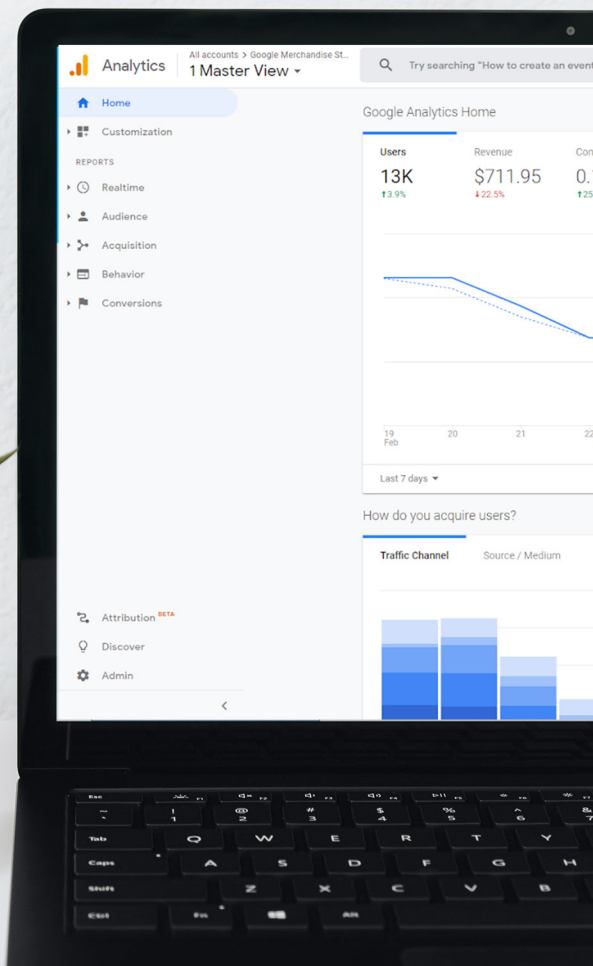


GOOGLE ANALYTICS CROSS-DOMAIN TRACKING VIA GTM: COMPLETE GUIDE

JULIUS FEDOROVICIUS



CONTENTS

PART 1 – INTRODUCTION TO GOOGLE ANALYTICS CROSS-DOMAIN TRACKING	6
• #1.1. A quick step back. How does GA track visitors?	7
• #1.2. So where is the problem?	7
• #1.3. What is cross-domain tracking?	8
• #1.4. Examples of GA cross-domain tracking	9
• #1.5. Google Analytics Cross-domain tracking to the rescue!	9
• #1.6. How does Google Analytics cross-domain tracking work?	10
• #1.7. Main goal: the same value of <code>_ga</code> cookie across different domains	11
• #1.8. You DON'T need GA cross-domain tracking on subdomains	11
PART 2 – HOW TO CONFIGURE GA CROSS-DOMAIN TRACKING WITH GTM	12
• #2.1. Four requirements/steps for cross-domain tracking to work	13
• #2.2. Let's agree on terms	13
• #2.3. The flow	14
• #2.4. Requirement No.1: All domains must use the same GA property	15
• #2.5. Requirement No.2: The destination page's URL must be decorated	15
○ #2.5.1. In order for link decoration to work, there must be an interaction	16
○ #2.5.2. URL decoration option #1: Auto Link domains	17
○ #2.5.3. URL decoration option #2: "Decorate Forms" GA tag	20
○ #2.5.4. URL decoration option #3: Cross-domain iFrame tracking	21
○ #2.5.5. URL decoration option #4: Developer's help	21
• #2.6. Requirement No.3: <code>allowLinker</code> must be enabled on domainB.com	23
• #2.7. Requirement No.4: Update the Referral Exclusion list in GA	24

PART 3 – HOW TO TEST CROSS-DOMAIN TRACKING **27**

- #3.1. The destination URL must contain the `_ga` parameter **28**
- #3.1.1. Poorly implemented link decoration on the domainA.com **28**
- #3.1.2. Redirect between the domainA and B is losing the parameter **28**
- #3.2. The `_ga` cookies on both domains must contain the same value **29**
- #3.3. Check referral reports to verify the referral exclusion list **31**

PART 4 – OTHER THINGS TO KNOW **32**

- #4.1. Even the perfect cross-domain setup will not work in 100% cases **33**
- #4.2. If you cannot enable `allowLinker` on domain B, there is a partial solution **34**

FINAL WORDS **35**



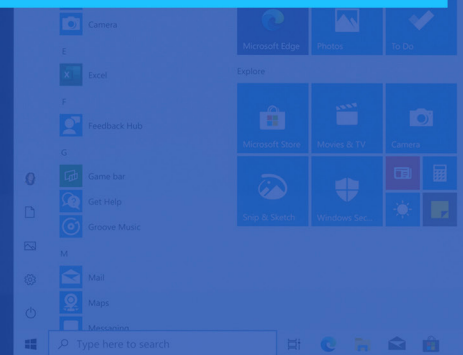
I CAN HELP YOU LEARN GTM

Hi, my name is Julius. I founded Analytics Mania in late 2016. Since then, the blog has grown to over 100 000 monthly visits. Here I share my knowledge, experiments, learnings related to web analytics, mainly GTM & GA.

I also run the Google Tag Manager community on Facebook, where awesome people from around the world help each other.

Last but not least, I actively help others to learn Google Tag Manager by running workshops and [GTM online courses](#) where you can:

- Learn GTM in the fastest way possible
- Save a lot of time and money
- Get practical knowledge/skills
- Become a tag management professional
- Get quick help from me when you're stuck



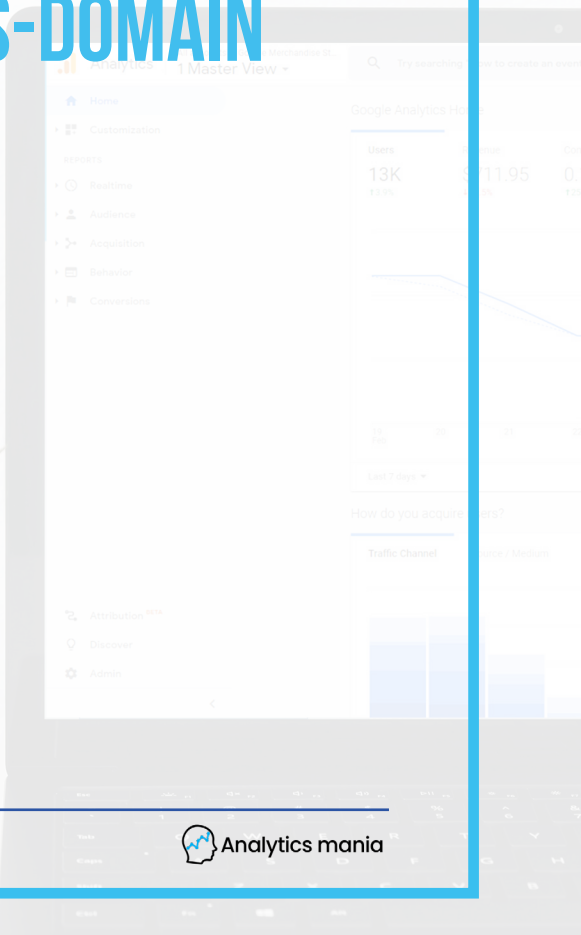
HOW TO READ THIS GUIDE?

This guide will be a large one (so is the cross-domain tracking). That's why I'd like to give you several hints on how to read this guide and how to benefit from it the most.

- This guide is split into four main parts:
 1. Introduction to Google Analytics cross-domain tracking
 2. How to configure Google Analytics cross-domain tracking with Google Tag Manager?
 3. Testing the entire flow
 4. Other things to keep in mind
- One of the first mistakes about the cross-domain tracking that I notice in the community is that some people don't understand why it exists in the first place. Hence, they don't always understand whether they need it in their project at all. So, if you're not sure whether you need Google Analytics cross-domain tracking configured, definitely read the Part 1 of this guide.
- On the other hand, if you are 100% sure that you need cross-domain configured in your GA (via Google Tag Manager), then Part 2 is where the actual setup is explained. Since there are different ways of how cross-domain tracking should be implemented (based on how your website works), this part is the main reason why the guide is a lengthy one.
- In the third part, we'll take a look at the main debugging tips, where and what to check.
- The fourth part of the guide is optional and contains some additional tips.

PART 1

INTRODUCTION TO GOOGLE ANALYTICS CROSS-DOMAIN TRACKING



#1.1. A QUICK STEP BACK. HOW DOES GA TRACK VISITORS?

This will be very simplified.

By default, Google Analytics tracks users with first-party cookies. You land on a website and GA (on behalf of your website) stores a `_ga` cookie in visitor's browser (with some random identifier). When you, as a visitor, navigate from page A to page B (of your website), Google Analytics checks the value of that cookie.

Since the cookie is still present (and the same), GA understands that you are the same person who just was on page A, therefore, the 2nd page view is also attributed to the same session and user.

And that's great! With web analytics tools (not just GA), you can track how visitors are using your website, what are they doing, etc. Of course, cookies, as a technology, are far from being perfect and have a lot of drawbacks but let's keep this topic for another time.

#1.2. SO WHERE IS THE PROBLEM?

