



Getting started with Google Analytics 4

Installation, Events, Conversions,
Reports

Created by



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I can help you learn GA4

Hi, my name is Julius. I founded Analytics Mania in late 2016. Since then, the blog has grown to hundreds of thousands of monthly visits. Here I share my knowledge, experiments, and learnings related to web analytics, mainly Google Tag Manager (GTM) & Google Analytics 4 (GA4).

I actively help others to learn Google Analytics 4 by running workshops and online courses. In my [Google Analytics 4 course](#), you will learn the following:

- How to **plan** your setup
- How to define what is essential to measure KPIs
- How to properly **configure** Google Analytics 4
- How to build **reports**
- How to **get insights** from your data

You can [learn more about my Google Analytics 4 course here](#).

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Chapter I

Install GA4 with GTM



IMPORTANT. READ THIS FIRST.

Google Analytics 4 is under heavy development. It means that every month you will get some new features (and sometimes, the current ones change). Current features might be renamed, moved to a different part of the interface. That is just how GA works right now.

So if you notice some differences between this e-book and what you see in the interface, don't panic. Just keep looking and you will eventually find it.

In late 2020, Google renamed its App + Web properties to Google Analytics 4 and officially graduated from beta (at least, that's what Google is saying). This means that from now on, the default property (when you create it) is GA4. It is a completely revamped platform (compared to the previous versions). New interface, new tag template in Google Tag Manager, new data model, etc.

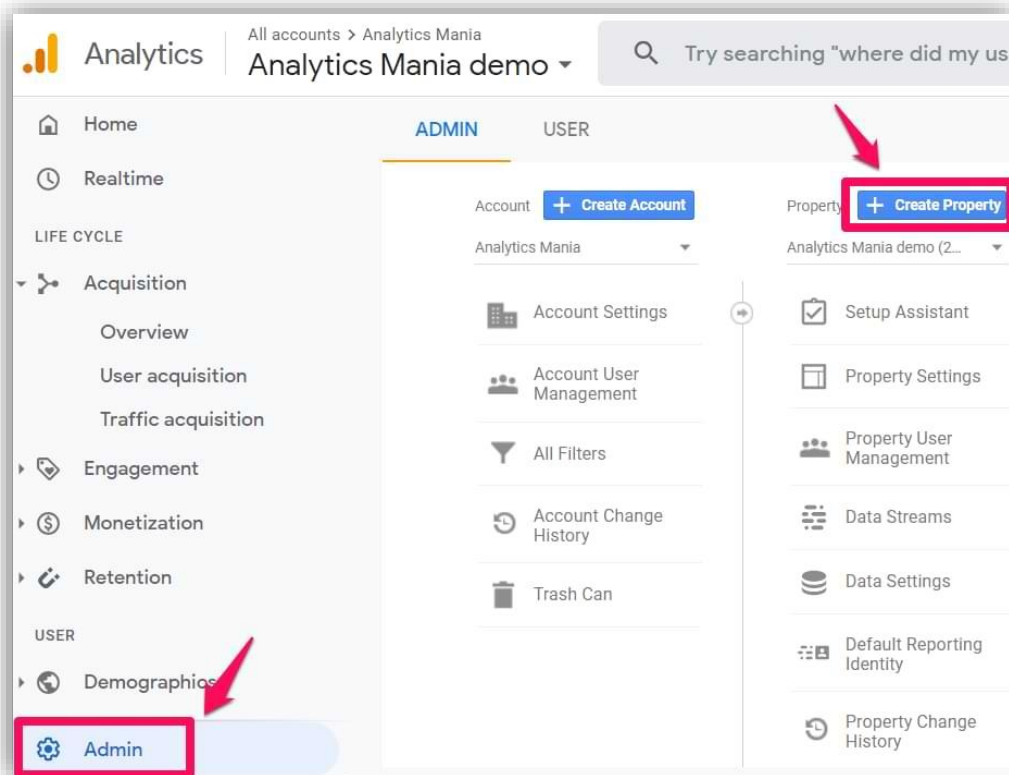
In this chapter, we'll look at one of the basic (but fundamental) topics - how to install Google Analytics 4. And we'll do that with Google Tag Manager.

Here's the process of how to install Google Analytics 4 with Google Tag Manager:

- Create a new GA4 property
- Create a data stream (in this e-book, I focused on the Web stream)
- Copy the Measurement ID
- Create a Google Tag
- Paste the Measurement ID and set the tag to fire on All Pages
- Preview/test the new tag
- Publish the changes in Google Tag Manager

#1.1 Create a Google Analytics 4 Property & Data Stream

If you want to create a new Google Analytics 4 property, go to the *Admin* section of your Google Analytics interface (by clicking the *Admin* at the bottom-left corner) and then (in the *Property* section) click **Create Property**.



Then enter the name of your property. It might be the name of your website, of your company, a brand, etc. Choose your company's country, reporting time zone, and the main currency that your business operates in.

Property details

Property name

Reporting time zone ?


United States ▼ (GMT-07:00) Los Angeles Time ▼

Currency

US Dollar (\$) ▼


You can edit these property details later in Admin

Then press *Next*, answer several questions. Then you will need to select your business objectives. Based on these choices, the reports that you will have in the interface will change too. To make things simpler right now, select *Get baseline reports*.

**Raise brand awareness**


Spread the word about your business

☐

**Examine user behavior**

Learn how people use your site or app

☐

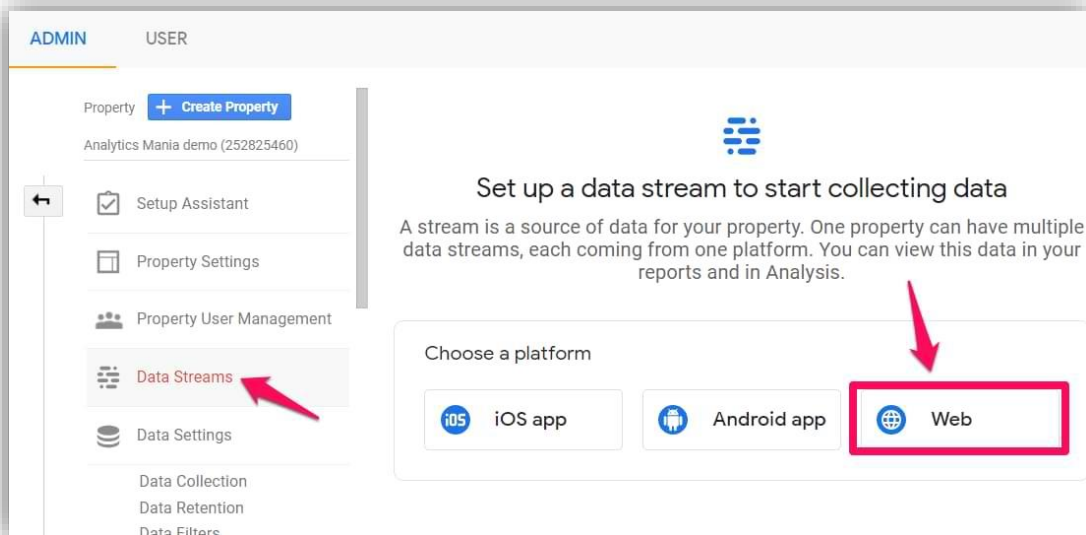
**Get baseline reports**

Multiple types of reports (this option can't be combined with o...

☒

Click *Create*. The next step to complete is to configure your first data stream. It is a data source from which events will be sent to your Google Analytics 4 property. You can have multiple data sources in a single property. For example, 3 web properties, 1 for Android app, and 1 for an iOS app.

In this e-book, I will focus on a **Web** stream. Select it.



Then enter the URL of your website (for example, <https://www.mywebsite.com>). Note, that the protocol (*https*) is already selected. After that, enter the name of your website.

When you create a web data stream in Google Analytics 4, you have an option to enable/disable [Enhanced Measurement](#). It is designed to help marketers get as many events in the reports as possible without the need to cooperate with developers or configure them in Google Tag Manager.

Set up data stream


Set up your web stream


Website URL

htt... ▾ www.analyticsmania.com

Stream name


Analytics Mania website


 **Enhanced measurement**


Automatically measure interactions and content on your sites in addition to standard page view measurement. 

Data from on-page elements such as links and embedded videos may be collected with relevant events. You must ensure that no personally-identifiable information will be sent to Google. [Learn more](#)


Measuring:

 Page views

 Scrolls

 Outbound clicks

+ 3 more




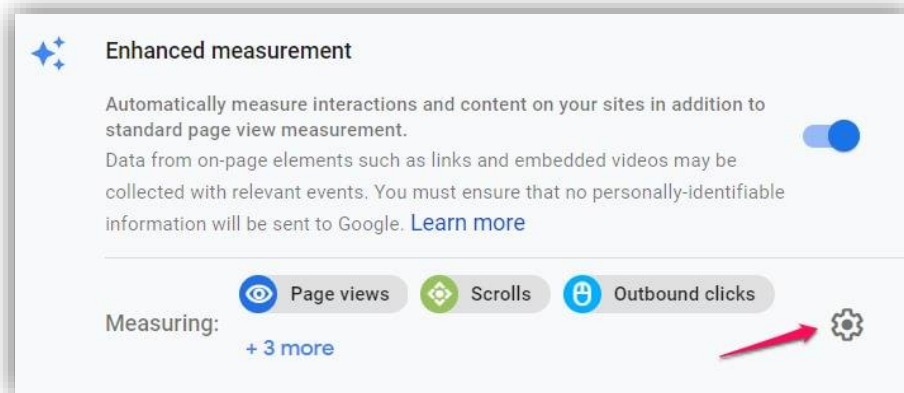
By default, this feature is enabled and will automatically track the following events:

- Page view (event name: *page_view*)
- Scroll (event name: *scroll*)
- Outbound link click (event name: *click* with the parameter *outbound: true*)
- Site search (event name: *view_search_results*)
- Video Engagement (events: *video_start*, *video_progress*, *video_complete*)
- File Download (event name: *file_download*)

If you want, you can disable/enable events individually. You can do that by clicking the gear icon in the *Enhanced Measurement* section and then clicking toggle buttons.

9 | Page

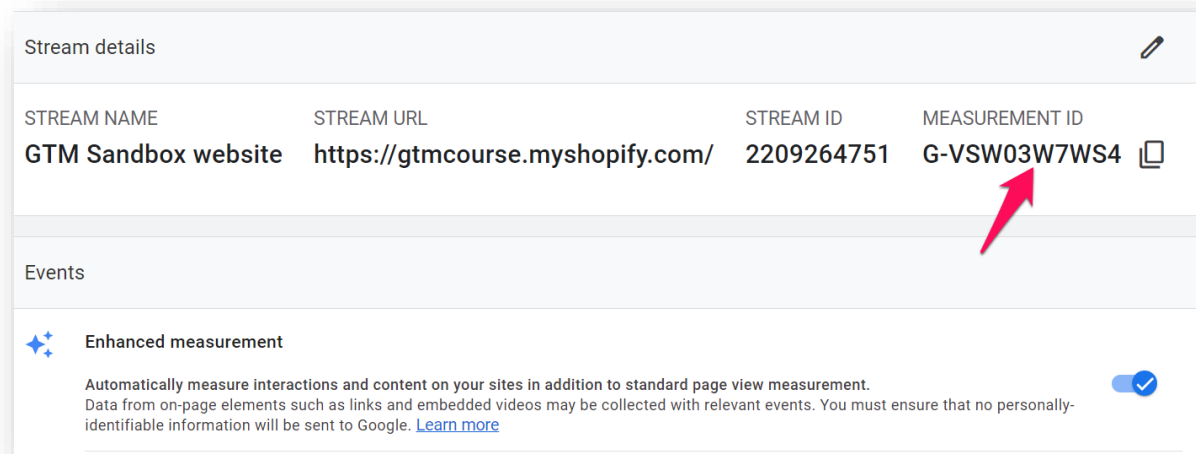
 Analytics mania



When you're ready, press the **Create stream** button.

#1.2. Install Google Analytics 4 with Google Tag Manager

When you create a data stream (web), you will see a Measurement ID.



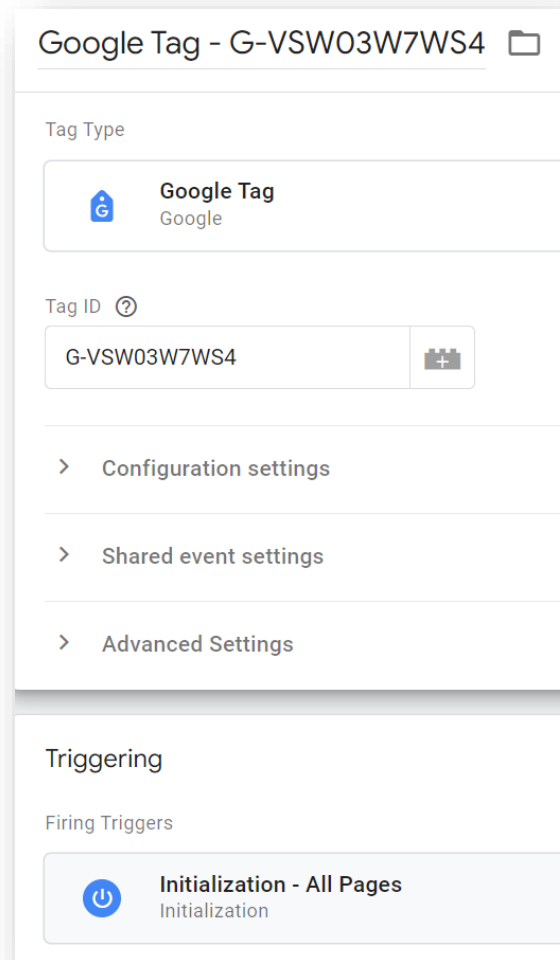
Copy it. We'll need to use it in Google Tag Manager.

By the way, if you ever get lost in the GA4 interface and you need to revisit this page, go to *Admin > Data Streams >* choose your most recently created stream, and then you will return to the same window that I have displayed in the screenshot above.

Then go to your Google Tag Manager container (if you haven't worked with it, [here's a tutorial on how to get started](#)) > *Tags > New* and choose Google Tag.

In the Tag ID field, enter the ID that you copied in the GA4 interface.

In the Triggering section, select *Initialization - All Pages* and then name the tag, e.g. *Google Tag*.

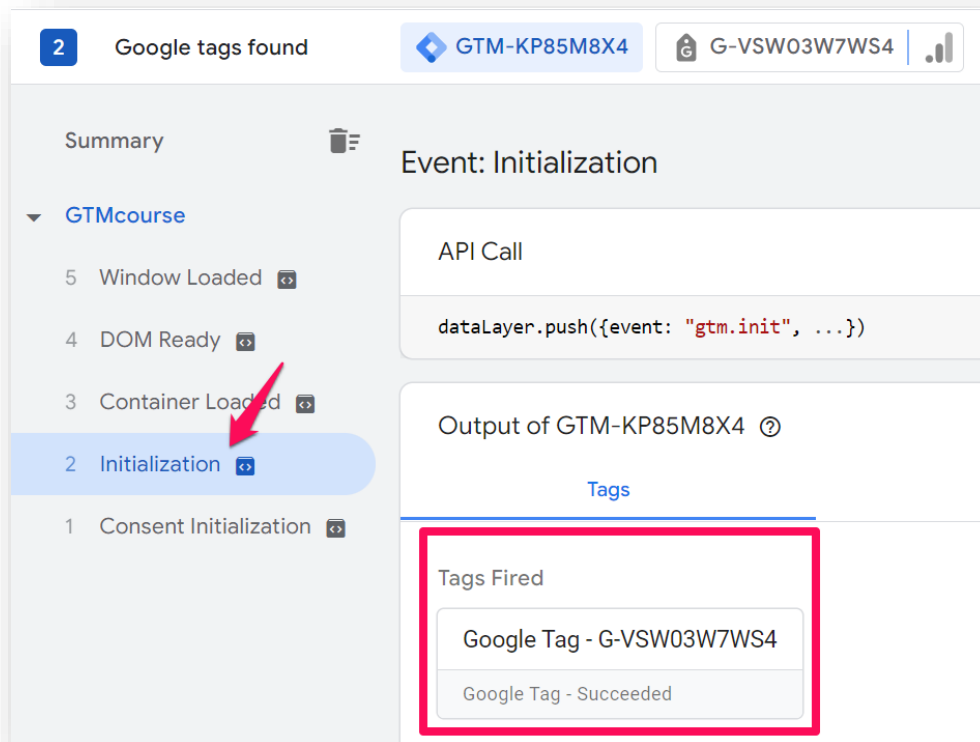


#1.3. DebugView in Google Analytics 4

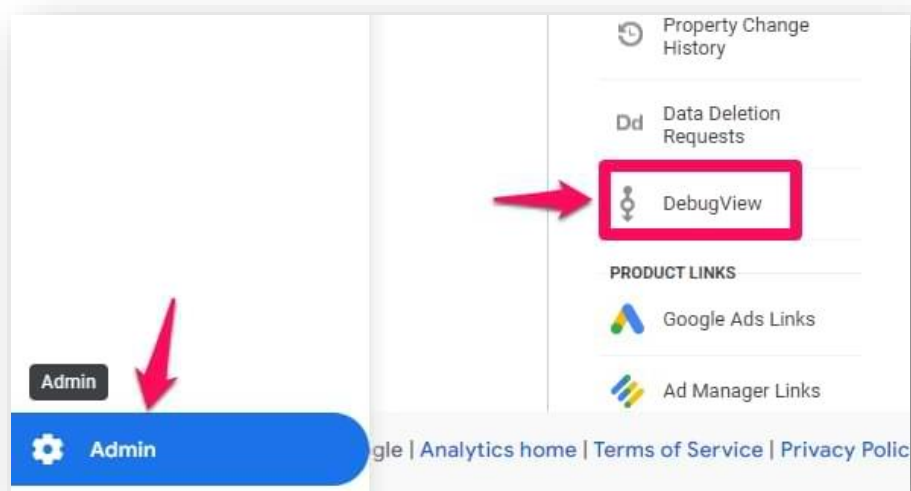
Please memorize this chapter of the e-book. I will refer to DebugView multiple times throughout the entire book because it's an essential part of making sure that your data was properly sent to Google Analytics 4.

