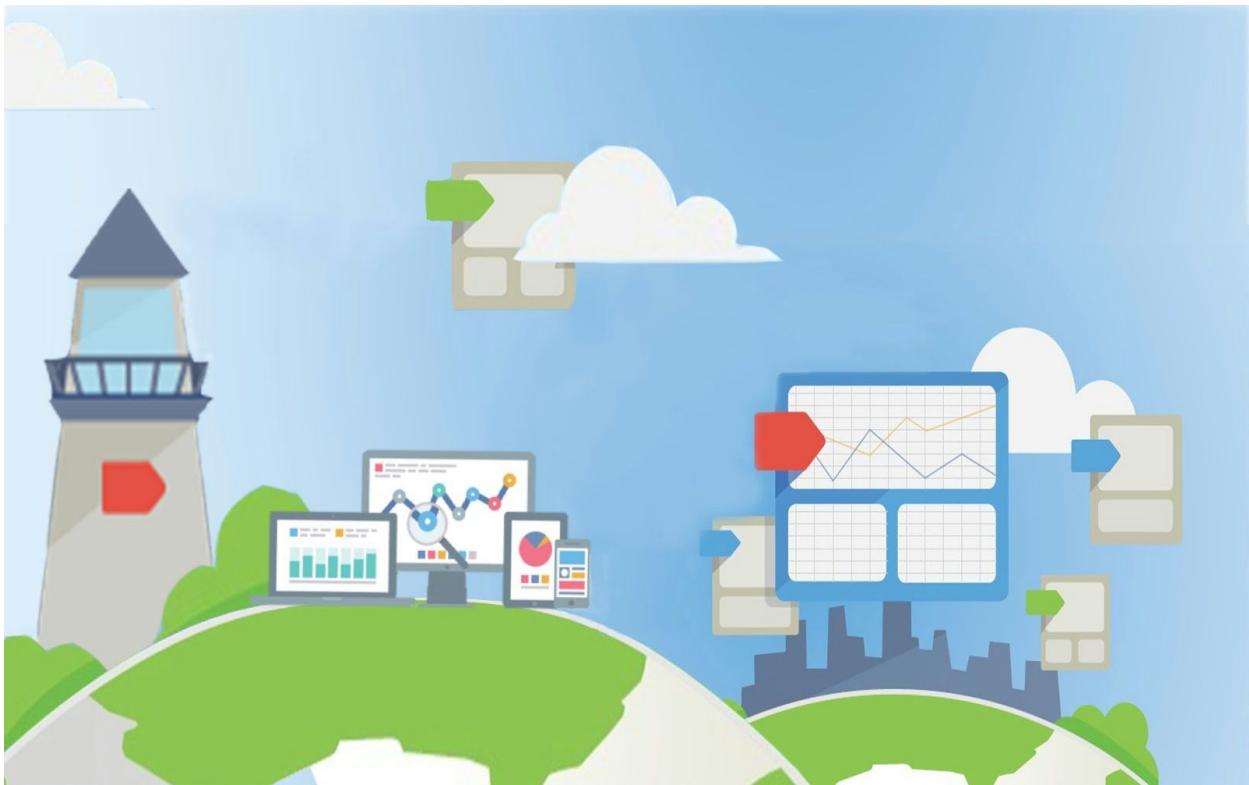


Google Tag Manager Fundamentals



Google Analytics Academy

analyticsacademy.withgoogle.com

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1 Google Tag Manager fundamentals

1.1 Introduction

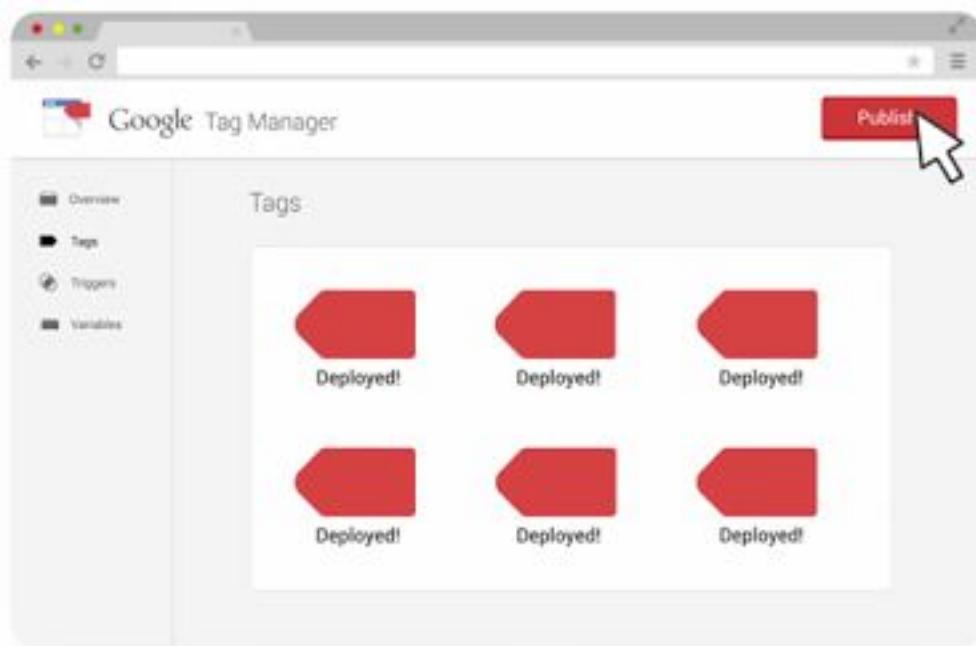
Hi, I'm Krista Seiden, Analytics Advocate for Google. Welcome to "Google Tag Manager Fundamentals."

Websites often contain snippets of JavaScript code called "tags" that collect information like behavior data, remarketing data, ecommerce, and more. This makes it easy to send information to products like Google Analytics.

But sometimes, a site can have so many tags, that it becomes cluttered and difficult to manage.

Tagging a site also requires some knowledge of coding, and embedded tags can reduce the speed of your site, or even crash it, if they're not implemented properly. That's where Google Tag Manager can help.

With Tag Manager, you no longer have to add tags manually to a website. Instead, you can use Tag Manager to create Google Analytics, AdWords, or any third-party tags, and specify when they should fire. This simplifies and speeds up the process of tag deployment, and can really streamline tag loading for faster website performance. It can also help you manage different versions of your tags, making you less reliant on developers for changes.



1.2 Course Overview

This course will walk you through the basics of Tag Manager including developing a measurement plan and a tag management strategy. We'll discuss how to deploy tags and triggers, and show you how to set up variables that can be reused across your site.

We'll also discuss how you can use the Data Layer, along with variables and events, to pass information from your website into other tools for marketing and analysis.

Finally, we'll use Tag Manager to set up advertising and remarketing tags. While the course examples will focus on Tag Manager for desktop, the same principles can apply for mobile apps, as well.

We'll use tagging examples from *The Great Outdoors* - the world's leading fictitious retailer of outdoor camping and hiking equipment, sporting goods, and clothing. In addition to their online and retail stores, *The Great Outdoors* recently launched a new travel website called "The Great Outdoors Travel Adventures."

This is a site where customers can research and plan travel, as well as book airline tickets and hotel accommodations. *The Great Outdoors* will need your help using Google Tag Manager to add tags to their *Travel Adventures* website, and collect data to better understand customer behavior.

We're really excited you're able to join us for this latest Analytics Academy course and we look forward to your participation!

2 The Great Outdoors' Measurement Plan

2.1 Business Objective

Drive additional *Great Outdoors* revenue through travel bookings.

2.2 Strategy

Offer a website called “Great Outdoors Travel Adventures” where customers can research, plan, and book outdoor travel adventures.

Tactic: Drive Trip Discovery

The *Great Outdoors* will drive trip discovery on the *Travel Adventure* website in order to attract interest from users.

KPIs (Metrics)

Users and Sessions

The Users and Sessions metrics measure how many users visited and how often they returned to the Travel Adventures site.

Revenue

The Revenue metric is the total dollar amount of trips sold through the *Travel Adventures* site.

Average Revenue

The Average Revenue metric is the average dollar value per trip booked on the *Travel Adventures* site.

Tactic: Sell Trips

The *Great Outdoors* will focus on selling trips through the *Travel Adventure* website to convert site browsers into paying customers.

KPIs (Metrics)

Booking Conversion Rate

The Booking Conversion Rate metric is calculated by dividing the number of users who booked trips by the total number of site users.

Revenue

The Revenue metric is the total dollar amount of trips sold through the *Travel Adventures* site per booking conversion.

Average Revenue

The Average Revenue metric is the average sale price of a trip purchased through the *Travel Adventures* site.

Segments (Dimensions)

Traffic Sources

The Traffic Sources dimension can help us understand how users arrived at the *Travel Adventures* site.

Trip Location

The Trip Location dimension can help us slice data by the trip destination such as Switzerland, Puerto Rico, etc.

Trip Category

The Trip Category dimension can help us slice data by the type of vacation sold such as hiking, skiing, snorkeling, etc.

Segments (Dimensions)

Traffic Sources

The Traffic Sources dimension can help us understand how users arrived at the Travel Adventure site.

Customer Demographics

Customer demographic dimensions like Age, Gender, and Location can help us see what kinds of customers purchased travel packages.

Trip Category

The Trip Category dimension can help us slice data by the type of vacation sold such as hiking, skiing, snorkeling, etc.

3 How Tag Manager works

3.1 The structure of Google Tag Manager

To begin using Tag Manager, you'll place some JavaScript code called a "container snippet" on each page of your website.

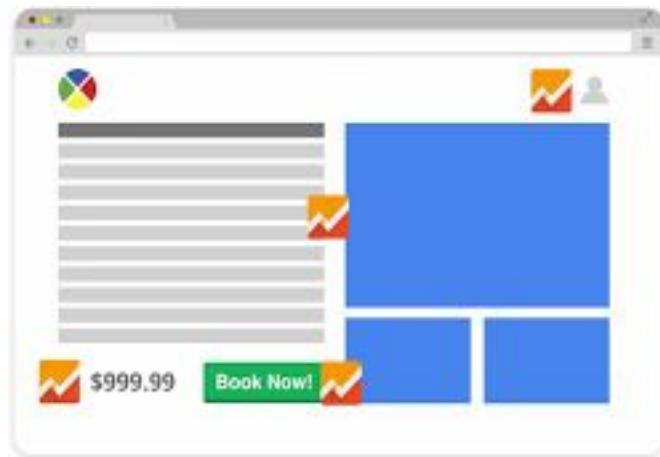
Container Snippet:

```
<!-- Google Tag Manager -->

<script>(function(w,d,s,l,i){w[l]=w[l] || [];w[l].push({'gtm.start':
new Date().getTime(),event:'gtm.js'});
var f=d.getElementsByTagName(s)[0],
j=d.createElement(s),dl=l!='dataLayer'?'&l='+l:'';j.async=true;j.src=
'//www.googletagmanager.com/gtm.js?id='
+i+dl;f.parentNode.insertBefore(j,f);
})(window,document,'script','dataLayer',
'GTM-NBK56X');
```

```
<!-- End Google Tag Manager -->
```

You can then add, delete, or make changes to tags using Tag Manager to publish them to the container snippet, instead of making manual changes to the site code itself. When users visit your website, the container snippet will trigger tags based on firing instructions you've set up in Tag Manager, and communicate any data you've specified back to other systems such as Google Analytics.



Let's take a look at how Tag Manager is structured.

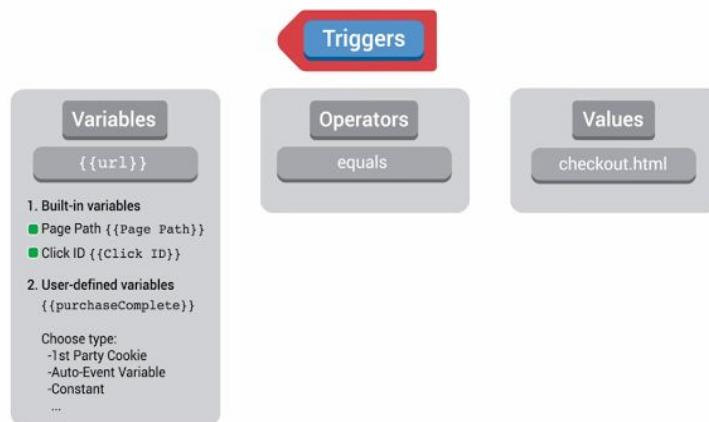
Google Tag Manager administration happens at the account level, which allows you to manage tags for one or more websites. Typically, you'll only need one Tag Manager account per company or organization. But, if you manage website tracking for several companies, you can connect multiple Tag Manager accounts to a single user's Google account.

For example, if an agency manages tags on behalf of an advertiser such as *The Great Outdoors*, *The Great Outdoors* should create the Tag Manager account and grant the agency access. Multiple users can also manage the same Tag Manager account, and each user can be granted different access permissions by account administrators.

3.2 Containers and Triggers

Each Tag Manager account has at least one container. A container includes the tags and “triggers” that determine when those tags should fire or collect data. For example, a container may include a tag that communicates when users have made a purchase with a trigger that instructs the tag not to fire until a thank-you page comes up and a transaction is complete. Typically, you’ll have one container for each website domain, though you can use a single container for cross-domain tracking.

Triggers are made up of **variables, operators, and values**.



Variables are placeholders for values that you define. There are two kinds of variables: built-in variables and user-defined variables. Built-in variables such as `{{page path}}` or `{{click id}}` have already been configured for you in Tag Manager, and you simply have to select them, in order to activate them.

User-defined variables are custom variables that you can create, such as `{{purchaseComplete}}`, to capture when a transaction has been made. When creating a user-defined variable, you can choose from variable types that can help you collect different kinds of data or create reusable strings that can be used throughout your website.

Operators define the relationship between the variable and the value that must be true in order for a trigger to fire. An operator could be something like “equals,” “contains,” or “doesn’t contain”. For example, if you only wanted a tag to fire when a user completed a transaction, you might set up a tag trigger that fires when the variable `{{url}}` equals the value of your checkout page “checkout.html”. You can also set up multiple triggers that must all be true before a tag will fire.



Triggers fire tags in response to events, which are any website actions taken by the user.

You can set triggers in response to simple events such as a page loading, or you can set custom event tags that fire in response to specific actions like when a user clicks on a submit button for a form. Each tag must have at least one trigger in order to fire and all triggers are initiated by website events.

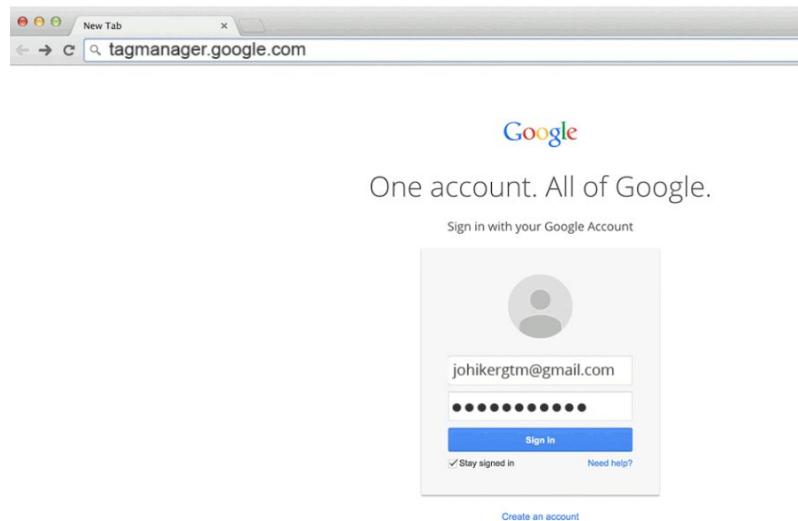


Triggers, variables, and events in Tag Manager let you control when tags fire in response to specific user actions. This can help you customize the way that tags work with your website and enable you to collect valuable marketing information.

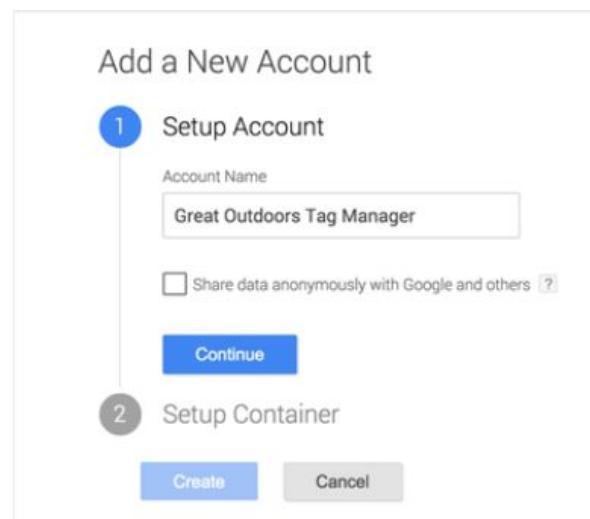
4 How to set up the Analytics Pageview Tag

4.1 Creating an account and a container

To deploy a tag in Google Tag Manager, you'll first have to create an account and container, deploy the tag, and then test it to ensure that it's working properly. To create an account in Tag Manager, we'll go to "tagmanager.google.com" and log in using a Google account. Click "Sign in" now.