Where am I heading with all of this? First-party cookies (created on behalf of your website) cannot be shared between two separate domains (due to cross-domain policy). So if you have a website where the journey of a visitor starts on `domainA.com` and eventually, ends on the `domainB.com`, Google Analytics on the `domainB.com` will not be able to understand that this is the same visitor as on the `domainA.com` (even if the GA property on both domains is the same).

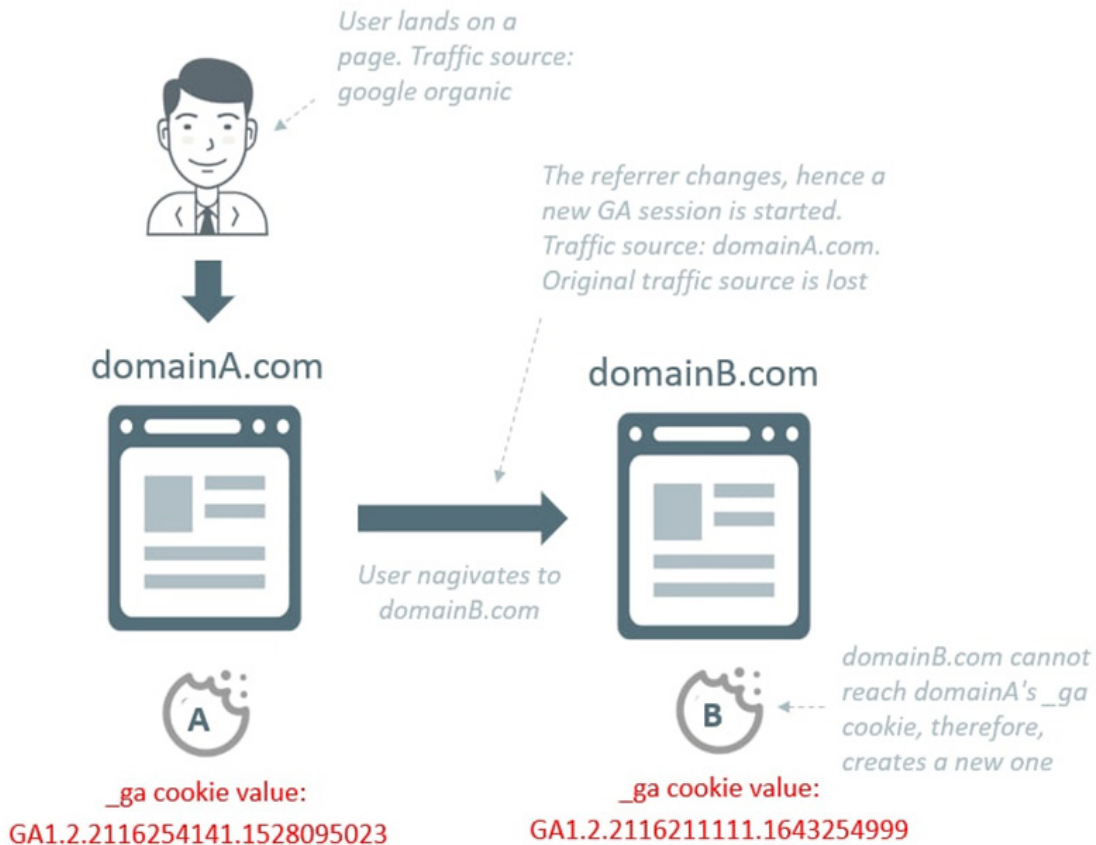
When the visitor navigates from domain A to domain B, Google Analytics on domain B cannot reach the `_ga` cookie of domain A, therefore, it creates a new one.

The result? Google Analytics (and other cookie-based web analytics tracking tools) will see you as two separate visitors, one on the `domainA.com` and one on the `domainB.com`.

And that's a big problem.

- First of all, you will see **too many users** in your GA reports. Every person who visits both `domainA.com` and `domainB.com` will turn into two users.
- You'll **lose the original traffic source**. If a visitor lands on the `domainA.com` from Google Ads, then navigates to `domainB.com` and converts, that sale will not be attributed to Google Ads. Because whenever a visitor jumps from one domain to another, GA will start a new session and

its traffic source will be domainA.com. This means that such conversion will be attributed to your own website and you won't be able to properly measure the effectiveness of your marketing efforts. This situation is called "self-referral".



The result: `_ga` cookies are different. GA sees that person as two different visitors

#1.3. WHAT IS CROSS-DOMAIN TRACKING?

It is a workaround that allows webmasters/marketers/analysts to send user's/visitor's identifier (a.k.a. client ID) from domain A to domain B and preserve the session information. That way, the visitor is being tracked as the same person across multiple websites/domains.

In order to make this work, you will need to have access to both websites/domains and make some configurations. This entire guide explains different approaches you need to keep in mind (because every situation needs a different treatment).

I will mention this multiple times throughout this guide but cross-domain tracking is needed only if domains are totally different. If you are tracking the visitor across the subdomain of the same domain, you don't need cross-domain tracking. I will explain what to do about this in a moment.

#1.4. EXAMPLES OF GA CROSS-DOMAIN TRACKING

If you're very new to Google Analytics cross-domain tracking and don't understand its main purpose, don't worry! Here's are several examples where you must implement it:

- A visitor lands on your ecommerce store > initiates a purchase > is redirected to the payment processor's website (which is hosted on another domain) > makes a purchase and returns. Cross-domain tracking must be implemented in the jump between your store and the payment processor's website. Otherwise, all your purchases will be attributed to that payment processor, not the original traffic source (like Google organic, paid ads, or something else).
- You run a travel blog and have an embedded form where visitors can check hotel prices and even book rooms. That form belongs to another domain (embedded via iFrame). So, if you want to track how your blog visitors interact with that booking form (and you want Google Analytics to properly track it), you need to enable the cross-domain tracking (within that iFrame). Otherwise, all the bookings within that form will be attributed to the parent website (your travel blog) and GA will see users of the booking form as totally different users.

#1.5. GOOGLE ANALYTICS CROSS-DOMAIN TRACKING TO THE RESCUE!

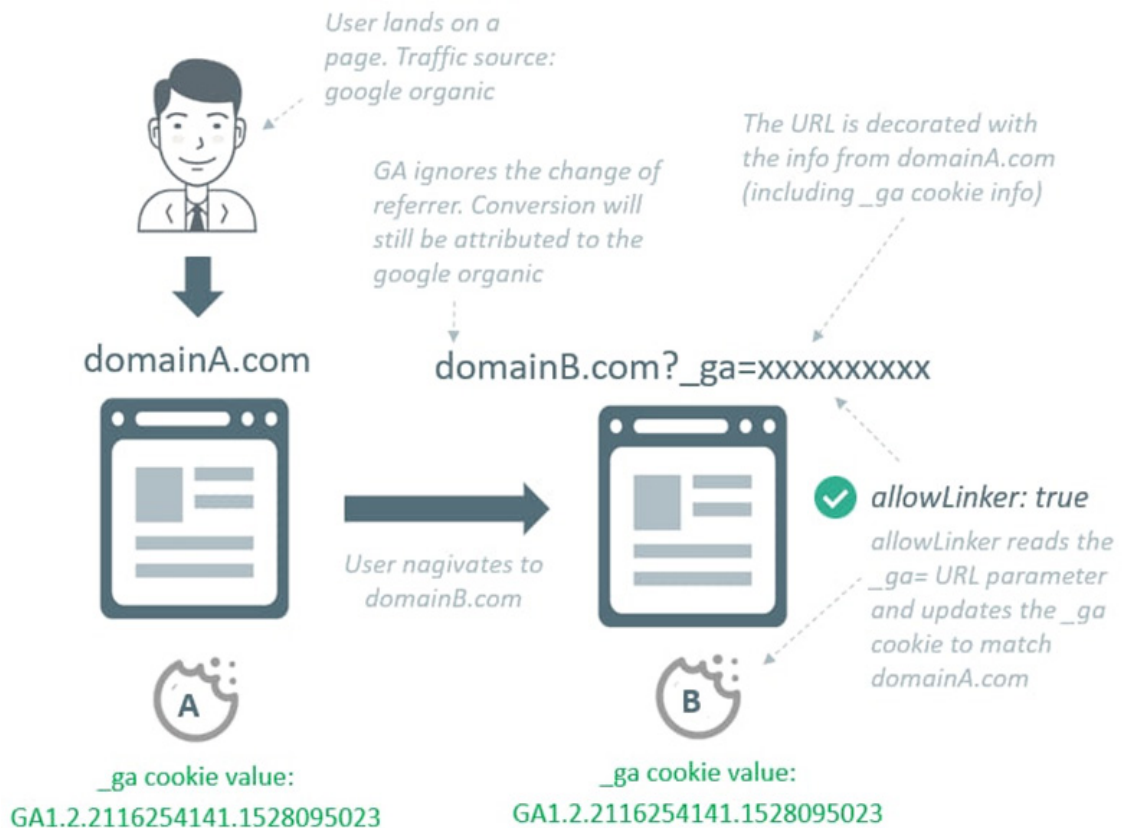
Not everything is hopeless here. Otherwise, this guide would not exist, right?