Enable the [GTM preview mode](#) to test your changes.

Once you enable the preview mode, you should see the new Google tag among tags that fired.



Once you configure your events, it's time to test them. The primary feature built for debugging GA 4 data is the *DebugView* section. You can find it by going to *Admin > DebugView* on the left side of the GA4 interface. Click it.



Most likely, you will not see any data there (yet). That's because that data in the *DebugView* is visible ONLY when the debug mode in GA4 is enabled. Do not mix this with the GTM Preview and Debug mode. They are two different beasts.

To enable the debug mode in GA4, you have several options (any of them will work):

- Enable the GA debugger Chrome extension
- OR send a *debug_mode* parameter together with an event
- OR have enabled Google Tag Manager's Preview mode on a page that you're debugging

In the case of the first option, [install the extension here](#), and then click its icon (so that you can see the **ON** ribbon). From this moment, you will start seeing your events coming into the *DebugView*.

The other option is to send a *debug_mode* parameter with every event that you wish to see in the *DebugView*.

In Google Tag Manager, you can do that by opening the GA4 Configuration tag and adding the following parameter:

Tag Configuration

Tag Type

Google Tag
Google

Tag ID ⓘ
G-VSW03W7WS4

Configuration settings

Set configuration parameters that update your tag's behavior. [Learn more](#)

Configuration Settings Variable
None

Configuration Parameter	Value
debug_mode	true

Add parameter

> Shared event settings

If the `debug_mode` parameter is set to true, the event will be seen in *DebugView*. If you are using a hardcoded gtag.js, [here are the instructions](#) on how to include the `debug_mode` parameter.

But since we are working with Google Tag Manager, having the [GTM Preview mode](#) enabled automatically sets the `debug_mode` to `true`, thus the data will start appearing in the GA4 DebugView.

When you start seeing data in the DebugView, you can click on every individual event and then a list of parameters will be displayed.

Click on that parameter to see the value that was received by GA4. Now that is some granular debugging!

The screenshot displays the Google Analytics 4 DebugView interface. On the left, a vertical timeline shows a sequence of events: 'new' (0), 'scroll', 'page_view', 'menu_click', and 'page_view'. The 'page_view' event at 10:32:31 PM is highlighted with a red arrow and the text '1. Click on the event'. On the right, a detailed view of the 'page_view' event is shown, including 'User properties' and a list of parameters: 'ga_session_number', 'medium', 'page_location', 'page_referrer', 'page_title', and 'source'. The 'page_location' parameter is expanded, showing the URL 'https://www.analyticsmania.com/courses/'. A red arrow points to the 'page_location' parameter with the text '2. Click on a parameter to see its value'.

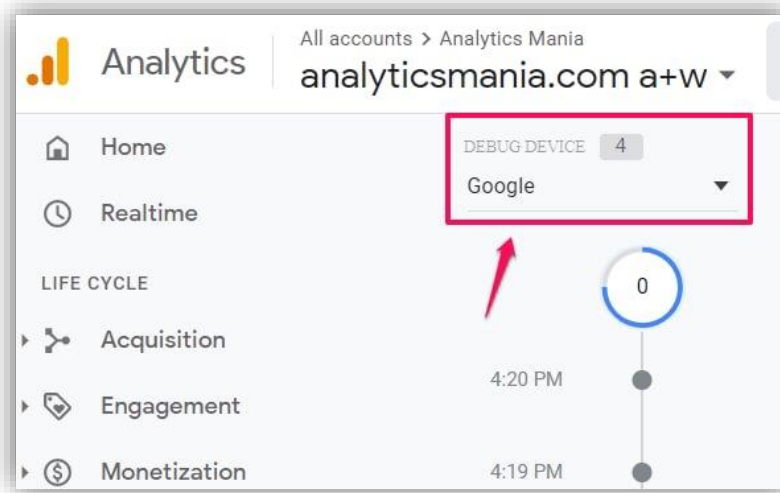
Time	Event	Duration
10:32:33 PM	new	0
10:32:32 PM	scroll	4s
10:32:31 PM	page_view	
10:32:31 PM	menu_click	
10:32:00 PM		31s
10:31:10 PM		50s
10:31:10 PM	page_view	
10:31:09 PM	user_engagement	

Parameter	Value
ga_session_number	1
medium	1
page_location	https://www.analyticsmania.com/courses/
page_referrer	1
page_title	1
source	1

However, I have noticed some delays between the event actually happening on a website and then appearing in *DebugView*. Sometimes, I have to wait for several minutes until the data come in. That's a bit unfortunate and hopefully, the team behind Google Analytics 4 will improve this in the future.

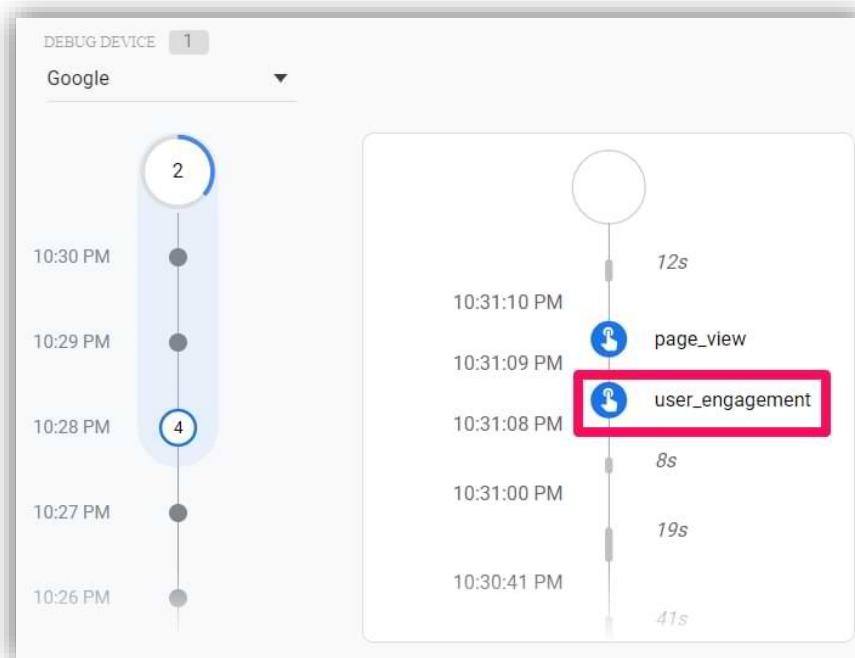
Sometimes, refreshing the *DebugView*'s page helps too.

Also, make sure that you have selected the correct Debug device in the top left corner.



If multiple visitors have enabled the debug view (e.g. they all have enabled the Chrome extension), you will see multiple devices there and it might require some time to find yourself. This especially applies to my blog, when many of my readers have enabled the GA Debugger Extension and I have to guess which device (out of the other 15) is mine :)

Anyway, once you start seeing data in *DebugView*, things will look like this.

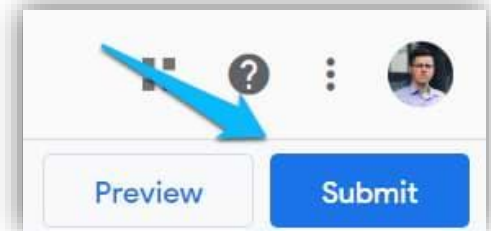


#1.4. Publish your changes in Google Tag Manager

Once you made sure that the data is coming in and it is displayed properly, you should submit your GA4 changes in the GTM container and publish it.

You can do that by clicking the SUBMIT button in the top right corner and then complete all the other steps that the user interface asks you to do.

After that, you should soon start seeing the new data coming in your real-time reports as well.

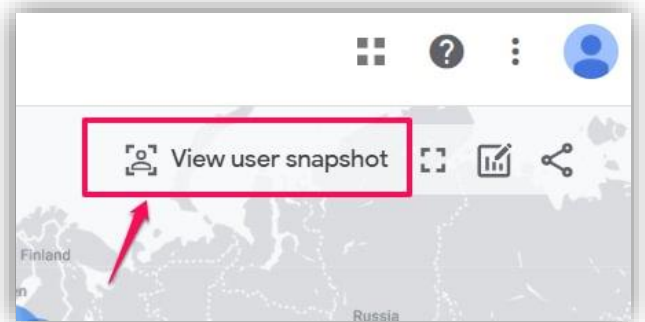


#1.5. Google Analytics 4 Realtime Reports

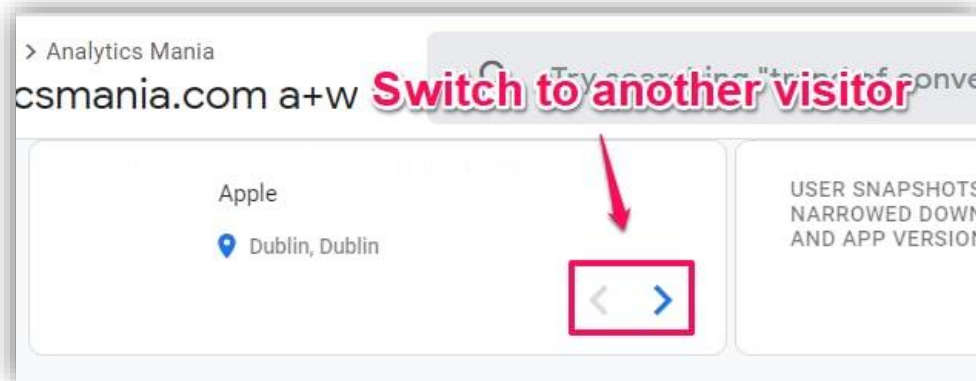
On the left sidebar of the Google Analytics 4 interface, go to *Reports > Realtime*. This is where you will see the data coming into your reports. Unlike in the previous version (Universal Analytics), the new report offers you capabilities to see the data on a much more granular level.

First, you will see a map and a bunch of cards with traffic sources, most popular events, the number of users in the last 30 minutes (by the way, Universal Analytics real-time report shows the number of users in the last 5 minutes).

You can also take a look at the snapshot of an individual user. You can do that by clicking the **View user snapshot** button in the top right corner.



Then, you will see a stream of all events of that particular user, you can click on them (just like in the *DebugView*) to see things on a more granular level. If you wish to look at another user/visitor, you can click the button here:



To exit the snapshot, simply press the **Exit snapshot** button in the top right corner.

After you have installed Google Analytics 4 on your website, the next step is to implement event tracking. They are the backbone of your GA setup. Every interaction that you want to measure is an event.

And when we move towards conversion tracking, you will learn that a conversion in GA 4 is just an event with some VIP status.

Chapter II

Track events with GA4

#2.1. Bye-bye to Event Category, Action, and Label

Compared to Universal Analytics, a.k.a. UA (the previous Google Analytics version), the data model in Google Analytics 4 is much more flexible. This means that there are fewer restrictions and required fields/parameters compared to the UA.

The most notable difference regarding events is 4 parameters that you could send together with every event to Universal Analytics (excluding custom dimensions):

- Event Category (*required*)
- Event Action (*required*)
- Event Label (*optional*)
- Event Value (*optional*)

And when you open the Universal Analytics event reports, you'd first see the Event Category. Then you can click it and drill down deeper (to see action and then label).

In Google Analytics 4, the naming convention is much more flexible and it solely depends on the person who is implementing the tracking setup.

In GA4, there is a parameter called *Event Name*, and then everything else depends on what you have planned. If you wish, you can send no additional parameters. Or you can send 4 additional parameters that better describe the context of that event. For example, let's say that someone filled in the "Request demo" form on your website. You could send the following event:

- Event name: *request_demo*
- **product_name**: *amazing product*
- **company_size**: *99-250*
- **company_industry**: *internet and telecom*
- **annual_revenue**: *50-100M*

The last 4 items in the list above are custom parameters that you can send together with an event. However, keep in mind that [there are some limits](#) regarding the

number of custom parameters that you can send with a single event. I will mention them additionally later in this e-book.

While you can come up with any events you want, there are some recommendations that you should follow. But first, let's take a look at 4 categories of events in GA4.

If you are not sure how to name/structure your events, I will give you some hints later in this e-book + a spreadsheet template. But first, let's learn about various types/categories of events in Google Analytics 4 and how you can create/modify them. I believe that it's important to have a good understanding of events in GA4 before we start thinking about the structure.

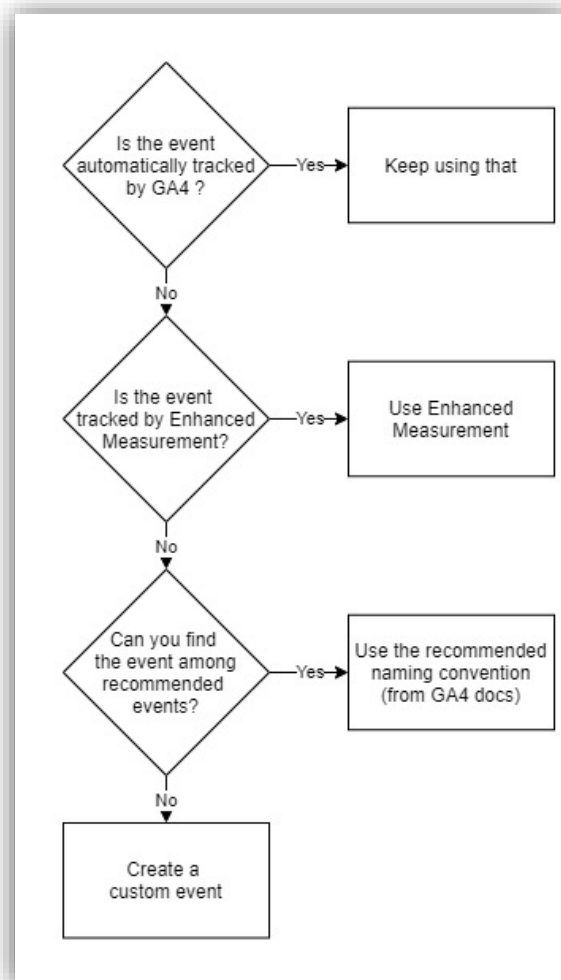
#2.2. 4 categories of events in Google Analytics 4

In GA4, events can be split into [4 categories](#):

- Automatically collected events
- Enhanced Measurement events
- Recommended events
- Custom events

The process of how you should plan the structure of your events (names and parameters) is by doing the following:

1. Check if the event that you want to track is among the **automatically collected events**
2. If not, then check if your event is mentioned among the **Enhanced Measurement** events (e.g. scroll or file_download)
3. If not, then **check the recommended events** and their naming convention
4. If none of the above categories apply to your events, **create a custom event with an event that you want**



In the upcoming 4 chapters of this e-book, I will explain where to look and how to find the category of your event. And once you get more familiar with events (and how to configure them), I will share some tips (and a sample spreadsheet) that can help you think about the structure of your events and a naming convention.

#2.2.1. Category #1. Automatically captured events

Since I am mostly focusing on web tracking, the same principle will apply to this guide. There are certain events that GA4 tracks automatically. You can find a [full list here](#). On that list, you will find both app and web events. In fact, the list of web

events is a bit longer than I'd expect. Enhanced Measurement events are also listed there.

For now, let's temporarily ignore them and focus only on those events that are automatically captured and should not be added to any other event category. The **list of website events** goes like this:

- **first_visit**. This is the first time a user visits a website or launches an app.
- **session_start**. When a user engages the app or website and starts a new session
- **user_engagement**. This event is fired 10 seconds after the visitor has stayed on a page. But it also might periodically fire while the app is in the foreground. [You can learn more here](#).

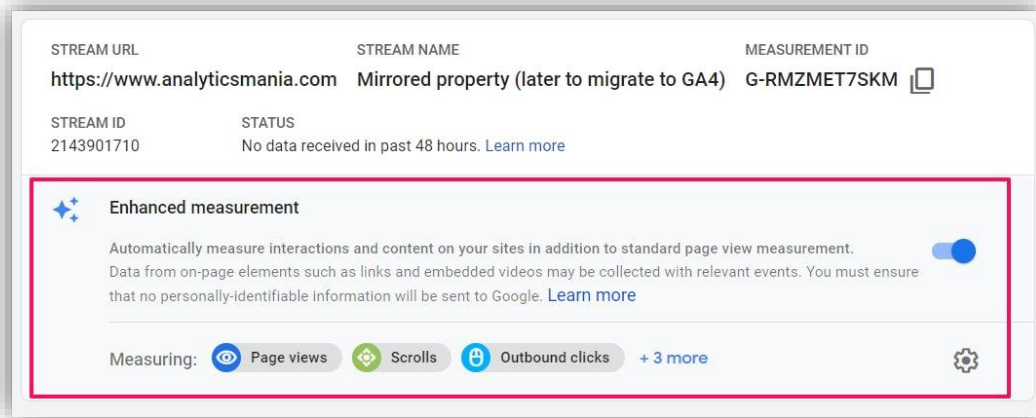
I didn't mention the `page_view` here because I added it to the *Enhanced Measurement* section. Also, if you want to see the app events, [you can check them here](#).

#2.2.2. Category #2. Events tracked via Enhanced Measurement

When you configure a web data stream in Google Analytics 4, you have an option to use Enhanced Measurement. It is designed to help marketers get as many events in the reports as possible without the need to cooperate with developers or configure in Google Tag Manager.

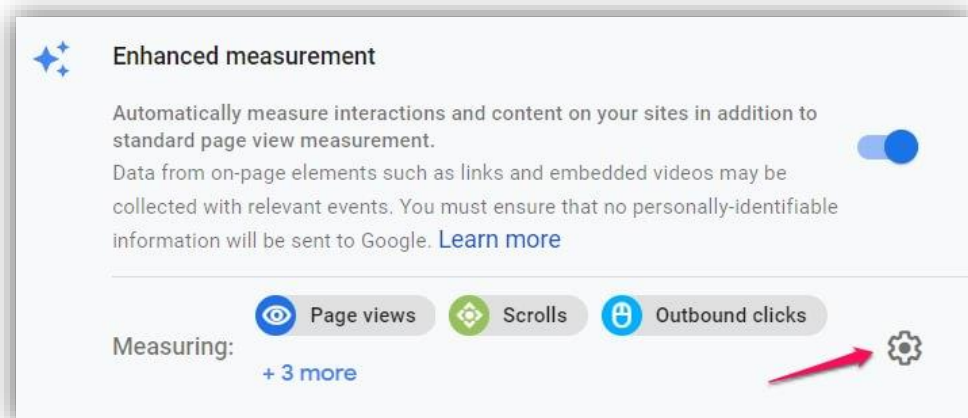
If you go to *Admin > Data Streams >* Select the web data stream, the following window will open where you will see a section called *Enhanced Measurement*.