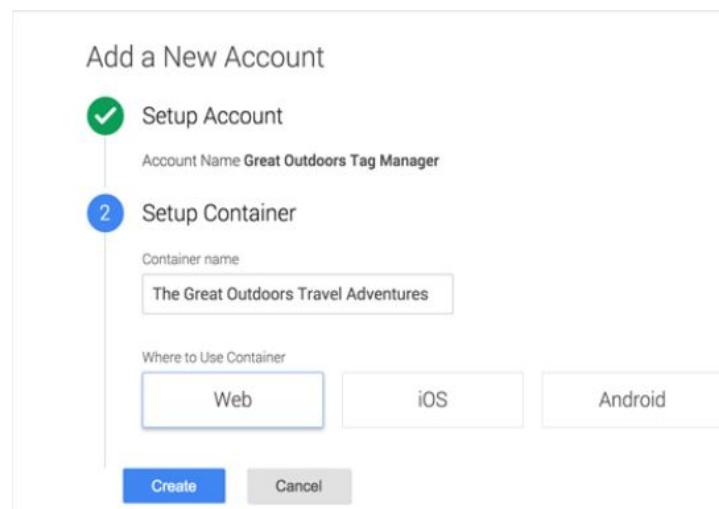


Every Google Tag Manager login must have at least one account. When you first log in to Google Tag Manager, you'll be prompted to create one. First, we'll type in an account name. Then click "Next."

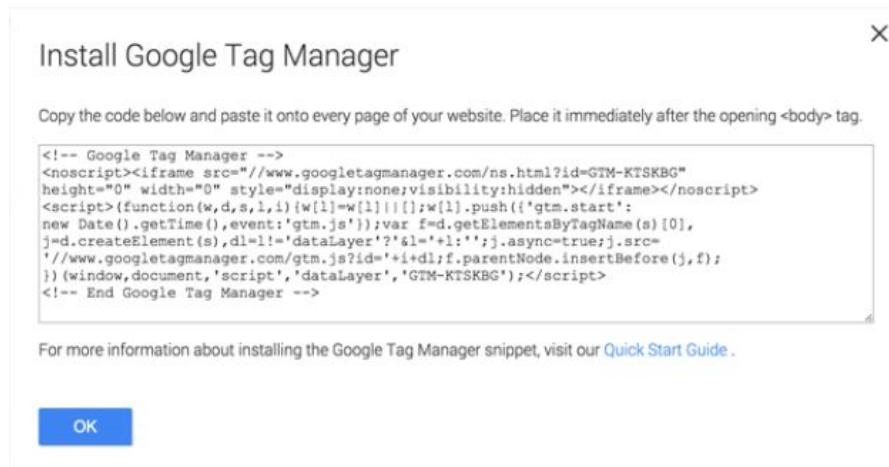


Now you'll set up your container. We'll name the container after the website we're tagging. Since The Great Outdoors Travel Adventures is a website, under "Where to Use Container" select Web Pages. You can add a domain and a time

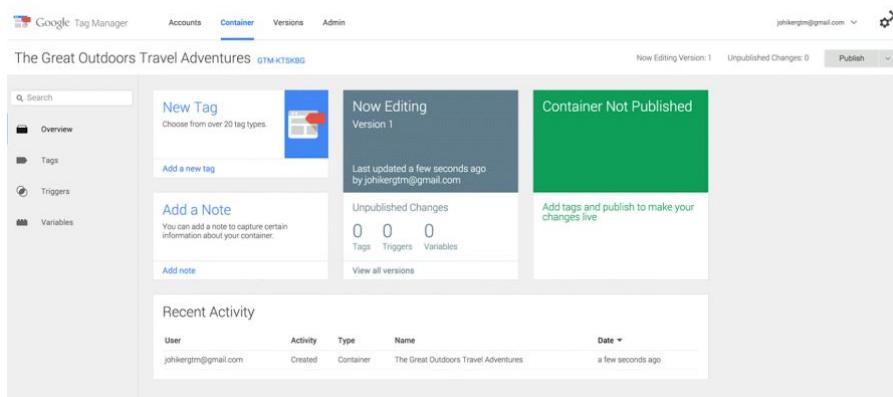
zone if you wish, but we'll leave these as the default for now. Now click "Create Account and Container." To agree to the "Terms of Service," click "I Accept."



Notice that Tag Manager provides you with the container code that is ready to be copied and pasted. For best results, place this immediately after the opening body tag on every page of your website. If you need to access the container code again, you can find it under "Admin" by selecting the correct container and clicking "Install Google Tag Manager." We can also add tags if we wish, but for now, just choose "Add Tags Later."



Once your account and container have been created, you'll see the Container Dashboard. The Container Dashboard lets you choose new tags, shows which tags you're currently editing, and which containers you've already published. You can also add notes about your container and view a history of recent changes. You can use the left-hand navigation to create or edit tags, set up triggers, and set up built-in or user-defined variables.



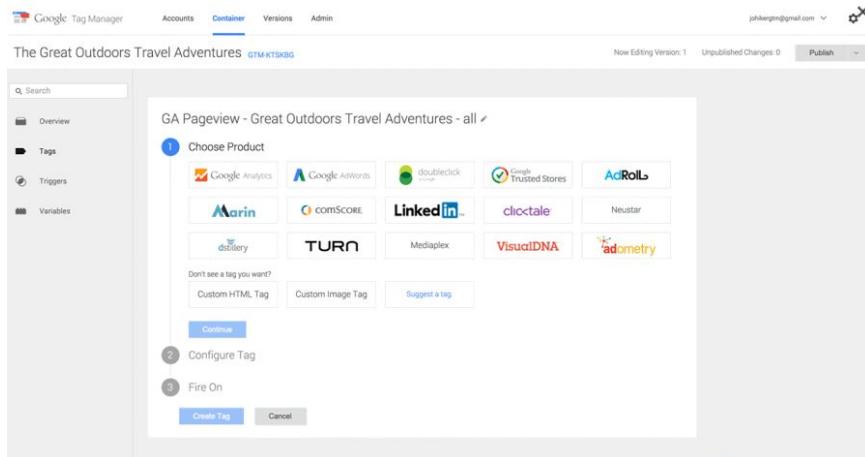
The Accounts tab will display a list of all of the accounts you have access to, as well as the list of containers within each account, the type, and their ID. To set up a new account, click “Create Account.” We’ll name the account “The Great Outdoors.”

4.2 Creating a Google Analytics tag

Since The Great Outdoors wants to use Google Analytics to help them better understand user behavior, the first tag we’ll add is the standard Google Analytics “Page View” tag. To add a tag to your website, you can select “Tags” in the navigation and then “New,” or you can just select “New Tag.” Select “New Tag” now.

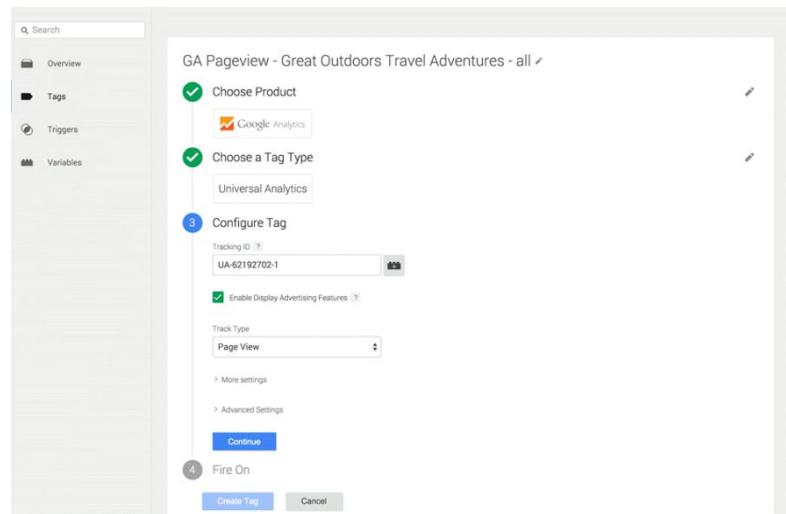
To name the tag, click on “Untitled Tag.” To organize your tags, we’ll use the naming convention: tag type, followed by the name of the website, followed by the tag location.

Next, choose “Google Analytics.” We’ll select the tag type “Universal Analytics.” Now go ahead and click “Continue.”

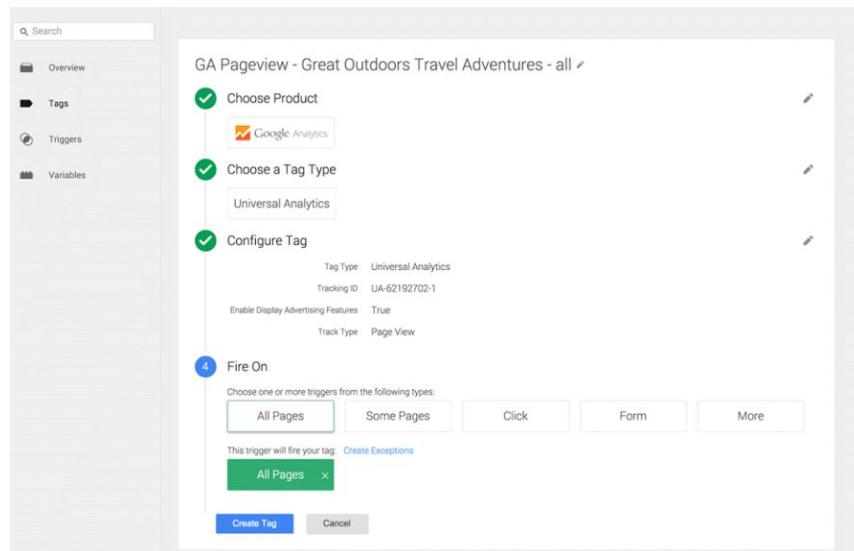


We can add the Google Analytics tracking ID by going into Google Analytics under “Admin.” Then “Property.” Then “Property Settings.” You can also find this ID by clicking “Home” and then expanding the “Account” folder.

In order to take advantage of remarketing and get Analytics’ Customer Demographics data, select “Display Advertising Features.” Then select the Track Type “Page View.” Now click “Continue.”



Since we want this tag to fire on every page of the website in order to track page views, select the trigger “All Pages.” Notice the trigger confirmation below. Then select “Create Tag.”

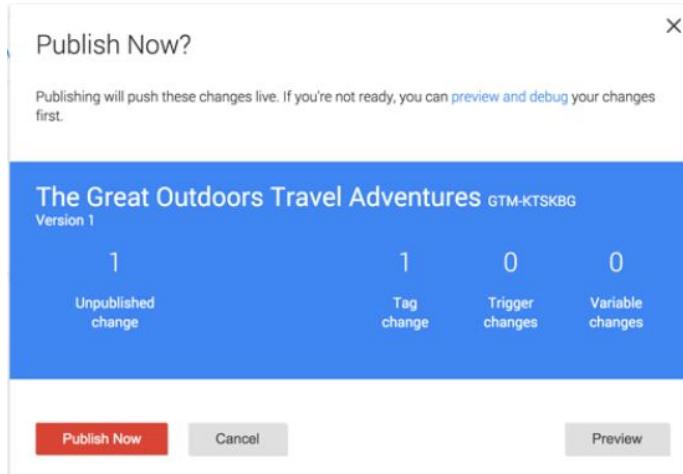


You can see that our Google Analytics “Page View” tracking tag now appears in our list of tags.

The screenshot shows the Google Tag Manager interface. At the top, there are tabs for Accounts, Container (which is selected), Versions, and Admin. On the right, it shows the email address johkergtm@gmail.com and a gear icon. Below the tabs, it says "Now Editing Version: 1" and "Unpublished Changes: 1". There is a red "Publish" button and a dropdown arrow. The main area is titled "Tags" and has a "New" button. A table lists one tag: "GA Pageview - Great Outdoors Travel Adventures - all", which is of type "Universal Analytics" and has "All Pages" as its firing trigger. It was last edited "in a few seconds". On the left sidebar, there are links for Overview, Tags (which is selected), Triggers, and Variables.

4.3 Publishing your Google Analytics tag

We've created our first tag, but we still have to publish the tag. Click "Publish." A dialog box will appear with the total number of changes you're about to publish.



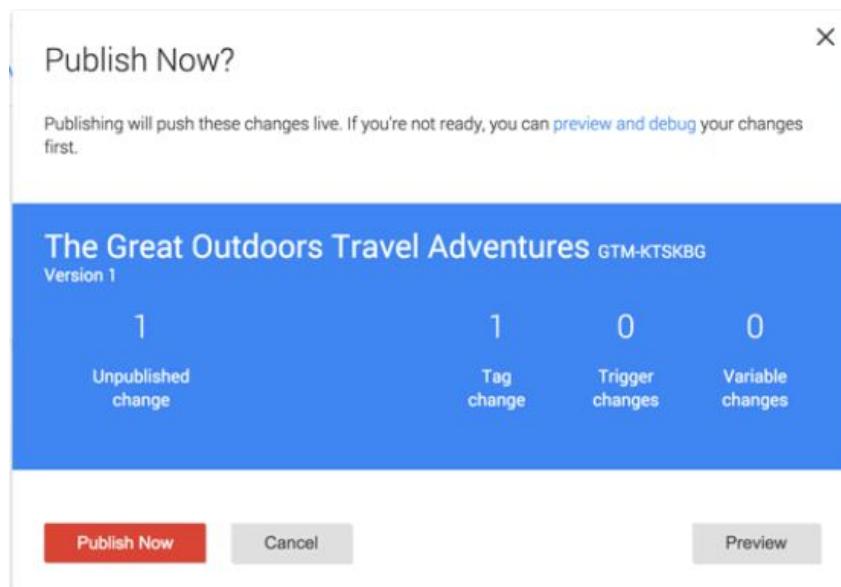
To inspect your container changes before they go live, click "Preview." A banner at the top will indicate which version of the tag you are previewing.

The screenshot shows the Google Tag Manager interface for a container named "GTM-KTSK8G". The left sidebar includes options for Accounts, Container (selected), Versions, and Admin. The main area displays a preview of the "Great Outdoors Travel Adventures" website. A prominent orange bar at the top says "Now Previewing Version 1" and provides instructions for previewing and debugging. Below this, there's a "Tags" section with a "New" button and a table showing one tag: "GA Pageview - Great Outdoors Travel Adventures - all", which is a Universal Analytics tag firing on "All Pages". The status bar at the bottom indicates "Now Editing Version: 1" and "Unpublished Changes: 1".

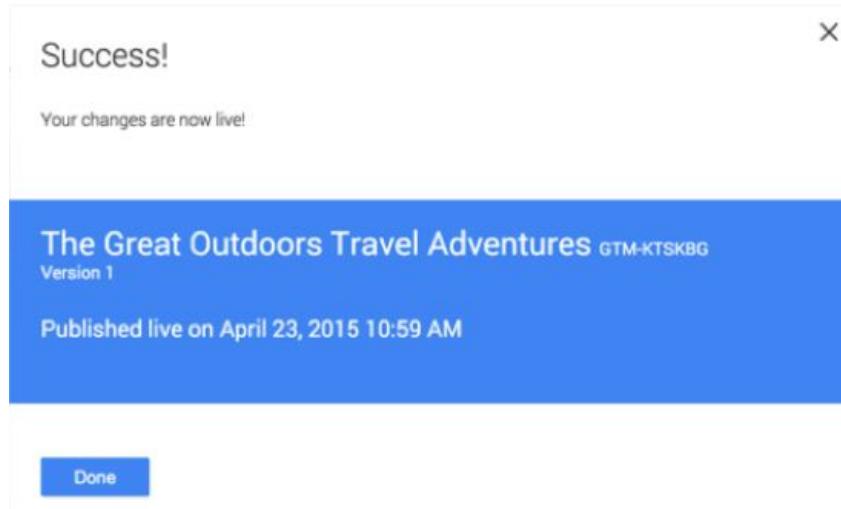
Let's open a new tab in our browser and navigate to the Travel Adventures website. Notice that while in "Preview Mode," a Debug Panel opens at the bottom of the web browser, showing you a summary of the tags that fired.