Even though you cannot access domainA.com's first-party cookies on domainB.com, there is a workaround that can help you make sure that `_ga` cookie's value on both domains is the same. Because **that is your main goal**. Google Analytics can track the same visitor on different domains without any problems (but some additional configurations will be needed) as long as `_ga` cookie's value persists across those domains.

1.6. HOW DOES GOOGLE ANALYTICS CROSS-DOMAIN TRACKING WORK?

Here is it in a nutshell.

When a visitor navigates from domainA.com to domainB.com, we'll pass a special linker parameter to domainB.com's URL. Thanks to that linker parameter, the GA on domainB.com will be able to update the `_ga` cookie and will understand that it's actually just one person navigating between two websites.



The result: `_ga` cookie is the same on both websites. Tracking is configured properly.

#1.7. YOUR MAIN GOAL: THE SAME VALUE OF _GA COOKIE ACROSS DIFFERENT DOMAINS

I cannot stress this enough. Cross-domain tracking will work only if you make sure that the _ga cookie (that Google Analytics uses to identify visitors) has the same value on different domains.

Of course, there are some other additional configurations needed (I'll explain them a bit later) but this is the key ingredient to success (and in many cases, the most difficult part to do and the trickiest part where GA users struggle).

#1.8. YOU DON'T NEED GOOGLE ANALYTICS CROSS-DOMAIN TRACKING ON SUBDOMAINS OF THE SAME DOMAIN

This is a common misconception of how cross-domain tracking works. Its purpose is to help track visitors that navigate between totally different domains, like domainA.com and domainB.com.

If you just have a website www.website.com and your visitors can also navigate between blog.website.com, support.website.com, you DON'T need to configure cross-domain tracking.

Just go to your Google Tag Manager container, open [Google Analytics Settings Variable](#) that is used by your GA tags and set *Cookie Domain* to *auto*. By default, all GA Settings Variables have it enabled.

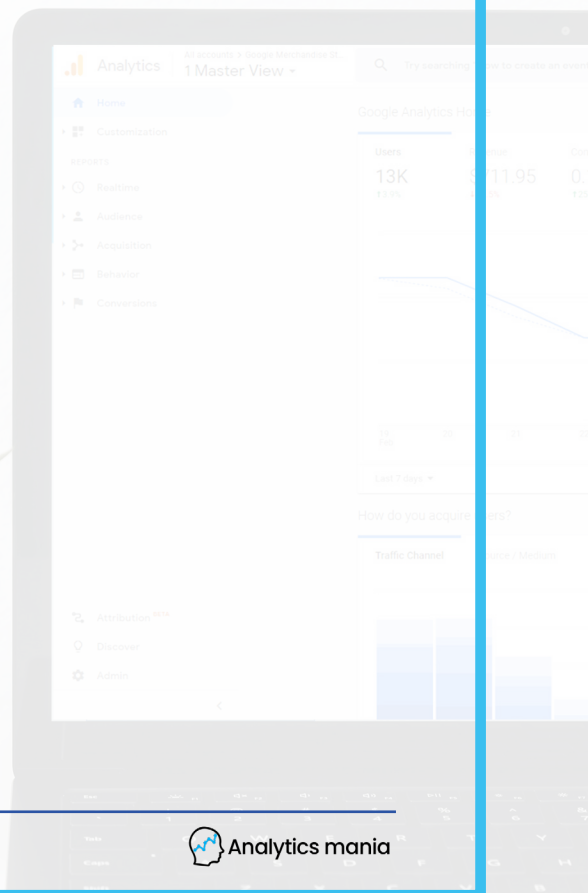
That's it. There is no need to implement GA cross-domain tracking for subdomains. Better spend your time somewhere else.

But if, on the other hand, you indeed need to track visitors/users across different domains, then you will find the rest of this guide very useful (hopefully).

So that was the end of the first part of this guide. So far, so good. Nothing super difficult. But that might change in the 2nd part (I'll do my best to keep it simple).

PART 2

HOW TO CONFIGURE GA CROSS-DOMAIN TRACKING WITH GTM?



#2.1. FOUR REQUIREMENTS/STEPS FOR CROSS-DOMAIN TRACKING TO WORK

In order to make cross-domain tracking work, your setup must meet for requirements. **ALL of them.** If at least one of them is not possible (due to some circumstances), then I have some bad news.

1. All websites must use the same Google Analytics property.
2. The URL of the destination page must be decorated with the linker parameter (`_ga=`)
3. You must have enabled the `allowLinker` field on the destination page. Set it to `true`. If you don't have access to the destination website's Google Tag Manager or if nobody can help you edit the hardcoded GA code there, proper cross-domain tracking will not work. That's it. No workarounds. End of story.
4. Update the referral exclusion list. Include all the outbound domains, from which a visitor navigates to the destination domain.

Did I mention that **ALL of these requirements must be met?**

#2.2. LET'S AGREE ON TERMS

In this guide, I'll use the following definitions. So, in order not to be confusing, I thought it would be useful to agree on them.

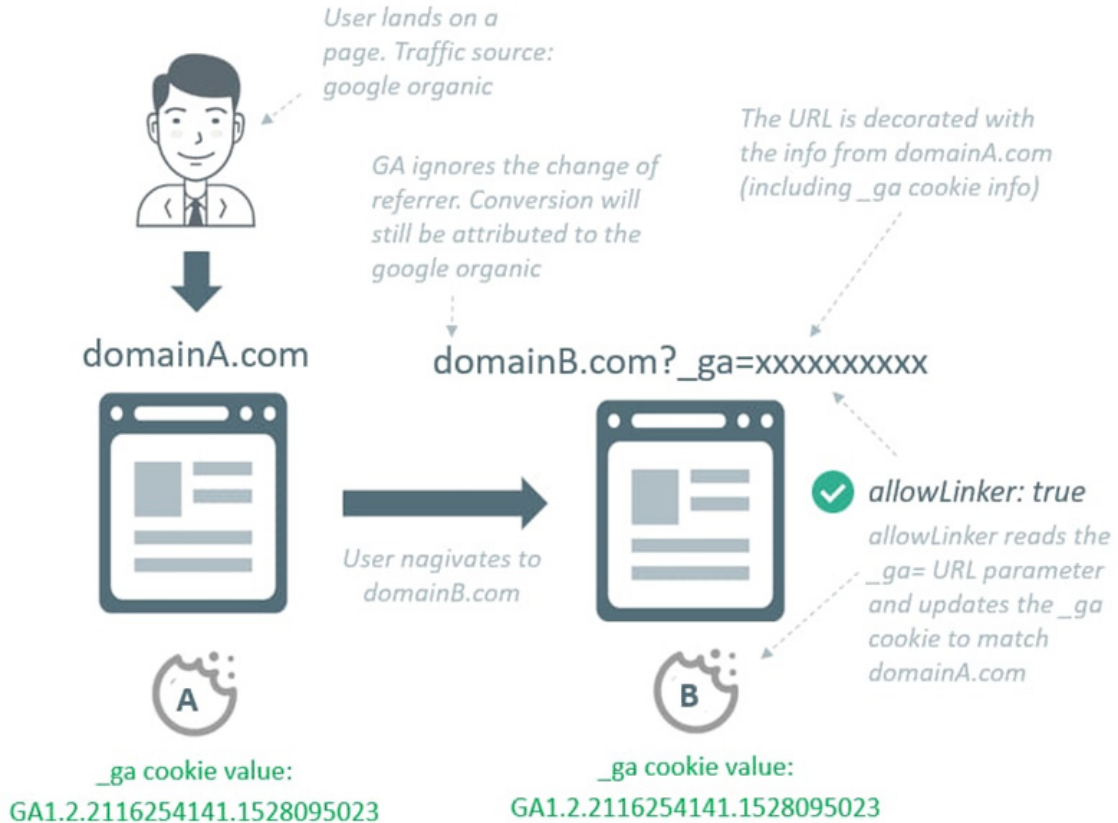
Outbound website – if the visitor moves from domainA.com to domainB.com, then domainA.com is the outbound website. If the visitor can freely jump back and forth between both of these domains, then they both are considered as outbound websites. In GA official docs, you will find that the outbound website is called **Primary website**. But I like to call it outbound.

Destination website – if the visitor moves from domainA.com to domainB.com, then domainB.com is the destination website. If the visitor can freely jump back and forth between both of these domains, then they both are considered as destination websites.

If a visitor can freely navigate between websites, then each one of them is considered to be both outbound and destination website. It just depends from where (and to where) the visitor is navigating.

#2.3. THE FLOW

From this point, we'll take a look at every requirement for GA cross-domain tracking to work. Some of them are fairly simple and straightforward, some of them — not so much. But first, let's remember the workflow of how cross-domain tracking works in a nutshell.



The result: `_ga` cookie is the same on both websites. Tracking is configured properly.

When a visitor navigates from domainA.com to domainB.com, then domainB's URL must be somehow decorated with the `_ga` linker parameter. That linker parameter contains some information, including the value of the `_ga` cookie of the domainA.com.

`_ga` (linker) parameter example in the URL:
`_ga=2.227390293.935544379.1560750528-1792149684.1557994615`

`_ga` cookie (stored by GA) example:
`GA1.2.1792149684.1557994615`

These parts are the same

Once the *allowLinker* field is enabled on the destination domain, Google Analytics reads the linker parameter from the URL (*_ga*) and updates the *_ga* cookie accordingly. From this moment, both domainA.com and domainB.com have the same value of the *_ga* cookie and this allows Google Analytics to see that visitor as one person.