By default, this feature is enabled and will automatically track the following events:



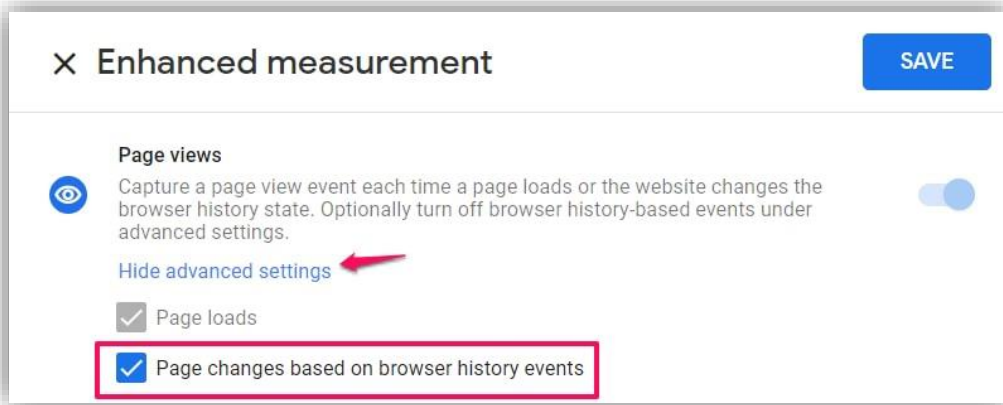
- **Page view** (event name: *page_view*)
- **Scroll** (event name: *scroll*)
- **Outbound link click** (event name: *click* with the parameter *outbound: true*)
- **Site search** (event name: *view_search_results*)
- **Youtube Video Engagement** (events: *video_start*, *video_progress*, *video_complete*)
- **File Download** (event name: *file_download*)
- **Form submissions** (event: *form_start*, *form_submit*)

If you want, you can disable/enable events individually and you can do that by clicking the gear icon in the *Enhanced Measurement* section and then clicking toggle buttons.



Also, some events can be customized additionally. Let's take a quick look at each event and their respective settings.

page_view. This event is sent to GA4 when a new page loads or the URL of the page changes without reloading the page (a.k.a. history change events)




scroll. This event is sent to GA4 once per page when a visitor scrolls below the 90% threshold of the page height.

click. This is an event for the outbound link click (when a clicked link redirects a visitor to another domain. Together with this event, an additional parameter *outbound* (with value "true") is sent. The event with this parameter means that there was an outbound link click. Together with this event, a bunch of other parameters is sent: *link_classes*, *link_domain*, *link_id*, *link_url*.

If your business operates on several domains, you can go to *Configure tag settings* (of that very same event stream) > *Configure your domains* and then enter the domains of your business. All the domains that are listed there will not trigger the outbound link click event.


view_search_results. This event will be sent to Google Analytics 4 if the page loads and the URL of the page contains a query parameter, such as *q*, *s*, *search*, *query*, *keyword*. But if you want, you can include more of them (up to 10).




Site search

Capture a view search results event each time a visitor performs a search on your site (based on a query parameter). By default, search results events will be fired any time a page loads with a common search query parameter in the URL. Adjust which parameters to look for under advanced settings.

[Hide advanced settings](#)

Search Term Query Parameter 


Specify up to 10 parameters in order of precedence, separated by commas. Only the first matching parameter will be used. (Case insensitive)

Additional Query Parameters 

Specify up to 10 parameters separated by commas. (Case insensitive)

If the address of your website's search results page looks like this: *https://www.yourwebsite.com/search?key=my+search+term*, then you should enter the word "key" (without quotation marks in the settings of the search event). If the URL of the search results contains more useful parameters, you can include them as well.


For example, if the web address of your search results page looks like this: *https://www.yourwebsite.com/search?key=search+term&results=50*, you could include the "results" (without quotation marks) in the 2nd field of the configuration. Then this parameter will be automatically tracked by GA4.




Site search

Capture a view search results event each time a visitor performs a search on your site (based on a query parameter). By default, search results events will be fired any time a page loads with a common search query parameter in the URL. Adjust which parameters to look for under advanced settings.

[Hide advanced settings](#)

Search Term Query Parameter 

Specify up to 10 parameters in order of precedence, separated by commas. Only the first matching parameter will be used. (Case insensitive)

Additional Query Parameters 

Specify up to 10 parameters separated by commas. (Case insensitive)

video_start, video_progress, video_complete. Enhanced Measurement is capable of tracking interactions of the embedded Youtube video on your website and then sends "video_..." events to GA4. But those embedded Youtube video players must contain the *?enablejsapi=1* parameter in their URL. And that is not always available on websites. Also, there are many other reasons why [Youtube video tracking might not work out of the box](#), hence you will definitely need some tweaks.

Because of those nuances, I'd say that this automatic video tracking will not work in as many cases as you might think, hence I'd personally vouch for [doing that with GTM](#).

file_download. This event is sent to GA4 when a link is clicked and that link contains one of the following file extensions: *.pdf, .xls, .xlsx, .doc, .docx, .txt, .rtf, .csv, .exe, .key, .pps, .ppt, .pptx, .7z, .pkg, .rar, .gz, .zip, .avi, .mov, .mp4, .mpe, .mpeg, .wmv, .mid, .midi, .mp3, .wav, .wma*. In other words, if the link opens/downloads a file. Currently, it is not possible to update the list with other extensions in the GA4 interface.

form_start, form_submit. These events are recorded when the website user interacts successfully and submits a lead form during their session. GA4 records parameters like *form_id, form_name, form_destination, and form_submit_text* when it is fired.

Once you select which events you wish to track, hit *Save* in the top right corner and then make sure that Enhanced Measurement is enabled (the toggle is blue).

From that moment, your Google Analytics 4 will start automatically tracking the events. See chapter #2.6. of this e-book to learn how to check if your data is coming in properly.

#2.2.3. Category #3. Recommended events

As I have previously mentioned in this e-book, when you are trying to pick the name (and the parameters) for your event, first take a look at automatically tracked events (maybe those events are already being tracked), then check the Enhanced Measurement events. If none of those events cover your case, take a look at the list of recommended events. Google has published several pages for different industries:

- [Generic \(for all properties\)](#)
- [Online sales](#)
- [Games](#)

Check every one of those lists and see if any of the events match your need. For example, if you want to track when a user logs in, then you will find the "login" event in the list of "All properties".

Event	Trigger...	Parameters
earn_virtual_currency	when a user has earned virtual currency	virtual_currency_name, value
join_group	when a user joins a group Allows you to track the popularity of various clans or user groups.	group_id
login	when a user logs in.	method
purchase	when a user completes a purchase	transaction_id, value, currency, tax, shipping, items, coupon
refund	when a user receives a refund	transaction_id, value

Even though Google Analytics 4 data model is very flexible (and you can use a different event name for login, for example, *logged_in*), Google recommends that you implement their recommend events when it makes sense to you. That should help Google Analytics' reports better understand your data and apply it in their Machine Learning capabilities. However, I still don't know what are those capabilities (at least in late 2020).

Also, for the majority of those recommended events, Google also recommends some parameters. Speaking of the *login* event, there is a *method* parameter. If users can log in to your website via *email*, *google login*, *facebook login*, etc., then it might make sense to track the method as well.

join_group	when a user joins a group Allows you to track the popularity of various clans or user groups.	group_id
login	when a user logs in.	method
purchase	when a user completes a purchase	transaction_id, value, currency, tax, shipping, items, coupon

#2.2.3.1. Example of a Recommended Event: login tracking

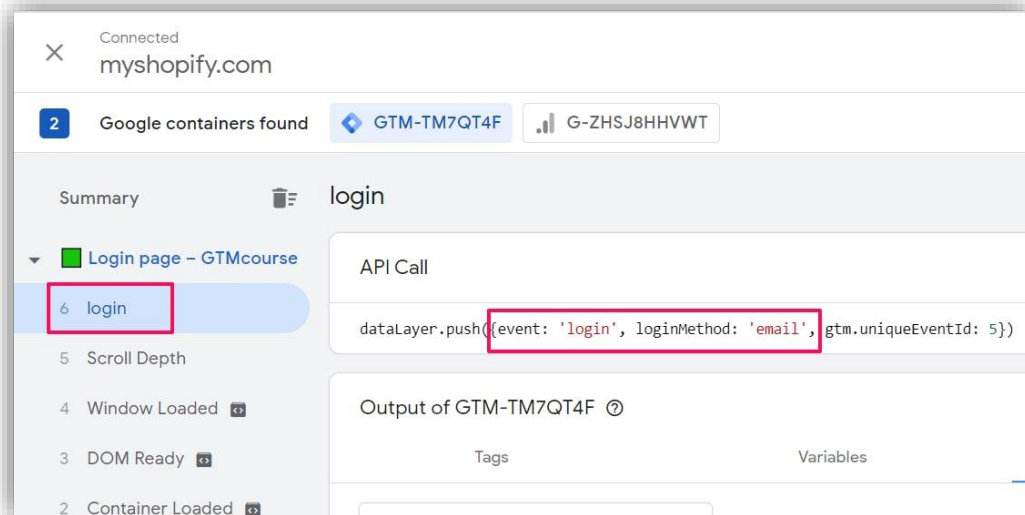
Let's continue with the aforementioned login example. Let's say that I am working on a website where visitors can log in. I want to track the exact moment when users/visitors do so and which login method are they using. I have asked a developer to activate the following [dataLayer.push](#) code when a user logs in to his/her account.

```
<script>
window.dataLayer = window.dataLayer || [];
window.dataLayer.push({
  'event' : 'login',
  'loginMethod' : 'email' // this should be replaced by your developer
});
</script>
```

The value of the *loginMethod* should be replaced with the actual login method that a user used. That is the developer's job to write custom code that replaces it.

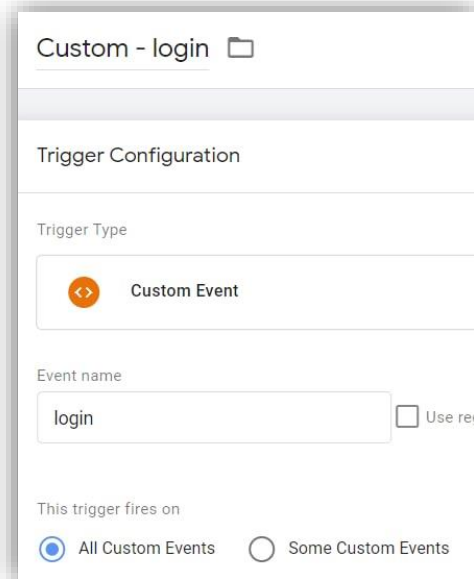
When a developer implements that code and I successfully login, in [GTM's preview mode](#), I should see the following Data Layer event (see the screenshot below). Now, keep in mind that this event a GTM (or Data Layer) event. It is not sent to GA4 (or any other platform) yet. Right now, it is just a collection of data points that are at

our disposal, meaning that we can send the data further to other tools like GA or FB pixel (or any other analytics/marketing platform that we use).

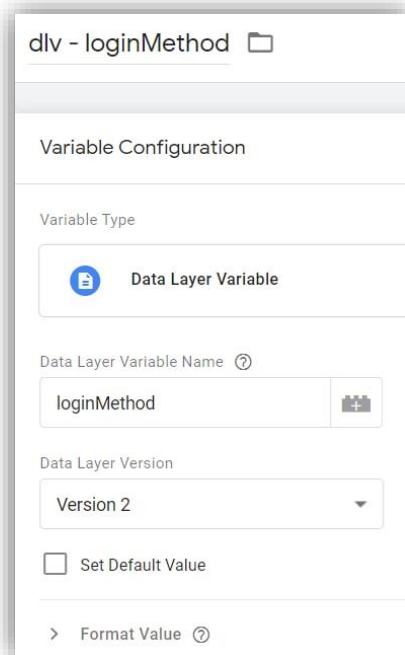


Now, let's create a [Data Layer Variable](#) that will access the value of the *loginMethod* and also a [Custom Event Trigger](#) for the *login* event in the Data Layer.

In Google Tag Manager, go to *Triggers > New > Custom Event*, enter the following settings, and press *Save*.



Then go to *Variables > User-defined variables > New > Data Layer Variable* and enter the following settings (see the screenshot below).



I entered the *loginMethod* because that is exactly what a developer pushed to the [Data Layer](#). If your parameter's name is different, then enter that name. Important: variable names are case-sensitive.

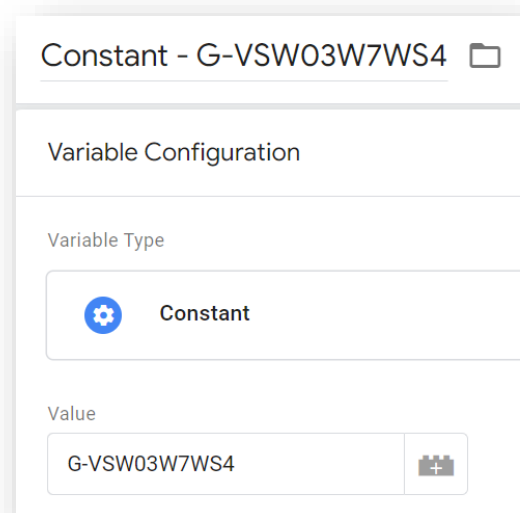
After you create a variable and a trigger, it's time to create a Google Analytics 4 event tag. With it, we will be able to send the event data to GA4.

But first, let's create a Constant variable in Google Tag Manager (it will make your tag management more convenient). Go to *Variables > Variable Configuration > Constant* and paste your Measurement ID.

Now, the time has come to create the Event Tag.

Before you do this, I expect that you are already tracking pageviews and you already have a Google tag (well, because have you already completed Chapter I of this book).

If you haven't then go back to Chapter I and complete all the steps explained there. They are very important for event tracking.



In Google Tag Manager, go to *Tags > New > Google Analytics > Google Analytics: GA4 Event*.

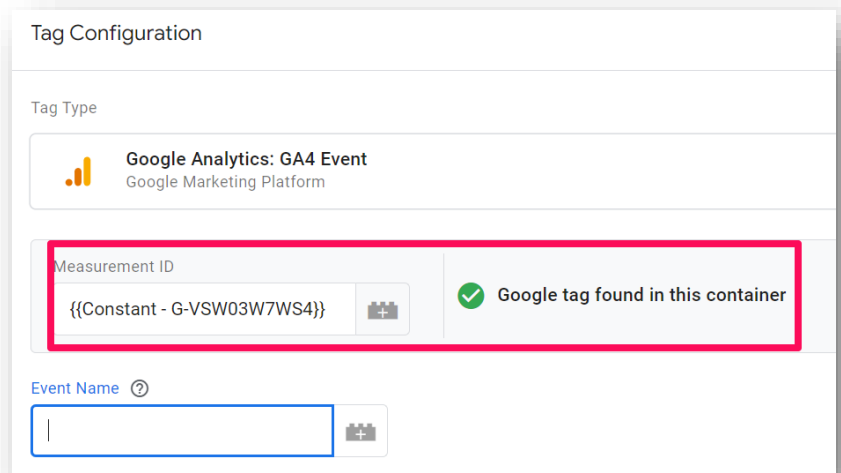
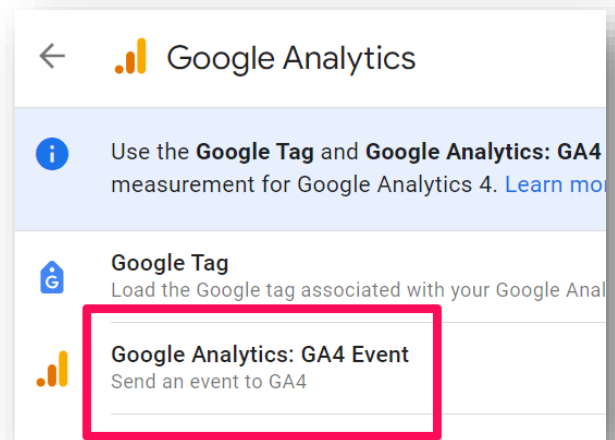
So, when you create a new GA4 event tag, you will need to:

- Define the Measurement ID
- And then event name + parameters

Now, let's create a GA4 event tag. Go to *Tags > New > Google Analytics > GA4 event tag*.

To avoid manual work and setting up all the fields/customizations in every tag, you should select enter the Measurement ID that you also entered in the Google Tag.

The green checkmark on the right will show that Google Tag Manager has found an existing Google Tag using the same Measurement ID (which is good). If you don't see the checkmark, cut and paste the variable name again and this should trigger the variable validation.



But at the same time, you can still configure additional settings in your event tag. If a particular parameter/field is configured in both the event tag and in the configuration tag, the event tag's field gets a higher priority.

Now, let's continue the configuration of an event. Enter the event name. Since we are tracking the login event and the name "login" is recommended by Google, this is exactly what we are going to enter.

And then let's enter an additional parameter, the login method. To do that, expand the *Event Parameters* section, click *Add Parameter*, and then enter *method* in the *Event parameter* field and insert the previously created Data Layer Variable in the *Value* field. You can insert the variable by clicking the button next to that field.

Tag Type

Google Analytics: GA4 Event
Google Marketing Platform

Measurement ID

{{Constant - G-VSW03W7WS4}}

✓ Google tag found in this container

Event Name

login

1.

Event Parameters

Event Settings Variable

None

Event Parameter

method

Value

{{dlv - loginMethod}}

2.