This screenshot shows a browser window displaying a travel website featuring a snowy mountain peak and a person with a backpack. Below the website, a green debug panel from Google Tag Manager is visible. The panel has tabs for "Summary", "Tags", "Variables", and "Data Layer", with "Tags" selected. It shows a summary of tags fired on the page, including "GA Pageview - Great Outdoors Travel Adventures - all" (Universal Analytics) and other tags like "Page Load", "DOM Ready", and "Pageview". There are also three circular icons representing different tag types: a blue one for page load, a green one for DOM ready, and a red one for pageview.

You can see that the tracking tag fired in "Preview Mode" when we visited the site. Once we've verified that the tag is firing properly, we can return to Tag Manager and click "Publish." In the confirmation dialog window, click "Publish Now."



You'll receive a confirmation message telling you that the changes to your container are now live.



To exit preview mode, click “Leave Preview Mode.”

We can also verify that the tag is live by opening up Google Analytics' Real-Time Reporting and making sure active users and page views are being recorded. How cool is that?

If you need to make changes, Tag Manager offers version control for each tag that you publish on the “Versions” tab. You can roll back your tag to a previous version or even save versions of your container without making the changes public.

The screenshot shows the Google Tag Manager interface for a container named "The Great Outdoors Travel Adventures GTM-KTSK8G". It displays a summary at the top: 1 Tag, 0 Triggers, and 0 Variables. Below this, a section titled "Version 1 is Live" shows a table of versions. The table has columns for Version ID, Status, Name, Created, Published, Published By, and Actions. It lists two versions: one "Now Editing" (Version ID 2) and one "Live" (Version ID 1). The "Live" version was created on 4/22/2015 and published on 4/23/2015 by johikergtm@gmail.com.

Version ID	Status	Name	Created	Published	Published By	Actions
2	Now Editing		4/22/2015		johikergtm@gmail.com	Actions
1	Live		4/22/2015	4/23/2015	johikergtm@gmail.com	Actions

Those are the basic steps to publish a tag to your website using Google Tag Manager.

4.4 Further Reading

Setting up a tag manager account: <https://support.google.com/tagmanager/answer/2574370?hl=en>

5 How to create an Analytics Property Variable

To help you save time and prevent errors when updating the property of your Analytics tag, we recommend creating a reusable Google Analytics property variable.

To set this up, in the left-hand navigation click “Variables.” You’ll notice a list of built-in variables followed by user-defined variables. To create a user-defined variable, click “New.”

The screenshot shows the 'Variables' section of the Google Tag Manager interface. On the left, there's a sidebar with 'Overview', 'Tags', 'Triggers', and 'Variables'. The main area is titled 'Enabled Built-In Variables' and contains six categories: 'Pages' (with 'Page URL', 'Page Hostname', 'Page Path', and 'Referrer'), 'Utilities' (with 'Event', 'Container ID', 'Container Version', and 'Random Number'), 'Errors' (with 'Error Message', 'Error URL', 'Error Line', and 'Debug Mode'), 'Clicks' (with 'Click Element', 'Click Classes', 'Click ID', 'Click Target', 'Click URL', and 'Click Text'), 'Forms' (with 'Form Element', 'Form Classes', 'Form ID', 'Form Target', 'Form URL', and 'Form Text'), and 'History' (with 'New History Fragment', 'Old History Fragment', 'New History State', 'Old History State', and 'History Source'). Below these categories, a message says 'User-Defined Variables' and 'This container has no user-defined variables, click the "New" button to create one.' A red 'New' button is located at the bottom of this section.

At the top of the form, click the pencil icon next to “Untitled Variable.” We’ll name this variable “gaProperty”.

Since we want to be able to reference the same value for multiple tags, under “Choose Type,” select “Constant.”

In order to update the value of our Google Analytics property from a single variable, under “Configure Variable” we’ll add our Google Analytics Property ID. Now select “Create Variable.”

The screenshot shows the Google Tag Manager interface in 'Container' mode. On the left sidebar, there are links for 'Overview', 'Tags', 'Triggers', and 'Variables'. The main area is titled 'The Great Outdoors Travel Adventures' with the identifier 'GTM-KTSKBG'. A modal window is open for creating a new variable, titled 'gaProperty'. Step 1, 'Choose Type', has a radio button selected for 'Constant'. Step 2, 'Configure Variable', shows a value input field containing 'UA-62192702-1'. At the bottom of the modal are 'Create Variable' and 'Cancel' buttons.

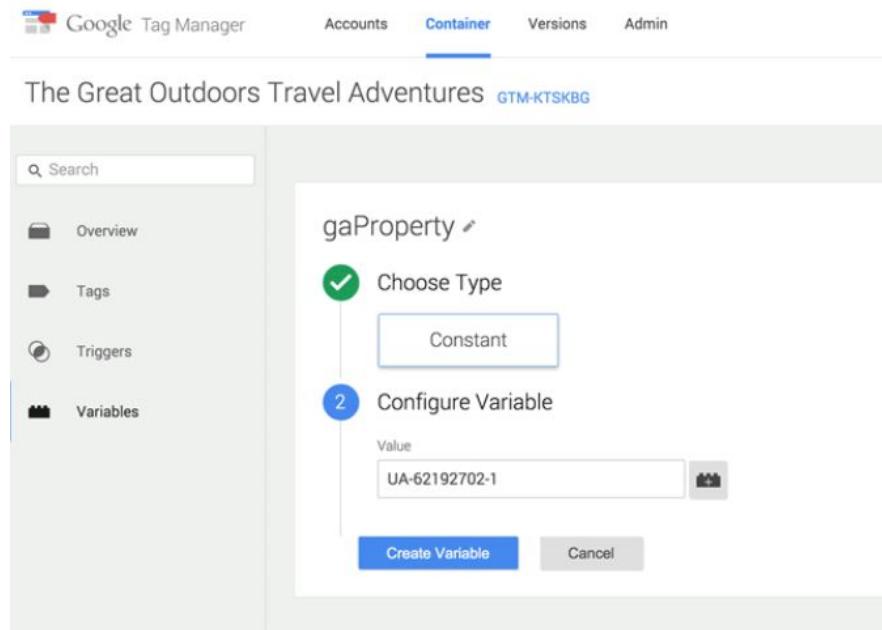
You can now use this variable throughout Google Tag Manager wherever you would normally be prompted to enter your Google Analytics Property ID.

The screenshot shows the 'User-Defined Variables' section in Google Tag Manager. It lists one variable: 'gaProperty', which is of type 'Constant' and was last edited 'a few seconds ago'. There is a 'New' button at the top left of the list table.

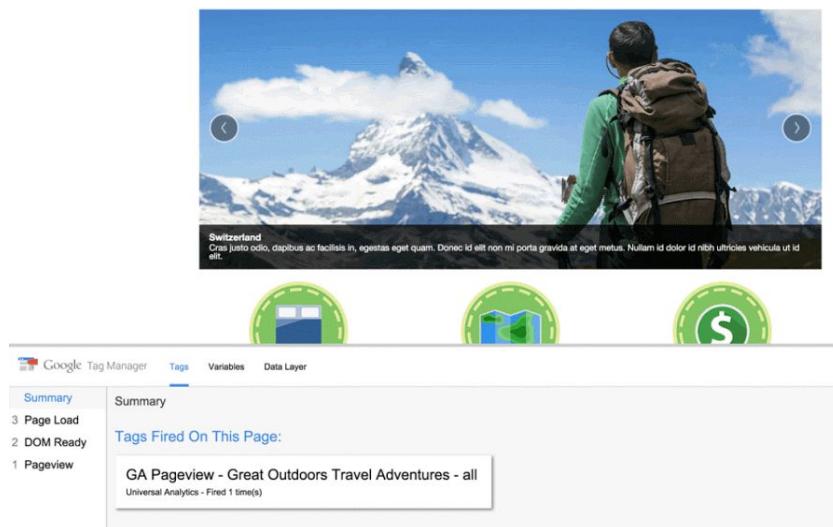
To try this out, we can replace the Google Analytics Property ID in the “Page View” tag with the Constant variable we just created. Click “Tags.” Then select the Google Analytics “Page View” tag that you created previously.

The screenshot shows the 'Tags' section in Google Tag Manager. It lists one tag: 'GA Pageview - Great Outdoors Travel Adventures - all', which is of type 'Universal Analytics' and has 'All Pages' as its 'Firing Triggers'. The tag was last edited '19 hours ago'. The 'New' button is visible at the top left of the tag list table.

Click on the "Configure Tag" section. Find the field labeled "Tracking ID" and click the "Tracking ID" selector button. Then select {{gaProperty}}. Now we'll save the tag configuration.



Preview your container by clicking “Publish.” Then click “Preview.” If we navigate to *The Great Outdoors Travel Adventures* site, we can see the Google Analytics tag successfully firing in the “Preview” pane.



It's that easy to create a single variable that you can use to update values across your website.

5.1 Further reading

Variables: <https://support.google.com/tagmanager/answer/6106899?hl=en>

Built-in variables: <https://support.google.com/tagmanager/answer/6106965?hl=en>

6 How to create Cross-Domain Tracking Variables

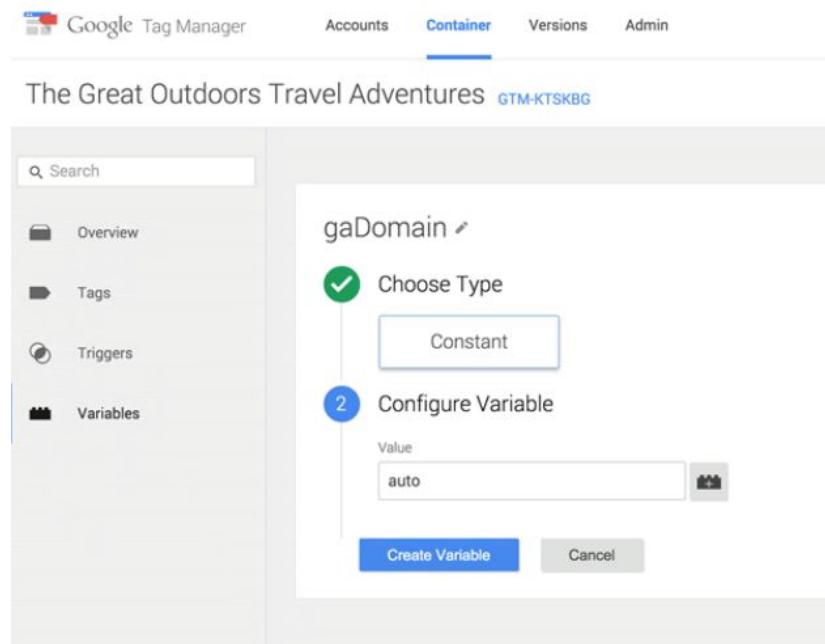
If you want to get data from multiple websites into one Google Analytics report, we recommend setting up cross-domain tracking.

To begin, we'll need to create two Constant (or reusable) user-defined variables: *gaDomain* and *gaCrossDomains*.

6.1 Creating the *gaDomain* variable

gaDomain will write cookies to the highest-level domain by default to ensure you don't lose any data across sub-domains. The *gaCrossDomains* variable will let you reference a list of domains all at once, rather than having to type out each domain every time you want to update a tag.

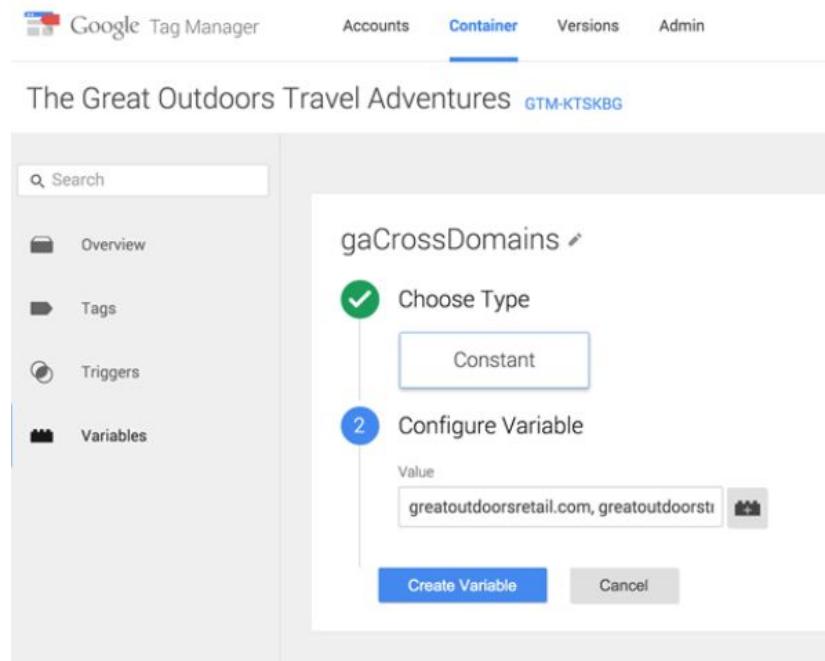
In the left-hand navigation click "Variables." Then select "New." We'll name the variable *gaDomain*. Then select the type as "Constant." We'll type the value "auto" so that cookies to this variable automatically get written to the highest-level domain. Then click "Create Variable."



6.2 Creating the *gaCrossDomains* variable

Now that we've set up the *gaDomain* variable, let's set up the *gaCrossDomains* variable. In the left-hand navigation click "Variables" again. Select "New." And then select "Constant." We'll name this variable "gaCrossDomains."

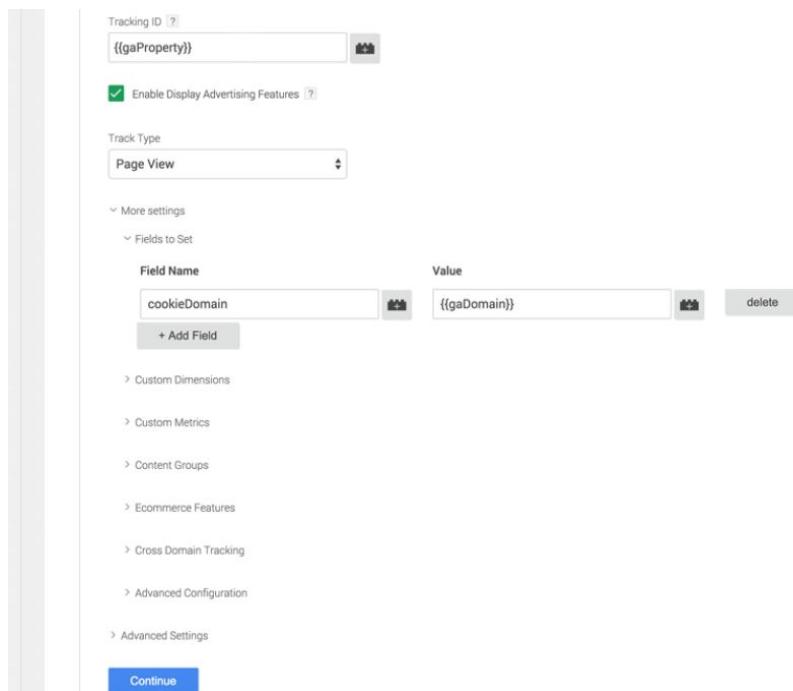
We'll set the value to *The Great Outdoor's* domains: "greatoutdoorsretail.com" and "greatoutdoorstraveladventures.com," separated by a comma. Then click "Create Variable."



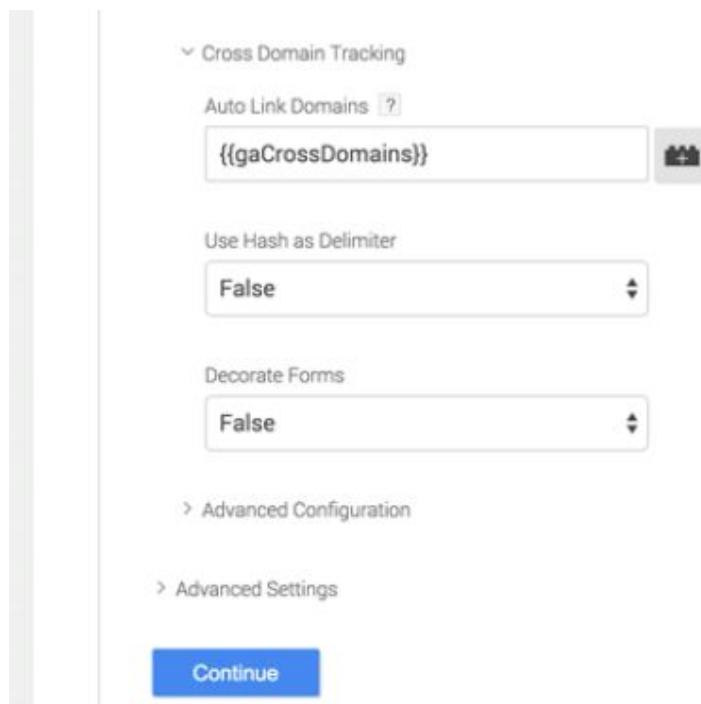
6.3 Adding cross-domain variables to Universal Analytics

Once we've set up our cross-domain variables, we'll need to add them to the Universal Analytics "Page View" tag we installed previously. Click "Tags." Then select the "Page View" tag we set up earlier.