Keep in mind that both websites are using the same GA property (e.g. UA-1234567-1). Also, the referral exclusion list is configured, it's just not displayed in one of the schemes above.

Alright, let's go to the actual configuration of all the necessary steps/requirements.

#2.4. STEP/REQUIREMENT NO. 1: ALL DOMAINS MUST BE TRACKED WITH THE SAME GA PROPERTY

There isn't much to add here. Cross-domain tracking works only if both outbound and destination domains/websites are tracked under the same GA property. This means that the tracking ID (UA-xxxxxxx-xx) must be the same during the entire visitor journey.

#2.5. STEP/REQUIREMENT NO.2: THE URL OF THE DESTINATION PAGE MUST BE DECORATED WITH A LINKER PARAMETER (*_GA*)

From my experience (and looking at the questions in forums), this part is the most tricky/confusing. People either just blindly follow tutorials without realizing what is going on, or they are not sure how to test this. Or they just implement URL decoration without realizing that their project/website requires a different decoration method.

Because... *surprise surprise*... there are different methods of how to add that *_ga* parameter to the URL. And they are not universal. You need to choose wisely depending on the context.

But before we dive into those decoration methods, first, let's take a quick look at the linker parameter itself. In the future, it may eventually change/look differently (for example, in early 2019 Google was already doing live tests with a differently looking parameter). But as of the moment of writing this guide, the parameter is still *_ga*.

So, if the URL is decorated with the link parameter, it might look like this:

```
https://www.analyticsmania.com?_ga=2.227390293.935544379.1560750528-1792149684.1557994615
```

See this part?

[_ga \(linker\) parameter example in the URL:](#)

```
\_ga=2.227390293.935544379.1560750528-1792149684.1557994615
```

[_ga cookie \(stored by GA\) example:](#)

```
GA1.2.1792149684.1557994615
```

[These parts are the same](#)

That's the value of the `_ga` cookie on the domainA.com. So if we pass this value from the domainA.com to domainB.com and then instruct Google Analytics to fetch that value on the domainB.com, the `_ga` cookies on both domains will be the same. And this is exactly what we are aiming for!

We need to somehow decorate the URL of the domainB.com when the visitor navigates from the domainA.com

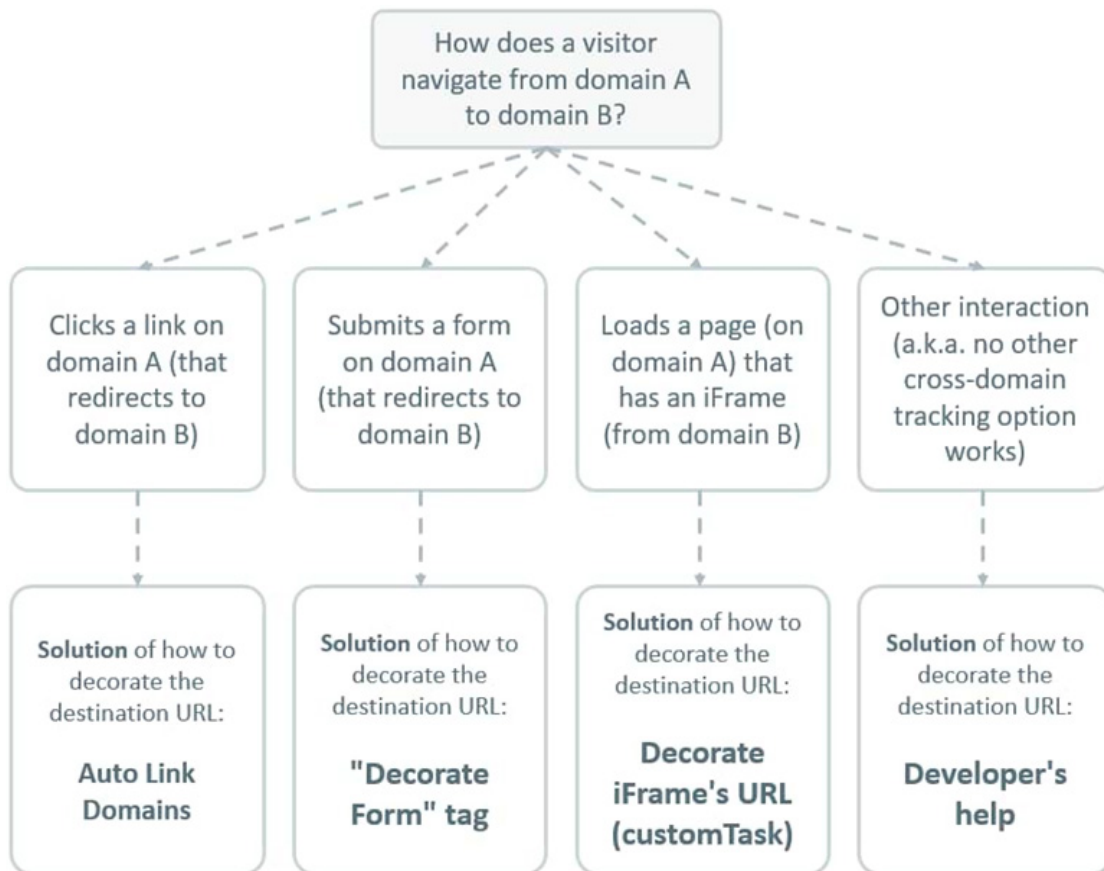
#2.5.1. IN ORDER FOR LINK DECORATION TO WORK, THERE MUST BE AN INTERACTION

Before you properly implement Google Analytics cross-domain tracking with Google Tag Manager, ask yourself: *how is the visitor navigating from domainA.com to domainB.com?*

This question is crucial. By answering it, you will know how to decorate the URL of the destination page. There are several options/possible answers:

- A user navigates from domainA.com to domainB.com **by clicking the link on the domainA.com**
- A user navigates from domainA.com to domainB.com **by submitting a form on the domainA.com** (which then redirects to the domainB.com)
- A user **loads a page** (on domainA.com) that has an **embedded iFrame** (of the domainB.com)
- A user **completes some other interaction** on the domainA.com that redirects to the domainB.com (for example, submits a form that is coded in a way Google Tag Manager cannot track with the built-in form submission trigger).

Each of these answers leads to a different way how can a URL (page address) of the domainB.com be decorated.



If the visitor navigates between domains by clicking links, then we'll need to configure **auto-link domains** feature.

If the visitor navigates by submitting a form, then **Decorate form** tag might be an option.

And if none of the above solutions worked, we'll need to cooperate with a developer (I'll show what exactly needs to be done).

#2.5.2. URL DECORATION OPTION #1: AUTO LINK DOMAINS

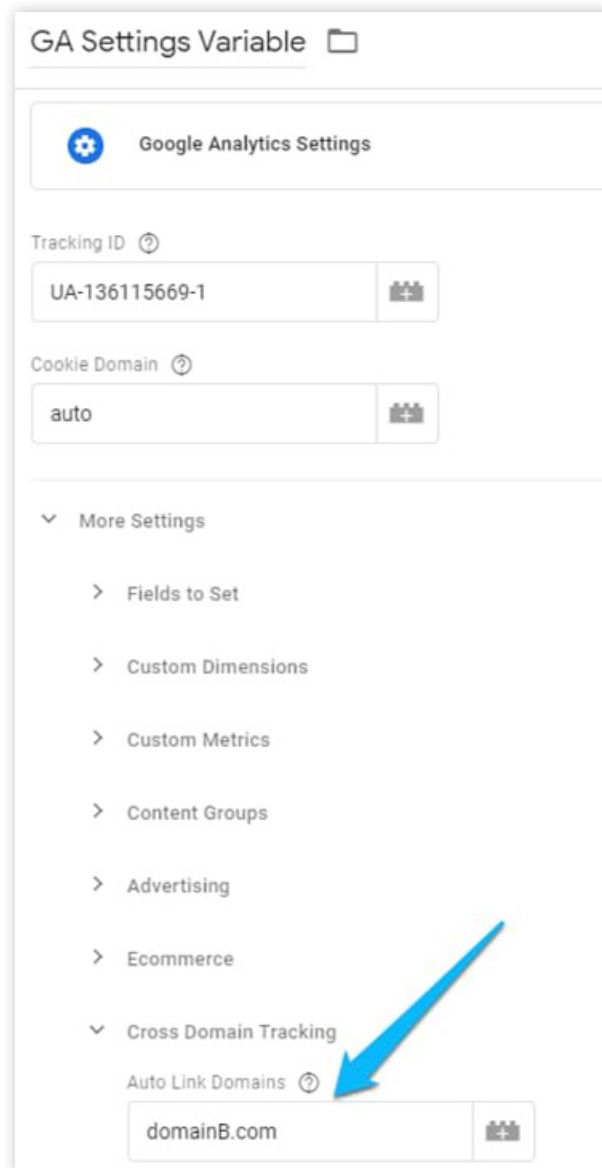
Once again, this option will work ONLY if the visitor navigates between domains by clicking links. So, if I am on the domainA.com and click the link that redirects me to the domainB.com, *auto-link domains* feature is the best option.