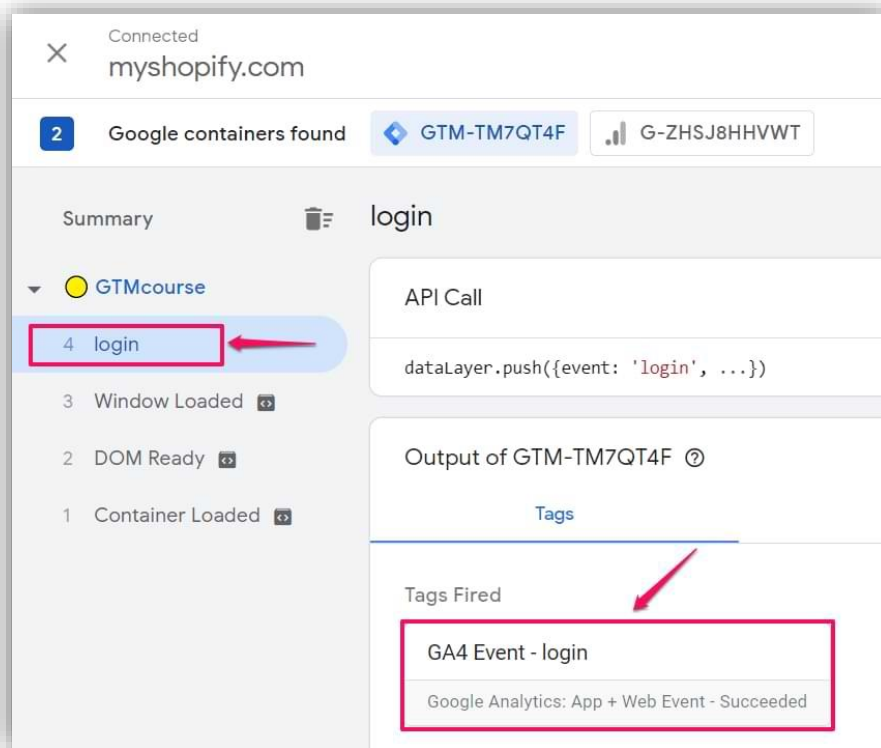
Add parameter

Why did I enter the *method* in the *Parameter Name* field? Because I saw that in the list of [Recommended Events](#).

join_group	when a user joins a group Allows you to track the popularity of various clans or user groups.	group_id
login	when a user logs in.	method
purchase	when a user completes a purchase	transaction_id, value, currency, tax, shipping, items, coupon

What about custom parameters? What if you also want to pass the user's pricing plan or something else? Sure, you can do that. But I will explain custom parameters/dimensions in the next chapter (#2.2.4). All you need to know right now is that it's completely possible to send custom parameters with recommended events.

Now, it's time to test. Enable the [Preview mode in Google Tag Manager](#), log in to your website and check if your GA4 Event Tag fired on that event. To do that, you will need to click on the *login* event in the Preview mode's left side and then check if the tag fired.



If you indeed see that the tag has fired, that's a good start. Now, you will need to go to Google Analytics 4 and check the DebugView. You will learn more about that in chapter #2.6. of this e-book.

By the way, if you want to implement sales (a.k.a. Ecommerce tracking), then you will also need to use recommended events and follow Google's strict requirements. [Learn more here.](#)

#2.2.4. Category #4. Custom events

Eventually, we have reached the last category of events in Google Analytics 4. If you want to send an event and it is not mentioned among the automatically tracked events, Enhanced Measurement, or Recommended events, then you can create custom events.

The configuration of Custom events is pretty much identical to recommended events. The only difference is that you will need to come up with your own event names.

For example, if you want to track form submissions of a contact form, the name of the event can be any of these:

- form_submission
- contact_form
- contact_form_submission

Or anything else.

GA4 is completely flexible here. However, [there are some limitations](#) when it comes to the maximum length of an event name.

So, let's look at the example where we want to measure clicks on menu links on a website.

#2.2.4.1. Example of a Custom Event in GA4: Menu Link Click

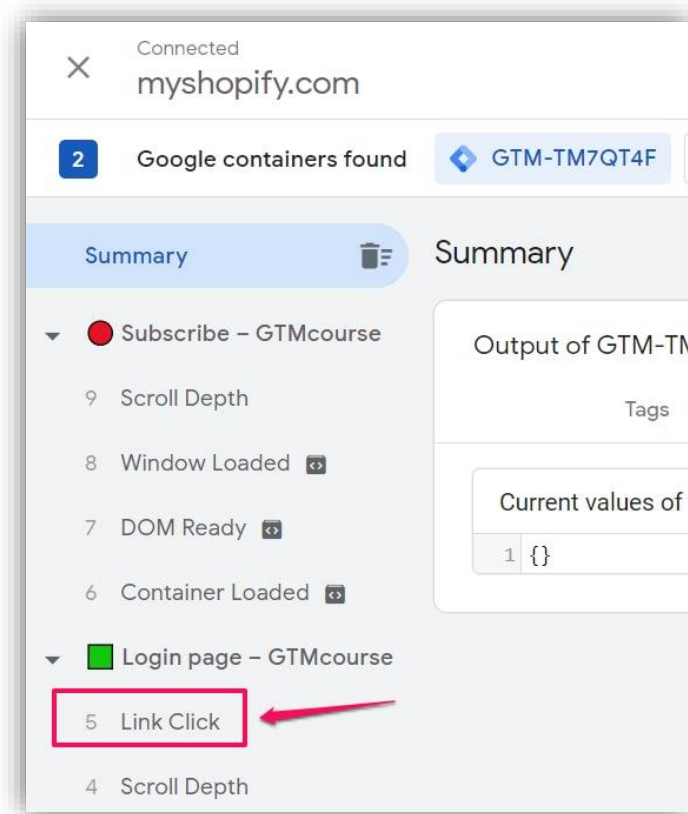
Note: menu link click tracking trigger conditions differ on most websites (because of different click classes, IDs, etc.). Try to do your best to apply this example.

On a demo website, I have several menu links that I want to track.



First, I need to create a trigger with correct conditions that distinguish any click from a menu link click. Enable [Google Tag Manager's Preview mode](#) and try clicking any

of the menu links on a website. Once you do the first link click, you should see the *Link Click* event in the Preview mode's left sidebar.



If you don't see it, you should:

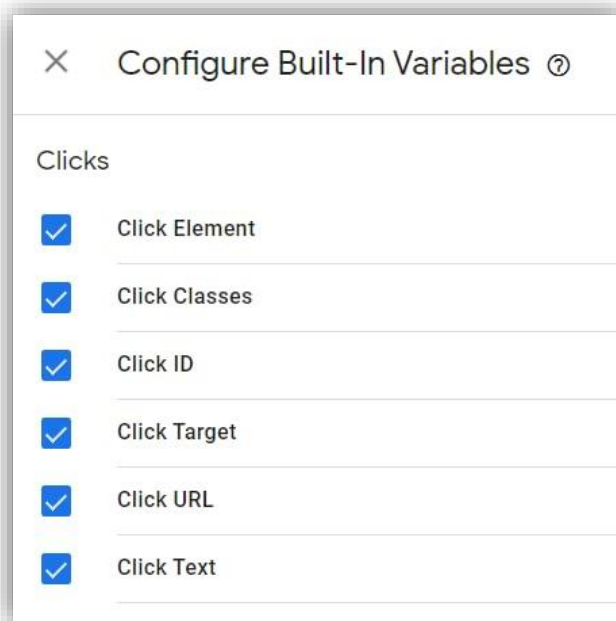
- have at least one Just Links GTM trigger activated on a page
- or have "File download" or "Outbound links" tracking enabled in your Enhanced Measurement Settings

Let's say, that you don't use Enhanced Measurement in GA4. Go to *Google Tag Manager > Triggers > New > Just Links*. Keep the trigger set on "All link clicks" and save the trigger.

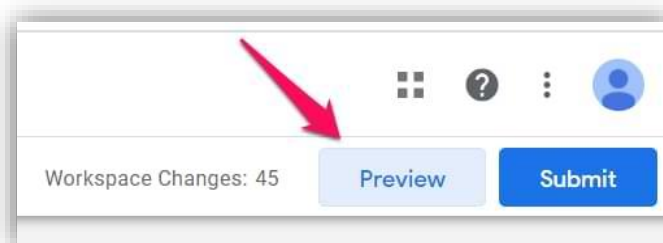
The image shows a screenshot of the Google Tag Manager interface for configuring a trigger. At the top, the trigger name 'All Link Clicks' is displayed with a folder icon. Below this is the 'Trigger Configuration' section. Under 'Trigger Type', the 'Click - Just Links' option is selected, indicated by a blue link icon. Below this, there are two unchecked checkboxes: 'Wait for Tags' and 'Check Validation', each with a help icon. At the bottom, under 'This trigger fires on', the 'All Link Clicks' radio button is selected, while 'Some Link Clicks' is unselected.

By creating this trigger, we will enable the link-tracking functionality in Google Tag Manager.

Then go to *Variables > Configure* (in the "Built-in Variables" section) and enable all Click-related variables.



Refresh the preview mode (by clicking the Preview button once again).



Then go to your website and click any of the menu links. Actually, click at least two of them. Return to the preview mode and you should start seeing *Link Click* events in the preview mode. Click the first *Link Click* event and go to the Variables tab of the preview mode.

Connected
myshopify.com

2 Google containers found GTM-TM7QT4F G-ZHSJ8HHVWT

Variable	Variable Type	Return Type	Value
_event	Custom Event	string	'gtm.linkClick'
_triggers	Data Layer Variable	string	'8814522_38'
Click Classes	Data Layer Variable	string	'site-nav__link site-nav__link--main'
Click Element	Data Layer Variable	string	'html.js.svg.flexbox.csstransforms > bo ction#shopify-section-header > div > he go-left > div.grid.grid-no-gutters.grid > nav.grid__item.medium-up-one-h e-nav.list-inline#SiteNav > li > a.site
Click ID	Data Layer Variable	string	*
Click Target	Data Layer Variable	string	*
Click Text	Auto-Event Variable	string	'Subscribe'
Click URL	Data Layer Variable	string	'https://gtmcourse.myshopify.com/g
Cookie - CookieConsent	1st Party Cookie	string	'{stamp:\'NBVOxIRV0Y87A0cl7P4fF iw==\',nec essary:true,preferences:false,statisti :1589880719327,region:\'it\'}'
Debug Mode	Debug Mode	boolean	true

Then click on the second *Link Click* event. I am currently looking for some variable that I could use to distinguish a menu link click. I don't want to fire my GA4 event tag on any link click. I want to fire it precisely on a menu link click.

After taking a closer look, I see that both links contain the same *Click Classes* value, **site-nav__link site-nav__link--main**. By the way, **nav** means "navigation" in this context. Great! I will use this in my Just Links trigger.

_triggers	Data Layer Variable	string	'8814522_38'
Click Classes	Data Layer Variable	string	'site-nav__link site-nav__link--main'
Click Element	Data Layer Variable	string	'html.js.svg.flexbox.csstransforms > bo ction#shopify-section-header > div > he go-left > div.grid.grid-no-gutters.grid-no-t

Go back to the list of triggers in your GTM container and click the previously created trigger for All Link Clicks. We'll edit it and add a condition: *Click Classes* contains **site-nav__link--main**

The screenshot shows a configuration window for a trigger named "Link click - menu item". The window has a title bar with the name and a folder icon. Below the title bar is a section titled "Trigger Configuration". Under this section, the "Trigger Type" is set to "Click - Just Links", indicated by a blue link icon. There are two unchecked checkboxes: "Wait for Tags" and "Check Validation", each with a help icon. Below these, the text "This trigger fires on" is followed by two radio buttons: "All Link Clicks" (unselected) and "Some Link Clicks" (selected). At the bottom, a row of three boxes defines the trigger condition: "Click Classes" (with a dropdown arrow), "contains" (with a dropdown arrow), and "site-nav_link-main".

Save the trigger. Now, it's time to create a Google Analytics 4 event tag. Go to *Tags > New > Google Analytics: GA4 Event*. Select your existing GA 4 Configuration tag and then enter the event name. Its value is up to you. Any of the following options are perfectly fine:

- *menu_click*
- *menu*
- *menu_item_click*
- *menu click*
- etc.

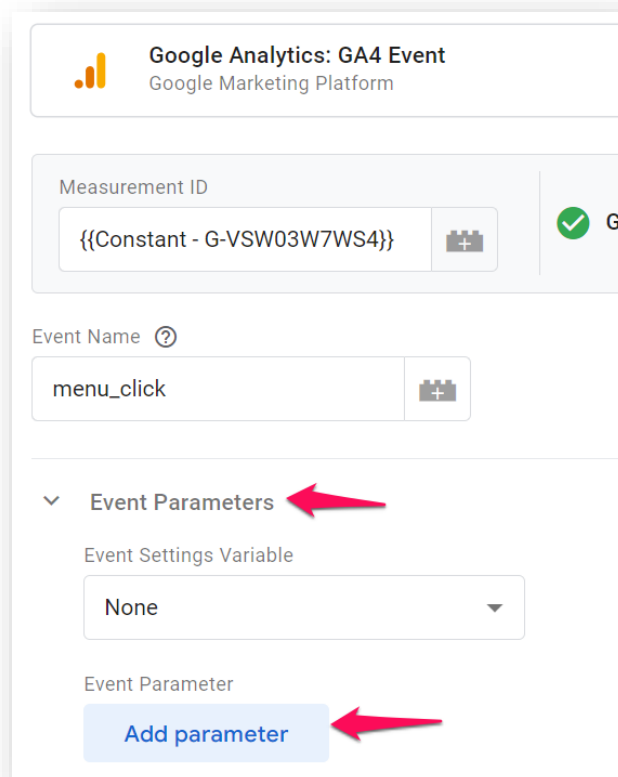
These are just some of the examples. Since we are working with a custom event, we can name it whatever we want (as long as we follow [the limitations of name length](#), for example).

In my case, I used *menu_click* event name. But this time, sending just the event name is not very useful. You'd probably want to know which exact menu items are clicked more often. How about we also send the name of the menu item and the URL?

We could do that by sending additional event parameters. Even though you could use parameters that are already mentioned in the documentation of the Enhanced Measurement (like *link_url* and *link_text*), let's create two custom parameters (because I just want to show you how to configure them).

I am going to pass two parameters, *menu_item_url* and *menu_item_name*. I made these parameter names up and you can do it too. That's what the flexibility of the data model offers.

To send custom parameters, you must expand the *Event Parameters* section in the Google Analytics 4 event tag and then click *Add Row*.



Google Analytics: GA4 Event
Google Marketing Platform

Measurement ID
{{Constant - G-VSW03W7WS4}}

Event Name
menu_click

Event Parameters

Event Settings Variable
None

Event Parameter
Add parameter

Enter the name of the first parameter. In my case, that is *menu_item_url*. In the *Value* field, I will insert a variable that returns a clicked URL. Luckily, GTM already offers such a variable, it's called *Click URL*. Click the **Insert Variable** button and then select the {{Click URL}} variable.

Let's add another parameter, *menu_item_name*. For that purpose, GTM offers another built-in variable, {{Click Text}}. Insert it as well. Since visitors of your website can translate your page, {{Click Text}} value will also change, hence you will see a more diverse list of collected values in your GA4 reports.

Tag Type

Google Analytics: GA4 Event
Google Marketing Platform

Measurement ID

{{Constant - G-VSW03W7WS4}}

Google tag found in this container

Event Name

menu_click

Event Parameters

Event Settings Variable

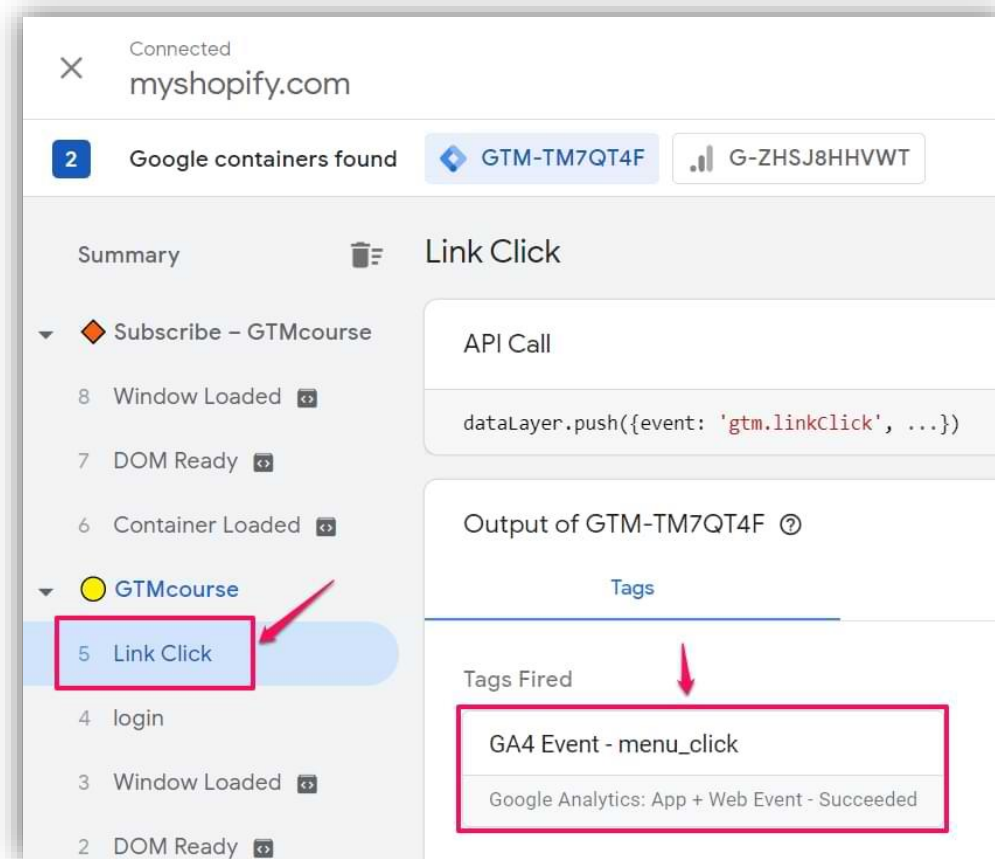
None

Event Parameter	Value
menu_item_url	{{Click URL}}
menu_item_name	{{Click Text}}

Add parameter

If you want to send more parameters, you are free to do that. You can send up to [25 custom parameters with a single event](#).