To set up the cookie domain, under "Configure Tag," click the "Edit" icon. Then click "More Settings." Then click "Fields to Set." And click "Add Field." In the Field Name area, we'll type "cookieDomain." To set the value to the first variable we created, click the Value selector button. Then select `{{gaDomain}}`.



Now click “Cross Domain Tracking.” Click on the selector for Auto Link Domains. Then select the `gaCrossDomains` variable we created earlier. Leave the “Use Hash as Delimiter” and “Decorate forms” fields as false. These help you pass query string and form information across multiple domains, so we don’t need to worry about these right now.



Click “Continue.” Then click "Save Tag."

When you publish these changes, you'll be able to use your Google Analytics "Page View" tag to track across different domains. You should see real-time traffic in Google Analytics being captured from each domain that you're tracking.

6.4 Further reading

Setting up cross-domain tracking: https://support.google.com/tagmanager/answer/6106951?hl=en_US

7 How the Data Layer works

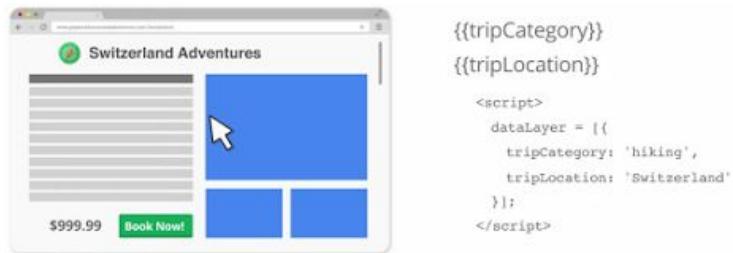
The Data Layer in Tag Manager is a Javascript object that holds data such as custom event information or variables passed from your website. Information in the Data Layer is structured into key-value pairs, which may be passed to third-party applications like Google Analytics or used as a trigger to determine when tags should fire.

There are **two ways** to populate the Data Layer with these key-value pairs.

7.1 Pre-populating values in the data layer

The first way is to pre-populate values in the Data Layer when a web page loads. Let's look at an example. *The Great Outdoors* offers a number of different travel packages on their *Travel Adventures* website based on trip category and location. They could implement a Data Layer variable called `{{tripCategory}}` whose value is set on each page of the site that offers a different vacation. This could include categories like "hiking," "skiing," "scuba," and more.

They could similarly add a variable called `{{tripLocation}}` with a value for each trip destination.



If *The Great Outdoors* wants to show ads to users who have previously visited a particular category and vacation destination, they could create a trigger based on a page view. This trigger could add a condition that the variables `{{tripCategory}}` and `{{tripLocation}}` be equal to the trip category "hiking," and the location "Switzerland." When this condition is true, the trigger will fire a tag that shows a hiking ad for Switzerland. This will lead the user back to the booking page for Switzerland hiking vacations. The tag can then access these values and fire when the page loads, as long as the Data Layer code is placed before your container code snippet.

7.2 Javascript push into the Data Layer

The second way of populating data is to use a Javascript method to push values from your web page into the Data Layer directly. For example, *The Great Outdoors Travel Adventures* has a shopping cart where users can add trips asynchronously without needing to refresh the page. The Great Outdoors could write Javascript that pushes this information to the Data Layer when the user selects a trip to be purchased.



This offers a way to collect data, independent of the tags that load with a page.

It's important to note that Data Layer variables don't persist across pages automatically. If you wish to pass a value to the Data Layer on additional pages, you'll need to write custom code to do so.

As you can see, it's helpful to use the Data Layer, not only to pass data into other applications, but as a separate area to write and edit code that won't be broken by changes to your website.

7.3 Further reading

Implementing the Data Layer: https://developers.google.com/tag-manager/devguide?hl=en_US

Tags, Triggers, Variables, and the Data Layer: https://support.google.com/tagmanager/answer/6103657?hl=en_US

Using the Data Layer with mobile apps:

<https://developer.android.com/reference/com/google/android/gms/tagmanager/DataLayer.html>

8 How to collect static values using Data Layer variables

You can use user-defined variables that collect static values specific to your website to create Custom Dimensions for more detailed analysis in Google Analytics.

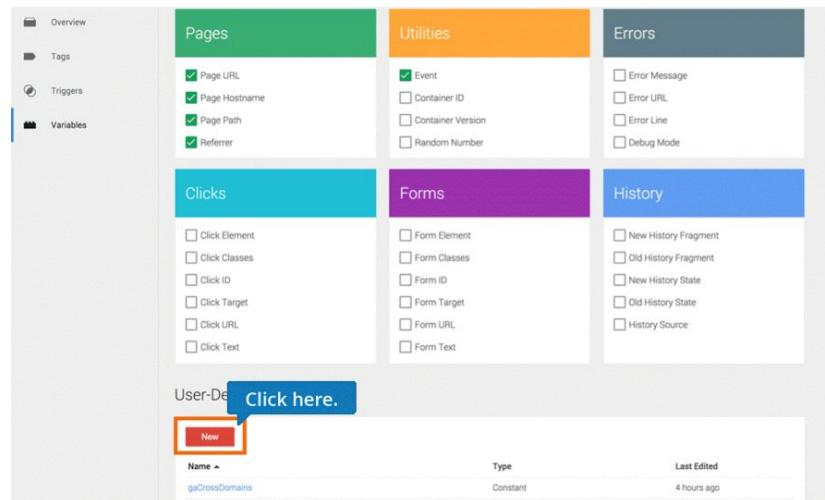
The screenshot shows the Google Tag Manager interface in 'Container' mode. The left sidebar has 'Variables' selected. The main area displays a 'New Tag' card with 'Choose from over 20 tag types.' and an 'Add a new tag' button. Below it is an 'Add a Note' card with a note about capturing information. To the right are three cards: 'Now Editing Version 2' (Last updated 4 hours ago by johikergtm@gmail.com), 'Unpublished Changes' (1 Tag, 0 Triggers, 3 Variables), and 'Last Published Version 1' (Published 4 hours ago by johikergtm@gmail.com). At the bottom is a 'Recent Activity' table showing six recent actions by johikergtm@gmail.com, all occurring 4 hours ago.

8.1 Create a user-defined Data Layer variable

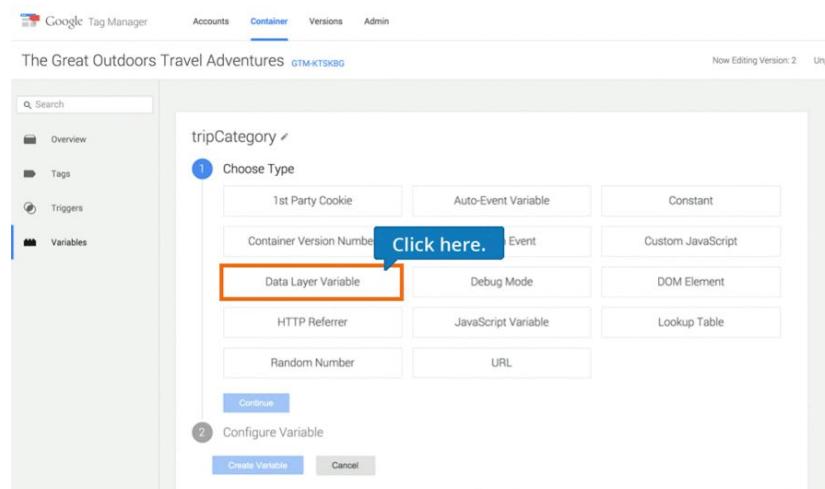
To collect the hard-coded value “Trip Category,” let’s first create a user-defined Data Layer variable that tells Tag Manager when to collect this information. In the left-hand navigation, click “Variable.”

This screenshot is identical to the one above, but includes a blue speech bubble with the text 'Click here.' pointing to the 'Variables' link in the left sidebar. The rest of the interface and data are the same as the previous screenshot.

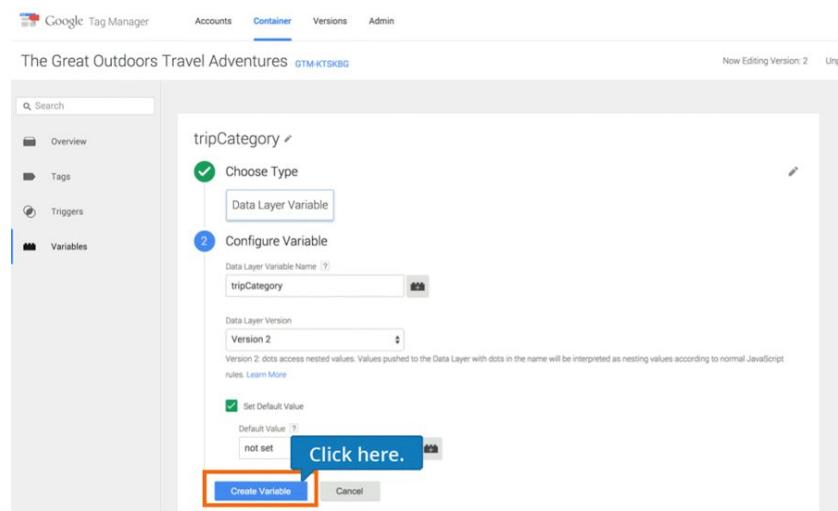
Then scroll down and select “New.”



Since we plan to use the Data Layer to get these values, choose “Data Layer Variable.”



Then we'll title the variable “tripCategory” and enter the variable name tripCategory. We'll leave the Data Layer version as the latest version available. Now check the “Set Default Value” checkbox. In case the script breaks and doesn't pick up the values as expected, in the Value field, we'll add “not set.” Then select: “Create Variable.”



We can create the “Trip Location” variable in the same fashion.

8.2 Add the Data Layer

Now we'll need to add the Data Layer to the “Destinations” page of the *Travel Adventures* site. We'll leave the Data Layer empty, since we're not hard-coding any values into it directly.

Because *The Great Outdoors* wants to collect the category and location of each vacation package for their custom dimensions, their web developers can set up a “data layer push” method on the “Details” buttons. Using this method, *TheGreat Outdoors* can add hard-coded variables for tripCategory and tripLocation, setting them up as key-value pairs in the Data Layer.

The screenshot shows a browser window with the URL 'Great Outdoors Travel Adventures Destinations'. The page displays two destination cards: 'Switzerland' and 'Puerto Rico'. The Switzerland card features a photo of a skier and a green 'Book This Trip' button. The Puerto Rico card features a photo of palm trees. Above the browser window, a code editor shows the source code for the 'Destinations' page. The code includes three anchor tags with 'btn btn-primary' classes and href attributes pointing to '#switzerland', '#puertorico', and '#providence'. Each anchor tag has an onclick attribute that calls 'dataLayer.push()' with an object containing 'tripCategory' and 'tripLocation' properties. The code is as follows:

```

1 <a class="btn btn-primary" href="#switzerland"
2   onclick="dataLayer.push({
3     'tripCategory': 'skiing',
4     'tripLocation': 'Switzerland'});
5   >Details</a>
6 <a class="btn btn-primary" href="#puertorico"
7   onclick="dataLayer.push({
8     'tripCategory': 'scuba-snorkeling',
9     'tripLocation': 'Puerto Rico'});
10  >Details</a>
11 <a class="btn btn-primary" href="#providence"
12   >Details</a>

```

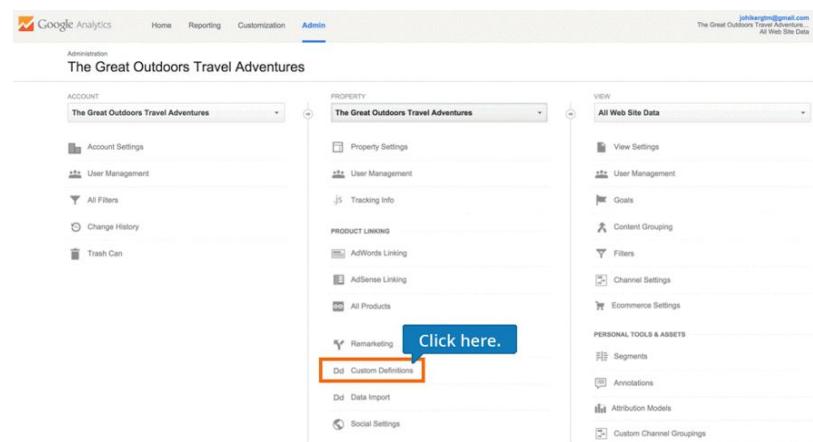
Now, when users click on the “Destinations” button, the Data Layer will capture the hard-coded trip category and location. But we still need to get that information from the Data Layer into Analytics.

8.3 Set up Custom Dimensions in Google Analytics

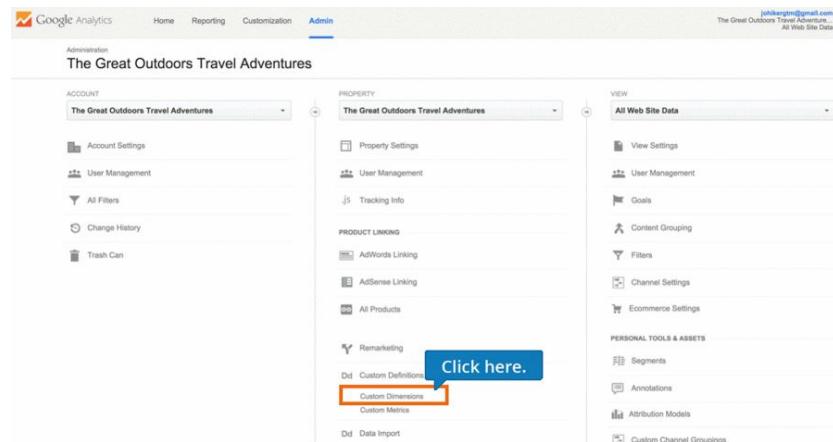
Since we want to include “Trip Category” and “Trip Location” as custom dimensions, we’ll need to set up the dimensions in Google Analytics. In Analytics, click “Admin.”



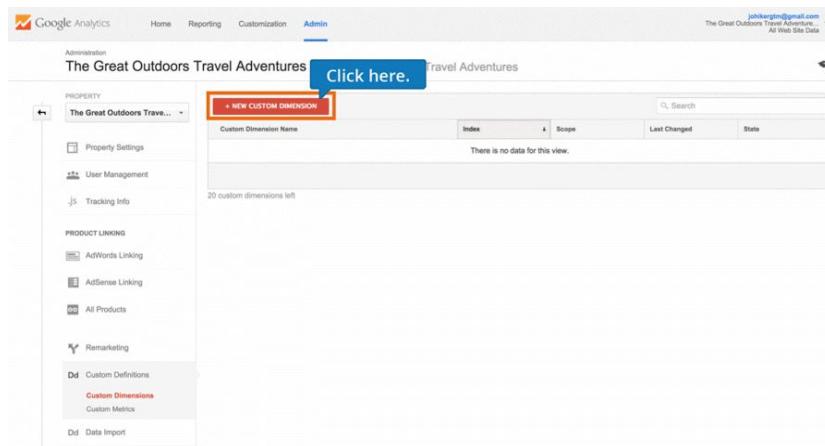
Under Property, select “Custom Definitions.”



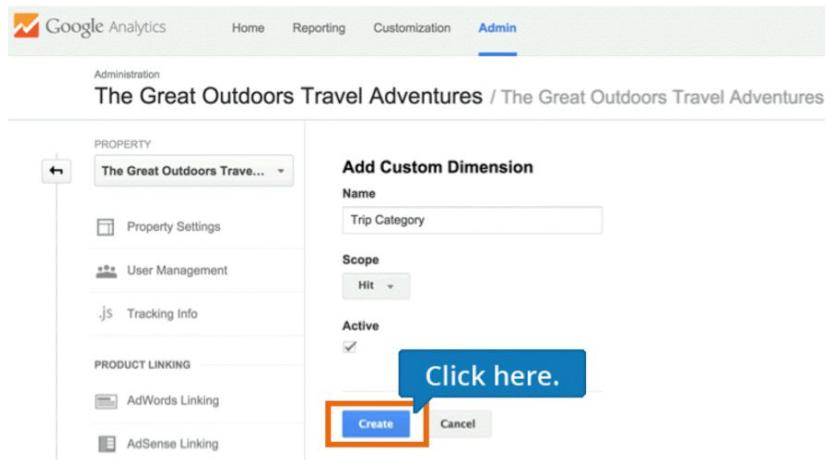
Then select “Custom Dimensions.”