How does it work?

If you go to domainA's Google Tag Manager container (if both websites are

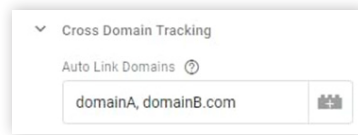
using different containers) (but both websites can also use the same container ([read more](#))), then open the GA Settings Variable > More Settings > Cross-domain tracking, locate the “Auto Link Domains” field.

In that field, you should enter the destination domain’s URL.



The image shows a screenshot of the 'GA Settings Variable' configuration page. At the top, there is a 'Google Analytics Settings' section with a gear icon. Below this, the 'Tracking ID' is set to 'UA-136115669-1' and the 'Cookie Domain' is set to 'auto'. A 'More Settings' section is expanded, showing several options: 'Fields to Set', 'Custom Dimensions', 'Custom Metrics', 'Content Groups', 'Advertising', 'Ecommerce', and 'Cross Domain Tracking'. Under 'Cross Domain Tracking', the 'Auto Link Domains' field is highlighted with a blue arrow. The 'Auto Link Domains' field contains the text 'domainB.com'.

If it's only possible for the visitor to navigate one-way (e.g. from domainA.com to domainB.com), then domainB.com should be entered in that field. If it is possible for a visitor to move both ways, back and forth), then enter both domains in that field. Separate domains with a comma, e.g. domainA.com, domainB.com.



Once you enter the domains, save the GA Settings Variable, refresh the [pre-view and debug mode](#) and refresh the page that you're currently working on. That page should be on the outbound domain and include at least one link to the destination page.

Now, it's time to test whether the link to the destination page is actually decorated. Do the right-click on the URL (to domainB.com) and select *In-spect Element*. You'll see the Elements explorer with the highlighted link you've just selected.

Take a look at the link's href attribute. Is it just a regular link to the domainB or does it also contain a `_ga` parameter with some random numbers at the end? Like in the screenshot below:



If the parameter is indeed there, that's a good sign! Now, let's test whether that parameter actually remains in the URL after you click it.

Close the Elements explorer (of your browser's developer tools) and click the link that will redirect to the domainB.com. Once you land on the destination page, do you see the `_ga` parameter in the URL? (some browsers hide parameters; therefore, you might need to click on the address bar of your browser and check. If the `_ga` parameter is still present, that's good. The URL decoration part of your work is complete and you can proceed to chapter #2.6 of this guide.

If you don't see the `_ga` parameter in the URL, skip to chapter #3.1.2. where you should find further instructions.

#2.5.3. URL DECORATION OPTION #2: "DECORATE FORMS" GA TAG

If the visitor navigates from website A to website B by submitting a form (which then redirects to the website B), then this next option might be a solution for you.

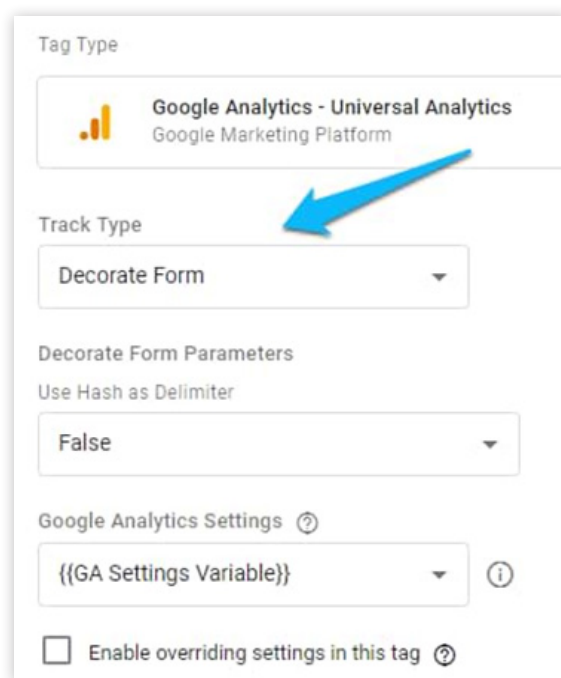
Important: This solution will work only if you can properly track that form with the built-in Google Tag Manager Form Submission trigger. If your form is coded in a bit different way and the default trigger is not working, then this method is not for you. You will need to skip to chapter #2.5.5, a.k.a. cooperation with a developer.

How can you find out whether your form can be decorated with the “Decorate Forms” tag?

Open this guide of mine and follow chapter [#1. Google Tag Manager Form Tracking \(with Form Listener\)](#). If that method does not work, then I have some bad news and you will need to skip to chapter #2.5.5.

Anyway, if you are lucky and that form indeed can be tracked with the form submission trigger, do the following steps:

1. Go to your Google Tag Manager container. If you have separate containers for each domain, then go to the domainA’s container.
2. Go to Tags > New > Universal Analytics. Choose Track Type: Decorate Forms.



3. Now, the trigger. This tag must fire on a Form Submission trigger that activates after the successful submission. If you are already tracking the submissions of that form, just use the same form trigger for this “Decorate Form” trigger. If you don’t have any triggers for that form yet, [read this chapter](#) of my form tracking guide to properly configure it.

Now, test. Try to submit the form and check whether the destination URL is decorated with the `_ga` parameter. If it isn't, move over to chapter #3.1.2.. Chances are that the parameter is lost due to multiple redirects. If redirects are not the case, then most likely, you will need to move to chapter #2.5.5.

#2.5.4. URL DECORATION OPTION #3: CROSS-DOMAIN IFRAME TRACKING

Update: since more and more browsers are starting to block 3rd party cookies, cross-domain iframe tracking becomes more and more unreliable.

You see, when a cookie (from your GA) is set from within the iframe, that cookie is treated as a 3rd party cookie (to be more precise – that cookie is being set in a 3rd party context).

What are the consequences? Your GA tracking will not work because the `_ga` cookie will not be created in the first place.

What's a solution for that? A cookieless iFrame tracking.

In a nutshell, you can configure GTM (within the iframe) to send the interaction data to the parent page.

Then the GTM/GA on the parent page deal with that data.

I will not dive deeper into this topic because Simo Ahava [has already done a great job explaining it.](#)

#2.5.5. URL DECORATION OPTION #4: DEVELOPER'S HELP

Most likely, you're reading this chapter because the previous 3 URL decoration methods failed. Even if you're working with the form (that redirects to another page), it might not have worked. And that is more than realistic.

In this case, your last hope is to contact a developer who has access to the domainA.com website and can make sure (somehow) that the URL of the destination page (on domainB.com) is decorated with the `_ga` parameter.

How can a developer get that `_ga` linker parameter and decorate the URL of the form's "Thank you" page? Hand him/her this code:

```
function decorateUrl(urlString) {
  var ga = window[window['GoogleAnalyticsObject']];
  var tracker;
  if (ga && typeof ga.getAll === 'function') {
    tracker = ga.getAll()[0]; // Uses the first tracker created on the page
    urlString = (new window.gaplugins.Linker(tracker)).decorate(urlString);
  }
  return urlString;
}
```

This function is taken from Simo Ahava's [upgraded cross-domain iframe tracking solution](#). When a URL of the “thank you” page is passed to the function (variable's name is `urlString`), it will return a readymade decorated URL (if Google Analytics has already loaded on a page) or will just return a regular “Thank you” page URL that was passed to the function.

Here's a rough process of how things should be implemented.

The developer adds the aforementioned function (called `decorateUrl`) to the form's code. When the form fields are validated and the form is **successfully submitted** (right before the redirect) a developer should call the `decorateUrl` function and pass the URL of the “Thank you” page (or basically, some page where the user will be redirected after the submission), for example:

```
var thankYouUrl = "https://www.example.com/success";
thankYouUrl = decorateUrl(thankYouUrl);
```

This means that at first, the developer sets the initial value of the `thankYouUrl` (which is just a regular URL) and then a developer calls the `decorateUrl` function and inserts the `https://www.example.com/success`. The result is one of two:

- `https://www.example.com/success?_ga=2.174383108.3496197.....` (with some different numbers)
- Or just `https://www.example.com/success` (if GA hasn't loaded on a page). This means that your form's redirect will not break if GA fails somewhere along the way.

Important: It's crucial that the developer activates this code right before the redirect (after a successful form submission). That's because the part of that `_ga=....` parameter is valid only for two minutes, therefore, activating the `decorateUrl` function on all pageviews will have a high chance of the linker parameter's expiration.

When the developer tells you the job is done, you need to submit the form on domainA.com and then, after you land on the domainB.com, check the

URL of the Thank you page. If the `_ga=...` is present, then everything is fine. If not, then contact the developer once again and try to find the reason for this issue.