Assign the previously created *Just Links* trigger to this tag. Save the tag. Refresh the GTM Preview mode and click a couple of your menu items. Go back to the Preview mode and click those *Link Click* events. Check if the GA4 event tags for Menu Link Clicks have fired.



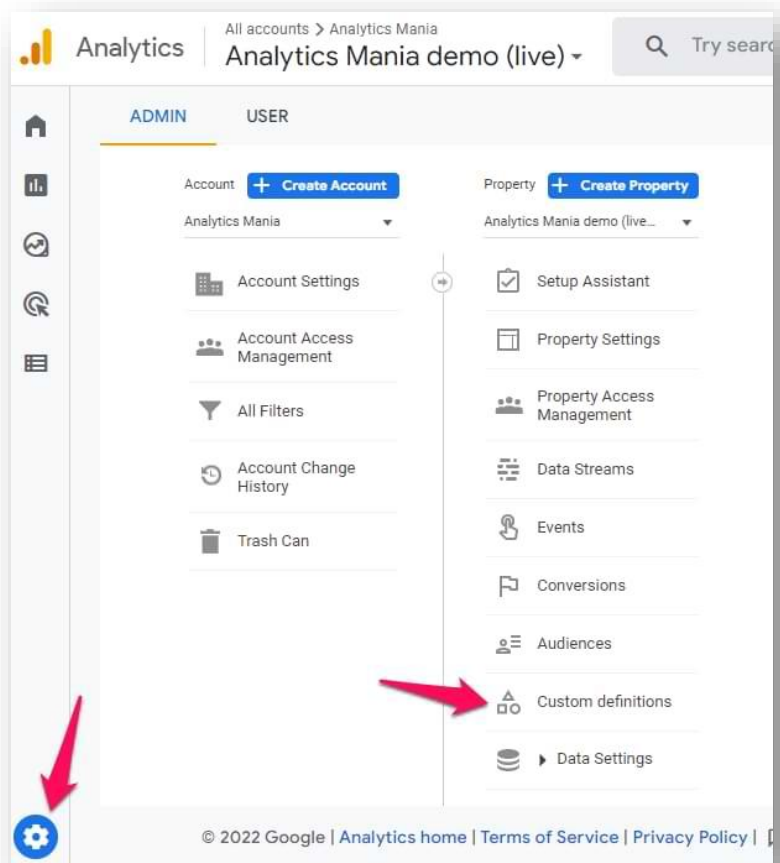
Now, you will need to go to Google Analytics 4 and check the *DebugView*. You will learn more about that in chapter #2.5. of this e-book.

IMPORTANT: even though you will see your custom parameters in Real-time reports and *DebugView* in GA4, you will not be able to see them in other GA4 reports. **Unless you register those parameters as custom dimensions** in Google Analytics. Read the next chapter of this e-book.

#2.2.4.2. IMPORTANT: Register custom definitions

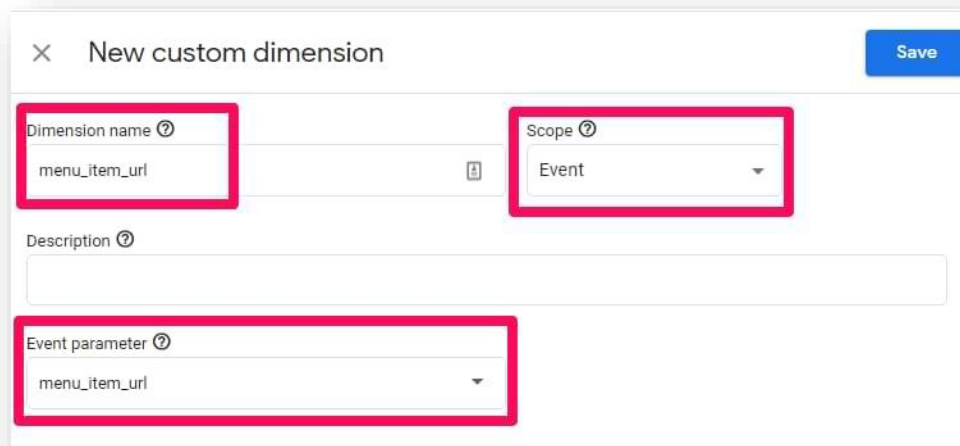
This applies to any event parameter that you send to Google Analytics 4. If you want to see/use them in things like Funnel exploration, Free Form, see their reporting cards in standard reports, etc., you must register custom parameters in the GA interface.

In Google Analytics 4, go to Admin > Custom Definitions. Since we sent 2 custom parameters with the menu link click, we must register them both here.



Click the *Create Custom Dimensions* button and then enter:

- The name of the parameter. You can enter whatever you want. This is just how the dimension will be displayed in your reports. You can name it “menu_item_url”, “Menu item URL”, or anything else.
- Scope. Since we want to apply this parameter only to one event (and not to all events of the same user), we need to select *Event*
- Event parameter. This is where you have to enter its name precisely as you entered it in the GTM tag. If your parameter name is *menu_item_url*, you must enter it here exactly like that. Don’t worry if the autocomplete feature of that field does not show your parameter yet. Just enter it and save the dimension



Then register a second parameter (in my case, that was *menu_item_name*) and save it. By the way, I sometimes use the words “custom parameter” and “custom dimension” interchangeably. In general, custom metrics and custom dimensions are both grouped as custom parameters.

And now we wait. Within the next 24 hours, the custom parameters will start appearing in your Google Analytics 4 reports.

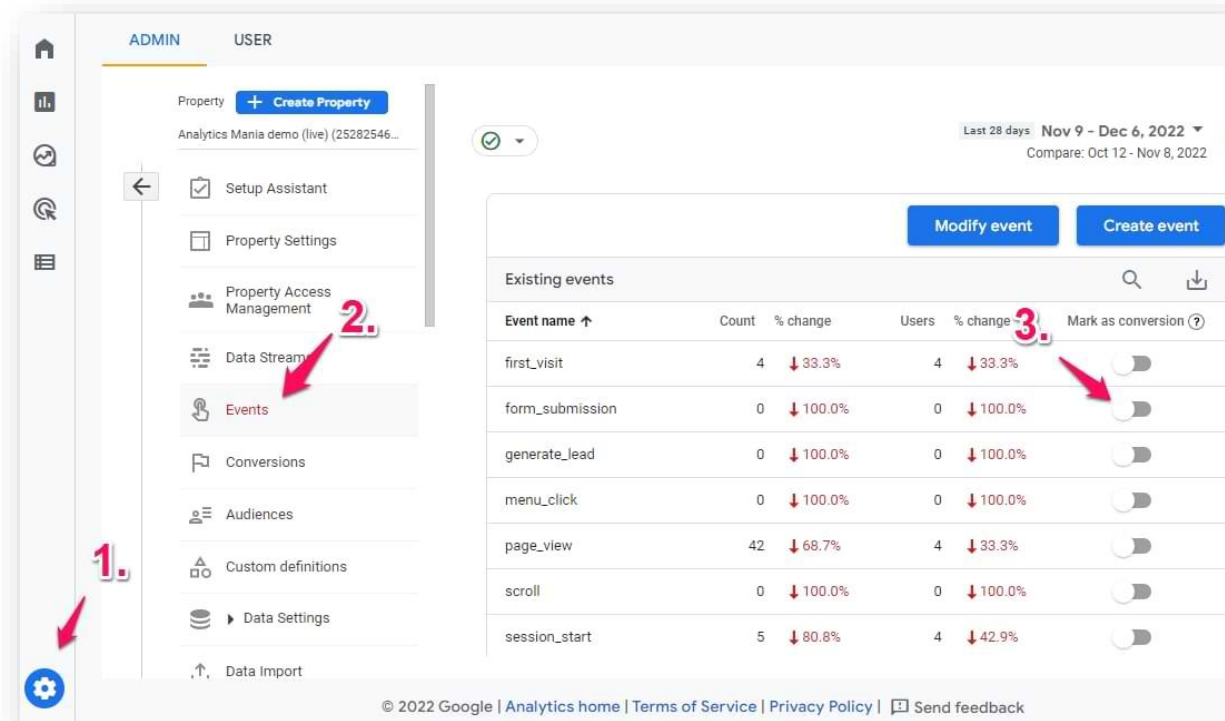
=====

Sometimes, you might want/need to create/edit events directly from the Google Analytics 4 interface. Well, now you can. Read the following two chapters to learn more about these features.

=====

#2.3. Useful Feature: Create new events (GA4 interface)

The process of how conversions (formerly known as *goals*) are created is different in GA4 (compared to Universal Analytics). It's enough just to click a toggle next to an event in the *Admin > Event* list.

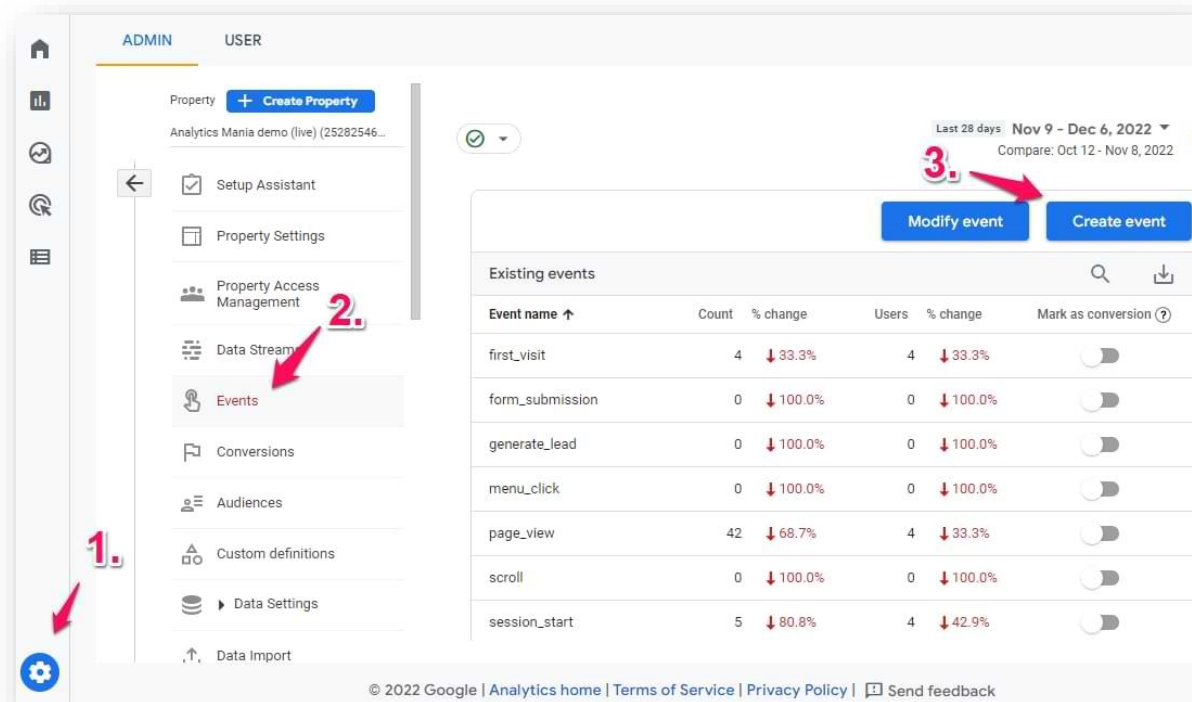


But there is one problem. If you toggle the event and mark it as conversion, ALL of those events will be treated as conversions (from this point moving forward). But what if you want to have only certain events be marked as a conversion.

Example: you have a “Thank you” page to which users are redirected when they subscribe to a newsletter. Let’s say that the URL is <https://www.mywebsite.com/thank-you/>. If I mark *page_view* event as a conversion, ANY pageview will become a conversion. How can I separate only those pageviews that happened on the */thank-you/* page?

You can either send a dedicated event (with a different name) from Google Tag Manager/Gtag.js, or you can use the *Create Event* feature in the GA4 interface.

This feature allows you to create a new event based on other incoming events. On the *Admin > Events* page, click *Create Event* and then click *Create*.



Then you will need to enter the name of the custom event. Once again, you can name it whatever you want. Just make sure that the name clearly communicates what it means. *thankyou_page_visit* might be a good option.

Then let's move on to the *Matching Conditions* section. Here we must tell GA4 what kind of event are we looking for. When that particular event will be spotted, then our *thankyou_page_visit* should be created as well.

In my case, I need to enter the following conditions:

- *event_name* **equals** *page_view*
- *page_location* **contains** */thank-you/*

Create event

Analytics Mania
G-W6QB81P6Y6

Configuration

Custom event name ?

thankyou_page_visit

Matching conditions

Create a custom event when another event matches ALL of the following conditions

Parameter	Operator	Value
event_name	equals	page_view
page_location	contains	/thank-you/

Add condition

If you want to copy all the parameters from the *page_view* event to the new event, keep the checkbox *Copy parameters from the source event* enabled.

If some of the parameter's name is incorrect and you want to fix it as well, you can *Add Modification* in the *Parameter Configuration* section. For example, if an event contains the parameter *pricingPlan* but you want it to be *pricing_plan*, you can introduce a new field (and reuse its value) while removing the incorrect parameter (by leaving the *New Value* empty).

Matching conditions

Create a custom event when another event matches ALL of the following conditions

Parameter	Operator	Value
event_name	equals	page_view
page_location	contains	/thank-you/

[Add condition](#)

Parameter configuration

☒ Copy parameters from the source event

Modify parameters [?](#)

Parameter	New value
pricing_plan	[[pricingPlan]]
[[pricingPlan]]	Example: [[source_parameter_name]] or 1234

[Add modification](#)

Will insert the value of the "pricingPlan" parameter

Empty field will remove the parameter

Take a closer look at [[pricingPlan]] in the screenshot above. Double square brackets mean that GA4 will reuse the value of the parameter *pricingPlan* in that event.

Once you save the changes, you will be able to view them in the Real-time reports and the *DebugView* of GA4. You will learn more about that in chapter #2.5. of this e-book.

Also, when you create that new event in GA4 (and you want that to become a conversion), don't forget to mark that event as a conversion in the *Admin > Events* page.

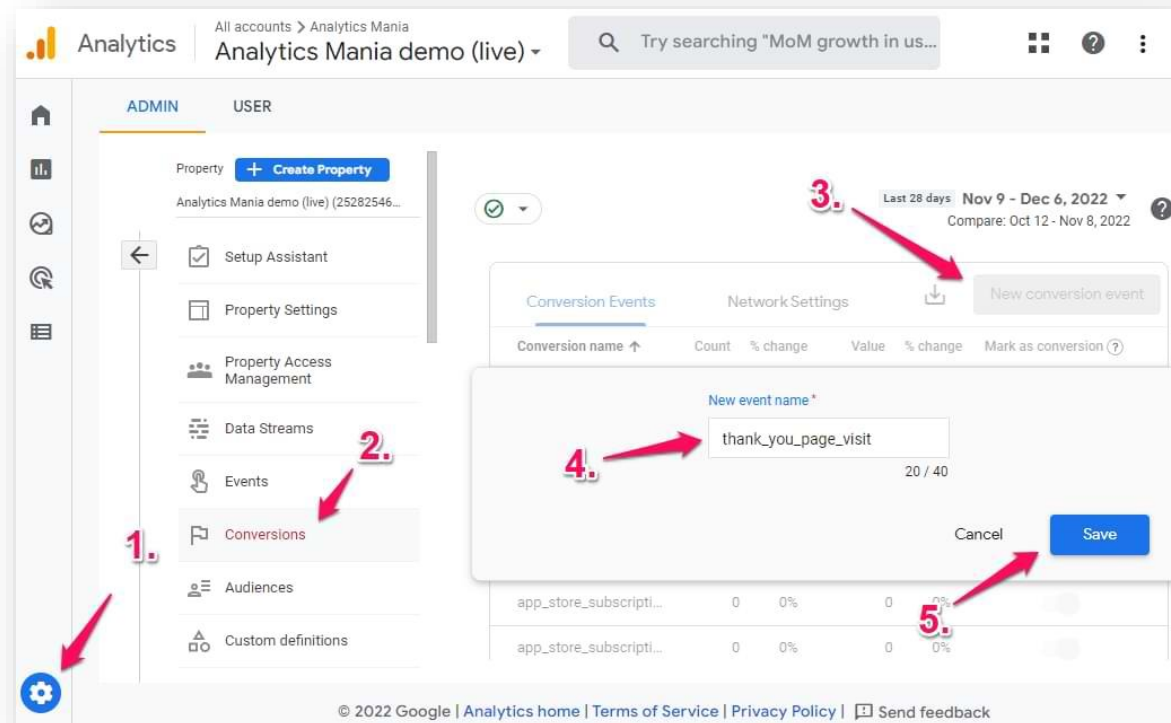
[Modify event](#) [Create event](#)

Existing events [?](#) [↓](#)

Event name ↑	Count	% change	Users	% change	Mark as conversion ?
thankyou_page_visit	0	↓ 100.0%	0	↓ 100.0%	<input checked="" type="checkbox"/>
au_3_pageviews_per_session	3	0.0%	2	0.0%	<input type="checkbox"/>

If you don't like to wait for up to 24 hours (because that *thankyou_page_visit* will not appear in the list of all your events immediately), you can create a new conversion immediately. Go to the *Admin* section of your GA4 interface. Then go to *Conversions*.

Then click *New conversion event* and enter the name of the event that you have just created. Click *Save*.



That way you will mark the newly created *thankyou_page_visit* event as a conversion (without the need to wait for 24 hours until it appears on the *Admin > Events* page).