Select “New Custom Dimension.”



Then we'll add the dimension name "Trip Category." We'll leave the scope set to "Hit" and keep "Active" checked. Now click "Create."



We can create our "Trip Location" dimension using the same steps.

Once we've created a dimension, Analytics will present us with a code snippet. Each snippet will have a dimension number (also called an index) that we'll need to enter in Tag Manager to map the Analytics "Page View" tag to the proper Custom Dimensions.

The screenshot shows the Google Analytics Admin interface. On the left, there's a sidebar with 'PROPERTY' and 'The Great Outdoors Travel Adventures' selected. Under 'PROPERTY', there are links for 'Property Settings', 'User Management', and 'Tracking Info'. Below that is 'PRODUCT LINKING' with 'AdWords Linking'. On the right, under 'Created Custom Dimension', there's a section titled 'Example Codes for This Dimension' with code snippets for 'JavaScript (Only works for Universal Analytics properties)', 'Android SDK', and 'iOS SDK'.

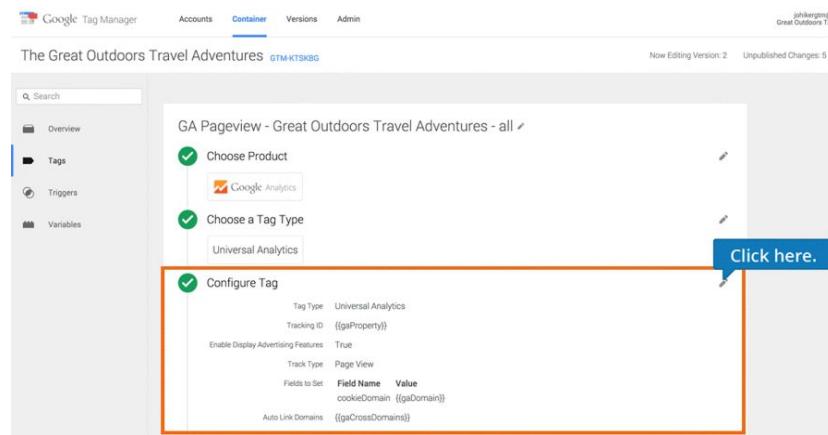
8.4 Update the Google Analytics tag in Tag Manager

Now that we've set up our Data Layer method and created our custom dimensions, we'll have to update our Google Analytics tag in Tag Manager to process the Data Layer variables as the custom dimensions we just created. Click "Tags" and once again select your Analytics "Page View" tag.

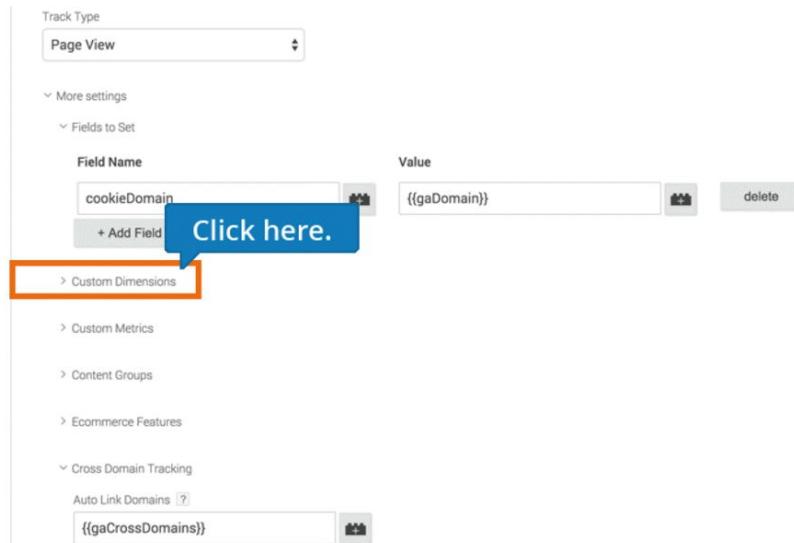
The screenshot shows the Google Tag Manager Container view. The top navigation bar has 'Container' selected. The main area shows a summary card for 'The Great Outdoors Travel Adventures' container, including 'Now Editing Version 2', 'Last updated 23 minutes ago by johikerm@gmail.com', and counts for 1 Tag, 0 Triggers, and 4 Variables. Below this is a 'Recent Activity' table showing four entries from the same user. On the left, a sidebar lists 'Overview', 'Tags' (which is highlighted with a red box), 'Triggers', and 'Variables'.

This screenshot shows the 'Tags' section within the Google Tag Manager Container view. A 'New' button is visible. A 'Click here.' callout points to the 'Name' field where 'GA Pageview - Great Outdoors Travel Adventures - all' is typed. Other fields shown include 'Firing Triggers' (set to 'All Pages') and 'Last Edited' (4 hours ago).

Now click into the "Configure Tag" section. Then select "More settings." Click "Custom Dimensions."



Then click “Add Custom Dimension.”



In the “Index” field, we’ll add the dimension (or index) number from Google Analytics, and in the “Dimension Value” field, we’ll map that number to the the Data Layer variables we created in Tag Manager.



The screenshot shows the 'Custom Dimensions' section of the GTM interface. On the left, there's a sidebar with links like 'Custom Metrics', 'Content Groups', and 'Ecommerce Features'. The main area shows an index of 1 and a dimension value of `{{ tripCategory }}`. A red box highlights 'tripCategory', and a blue callout bubble with the text 'Click here.' points to it.

To save the Analytics tag, click “Save Tag.”

8.5 Preview the tag

Now let’s view the *Travel Adventures* site in “Preview” mode. When we click on the “Variables” tab in the Preview window, we can see the Data Layer variable we set up, along with the string for the variable.

The screenshot shows a preview of the 'Great Outdoors Travel Adventures' website. At the bottom, the GTM preview interface has tabs for 'Summary', 'Tags', 'Variables' (which is highlighted with a red box), and 'Data Layer'. A blue callout bubble points to the 'Click here.' button on the website, which is also highlighted with a red box.

The screenshot shows the 'Variables' tab in the GTM preview interface. It lists variables with their details:

Variable	Type	Return Type	Value
tripCategory	Custom Event	string	'skiing'
tripLocation	Custom Event	string	'Switzerland'
gaCrossDomain	Constant String	string	'greatoutdoorsdetail.com, greatoutdoorstraveladventures.com'
caDomain	Constant String	string	'auto'

Now when we run a report in Google Analytics, we should be able to add the Custom Dimension and view data by how *The Great Outdoors* organizes their trip categories and trip locations.

8.6 Further reading

Pushing multiple variables to the data layer: https://developers.google.com/tag-manager/devguide?hl=en_US#multipush

Understanding variables: https://support.google.com/tagmanager/answer/6106899?hl=en_US#web

Custom dimensions in Google Analytics: https://support.google.com/analytics/answer/2709828?hl=en_US

9 How to collect dynamic values using Data Layer variables

Tag Manager lets you pass dynamic values such as revenue from your website into Custom Metrics that you can use in Google Analytics to analyze things like purchase behavior.

9.1 Create a user-defined Data Layer variable

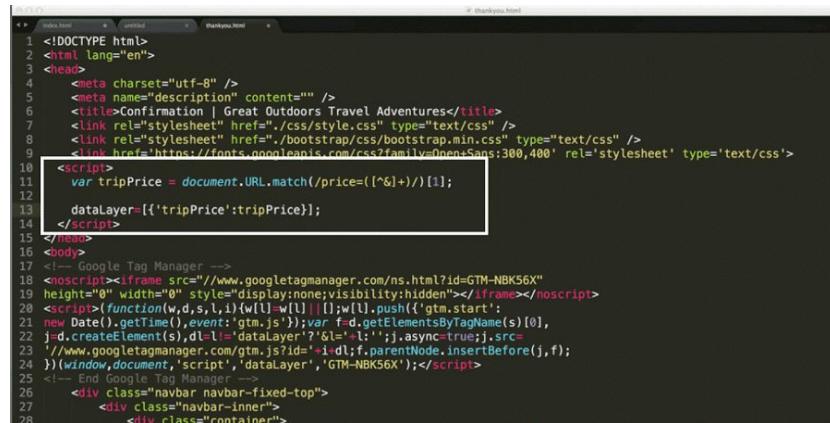
To set this up, let's create a user-defined Data Layer variable for "Trip Value." Click "Variable." Then we'll scroll down.

Now select "New." Next, choose "Data Layer Variable." We'll title the variable "tripValue" and enter the variable name "tripValue." We'll leave the Data Layer version as the default. Then we'll select "Create Variable."

9.2 Add the Data Layer

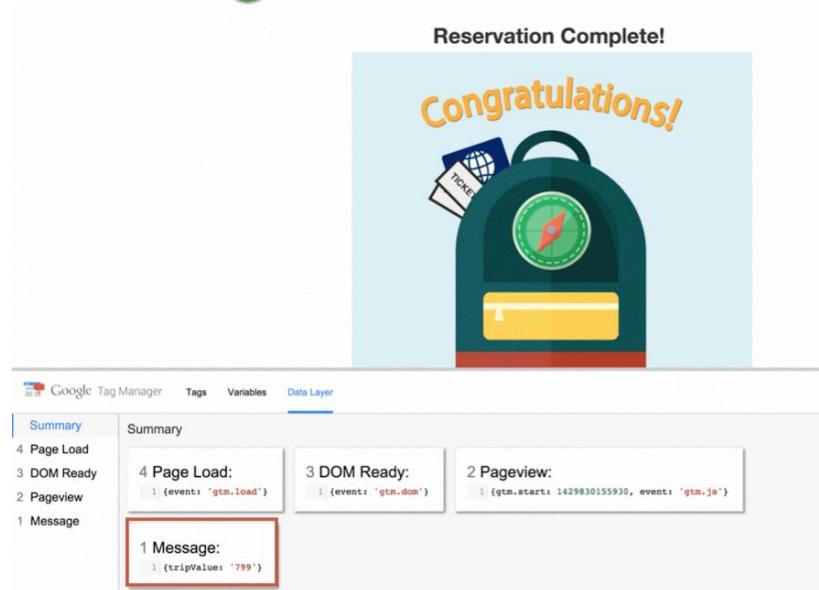
Next, we'll add the Data Layer code to the Trip Purchase "Thank You" page that passes the total trip value from the URL to the Data Layer.

Now we can write some JavaScript code that extracts the trip price from the URL using a variable called tripPrice. Using this variable, we can then push the trip price to the Data Layer object.



```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="utf-8" />
5   <meta name="description" content="" />
6   <title>Confirmation | Great Outdoors Travel Adventures</title>
7   <link rel="stylesheet" href=".//css/style.css" type="text/css" />
8   <link rel="stylesheet" href=".//bootstrap/css/bootstrap.min.css" type="text/css" />
9   <link href="https://fonts.googleapis.com/css?family=Open+Sans:300,400" rel="stylesheet" type='text/css'>
10 <script>
11   var tripPrice = document.URL.match(/price=(\d+)>)[1];
12
13   dataLayer=[{'tripPrice':tripPrice}];
14 </script>
15 </head>
16 <body>
17 <!-- Google Tag Manager -->
18 <noscript><iframe src="http://www.googletagmanager.com/ns.html?id=GTM-NBK56X" height="0" width="0" style="display:none;visibility:hidden"></iframe></noscript>
19 <script>(function(w,d,s,l,i){wl=w[l]||[];wl.push({'gtm.start':
20   new Date(),event:'gtm.js'});var f=d.getElementsByTagName(s)[0],
21   j=d.createElement(s),dl=wl.dataLayer?&l=+l:'';j.async=true;j.src=
22   '//www.googletagmanager.com/gtm.js?id='+i;f.parentNode.insertBefore(j,f);
23 })(window,document,'script',dataLayer,'GTM-NBK56X');</script>
24 <!-- End Google Tag Manager -->
25 <div class="navbar navbar-fixed-top">
26   <div class="navbar-inner">
27     <div class="container">
```

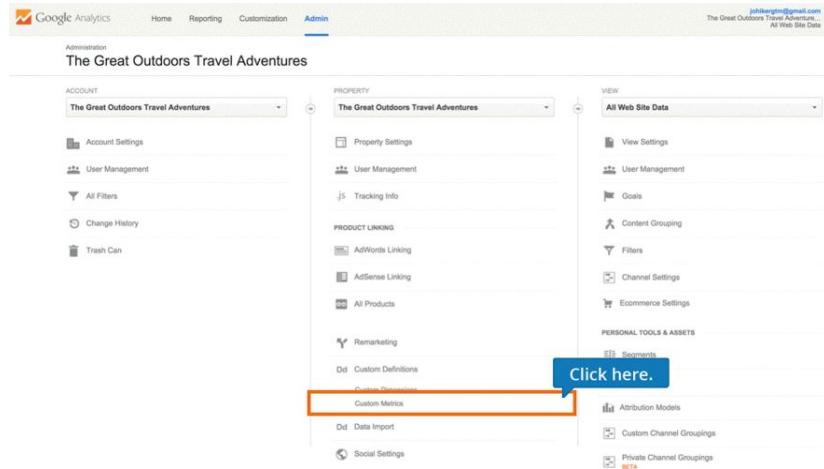
When users complete a purchase, we should see the value of the purchase passed into the Data Layer as the tripValue variable we just created. We can confirm this by placing our container in Preview Mode and looking at the Data Layer status for the loaded page.



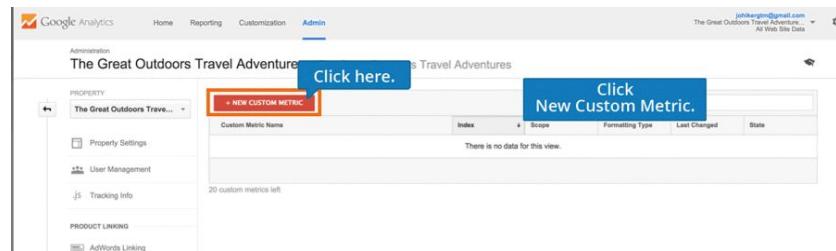
9.3 Set up a Custom Metric in Google Analytics

Since *The Great Outdoors* uses Universal Analytics, we can set up a Custom Metric to collect the trip amount. Custom Metrics are set up similarly to Custom Dimensions.

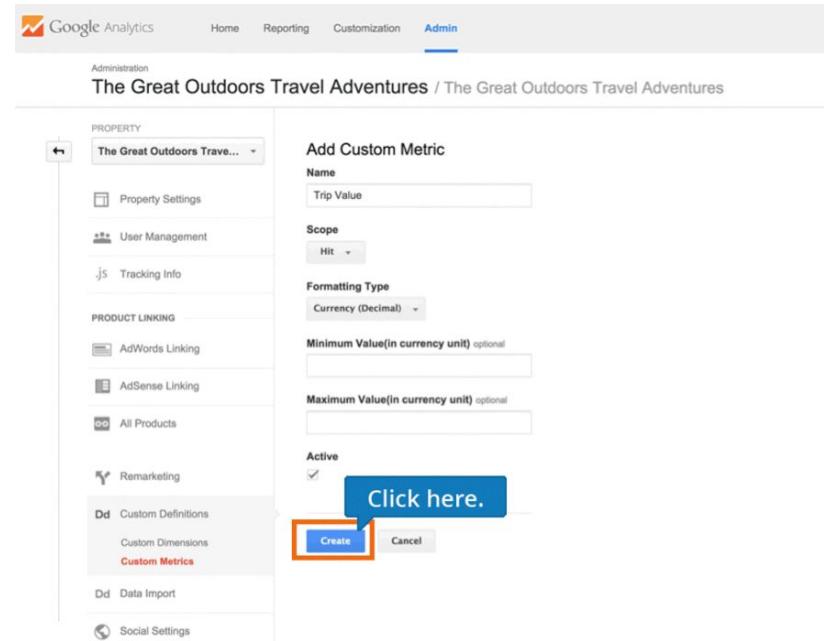
Click “Admin.” Then under “Property,” select “Custom Definitions.” Then “Custom Metrics.”



Now click “New.”