#2.6. STEP/REQUIREMENT NO.3: ALLOWLINKER FIELD MUST BE ENABLED ON DOMAINB.COM

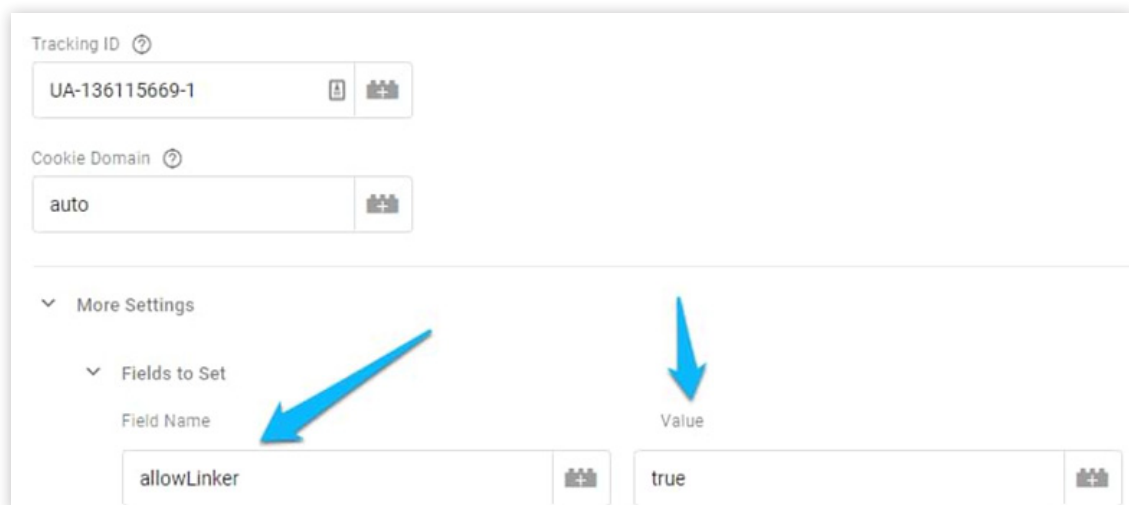
Once you manage to decorate the URL of the domainB.com (and `_ga` parameter is visible in the URL), then you need to instruct Google Analytics (on domainB) to read that parameter and update the `_ga` cookie on the domainB accordingly.

By default, Google Analytics does not care about the `_ga` query parameter in the URL, therefore, if you just decorate the URL, cross-domain tracking will still not work. You need to explicitly instruct GA to fetch the `_ga` parameter in the URL and update the cookie accordingly.

If you're using Google Tag Manager on the domainB.com, then this is how you should enable the `allowLinker` field. In GTM, go to Variables and open the GA Settings Variable. Then go to *More Settings > Fields to Set* and enter:

- `allowLinker` (case-sensitive)
- `true`

Hit save.



The screenshot shows the configuration for a GA Settings Variable in Google Tag Manager. The Tracking ID is UA-136115669-1 and the Cookie Domain is auto. Under the 'More Settings' section, the 'Fields to Set' section is expanded, showing a table with two columns: 'Field Name' and 'Value'. The 'Field Name' is 'allowLinker' and the 'Value' is 'true'. Two blue arrows point to the 'allowLinker' field name and the 'true' value.

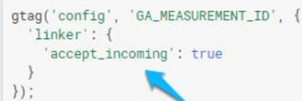
Field Name	Value
allowLinker	true

It is not necessary for the domainB.com to have Google Tag Manager implemented. It's just important to configure the GA on domainB.com to read the

_ga URL parameter and update the cookie accordingly.

If, for example, domainB.com uses the hardcoded gtag.js, then you will need to contact a developer and ask to include the following command: 'linker': {'accept_incoming': true}});

```
gtag('config', 'GA_MEASUREMENT_ID', {  
  'linker': {  
    'accept_incoming': true  
  }  
});
```



The screenshot [was taken from here](#).

#2.7. STEP/REQUIREMENT NO.4: UPDATE THE REFERRAL EXCLUSION LIST IN GA

Even if all the previous 3 steps are implemented flawlessly, the step No.4 is as important as they are. Google Analytics acquisition reports work based on several things (e.g. UTM parameters or Referral). The referral is the address (or just the domain) of the previous page.

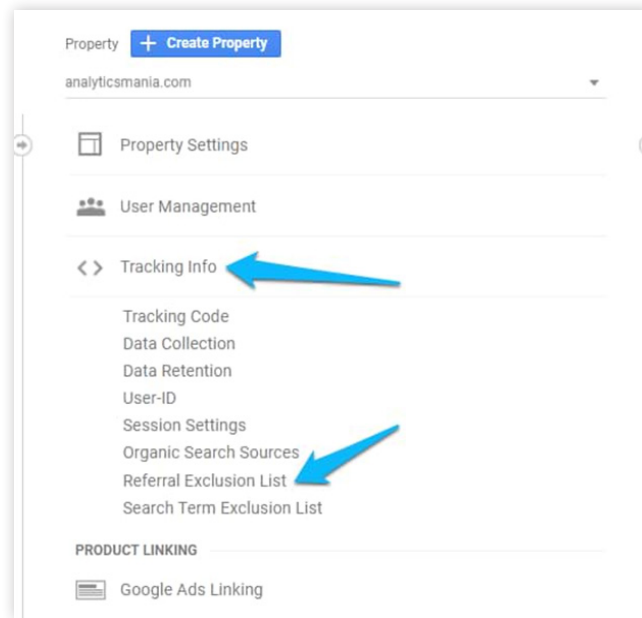
If the value of a referral is empty, such traffic is treated as (direct). But if the referrer indeed returns some value and its domain is different than the one I'm currently on, GA will start a new session. This means that you, as a visitor, have landed on this website from a different website.

And that is a problem in cross-domain tracking. When I navigate from domainA.com to domainB.com, the referrer is domainA.com. And I'm currently on the page of which domain is domainB.com. Since the referrer and the current page domain are different, GA starts a new session.

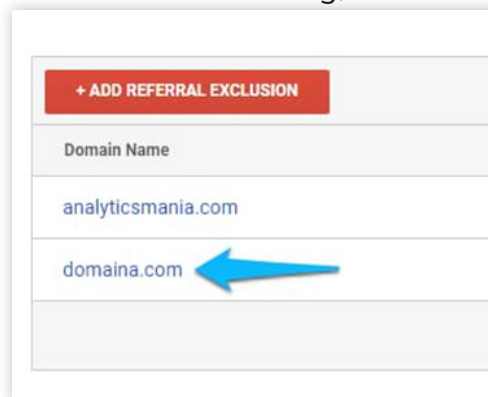
Without any additional configurations, the GA will always attribute conversions (that happen on domainB.com) to domainA.com (if the visitor landed from that domain). That way, you will lose valuable traffic source data and it will be polluted with self-referrals.

A solution? Update the referral exclusion list in GA to ignore self-referrals.

In Google Analytics, open the property of your website/project and go to Admin > Tracking Info > Referral Exclusion List (in the Property column).



Add the domain of the outbound website. If you have multiple websites “participating” in the cross-domain tracking, add all the domains to that list.



Important if cross-domain tracking was not set up on day 1 of your tracking implementation: due to how Google Analytics attribution works (last non-direct click), you will still continue seeing self-referrals in GA reports even after updating the Referral Exclusion List. However, the numbers of self-referrals will be falling down and will 100% disappear after 6 months.

Read more on that [here](#).

On the other hand, if you have implemented cross-domain tracking on day 1 (when you started tracking that website), self-referrals will not be a 6-month-problem.

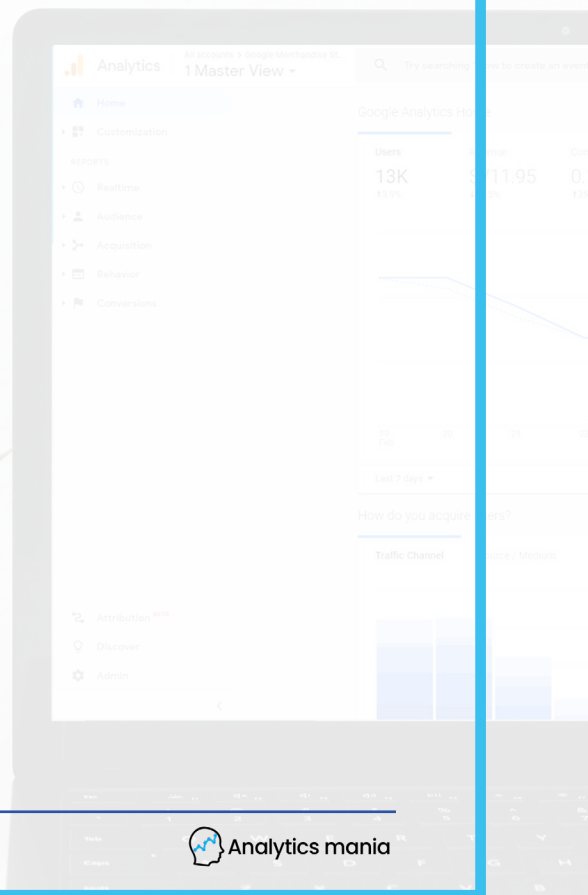
SUMMARY OF THIS PART #2

In order to make cross-domain tracking work, your setup must meet for requirements. **ALL of them.** If at least one of them is not possible (due to some circumstances), then I have some bad news.

1. All websites must use the same Google Analytics property.
2. The URL of the destination page must be decorated with the linker parameter (`_ga=`). There are several options here (but they depend on how a visitor is navigating between two domains). Choose one:
 - Auto-link domains
 - Decorate links/forms tag in GTM
 - Ask for developers help
 - Previously, iFrame decoration was an option but now, you should better implement a cookieless iFrame tracking instead.
3. You must have enabled the `allowLinker` field on the destination page. Set it to `true`. If you don't have access to the destination website's Google Tag Manager or if nobody can help you edit the hardcoded GA code there, proper cross-domain tracking will not work. That's it. No work-arounds. End of story.
4. Update the referral exclusion list. Include all the outbound domains, from which a visitor navigates to the destination domain.