#2.4. Another useful feature: Modify Events (in GA4 interface)

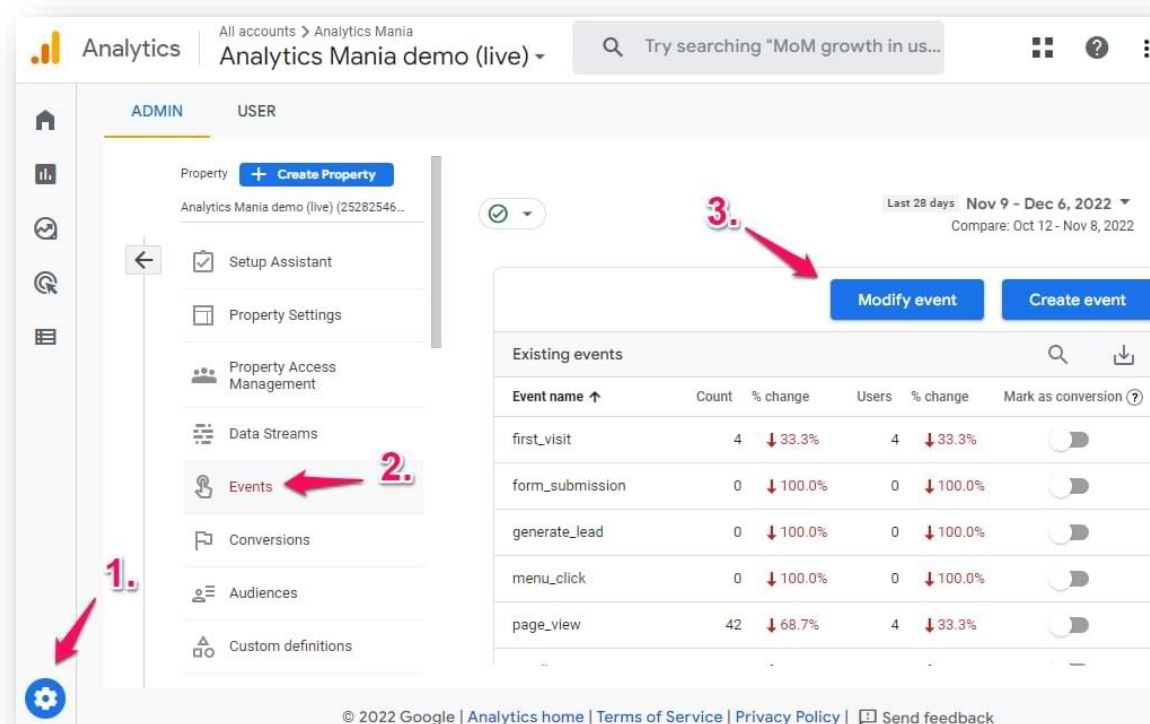
If you don't want to create new events (like in the previous chapter) but instead, you just want to fix a typo in the existing events, you can use the [Modify Events](#) feature in the Google Analytics 4 interface.

In my *Admin > Events* report, I see two *page_view* events.

- *page_view*
- *page_view?undefined*

I have no idea where that *page_view?undefined* came from but I don't want to see it in my reports. Even though the count of this event is low, I'd like to fix it.

I can do that by going to the *Admin > Events* report and clicking *Modify Event*.



Then click *Create*.

- Enter the name for the fix (this is for internal use)
- Then enter the matching condition (in my case, that's *event name equals page_view?undefined*)
- And then enter the needed modifications (in my case, that's *event_name* and *page_view*)

If GA4 spots an event with the name *page_view?undefined*, it will change its name to *page_view*.

Modify event | Analytics Mania
G-W6QB81P6Y6

Configuration

Modification name ?

Fix for page_view?undefined

Matching conditions

Modify events that match ALL of the following conditions

Parameter	Operator	Value
event_name	equals	page_view?undefined

[Add condition](#)

Modify parameters ?

Add, remove, or edit parameters, including event_name

Parameter	New value
event_name	page_view

[Add modification](#)

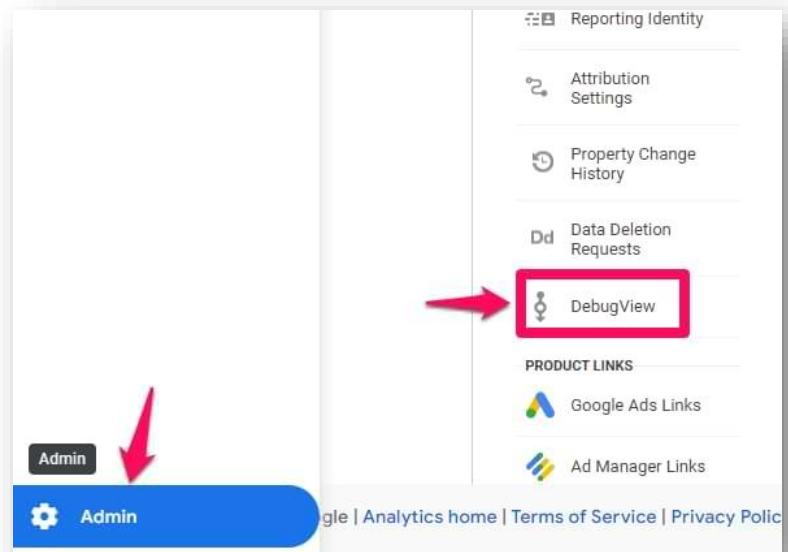
As you can see, the interface and the flow here is quite similar to the *Create Event* feature that I have described in the previous chapter of this e-book.

Once you save the changes, you will be able to view them in the Real-time reports and the *DebugView* of GA4. You will learn more about that in the next chapter of this e-book.

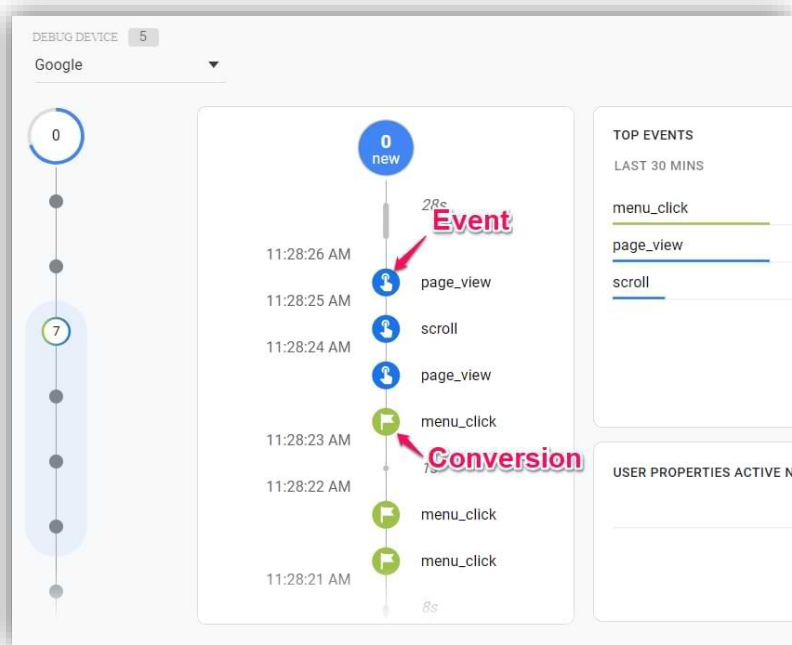
By the way, keep in mind that you can create up to 50 modifications per property and that this feature does not apply to historic data. This modification will apply only to new incoming events.

#2.5. Test your events in GA4

Once you configure your events, it's time to test them. The primary feature built for debugging GA 4 data is the *DebugView* section. You can find it by going to *Admin* > *DebugView* on the left side of the GA4 interface. Click it.



When you start seeing data in the DebugView, things might look like this:



Events are marked with blue icons, conversions with green. Please ignore the fact that I treat *menu_click* events as conversions. This is just for demonstration purposes :)

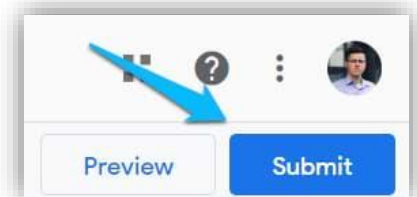
If you click the event, you will see the parameters that were sent together with an event. Click on the parameter to see its value.

The screenshot shows the Google Analytics Realtime report interface. On the left, a timeline of events is displayed, starting with a 'new' session at 11:28:26 AM. The events include 'page_view', 'scroll', 'page_view', 'menu_click' (highlighted with a green icon and a red arrow labeled '1. Click here'), 'menu_click', 'menu_click', and 'page_view'. The 'menu_click' event at 11:28:23 AM is selected, opening a detailed view on the right. This view shows the event name 'menu_click' and a table of parameters and user properties. The 'menu_item_name' parameter is highlighted with a red box and a red arrow labeled '2. Click the parameter'. The value 'GTM RECIPES' is shown next to it, with a red arrow labeled '3. Here's the value of the parameter' pointing to it. The table also lists other parameters like 'debug_mode', 'engagement_time_msec', 'ga_session_id', 'ga_session_number', and 'menu_item_url'.

Parameters	User properties
debug_mode	1
engagement_time_msec	1
ga_session_id	1
ga_session_number	1
menu_item_name	1
GTM RECIPES	
menu_item_url	1
page_title	1

Once you made sure that the data is coming in and it is displayed properly, you should submit your GA4 changes in the GTM container and publish it.

You can do that by clicking the SUBMIT button in the top right corner and then complete all the other steps that the user interface asks you to do.



After that, you should soon start seeing the new data coming in your real-time reports as well. Please refer to Chapter #1.6. of this e-book to learn more about Realtime reports.

#2.6. Where can I find events data in GA4 reports?

Here are some of the reports where you can find your data:

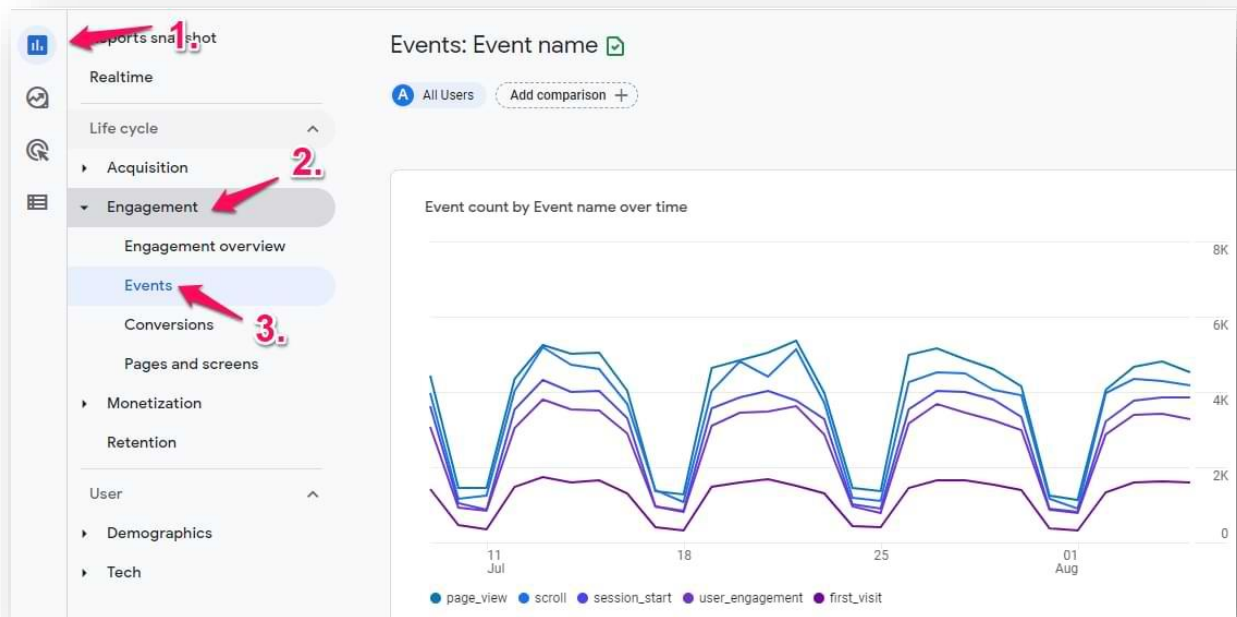
- *Admin > Events (this will show just the list of events with counts. Nothing fancy.*
- *Reports > Engagement > Events*
- *Explore (a.k.a. Exploration reports)*

But that is not all. Since GA4 is an event-based analytics platform, every report is affected by events that you send (in one way or another). The aforementioned reports are just the most notable examples.

“Reports → Engagement → Events” report

Here you will see a list of all events that are tracked by your Google Analytics 4 property. Click on any event to see a bit more detailed view/reports of that particular event.

This is an overview of all events that were sent to your property + a couple of charts. Below them, you will see a list of events and if you click on any of them, you will take a closer look at that event’s data.



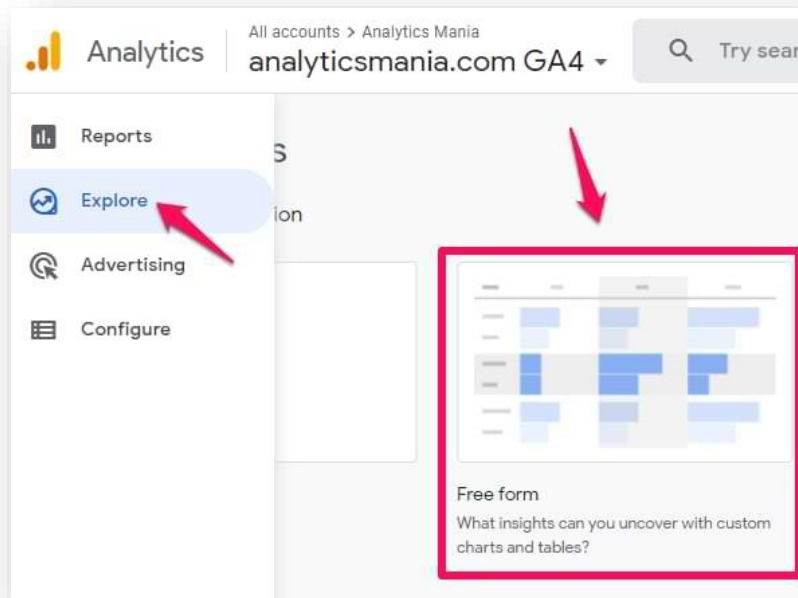
Explore (a.k.a. Exploration reports, ex Analysis Hub)

This is the place where you will be able to drill down into your data. In the Explorations, you will be able to use reports such as Free Form, Funnel Exploration, Path Exploration, etc.

Here is an example of a [Free Form report](#). Keep in mind that you will need to wait for up to 24 hours for the data to come into your reports. So if you don't see the data now, be patient.

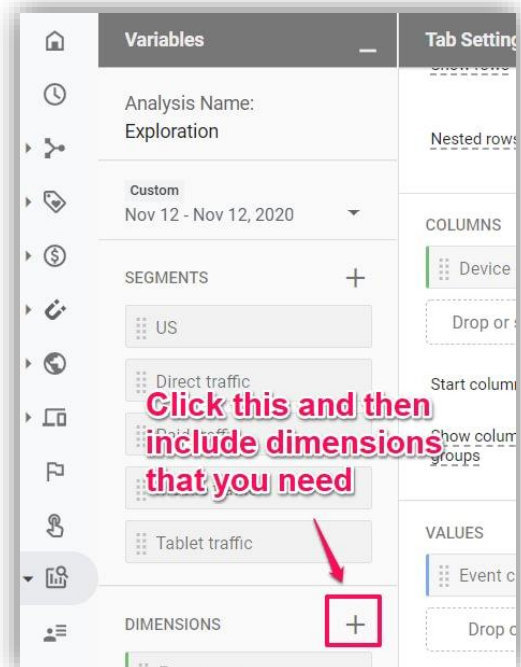
Let's say that I want to see how different device categories are interacting with the menu_bar of my site. Remember, I set up the menu_click event?

So, let's go to **Explore** and click on the *Free Form* block.

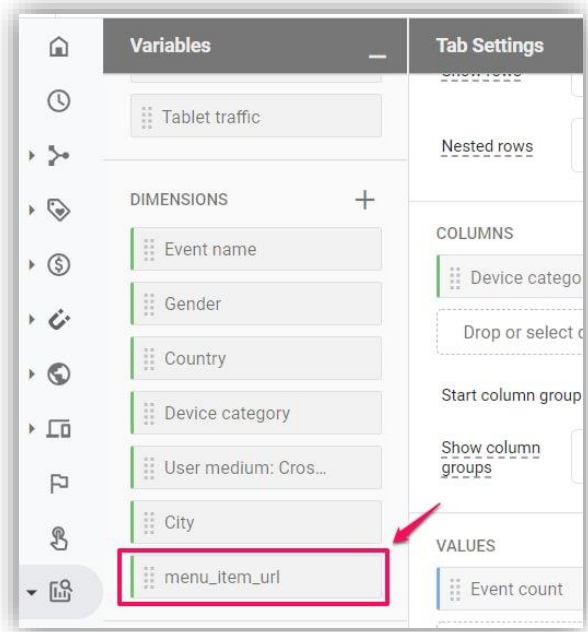


Then in the *Variables* column, I need to include the *menu_item_url* custom dimension because I want to see how many clicks did get each menu URL. Click the Plus icon and then find the *menu_item_url* dimension. Select it and it will be included in the list of possible dimensions in the report.

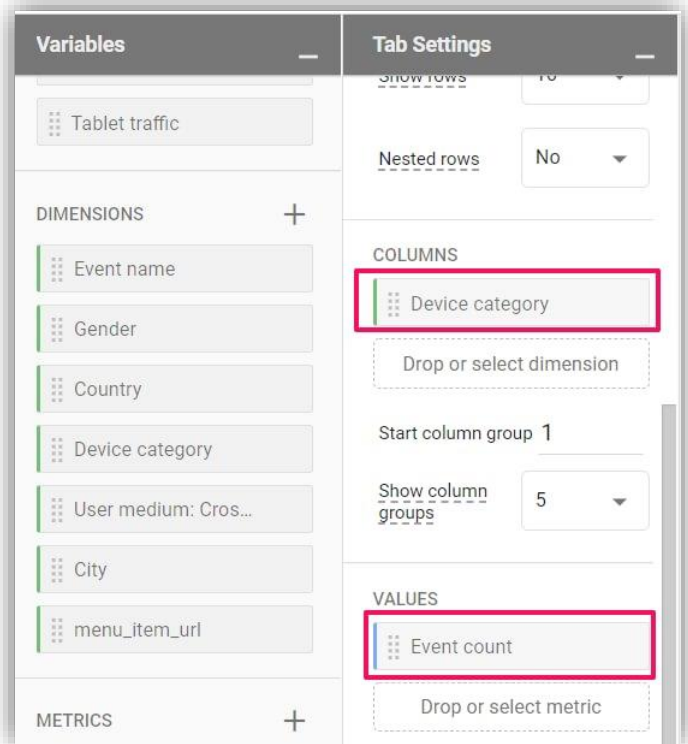
If you CANNOT see the *menu_item_url* (or whatever custom parameter are you looking for), **you have to register them as custom dimensions in GA4 first in Admin > Custom Definitions**. And then wait for 24 hours until the data appears in the reports. If the reports don't work properly, wait for even longer.