We'll name this Custom Metric "Trip Value." We'll leave the scope set to "Hit." Since we're tracking a transaction amount, set the "Formatting Type" to "Currency (Decimal)." We won't include any minimum or maximum values, since we want all transactions to be recorded. Also, make sure the "Active" checkbox is checked, so that the custom metric is live. To save this metric, Click "Create."

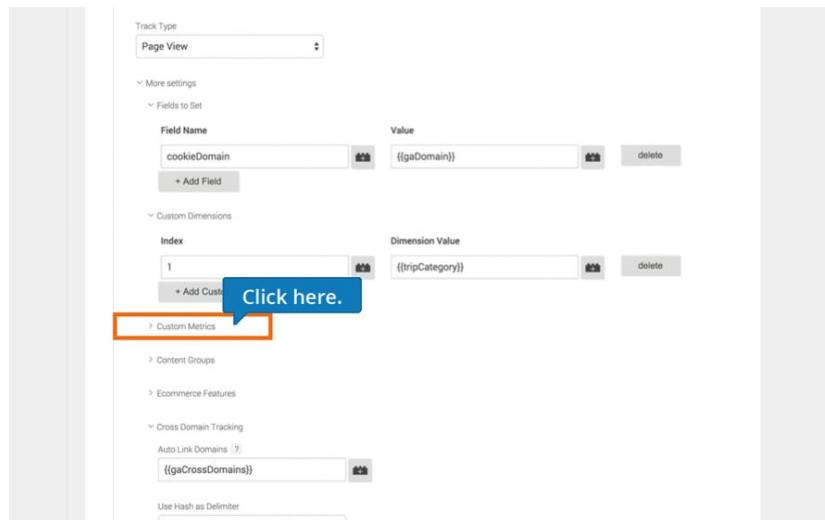


As with Custom Dimensions, Custom Metrics will present you with an index number that we'll use to map back to Tag Manager.

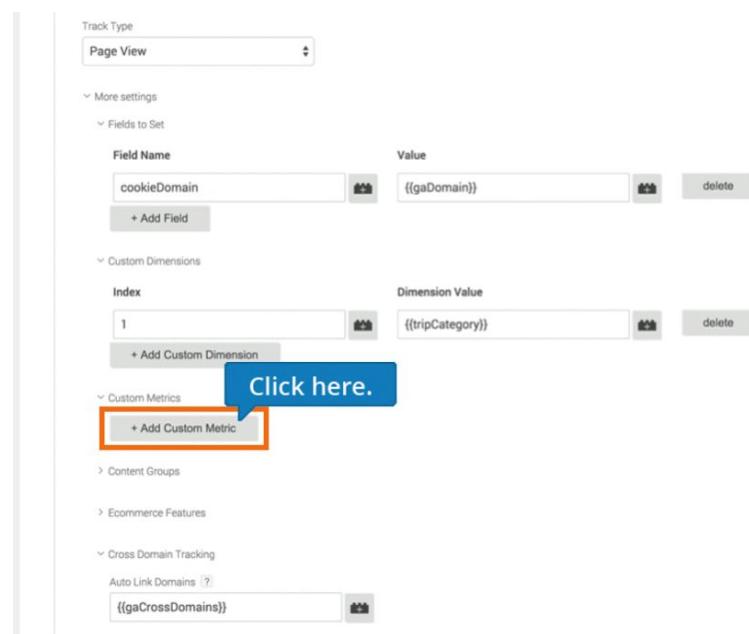
9.4 Update the Google Analytics tag in Tag Manager

Similar to our "Trip Category" and "Trip Location" dimensions, we'll have to update our Google Analytics tag within Tag Manager.

Click "Tags." Then select your Analytics "Page View" tag. Now click on the "Configure Tag" section. Then select "More settings." Click "Custom Metrics."



Then click “Add Custom Metric.”



In the “Index” field, we’ll add the index number for the “Trip Value” metric from Google Analytics. In the “Metric Value” field, we’ll add the name of the Data Layer variable we created.

The screenshot shows the 'Fields to Set' section in Google Tag Manager. It includes fields for 'Field Name' (set to 'cookieDomain') and 'Value' (set to '{{gaDomain}}'). Below this is a 'Custom Dimensions' section with an index of 1 and a dimension value of '{{tripCategory}}'. Under 'Custom Metrics', there is an index of 1 with a metric value of '{{tripValue}}'. A blue callout box with the text 'Click here.' points to the 'tripValue' option in the dropdown menu. Other options in the dropdown include 'gaProperty', 'gaDomain', 'gaCrossDomains', 'tripCategory', 'Page URL', 'Page Hostname', 'Page Path', and 'GaReferrer'.

Click "Continue." Then click "Save Tag."

9.5 Build a Custom Report in Google Analytics

Now that we've set up our Custom Metric and mapped it back to Tag Manager, we can build a Custom Report in Google Analytics to view the transaction data.

In Google Analytics, at the top, click "Customization."

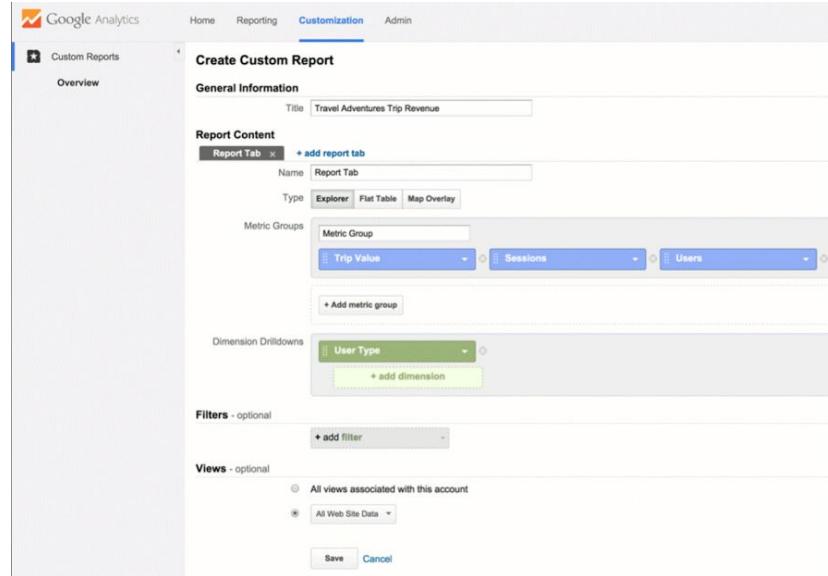
The screenshot shows the Google Analytics interface with the 'Reporting' tab selected. At the top, there is a navigation bar with 'Home', 'Reporting', 'Customization' (which has a blue callout box pointing to it), and 'Admin'. Below the navigation bar is a date range selector showing 'Mar 24, 2015 - Apr 23, 2015'. The main area displays a table with three rows: 'The Great Outdoors Travel Adventures', 'The Great Outdoors Travel Adventures (UA-62182702-1)', and 'All Web Site Data'. The 'All Web Site Data' row shows metrics: Sessions (5), Avg. Session Duration (00:03:14), Bounce Rate (40.00%), and Goal Conversion Rate (0.00%). A blue callout box with the text 'Click here.' is positioned above the table.

Then click "New Custom Report."

The screenshot shows the Google Analytics interface with the 'Customization' tab selected. In the left sidebar, 'Custom Reports' is selected. The main area shows a 'Custom Reports' section with a 'Title' input field and a 'Creation Date' placeholder. A blue callout box with the text 'Click here.' is positioned above the 'Title' input field. There is also a '+ New Category' and 'Import from Gallery' button. A blue callout box with the text 'Click here.' is also present near the bottom of the 'Custom Reports' section.

We'll title the report "Travel Adventures Trip Revenue." Then we'll add the "Trip Value" Custom Metric we just created, as well as metrics for "Users" and "Sessions."

We can apply a dimension to measure the trip revenue. We'll choose "User Type" in order to see which types of users are responsible for this revenue.



To save this custom report, click "Save."

Using this method, we can capture the total *Great Outdoors Travel Adventures* revenue collected. We could also determine the Average Revenue by dividing the Revenue by the number of users or sessions.

9.6 Further reading

Custom metrics in Google Analytics: https://support.google.com/analytics/answer/2709828?hl=en_US#example-metrics

Custom Dimensions and Metrics - Web Tracking:

https://developers.google.com/analytics/devguides/collection/analyticsjs/custom-dims-mets?hl=en_US

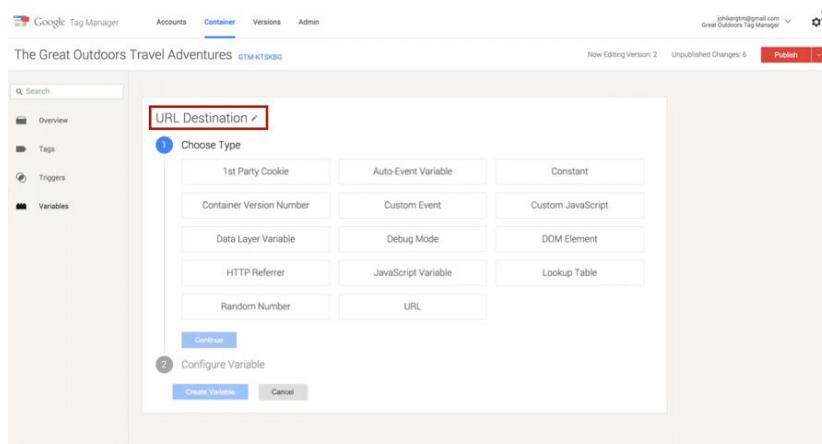
10 How to track events using URL variables

With Tag Manager, you can use an event trigger to track specific actions on your website such as the number of times users watch a video or click a button.

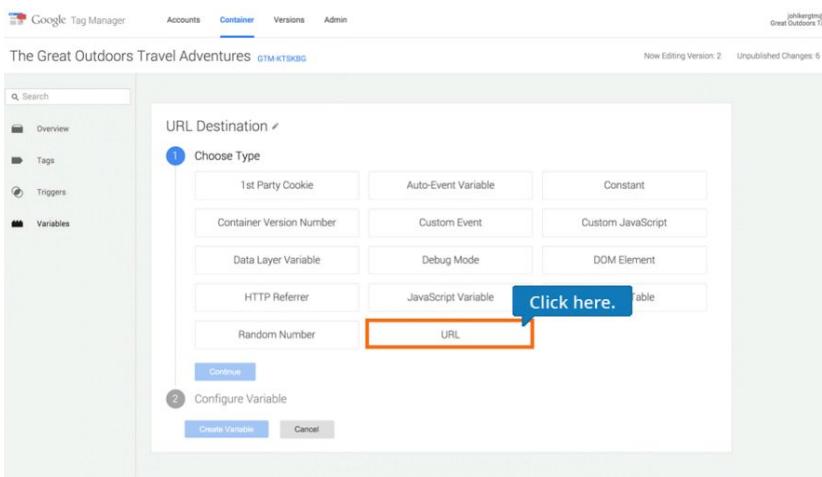
10.1 Set up a user-defined URL variable

To track every time users click the “Book Now” button on the *Travel Adventures* site, we’ll first need to set up a user-defined URL variable. In Tag Manager, click “Variables.” Then scroll down and select “New.”

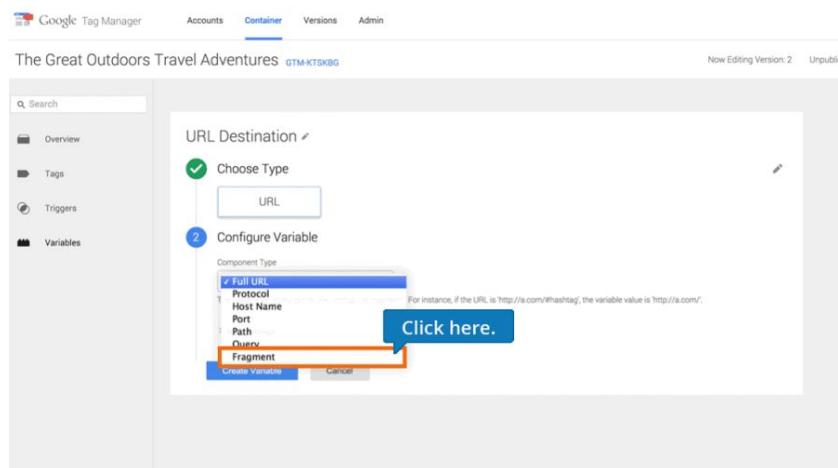
We’ll title this variable “URL Destination.”



Since we want to track the URL where “Book Now” button-clicks occur, choose the tag type “URL.”



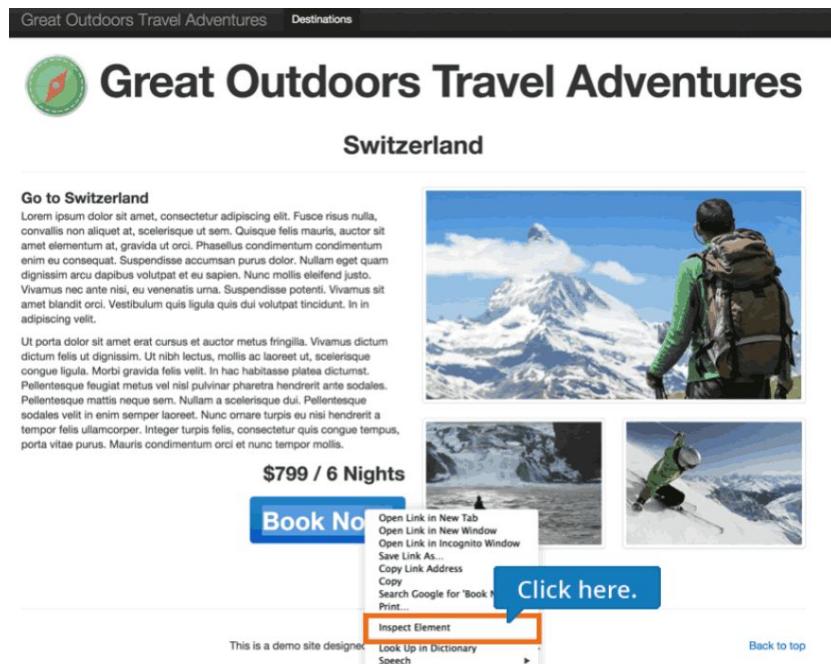
Because we only need to track the part of the URL that contains the country name, choose the component type “Fragment.”



This will grab everything in the URL after the “hash” symbol. For instance, *The Great Outdoors* URL for the Switzerland vacation page would simply return “switzerland.” Click “Create Variable.”

10.2 Set up the event trigger

Now that we’ve set up our user-defined variable, we’ll need to create an event trigger that will fire when the “Book Now” button is clicked. On the *Travel Adventures* website, if we inspect the element for the button, we can see that there’s a class called “booknow” available on the “Book Now” button.



Switzerland

Go to Switzerland
 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Fusce risus nulla, convallis non aliquet at, scelerisque ut sem. Quisque felis mauris, auctor sit amet elementum at, gravida ut orci. Phasellus condimentum condimentum enim eu consequat. Suspendisse accumsan purus dolor. Nullam eget quam dignissim arcu dapibus volutpat et eu sapien. Nunc mollis eleifend justo. Vivamus nec ante nisi, eu venenatis urna. Suspendisse potenti. Vivamus sit amet blandit orci. Vestibulum quis ligula quis dui volutpat tincidunt. In in adipiscing velit.

Ut porta dolor sit amet erat cursus et auctor metus fringilla. Vivamus dictum dictum felis ut dignissim. Ut nibh lectus, mollis ac laoreet ut, scelerisque congue ligula. Morbi gravida felis velit. In hac habitasse platea dictumst. Pellentesque feugiat metus vel nisl pulvinar pharetra hendrerit ante sodales. Pellentesque mattis neque sem. Nullam a scelerisque dul. Pellentesque sodales velit in enim semper laoreet. Nunc ornare turpis eu nisl hendrerit a tempor felis ullamcorper. Integer turpis felis, consectetur quis congue tempus, porta vitae purus. Mauris condimentum orci et nunc tempor mollis.

\$799 / 6 Nights

Book Now!