PART 3

HOW TO TEST CROSS-DOMAIN TRACKING



#3.1. THE DESTINATION URL MUST CONTAIN THE _GA PARAMETER

When the visitor makes an interaction on the domainA.com and is redirected to the domainB.com, the URL of the destination page MUST contain the _ga parameter with some value, e.g. domainB.com/_ga=2.127758917.935544379.1560750528-1792149684.1557994615

If that did not happen, there are several possible reasons (continue reading).

#3.1.1. POORLY IMPLEMENTED LINK DECORATION ON THE DOMAIN.A.COM

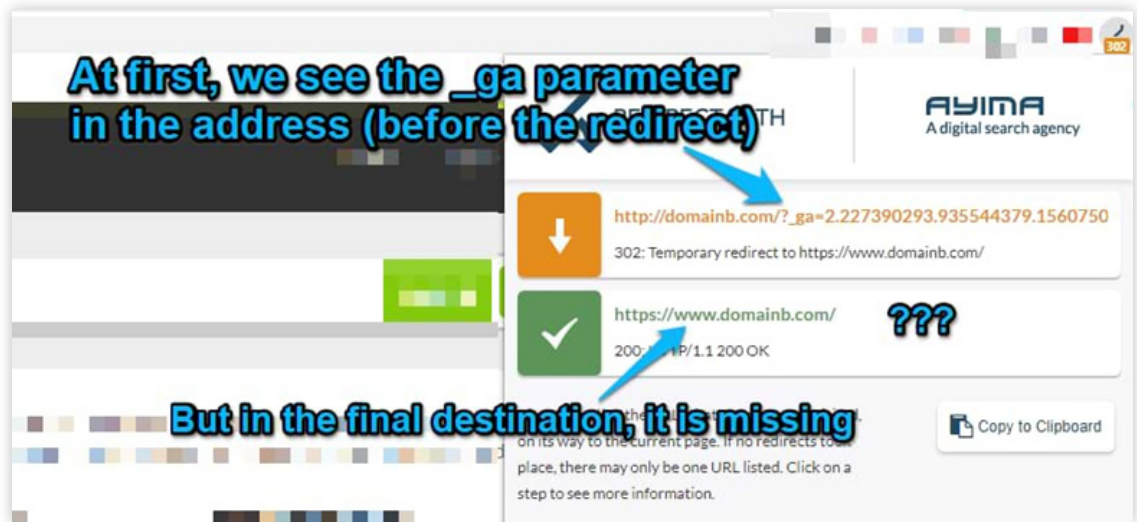
If you're working with links or iFrames, inspect them on domain A and see whether their links contain the _ga parameter. If they actually do contain the parameter, but the destination URL doesn't, read the following possible reason.

#3.1.2. REDIRECT BETWEEN THE DOMAIN.A AND B IS LOSING THE PARAMETER

One of the possible ways to check redirects is to use the Chrome Extension [Redirect Path](#). It displays all the redirects that happen between pages. Sometimes it's possible even see 6, 7 or more redirects between two websites. This is a very common reason why _ga parameter is lost.

In order to validate this hypothesis, go back to the domainA.com. Complete the action that redirects to the domainB.com. Once you land on the destination page, click on the Redirect Path icon to see what kind of redirects happened.

With it, you will be able to see whether the initial redirect actually included the _ga parameter and then whether on each step of the redirect the parameter persisted.



If the `_ga` parameter is missing from the very beginning of the redirect, this means that the problem still lies within the URL decoration and it properly does not work.



However, if the parameter is indeed visible in the first step of the redirect and is then lost, you need to reach out to a developer and tell him/her to preserve the `_ga` query parameter throughout the entire redirect.

Only a developer can do that. There is NO way around it with Google Tag Manager.

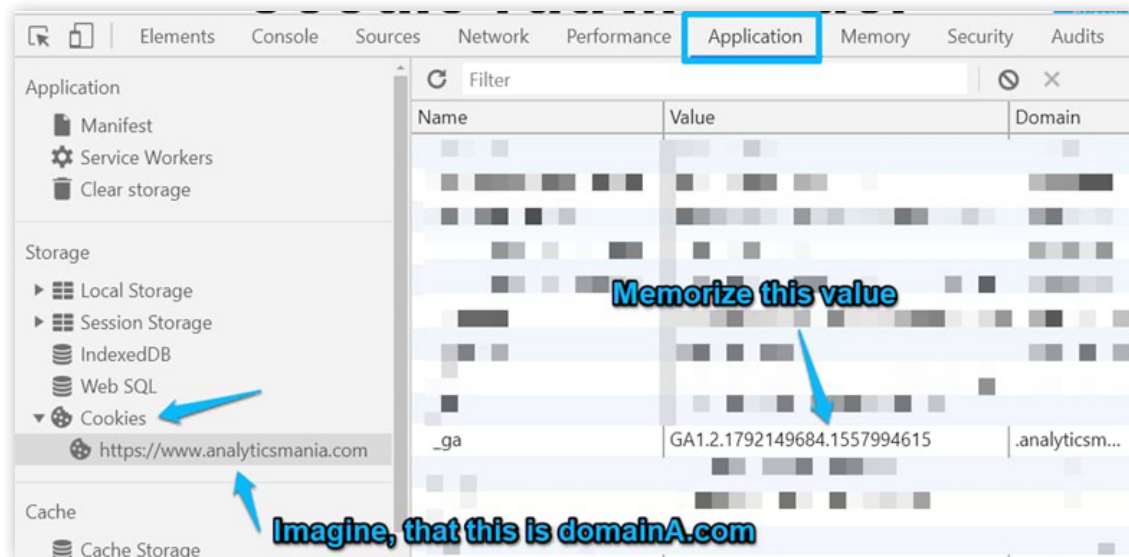
#3.2. THE `_GA` COOKIES ON BOTH DOMAINS MUST CONTAIN THE SAME VALUE

When you are 100% sure that the URL decoration works properly, the next

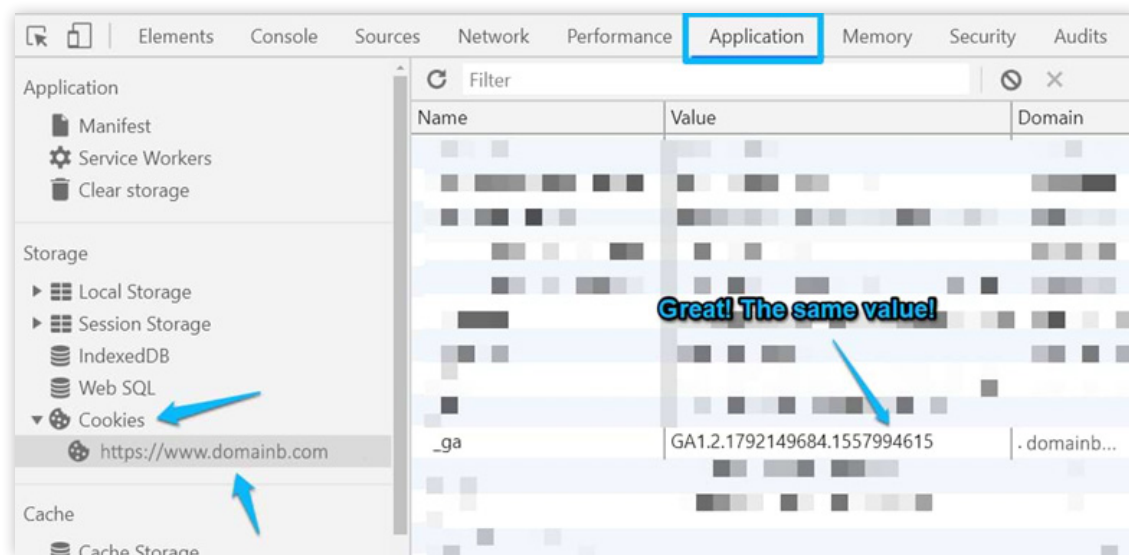
step is to check whether the `_ga` cookies on both domains have the same value. Once they are indeed the same, GA will start treating a visitor as the same person on both websites (as long as those cookies match).

How can you check whether the `_ga` cookies on both websites match?

In Chrome, go to Developer tools (while being on the domainA.com) and go to Application > Cookies. If you're using a different browser, you'll need to find a way how to do that. Expand the Cookies section and choose the domainA. Keep looking for a `_ga` cookie that is stored on behalf of domainA.com. Memorize last 4 digits.



Now go to domainB.com and repeat the same process. Find the `_ga` cookie there. Is its value the same as on the domainA? If yes, then everything is working properly.



If not, this means that you haven't enabled allowLinker in the Google Tag Manager container, GA Settings Variable. This must be done at least for the domainB.com.

