factor in meeting GDPR requirements for processing visitor data.
Simple setup	To set up SGTM with Stape.io, select the option ' Manually provision tagging server ' in GTM. Then copy the Container Config ID into the Stape interface, which handles the server deployment. This automates and simplifies what would otherwise be a technically demanding setup.
Ad blocker resistance (Custom Loader)	Stape provides a Custom Loader feature that not only enables first-party loading of GTM and GA4 scripts but also masks URL parameters . This significantly reduces the chance of tracking mechanisms being detected and blocked by browser extensions and ITP restrictions, improving overall data accuracy.



Google Cloud Platform (GCP): Default Solution

Google Cloud Platform (GCP), specifically Cloud Run, is Google's **default option for hosting SGTM containers**.

Feature	Strategic importance and details
Hosting cost	The minimum recommended configuration on GCP, which requires at least two server instances , costs at least \$90 per month . With higher traffic, expenses increase automatically as the number of required instances grows. (These prices reflect early 2026 estimates; always check current requirements and pricing.)
Setup	GCP provides the option 'Automatically provision tagging server' in GTM, which offers a simpler, automated setup process. However, completing the configuration for first-party tracking and connecting your own domain (for example, through Custom Domains – Google Cloud Load Balancing) still requires technical knowledge .
Domain connection	Without a custom domain (for example, <i>analytics.yourdomain.com</i>), tracking remains third-party. To achieve first-party context and extend cookie lifetime (which ITP in Safari limits to seven days), manual setup of DNS records is necessary.

To gain the full advantages of SGTM — reliable data collection, ad blocker resistance, and cost optimization — **Stape.io is often a better choice** because of its **specialization** and **lower entry cost** compared to the minimum recommended setup on GCP.





Setting Up Server-Side GTM with Stape.io



The steps below describe how to **set up SGTM using Stape.io** and the **Same-Origin method** (on the same domain as your website but on a specific URL path, for example, *yourdomain.com/metrics*). This setup provides the **highest resistance to ad blockers** and **maximizes cookie lifetime**.

Step 1: Create a GTM Server Container

1. In your Google Tag Manager account, create a new container and select the type 'Server'.
2. Choose 'Manually provision tagging server' and copy the displayed string (Container Config ID).
3. Log in to Stape.io, click 'Create sGTM container', and paste the copied Config ID. Name the container and select the server location (for example, EU for GDPR compliance).
4. Wait a few minutes until the status changes to 'Running'. You can check if the server is active by visiting *https://stape-server-domain/healthy* — if you see the message 'ok', the server is working.

Step 2: Configure a Custom Domain

For first-party tracking, it is essential that data is sent through your own domain.

1. In the Stape.io interface, open your container and click 'Add custom domain'.
2. Define a technical subdomain (for example, *data.yourdomain.com*). Enter this subdomain in Stape, enable 'Add CDN' (Stape Global CDN), and select the 'Manual' option.
3. Stape will display two CNAME records. Add these records to your domain's DNS settings (for example, in Cloudflare).
 - Important: If you use Cloudflare, disable the Proxy status (the cloud icon must be grey / 'DNS only').
4. Path redirection (Cloudflare Worker): To make tracking run on your main domain (for example, *yourdomain.com/metrics*), create a Worker in Cloudflare that redirects all traffic from *yourdomain.com/metrics/** to your new subdomain *data.yourdomain.com*.
 - Tip: Choose a neutral subpath name such as */metrics*, */data*, or */stat*. Avoid obvious names like */sgtm* or */pixel*, as they are more easily detected by ad blockers.
5. In GTM, go to Admin > Container Settings and enter your new full URL (for example, *https://yourdomain.com/metrics*) in the field 'Server container URLs'.



Step 3: Set Up the Client

The Client is the gateway to your server — it receives the request, processes it, and prepares it for your tags.

1. In the server container, the GA4 Client is usually created automatically.
2. Click it and check the settings. It is recommended to keep the cookie management option set to 'JavaScript Managed'.
 - This prevents tracking conflicts and allows Stape to extend the cookie lifetime through the 'Custom Loader' (configured in the final step).

Step 4: Update the Web GTM Container

Next, the browser needs to know where to send data.

1. Open your web GTM container and find your main Google Tag.
2. In the Configuration Settings section, add a new parameter:
 - Parameter name: `server_container_url`
 - Value: `https://yourdomain.com/metrics` (your URL from Step 2).
3. If your other GA4 event tags do not inherit settings from the main tag (for example, if parameters are set manually), add this parameter to them as well.
4. Save the changes.

Step 5: Configure the Server Container

When the data reaches the server, it must be sent to Google Analytics.

1. In the server container, create a new tag of the type Google Analytics: GA4.
2. Create a new Trigger of the type Custom with the condition:
 - Client Name equals GA4.
3. Save the tag (for example, name it 'GA4 Forwarding'). This tag ensures that the received data is safely forwarded to Google's servers.

Step 6: Testing, Debugging & Publishing

Before completing the setup, verify that everything is working correctly.

1. Activate the **Custom Loader**: In Stape.io, go to the Power-Ups tab and enable 'Custom Loader'. Enter your web GTM container ID and the chosen path (for example, `/metrics`).
2. Replace the code: Stape will generate a new GTM code. Copy this code and replace your existing GTM code in the `<head>` section of your website. This hides tracking from ad blockers.
3. Testing: Enable Preview mode in both containers. Open your website and, in the browser's Network tab, check that requests are sent to `yourdomain.com/metrics` instead of `google-analytics.com`.
4. If you see incoming events in the server preview and the GA4 tag fires, the setup is successful. Publish the changes in both containers.



Next Steps

Server-side tagging is an important step forward in web tracking. It **improves data accuracy**, gives you **greater privacy control**, and **helps your site load faster**. If your analytics and marketing needs are very simple — for example, tracking only the most visited pages — SGTM might be more investment than you need because of the additional costs. But if you want to:

- **Take control** of the data collected by third-party tools.
- **Improve site speed** by reducing the number of scripts running in the browser.
- Send processed data to **multiple platforms at the same time** (for example, Facebook CAPI or Google Ads).
- Reduce the impact of **browser restrictions** (ITP) and ad blockers.

...then SGTM is the right choice.

If you're migrating from an existing web tracking setup to SGTM, it's recommended to **run both in parallel** for one to two weeks using a **temporary GA4 tag and SGTM**. This lets you compare metrics — such as session and event counts — between the old and new configuration before completing the transition.





FINAL ADVICE ...

Server-side tagging opens up **powerful possibilities** — from implementing Facebook CAPI to enriching your data and extending cookie lifetime.

Because it involves infrastructure that needs regular maintenance and a solid grasp of details like DNS records and request handling, a **professional setup is essential** for keeping your data stable in the long run.

If you're planning to move to server-side tracking or want to optimise your analytics, **reach out to our team** — we'll make sure the transition is smooth and reliable.

 **Stape**
Partner



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