The screenshot shows the browser's developer tools (Elements tab) with the DOM structure of the travel advertisement. A red box highlights the 'Book Now!' button, which has the class 'booknow btn-large'. The right panel shows the CSS styles for the 'h1' element, which includes a font size of 1em, line height of 1.2, and a color of #0072bc.

```

<div class="row">
  <div class="span6 align-left">
    <h3>Go to Switzerland</h3>
    <div></div>
    <div style="text-align:right;">
      <a href="/checkout.html" class="btn 'booknow' btn-large">
        <h1>Book Now!</h1>
      </a>
    </div>
  </div>
</div>

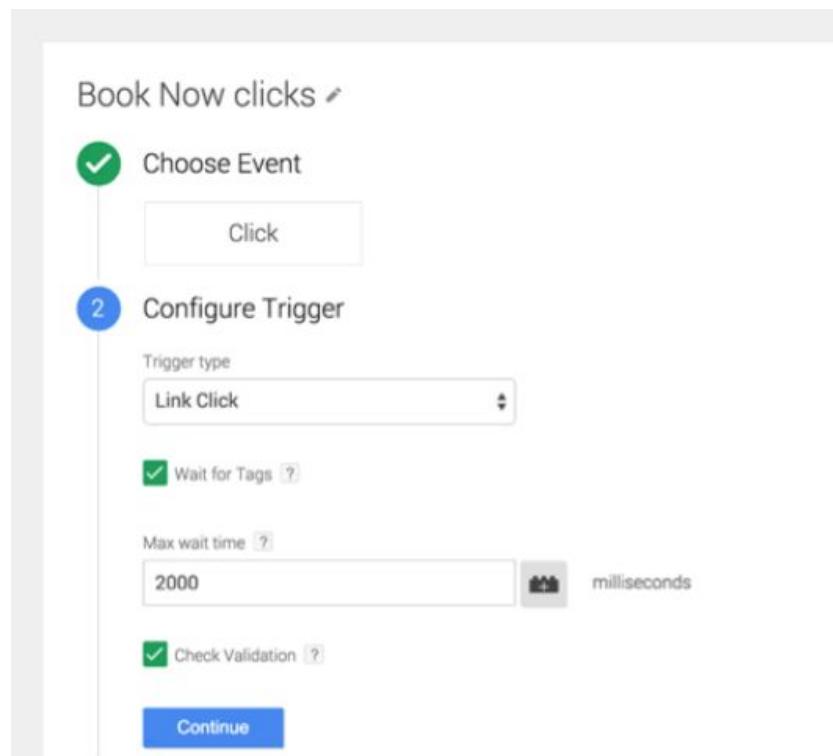
```

Since Tag Manager already has a built-in variable that can be used with classes, we can use this to set up an event trigger. To enable the variable, click “Variables.” Then click the checkbox next to “Click Classes.”

The screenshot shows the Google Tag Manager interface under the 'Container' tab. The sidebar shows 'Variables' selected. The main area displays 'Enabled Built-In Variables' with several categories: Pages, Utilities, Errors, Clicks, Forms, and History. The 'Clicks' section is highlighted with a blue box and contains a 'Click here.' button. A red box highlights the 'Click Classes' checkbox under the 'Clicks' section, which is currently unchecked.

Next, we'll need to set up the event trigger. Click “Triggers.” Then click “New.”

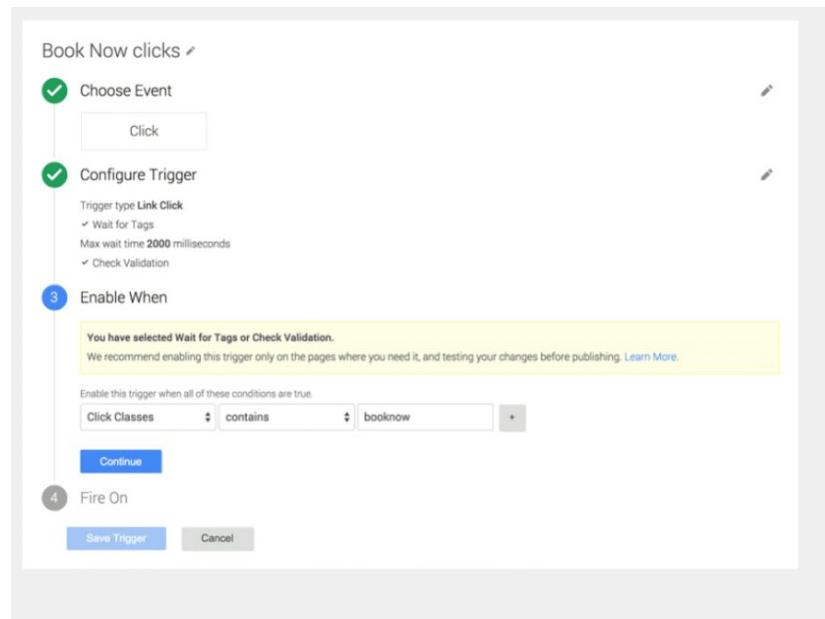
We'll name this event trigger “Book Now clicks.” Since we want to track clicks, select the Event Type as “Click.” Then select “Continue.”



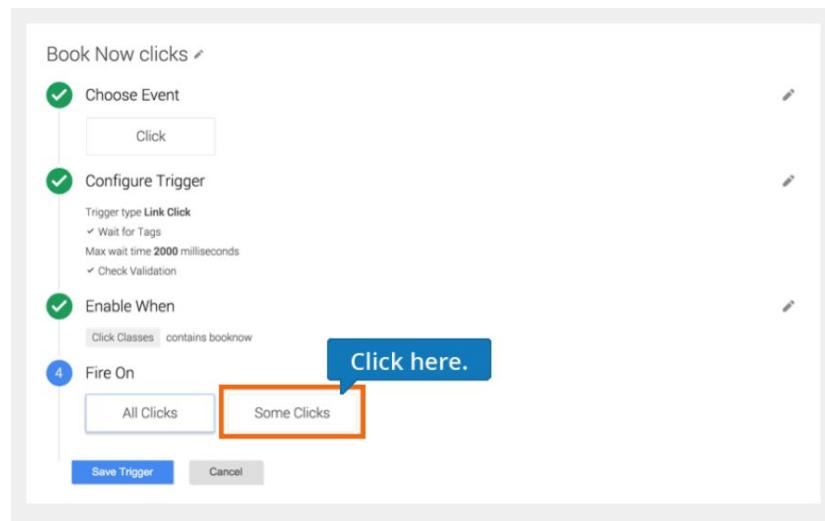
Because “Book Now” is an HTML link styled as a button, to configure the trigger, select “Link Click.” We’ll leave “Wait for Tags” checked and “Max wait time” at “2000” to give the tag time to fire after users click “Book Now.” Then click “Continue.”

Note the message that comes up, warning you to be careful that no other scripts interrupt this process.

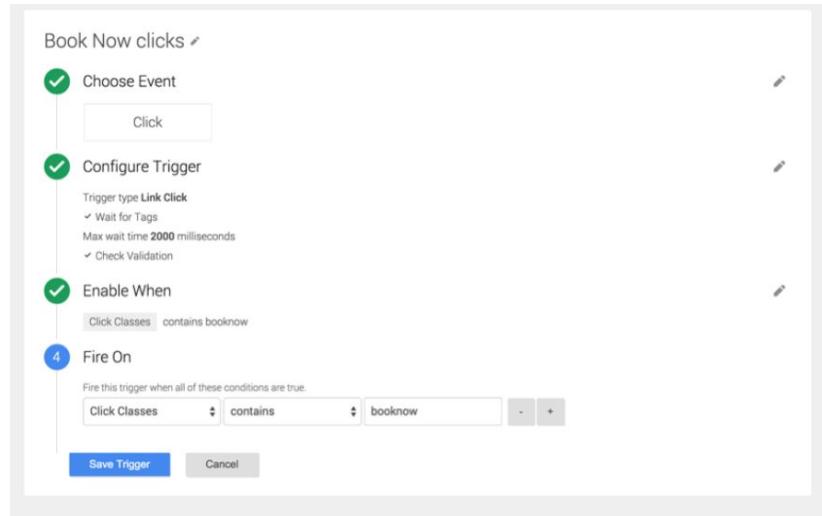
Now, in the “Enable When” section, we need to set up the trigger to be available when the “booknow” class is present. Select the variable “element classes” in the first pulldown menu. Then select the operator “contains.” Finally, we’ll enter the value “booknow.” Then click “Continue.”



Because we only want the trigger to fire when users click the “Book Now” button, in the “Fire On” section, choose “Some Clicks.”



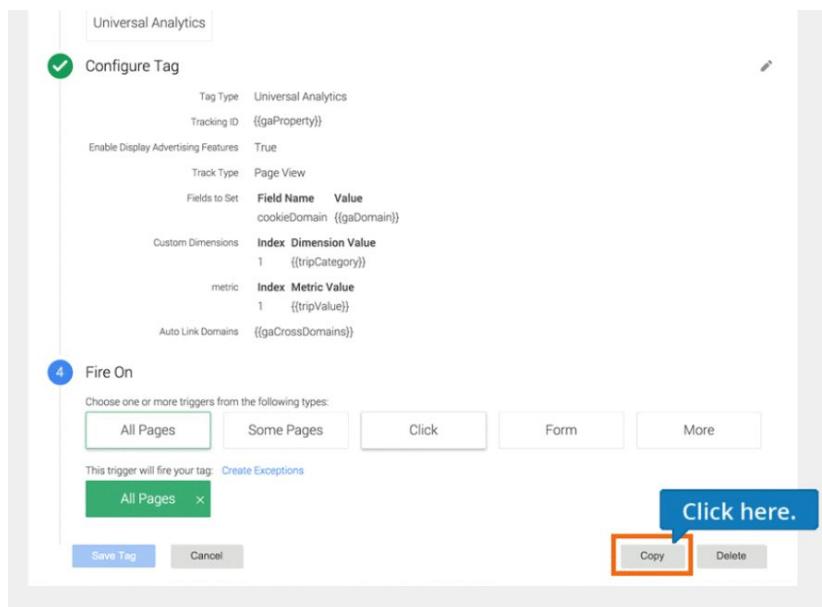
Then, similar to when we enabled the trigger, we'll need to set the same parameters for the trigger to fire. Select the variable “element classes” in the first pulldown menu. Then select the operator “contains.” Finally, we'll enter the value “booknow.” Then click “Save Trigger.”



10.3 Copy the Google Analytics tag

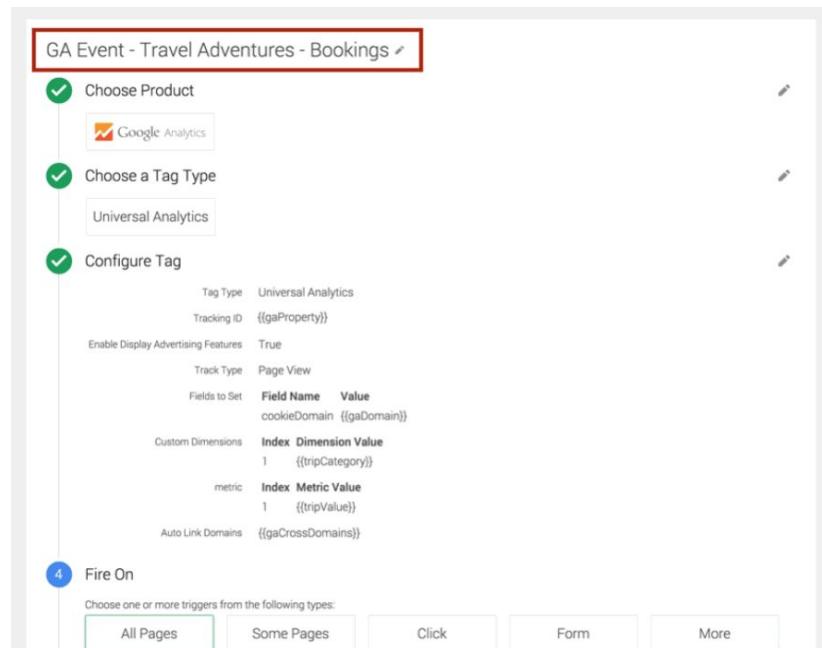
Now that we've set up our built-in variable and created our trigger, we'll need a Google Analytics event tag that will fire whenever the "Book Now" button is clicked. Instead of recreating the tag from scratch, we can copy the existing Analytics "Page View" tag, so it will include all the configurations we've made so far such as cross-domain tracking.

Click "Tags." Then select the Analytics "Page View" tag. At the bottom right, select "Copy."

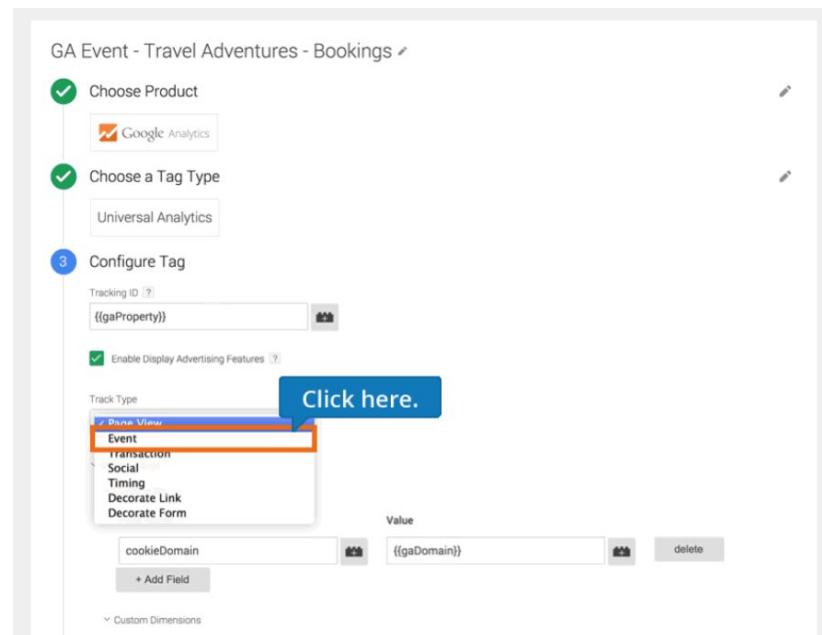


10.4 Update the Analytics tag configurations

Notice the new title that shows we've made a copy of this tag. Then let's update the name to reflect our new tag.



Click the section “Configure Tag.” Now change the track type from “Page View” to “Event.”



Notice when you select “Event,” additional fields for Category, Action, Label and Value appear.

We can name our Category parameter anything we like, so to help us sort our data in Google Analytics, we'll call it “Bookings.” So we know which button is getting clicked, we'll set our Action parameter to “Book Now.” For Label, to the right of the field, click the selector icon. Then select the variable we created earlier called “URL Destination.” The Value field is optional, so we'll leave it blank for now. Since we don't need to worry about this event affecting our bounce rate, we'll leave Non-Interaction hit set to “False.” Now click “Continue.”

Enable Display Advertising Features [?](#)

Track Type
Event

Event Tracking Parameters

Category
Bookings

Action
Book Now

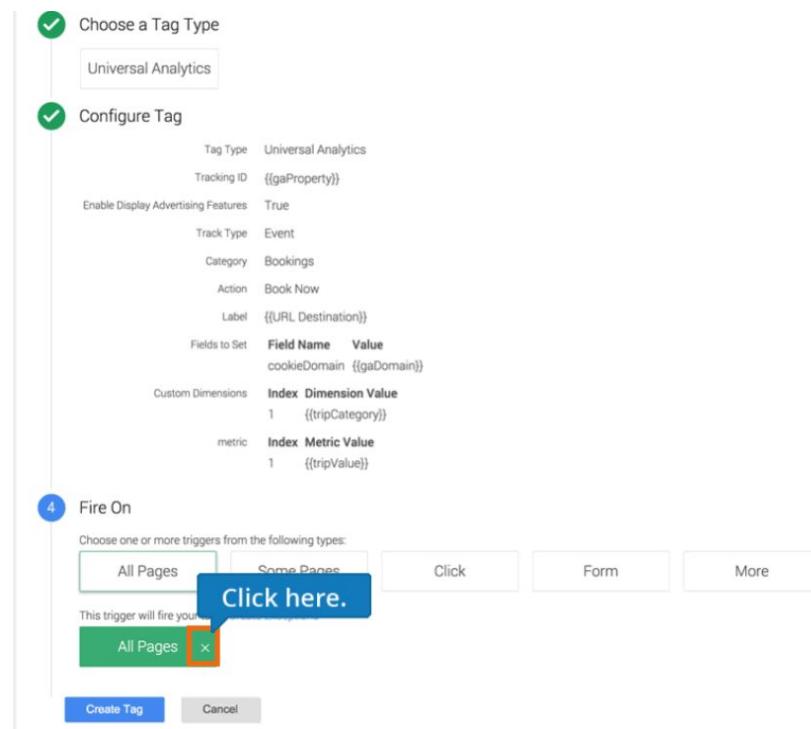
Label
{{URL Destination}}

Value

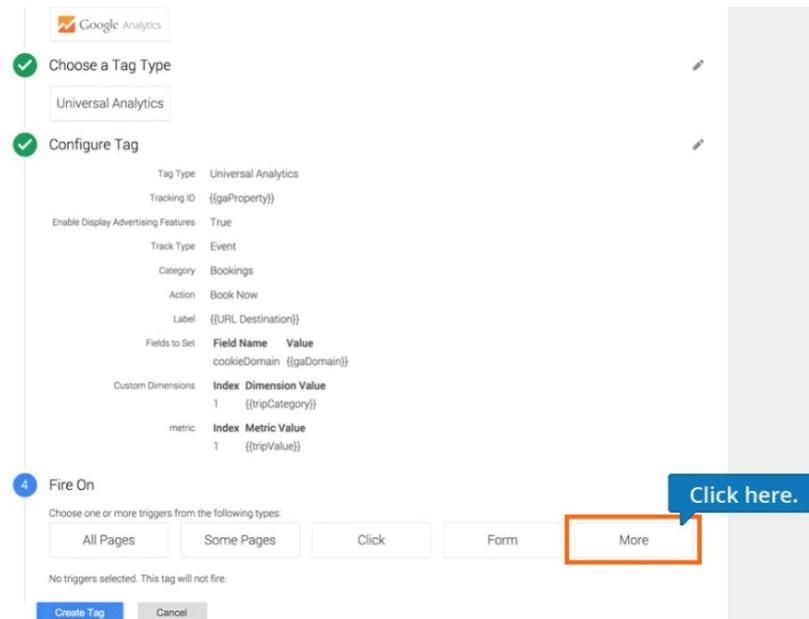
Non-Interaction Hit
False

The screenshot shows the 'Event' configuration screen in Google Tag Manager. It includes sections for Category ('Bookings'), Action ('Book Now'), Label ('{{URL Destination}}'), and Value. A 'Non-Interaction Hit' dropdown is set to 'False'. At the top, there's a checked checkbox for 'Enable Display Advertising Features'.