#3.3. CHECK REFERRAL REPORTS TO SPOT WHETHER YOUR REFERRAL EXCLUSION LIST IS WORKING PROPERLY

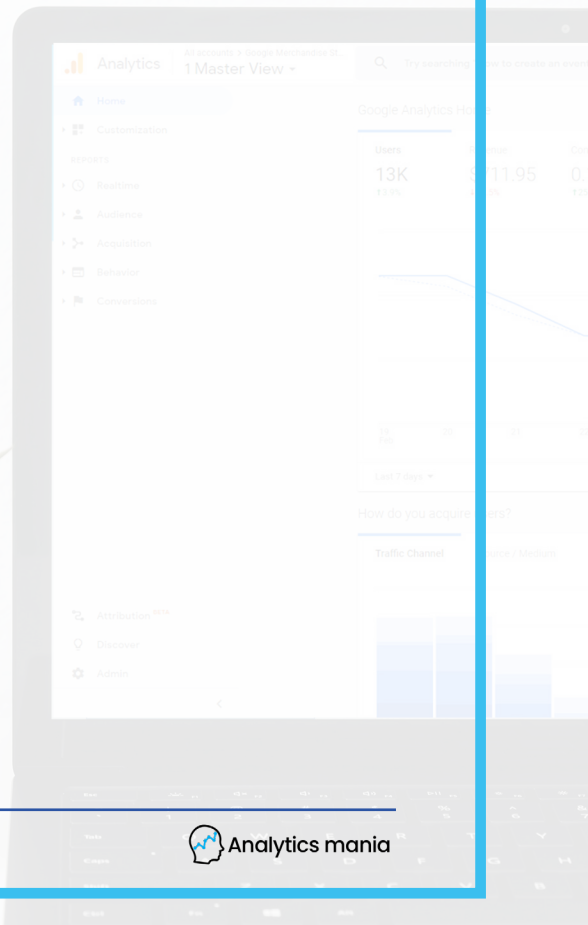
I usually check these two places:

#1. GA Real-time traffic source reports. If you navigate from domainA.com to domainB.com, your traffic source must be displayed as (direct)

#2. GA > Acquisition > All Traffic > Referrals reports. See if you notice domainA.com as a referral. If you implemented Google Analytics cross-domain tracking after a while (and self-referral were swarming in your GA reports), you will still continue seeing them. However, the number of those sessions will gradually decrease (over a period of 6 months). [More information](#)

PART 4

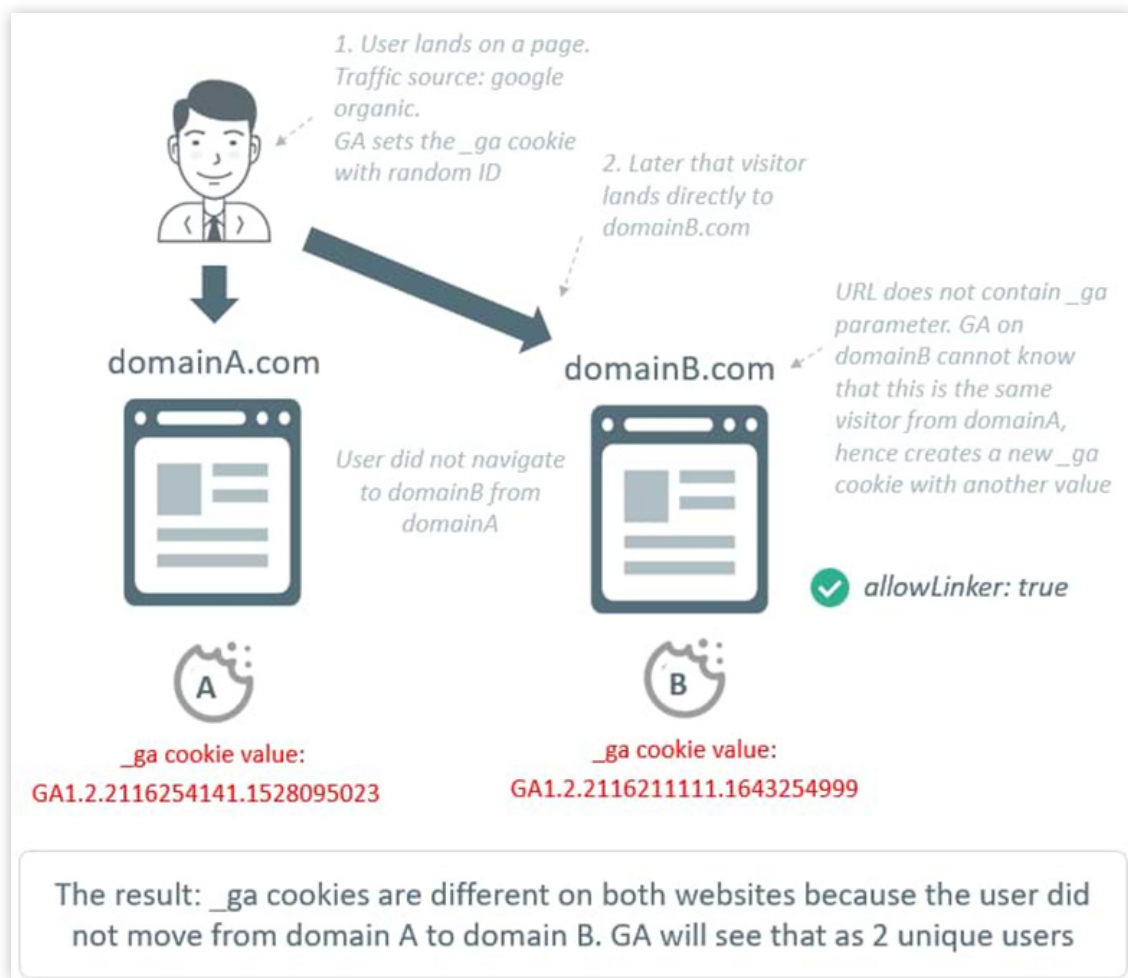
OTHER THINGS TO KNOW



#4.1. EVEN THE PERFECT CROSS-DOMAIN SETUP DOES NOT GUARANTEE THAT IT WILL WORK IN 100% CASES

As I have already mentioned multiple times in this guide, in order to pass the linker parameter from domainA to domainB, there must be some sort of interaction, like a click, form submission, or page load within the page (iFrame). So if you have perfectly configured your Google Analytics cross-domain tracking and visitors complete that interaction every time they jump between websites, then you're good.

However, if a visitor can freely land on the domainB and then directly land on the domainA (without clicking links, submitting forms or completing another action that will help decorate the URL), the cookies will remain different on both domains, hence GA will continue treating the person as two unique people.



The only way to make cookies the same is for the visitor to navigate from domainA to domainB and the destination URL must be decorated with the linker parameter (and *allowLinker* must be enabled on domainB as well).

#4.2. IF YOU CANNOT ENABLE ALLOWLINKER ON DOMAIN B, THERE IS A PARTIAL SOLUTION

This is definitely not a robust solution but if you have no other choice, it can still be implemented. I have a solution, which lets you transfer [UTM parameters from domainA to domainB](#). Unfortunately, the transition between domains will start a new session in GA but, as a plan B, this technique can be definitely considered.

FINAL WORDS

Google Analytics cross-domain tracking is definitely not an easy topic and is full of tricky parts. However, it is necessary if you want to track visitors' journey between separate domains. GA (and other cookie-based web tracking tools) heavily rely on cookies. They are used to identify a person as he/she navigates from page to page, returns to your website, etc.

However, cookies cannot be shared between separate domains (like domainA.com and domainB.com), hence when a visitor jumps between websites, Google Analytics sees that person as actually two people. Additionally, such jumps start new sessions in GA, which distort your acquisition reports.

Luckily, Google Analytics offers a workaround, which is called cross-domain tracking. When a visitor navigates from one domain to another, you can pass the value of the `_ga` cookie (of domainA) and GA on the domainB will accept its value and update the `_ga` cookie (of website B) accordingly. When the `_ga` cookies on both domains are the same, GA will start treating that visitor as the same person across both domains.

Here are the necessary steps/requirements that need to be taken to make this work:

- Both websites must be tracked under the same Google Analytics property (if a visitor can navigate between 3 or more websites, all of them must be tracked with the same GA property as well)
- The page address of the destination page (domainB.com) must be decorated with the `_ga` linker parameter. There are several techniques on how that can be done. The choice depends on how a visitor is jumping between websites:
 - A link on domainA.com is clicked. That link redirects to the domainB.com
 - A form is submitted on domainA.com. The form redirects to a "Thank you page" on domainB.com
 - An iFrame on domainA.com is loaded. The URL of that iFrame is domainB.com
 - Some other interaction is made that cannot be properly tracked/covered by the aforementioned 3 options
- `allowLinker` field on the domainB.com must be set to true. If the domainB.com is not using Google Tag Manager (but maybe hardcoded `gtag.js`, instead), then some other identical parameter must be enabled. E.g. in case of `gtag.js`, that parameter is called "accept_incoming".

- The referral exclusion list (in GA Property settings) must be updated. You should include all the outbound domains that play a role in the cross-domain tracking flow. In other words, enter all the domainA.com from which a visitor lands on the destination domain (domainB.com).

ALL of these requirements must be met in order for the cross-domain tracking to properly work.

Got some questions regarding Google Analytics cross-domain tracking with Google Tag Manager? Did I miss something? I'm more than open to hearing your thoughts, questions, ideas. The comments section below is at your service.

THIS E-BOOK WAS DELIVERED TO YOU BY



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