Then let's edit the *Tab settings*. Remove the existing dimensions in the ROWS and include the custom definition that you want to include. In my case, that's *menu_item_url*.



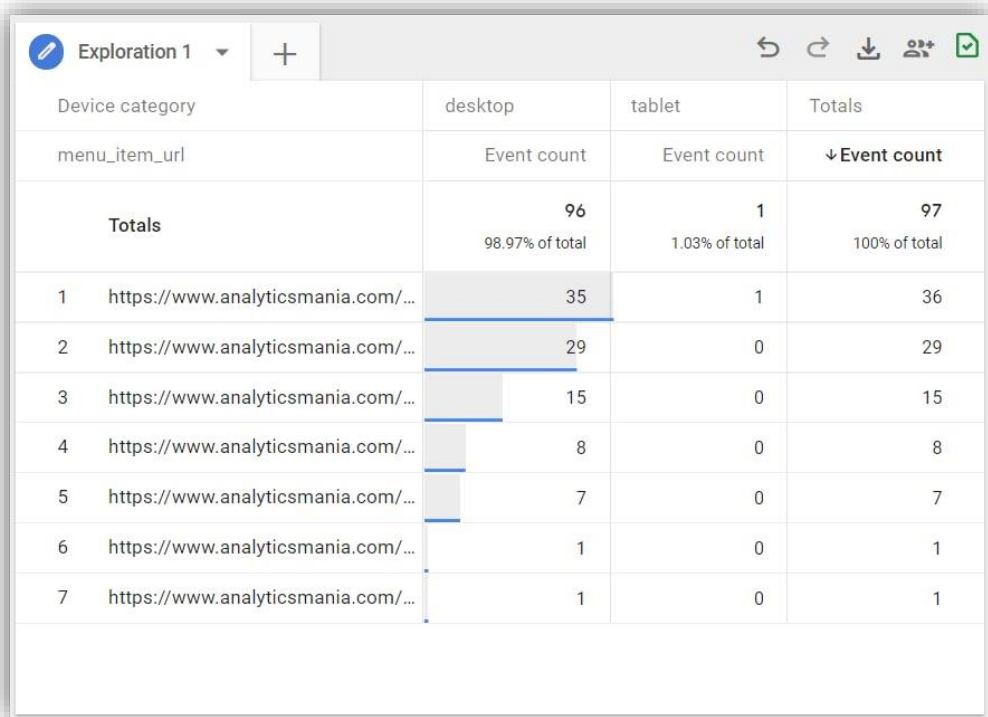
In the COLUMNS section, I used the Device category dimension. In the VALUES section, select the metric that you wish to see. I used the Event Count.



Then you will need to filter only to those events that actually contained the *menu_item_url* dimension. In my case, that is just a *menu_click* event. That's why at the bottom of the *Tab Settings* section, you should enter a filter: *Event name* **exactly matches** *menu_click*.

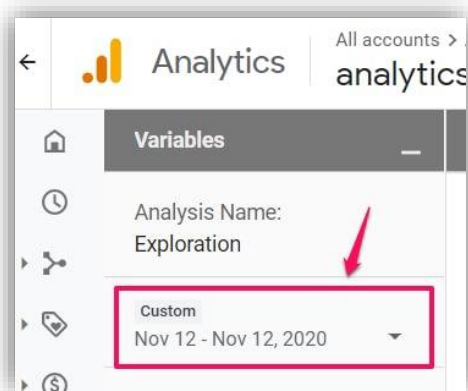
The screenshot shows the 'Tab Settings' panel in Google Analytics. On the left, under 'Variables', the 'Tablet traffic' variable is selected. Below this is a list of dimensions: Event name, Gender, Country, Device category, User medium: Cros..., City, and menu_item_url. On the right, under 'Tab Settings', the 'Cell type' is set to 'Bar ch...' and a 'FILTERS' section is highlighted with a red box. This section shows a filter for 'Event name' that 'exactly matches' 'menu_click'. At the bottom of the filter section are 'CANCEL' and 'APPLY' buttons. Below the filter section is a dashed box with the text 'Drop or select dimension or metric'.

That's it, your report will now display how different device categories are clicking menu items; which ones are the most popular and how many times were they clicked.



Device category		desktop	tablet	Totals
menu_item_url		Event count	Event count	↓ Event count
Totals		96 98.97% of total	1 1.03% of total	97 100% of total
1	https://www.analyticsmania.com/...	35	1	36
2	https://www.analyticsmania.com/...	29	0	29
3	https://www.analyticsmania.com/...	15	0	15
4	https://www.analyticsmania.com/...	8	0	8
5	https://www.analyticsmania.com/...	7	0	7
6	https://www.analyticsmania.com/...	1	0	1
7	https://www.analyticsmania.com/...	1	0	1

Also, don't forget to change the date range if you need it. You can do that in the top-left corner of the Exploration interface.



You can also use event data in things like funnel reports, but let's keep it for another tutorial (hopefully) in the future.

#2.7. How to plan your events in GA4

Note: This chapter will be just an overview of how you should do it.

Speaking of actual planning, I would say that a spreadsheet is your best friend.

- Write down all the events that you want to track and then:
 - Check whether they fall under the categories: automatically collected, enhanced measurement, or recommended.
 - If yes, check their naming convention of event names and parameters (dimensions). If not, then come up with your own values. Just keep in mind that [there are some limitations related to the length](#).
- If you have a huge list of event names, be aware of another limitation. Currently, you can have up to 500 unique events per property. If you are close to that limit in your spreadsheet, maybe it would make sense to combine some events under the same event name and introduce an additional property (currently, the limit of registered custom properties are 50 text properties and 50 numeric properties. More about registered properties - later in this e-book).

[Here is an example of the spreadsheet with events](#) that you could prepare yourself and then try to pick the right naming convention. You can use it as an example/inspiration to come up with your own spreadsheet. Let's take a quick overview of the spreadsheet.

There are two sheets:

- The first one is for the list of events and what kind of parameters do you want to track together with them
- The second one is a list of parameters with their explanations

The first sheet:

- **In column B**, you can just briefly describe an event in plain English

- In **column A**, you should enter the name of the event that you will use in Google Analytics 4. You should pick this name based on the previously described process: check the automatically tracked events, enhanced measurement, and recommended events. If none of the events match yours, then add a custom name. It looks pretty clean to use this principle to name the event, e.g. *event_name* (all lowercase and connected with an underscore). Event names like "Submitted the Form" will also work, but the all-lower-case-with-underscore looks cleaner (I believe that the term [snake-case](#) applies here).
- **Column C** is for type (is it Automatically collected, Enhanced Measurement, Recommended or Custom?).
- **Column D** is for parameters that you want/plan to track with particular events. I did not include default parameters that are automatically tracked with every event: *language*, *page_location*, *page_referrer*, *page_title*, *screen_resolution*.

Event name	Definition	Type	Parameters
click	Outbound link click (when a click link does not belong to our company's hostnames)	Enhanced Meas ▾	link_classes link_domain link_id link_url outbound
file_download	File download (link click)	Enhanced Meas ▾	file_extension file_name link_classes link_domain link_id link_text link_url
scroll	Scroll > 90%	Enhanced Meas ▾	percent_scrolled

If you are dealing with mobile apps as well, you could include an additional column "Platform" where you could enter "web" or "Android / iOS".

The second sheet:

- **Column A** is for the parameter name
- **Column B** is for a platform. If you are working just with the website, feel free to remove that column.

- **Column C** is the type (is it Built-in, Recommended, or Custom). Built-in means that it is used by automatically tracked events or Enhanced Measurement. Recommended parameters are for recommended events. Custom parameters are your own unique events.
- **Column D** is for description (in plain English).

Parameter name	Platform	Type	Description
affiliation	Web	Recommend	The store affiliation for the event. Needed for purchase tracking.
annual_revenue	Web	Custom	The range of the annual revenue that a user provided with the form submission, example: 50-100M
company_industry	Web	Custom	The company industry that a user provided with the form submission, example: "telecom and internet"
company_size	Web	Custom	The company size that a user provided with the form submission, example: "99-250"
coupon	Web	Recommend	Coupon associated with the cart/purchase
currency	Web	Recommend	Local currency of the collected price
file_extension	Web	Built-in	The extension of the file (of the link that was clicked). Example: pdf
file_name	Web	Built-in	The name of the file (of the link that was clicked). Example: /files/whitepaper.pdf
inquiry_type	Web	Custom	The value of the "Inquiry type" dropdown field of the contact form. Possible values: "General inquiry", "Question about billing", "Partnership inquiry", "Other inquiry"

IMPORTANT: This spreadsheet is just an example. You don't have to blindly follow it. If you wish, you can take just some parts and adapt it to your needs.

Once you prepare the plan, then you can track events with Google Analytics 4. Don't rush too soon. Otherwise, you might face the consequences in the long run.

#2.8. Event limits in Google Analytics 4

Another thing to keep in mind that there are some limits (and some are gone (at least for now?). I would always recommend for you to refer [to this page](#) when it comes to limits.

Anyway, here are some of the things you should remember now:

- There is no limit for events in total (at least for now). In Universal Analytics (free account), the allowed limit of hit per property was [10 million](#). At the

current moment, there is no such limit in Google Analytics 4. But you never know what might happen in the future :)

- You can have up to 500 unique event names per property (Enhanced Measurement events are not counted). So if you have an event called *login* and also *Login*, these will be counted as two unique event names.
- You can have up to 50 custom dimensions and 50 custom metrics registered in a property. The keyword here is **registered**. This means that you have to go to *Admin > Custom definitions* and have them configured there. If you send more custom parameters but they are not registered, you're fine.
- You can send up to 25 parameters with an event
- There are some length limits for event names and parameters as well. Both (the event name and the parameter name) must be up to 40-characters-long.

To learn more about the limits, as always, [refer to this page](#).

Chapter III

Conversions in GA4

#3.1. What is a conversion in general?

I realize that some of my readers who read this e-book might be completely new to web analytics and the concept of conversions. If you are one of them, here's a quick introduction. And if you already know what conversions are, feel free to skip to the next chapter of this e-book.

A conversion is an important interaction that you want your visitors/users to complete. Conversions can be split into micro and macro conversions. An example of a micro-conversion can be a newsletter subscription, a download of a whitepaper, etc.

Micro conversions are usually described as conversions that put your visitors/users one step closer to the main (macro) conversion.

Macro-conversions are the most important interactions, such as a purchase.

By tracking conversions, you can better understand what is working for your business and what isn't. For example, you can create a segment of your users who have made a purchase and then try to understand what they are doing, what is their behavior, etc. Also, conversions are used to measure the effectiveness of advertising campaigns and then redistribute your advertising budget.

Hopefully, this super-brief introduction gave you a better understanding of this concept.

Now, let's learn how to actually track conversions with Google Analytics 4.

#3.2. Goodbye, goals. Hello, conversions!

Those who have worked with the previous versions of Google Analytics, for example, Universal Analytics, are familiar with the term "Google Analytics Goal". Basically, that's how GA was calling conversions in the past.

If you want to treat a page view of the order confirmation page as a conversion, you could create a destination goal. Speaking of other types of Google Analytics goals, you could create goals that:

- Were based on events and their parameters
- Or that were based on the duration of the session (if a visitor spends more than X minutes on your website)
- Or that were based on the number of page/screen views per session

2 Goal description

Name

The most important conversion ever

Goal slot ID

Goal Id 9 / Goal Set 2 ▼

Type

☒ Destination ex: thanks.html

☐ Duration ex: 5 minutes or more

☐ Pages/Screens per session ex: 3 pages

☐ Event ex: played a video

☐ Smart Goal Smart Goal not available.

Measure the most engaged visits to your website and automatically turn... improve your Google Ads bidding. [Learn more](#)

Also, it's worth mentioning that you could create up to 20 goals per GA view. In GA 4, that limit is 30 conversions per property.

Well, with the rise of GA4, the concept of Google Analytics goals is gone. Now, the most important interactions are called *conversions* (this term has been adopted by the industry and other marketing/analytics tools for many years and even GA users were often referring to goals as "conversions").

So in reality, it's a welcome cosmetic change that's been long overdue. However, the name is not the only thing that has changed. Many things are now different in Google Analytics 4 when it comes to conversions:

- The way we have to configure them is different
- The types of conversions are different (no more out-of-the-box destination, session-duration, or number-of-pageviews goals)

It's all about the event now. It's your job to send them and mark the most important ones as conversions.

Speaking of ways how to configure conversions in Google Analytics 4, there are two options (that you can control) and one that's predefined. Let's start with the latter.

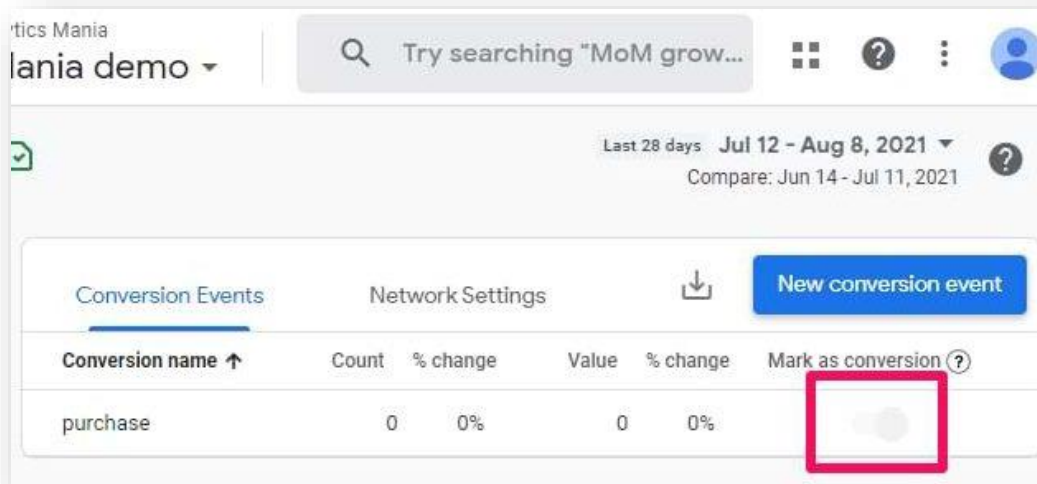
#3.3. Predefined Conversions

There is a bunch of [predefined conversions](#) that you cannot disable:

- **first_open** (applies to mobile applications)
- **app_store_subscription_convert** (applies to mobile applications)
- **app_store_subscription_renew** (applies to mobile applications)
- **in_app_purchase** (applies to mobile applications)
- **purchase** (applies to websites and mobile applications)

Speaking of purchase, here is a guide by Simo Ahava that explains [the entire implementation process](#) in great detail.

If you go to your Google Analytics 4 property and then click *Conversions* (in the left menu), you will see the list of those predefined conversions (they will be displayed there if you have received at least one event of that particular name). If you have only the Web data stream connected to the property, your only default conversion will be *purchase* (and it that cannot be disabled).



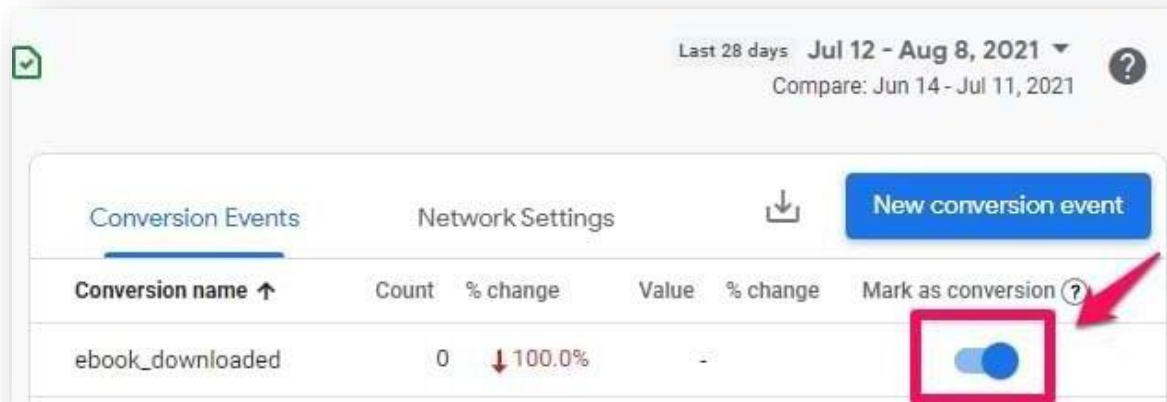
If you have connected any of the app data streams, then you'll most likely see the rest of the aforementioned conversions too. But since there isn't much we can configure, that's all I can say in this chapter.

Now, let's move to the next group of conversions.

#3.4. Conversions that can be switched on

Now, if you want to mark an event as a conversion, you just have to go to the list of *Admin > Events* (on the left sidebar) and then switch the toggle next to the event that's important for your business.

So, for example, if you have an event called *ebook_downloaded*, then you can flip the switch and turn it into a conversion (note: this will apply only to the new data. The events that were collected in the past will not be turned into conversions retroactively).



Alternatively, you can go to *Admin > Conversions* (on the left sidebar), then press *New conversion event* and enter the name of the event, for example, *ebook_downloaded*. There is no difference between entering the name of the event manually and flipping the toggle button in the *Admin > Events* list. Except that if you decide to flip the switch, you will first need to wait until that event appears in the list.

Once you do that, wait for up to 24 hours, and you will start seeing conversion data in the list of all Conversions.

If you want to find out about other places where the conversion data is available in the Google Analytics 4 interface, jump to chapter #3.8. of this e-book.

#3.5. Create events and mark them as conversions

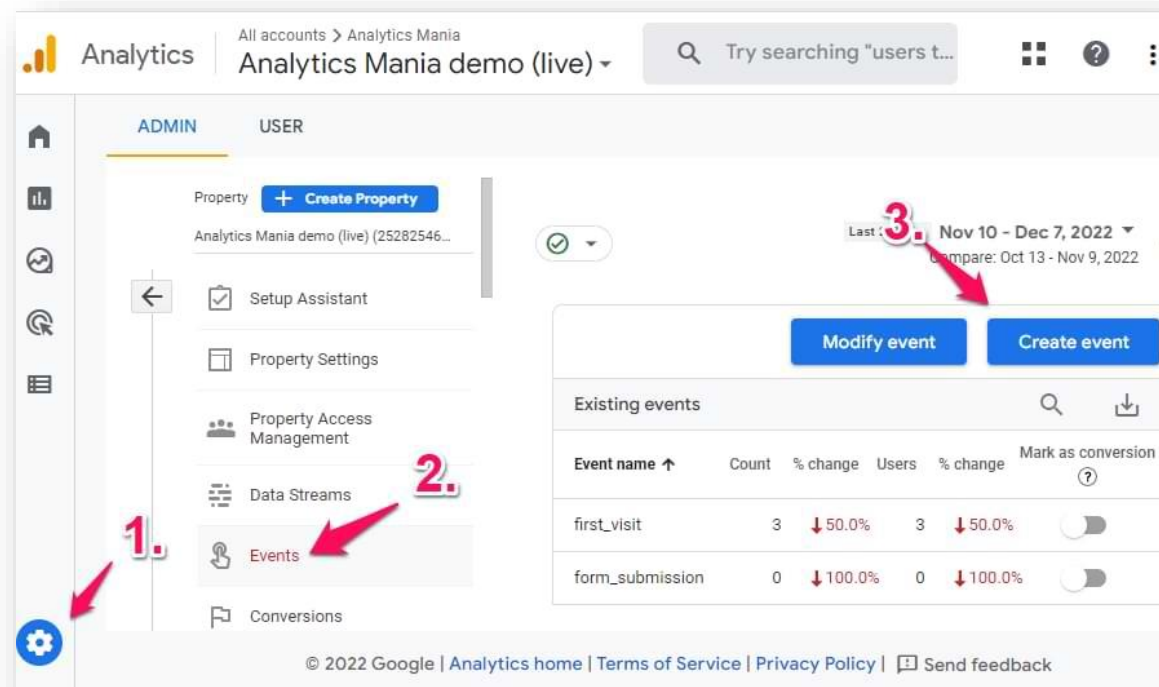
I bet that some of my readers have one question now. What if you don't want to mark ALL events (of a certain event name) as conversions?

Example: you have a "Thank you" page to which users are redirected when they subscribe to a newsletter. Let's say that the URL is <https://www.mywebsite.com/thank-you/>. If I mark *page_view* event as a

conversion, ANY pageview will become a conversion. How can I separate only those pageviews that happened on the */thank-you/* page?

You can either send a dedicated event (with a different name) from Google Tag Manager/Gtag.js, or you can use the *Create Event* feature in the GA4 interface.

This feature allows you to create a new event based on other incoming events. On the *Admin > Events* page, click *Create Event* and then click *Create*.



Then you will need to enter the name of the custom event. Once again, you can name it whatever you want. Just make sure that the name clearly communicates what it means. *thankyou_page_visit* might be a good option.

Then let's move on to the *Matching Conditions* section. Here we must tell GA4 what kind of event are we looking for. When that particular event will be spotted, then our *thankyou_page_visit* should be created as well.

In my case, I need to enter the following conditions:

- *event_name* **equals** *page_view*
- *page_location* **contains** */thank-you/*

Create event | Analytics Mania
G-W6QB81P6Y6

Configuration

Custom event name ?
thankyou_page_visit

Matching conditions

Create a custom event when another event matches ALL of the following conditions

Parameter	Operator	Value
event_name	equals	page_view
page_location	contains	/thank-you/

[Add condition](#)

If you want to copy all the parameters from the *page_view* event to the new event, keep the checkbox *Copy parameters from the source event* enabled.

If some of the parameter's name is incorrect and you want to fix it as well, you can *Add Modification* in the *Parameter Configuration* section. For example, if an event contains the parameter *pricingPlan* but you want it to be *pricing_plan*, you can introduce a new field (and reuse its value) while removing the incorrect parameter (by leaving the *New Value* empty).

Matching conditions

Create a custom event when another event matches ALL of the following conditions

Parameter	Operator	Value
event_name	equals	page_view
page_location	contains	/thank-you/

[Add condition](#)

Parameter configuration

☒ Copy parameters from the source event

Modify parameters [?](#)

Parameter	New value
pricing_plan	[[pricingPlan]]
[[pricingPlan]]	Example: [[source_parameter_name]] or 1234

[Add modification](#)

Will insert the value of the "pricingPlan" parameter

Empty field will remove the parameter

Take a closer look at [[pricingPlan]] in the screenshot above. Double square brackets mean that GA4 will reuse the value of the parameter *pricingPlan* in that event. Once you save the changes, you will be able to view them in the Real-time reports and the *DebugView* of GA4.

Also, when you create that new event in GA4 (and you want that to become a conversion), don't forget to mark that event as a conversion in the *Admin > Events* page.

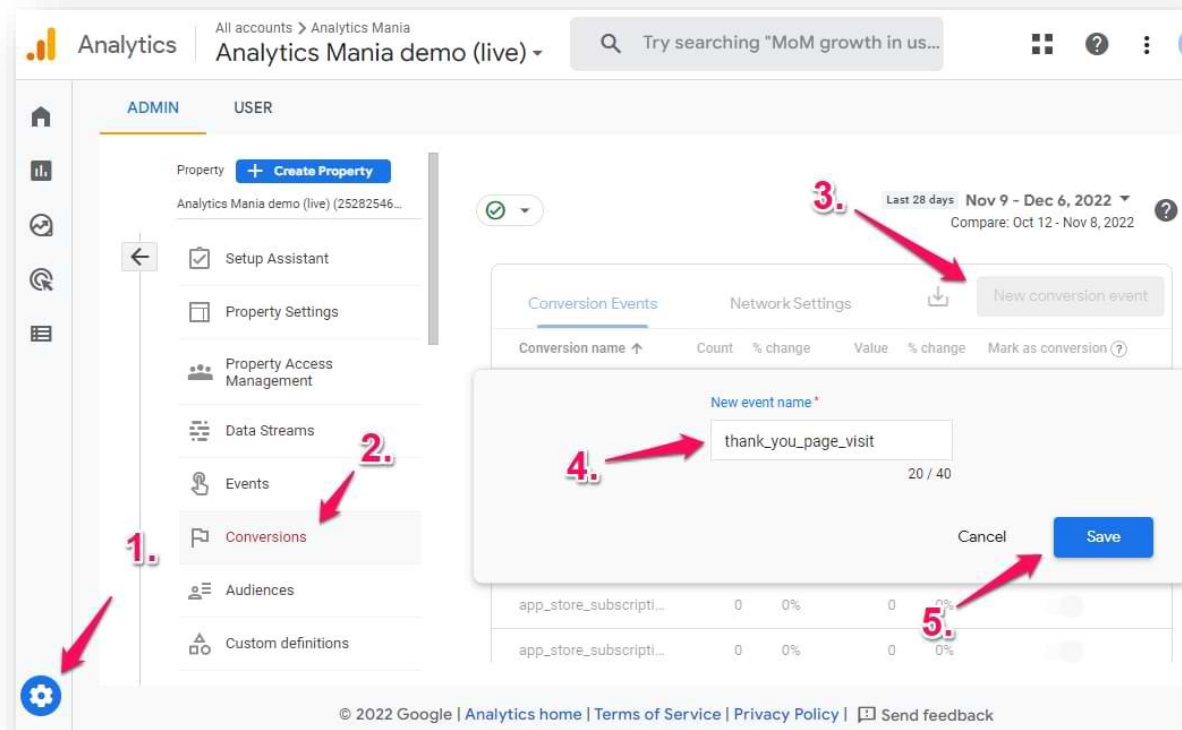
[Modify event](#) [Create event](#)

Existing events [?](#) [Download](#)

Event name ↑	Count	% change	Users	% change	Mark as conversion ?
thankyou_page_visit	0	↓ 100.0%	0	↓ 100.0%	<input checked="" type="checkbox"/>
au_3_pageviews_per_session	3	0.0%	2	0.0%	<input type="checkbox"/>

If you don't like to wait for up to 24 hours (because that *thankyou_page_visit* will not appear in the list of all your events immediately), you can create a new conversion immediately. Go to the *Admin* section of your GA4 interface. Then go to *Conversions*.

Then click *New conversion event* and enter the name of the event that you have just created. Click *Save*.



That way, you will mark the newly created *thankyou_page_visit* event as a conversion (without the need to wait for 24 hours until it appears on the *Admin > Events* page).

#3.6. Or try planning your event naming convention better

I'm just continuing the previous chapter of this e-book here.

If we are talking about events that you are sending from the web site's code or Google Tag Manager to GA4, you could just plan your event naming convention better and create more distinct events.

Imagine that you track various form submissions with the event name *form_submission* but you want to treat only certain types of forms as conversions. Let's say that you track contact form submissions, search form submission, and registration form submission events, but you only want to treat the registration form submission as a conversion.

In that case, you could track 3 separate events:

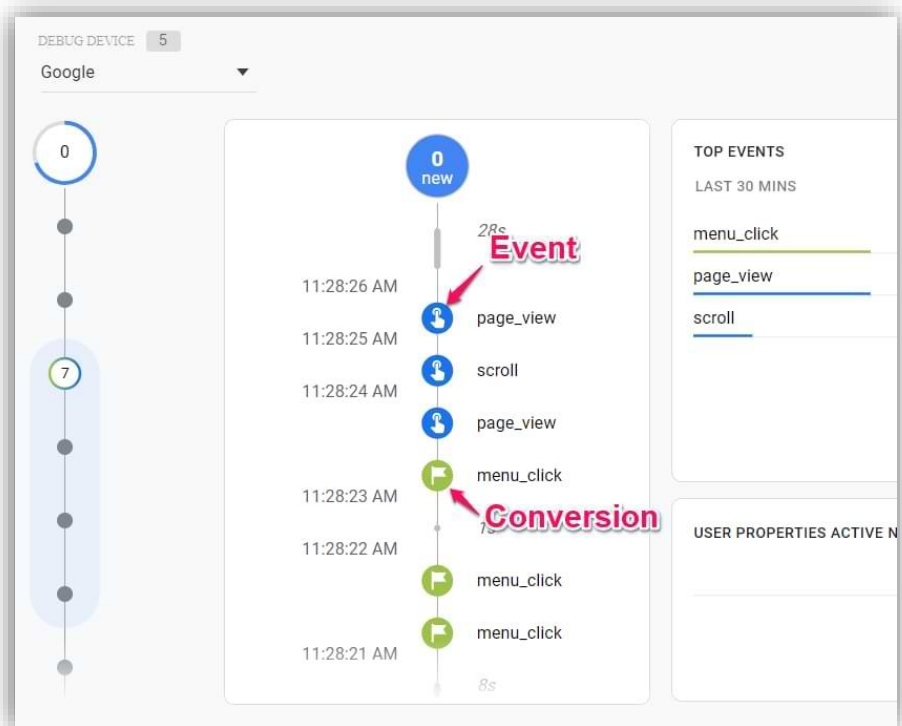
- *contact_form_submission*
- *search_form_submission*
- *sign_up*

And then mark only the *sign_up* event as a conversion. This, of course, requires more thorough planning upfront but every solid setup starts with one.

#3.7. Check the data in Google Analytics 4 DebugView

Once you configure your conversions, it's time to test them. The primary feature built for debugging GA 4 data is the *DebugView* section. You can find it at the bottom left corner of your GA4 interface. Click it.

If you need a refresher on how the DebugView works, feel free to revisit chapter #1.4. of this e-book.

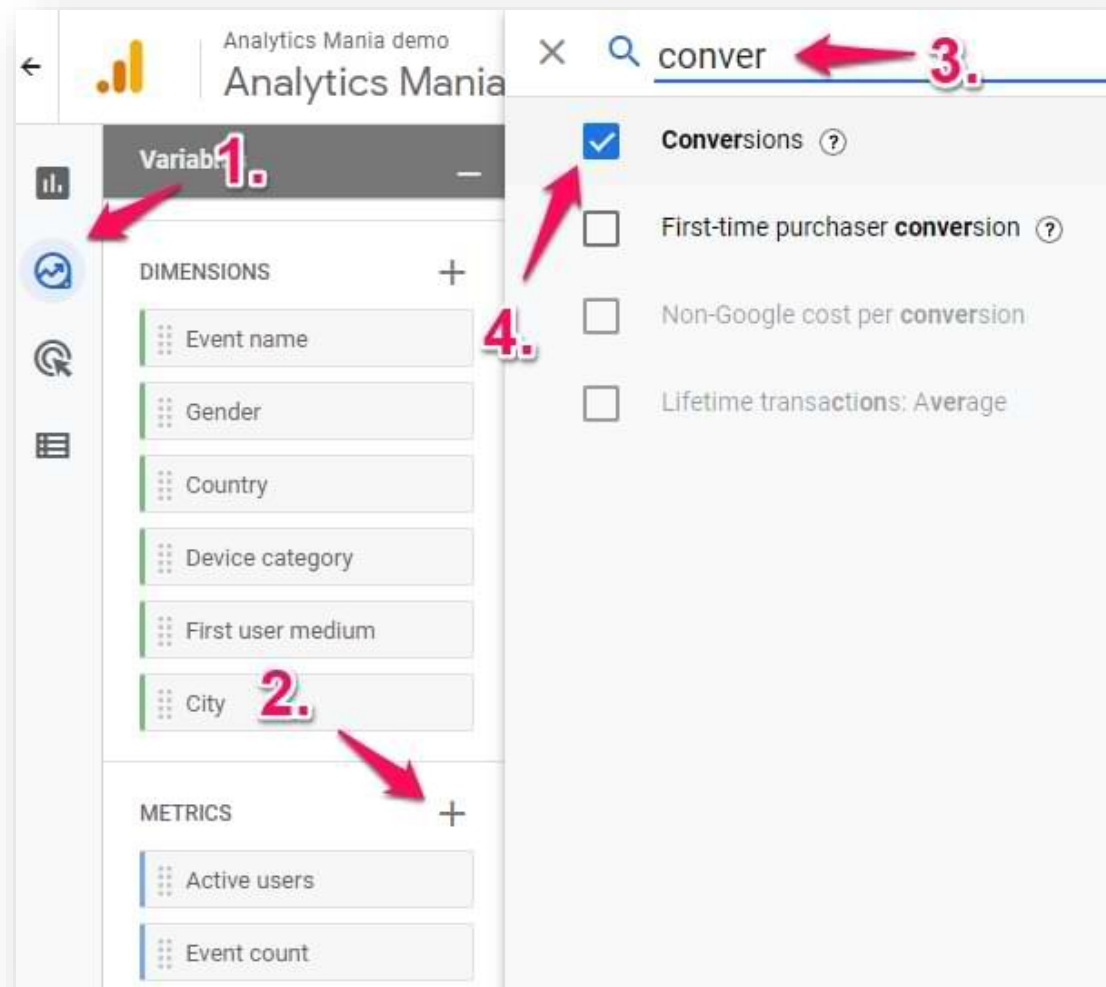


When the data starts coming into your DebugView, things will look like this.

Events are marked with blue icons, conversions with green.

If you click the event, you will see the parameters that were sent together with an event. Click on the parameter to see its value.

- *Explore.* For example, you can include the metric *Conversions* in the Exploration



Chapter IV

Reporting in GA4

#4.1. Resources to get started with reports

Even though I have already mentioned several places where you can find your event data in Google Analytics 4, I have more resources (videos, blog posts) that you might find helpful.

- [How to track and report site search with GA4](#)
- [Free form reports in GA4 \(previously Explorations\)](#)
- [How to track and report scroll events in GA4](#)
- [How to report outbound link clicks in GA4](#)
- [Funnel exploration reports](#)
- [Path exploration reports](#)

How to properly learn Google Analytics 4

Some people try to learn Google Analytics 4 by themselves. They read the documentation, do a lot by trial and error. In the end, they will waste a lot of time. And time is money.

Others might try to enroll in a GA4 course and learn there. But the problem with many GA courses is that they focus just on GA features. They forget the most important things:

- How to collect **meaningful** data
- How to get **insights** from that data

That is the problem that I solve with my [Google Analytics 4 course](#):

- It will help you **save a lot of time**
- It will also teach you how to properly **plan your setup**
- You will learn how to **configure GA4** the right way
- You will know **what is important to track**
- You will learn how to **get insights** from your data

Since 2016, I have taught many marketers and analysts to get the most out of Google Tag Manager and Google Analytics.

If you want to become a GA4 power user and benefit from it, check out my [Google Analytics 4 course](#).

This course includes:

- 11 Modules
- Time-saving checklists, templates, etc.
- Practical tasks and a sandbox website to practice
- Lifetime 24/7 access to the course material
- Free updates
- Complete hand-holding and support
- And so much more!

[Learn more about this course](#)



Final words

Google Analytics 4 is a completely different tool (if we compare it to the previous versions of Google Analytics). And this e-book just proves the fact that there's a steep learning curve ahead.

We were just scratching the surface of GA4 capabilities and the e-book is already ~80 pages long.

If you want to learn more about the platform, then keep an eye on analyticsmania.com and [my YouTube channel](#).

Also, if you want to be able to track various interactions and send them to Google Analytics (or any other marketing/analytics tool that you are using), **Google Tag Manager is the best option**. But there's a steep learning curve as well (unless I show you a shorter and more efficient way – [Google Analytics 4 course](#)).

This e-book was delivered to you by



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