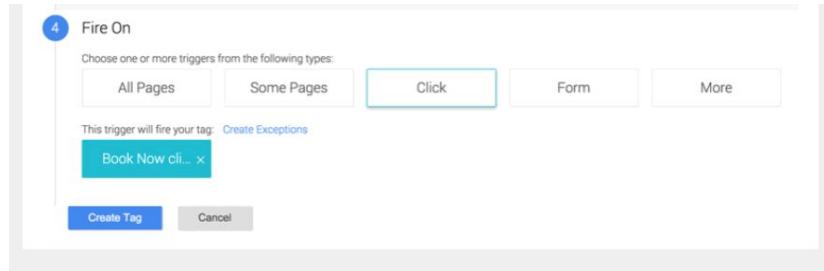
In the “Fire On” section, since we want to track clicks from the “Book Now” button, choose “Click.” Since we only want the tag to fire when the “Book Now” button is clicked, remove the “All Pages” trigger by clicking the “x” next to “All Pages.”



Then select “More.”



A dialog box will open showing your available triggers. Select the “Book Now clicks” trigger you created earlier. Then click “Save.” To finish, click “Create Tag.”



Now that we've set up event tracking on the *Travel Adventures* "Book Now" button, we can see the bookings in Google Analytics and divide that number by the total number of users to derive the Booking Conversion Rate.

10.5 Further reading

About Events: https://support.google.com/analytics/answer/1033068?hl=en_US

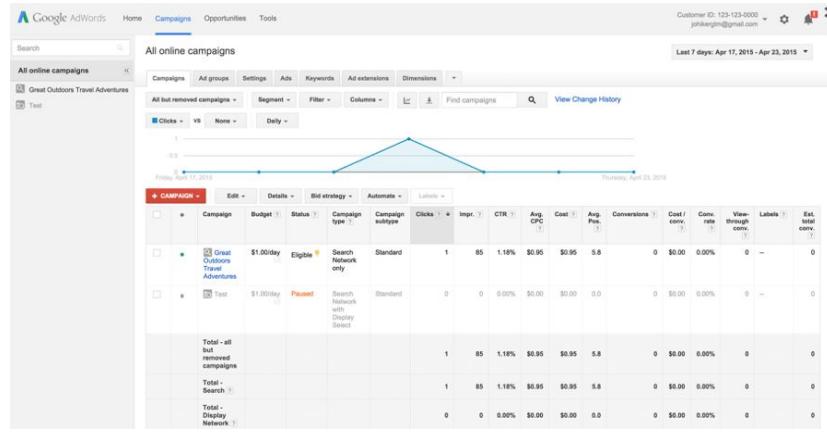
Google Analytics Event tracking: https://support.google.com/tagmanager/answer/6106716?hl=en_US

Event tracking - Web Tracking:

https://developers.google.com/analytics/devguides/collection/analyticsjs/events?hl=en_US

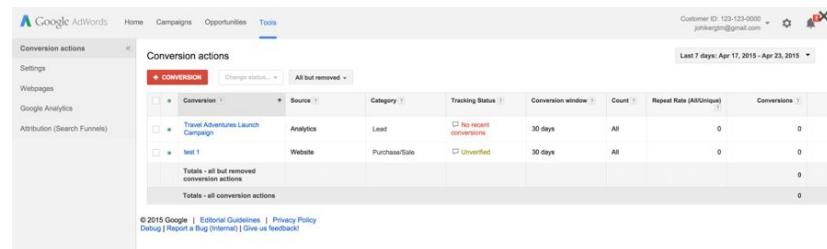
11 How to track conversions using an AdWords tag

AdWords can help you better understand which keywords led to more site traffic and conversions. You can use Tag Manager to deploy the AdWords tracking code on your website.



11.1 Get the Conversion ID from AdWords

To create an AdWords Conversion Tracking tag in Tag Manager, we'll first need to get the "Conversion ID" and the "Conversion Label" from *The Great Outdoors*' existing AdWords account. In AdWords, click "Tools." Then click "Conversions." Then click on the conversion "Travel Adventures Launch Campaign."



Look for the text area titled "Tag for Travel Adventures Launch Campaign". Click Edit settings.

Conversion actions > Travel Adventures Launch Campaign

Analytics Goals and transactions are tracked using your Analytics tag. The settings below only affect how they are reported in AdWords. [Learn more](#)

Settings

Name	Travel Adventures Launch Campaign
Source	Analytics
Value	Each conversion has a different value. If there's no value, use 1
Count	All conversions
Conversion window	30 days See your conversion time lag report
Category	Lead
Optimization	Allow bid optimization for this conversion action

[Edit settings](#)

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[Debug](#) | [Report a Bug \(Internal\)](#) | [Give us feedback!](#)

Make note of the values for the “google_conversion_id” and the “google_conversion_label” variables. You’ll need to include these in Tag Manager.

Install your tag

To install, copy the code in the box below and paste it between the <body></body> tags of the page you'd like to track. You can then use [Google Tag Assistant](#) plugin on Chrome to ensure your code is correctly placed.

Click “Advanced tag settings” if you'd like to track button clicks as conversions, or if you'd like to track conversions on the mobile version of your website.

Advanced tag settings

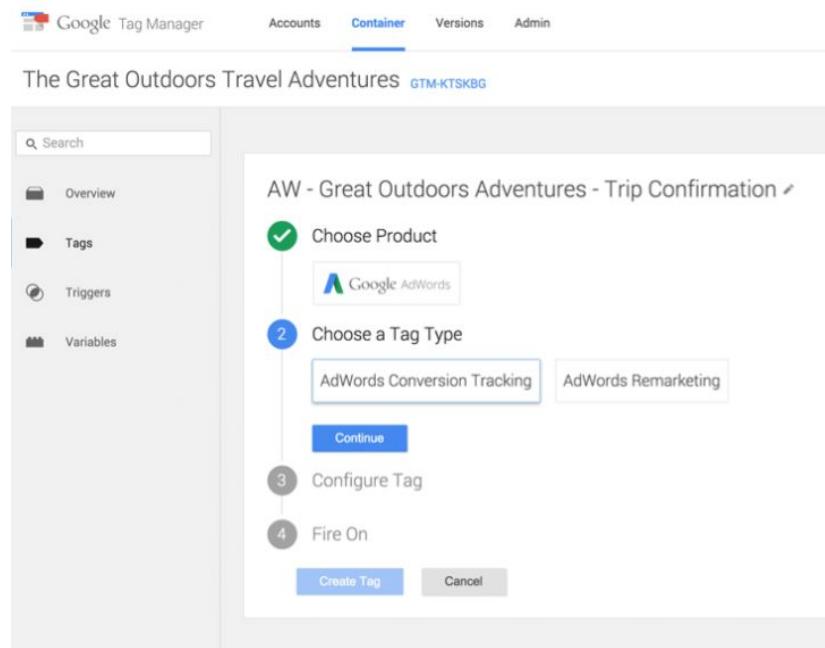
```
<!-- Google Code for test 1 Conversion Page -->
<script type="text/javascript">
/* <![CDATA[ */
var google_conversion_id = 012345678;
var google_conversion_language = "en";
var google_conversion_format = "2";
var google_conversion_color = "ffffff";
var google_conversion_label = "137GoOgl3Anal1yT1c5";
/* ]]> */

```

[Save instructions and tag](#) [Email instructions and tag](#)

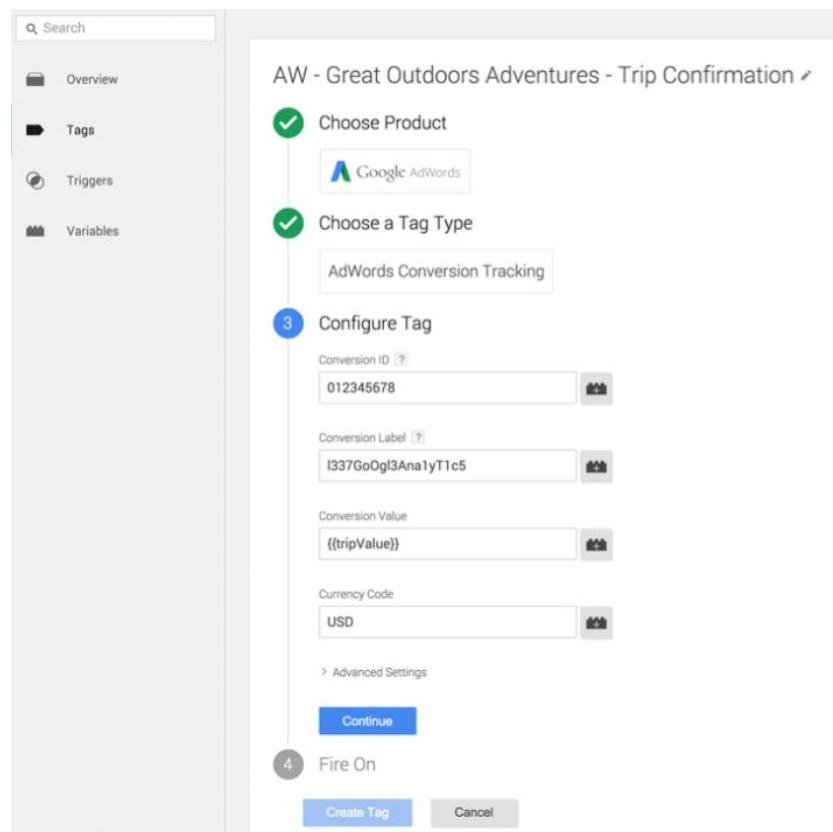
11.2 Create the Conversion Tracking tag

Now let's create the Conversion Tracking tag. In Tag Manager, click “Tags.” Then select “New.” We'll first name the tag. Then select the product “Google AdWords.” Now select the Tag Type “AdWords Conversion Tracking.”



We'll enter the Google Conversion ID from AdWords into the "Conversion ID" field, and the "Google Conversion Label" from AdWords into the "Conversion Label" field.

The "Conversion Value" field is optional and lets you define how much each conversion is worth to your business, so we'll add the {{tripValue}} variable to capture the trip amount. "Currency Code" lets you set the currency you're measuring. Since the *Travel Adventures* site only sells trips in US dollars, in the currency field we'll simply type in the value "USD." If you wanted to add other currencies, you could do so using standard currency code abbreviations. Now select "Continue."

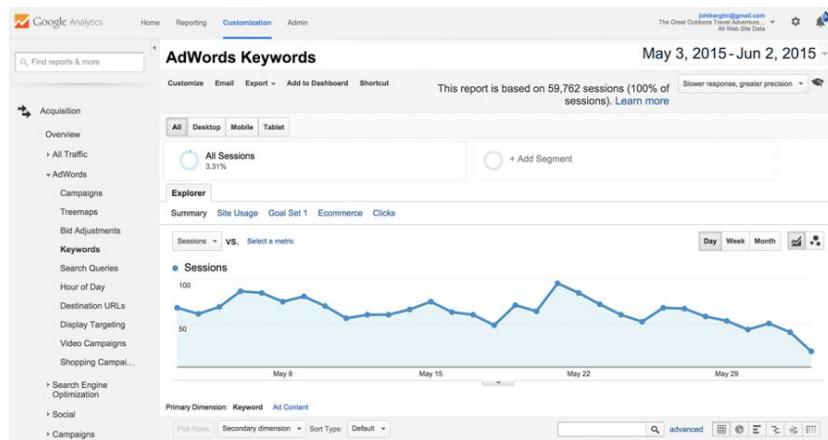


Finally, so that we'll know if AdWords brought users to any page of the website, select the trigger "All Pages." To save your configuration, click "Create Tag."

11.3 Preview the tag

You should use "Preview" mode and test a few AdWords clicks to ensure your conversions are being tracked and that everything else is working properly, and then publish when you're ready.

Setting up an AdWords conversion tracking tag in Tag Manager can help you see how well your keywords, ads, and campaigns are performing. Once you've set up conversion tracking, you can view Traffic reports in Google Analytics to better understand your users' conversion paths.



11.4 Further reading

AdWords Conversion tracking: https://support.google.com/tagmanager/answer/6105160?hl=en_US

Using Attribution reports: https://support.google.com/adwords/answer/1722023?hl=en_US

12 How remarketing works

12.1 Introduction

Remarketing is a powerful tool that lets you target ad content to users who have already visited either your website or app.

App remarketing lets you target ad content to existing users who you want to engage again. You could create special incentives such as free in-app tools or special features to incentivize those users to open your app again.

Website remarketing generally targets ads to new users who have visited a website like a promotional page for your apps, but didn't download it. Web remarketing could target either new or existing users with special offers for downloading your app.

Note, that to enable Remarketing with Google Analytics, you must make a change to your Google Analytics tracking code.

12.2 Audience Lists

Once you set up remarketing, you can create specific Audiences that let you target sets of users based on common attributes. For example, you could build an Audience List of users that last opened your app a month ago. You can then specify that an ad campaign only show when users match the audience targeting criteria in order to offer them special incentives. This way, only users that haven't opened the app for awhile will see the offer.

For apps, Audience Lists are collections of unique tracking IDs that your app sets when users visit for the first time. Note that users can reset their ID at any time. For websites, Audience Lists are collections of cookies from users' browsers that visited your site with Google Analytics and remarketing tracking code enabled. You can use these lists of cookies or tracking IDs when setting up a remarketing campaign to target ads to those specific users.



When you create an Audience List in Google Analytics, you can use one of these pre-defined audiences:

- all users to your website or app
- users that visit a specific page or area of your website, or screen of your app
- users who complete a specific goal conversion
- new users that Google determines to be viable candidates through machine learning

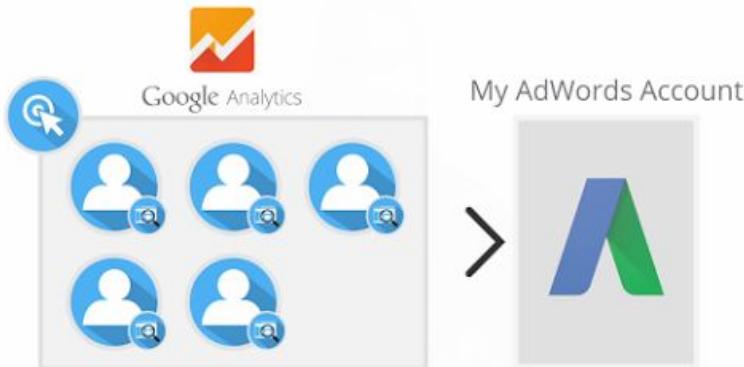
You can also define your own lists based on existing segments you configured in Google Analytics. For example, you could build lists from the segments we've previously discussed in this course, like the monetized and non-monetized segments, or the segments we built for users who had claimed free goods during their sessions.

The Analytics integration with AdWords also lets you identify groups of users based on a specific sequence or combination of actions. For example, you could build an Audience List based on Go Fish! app users who completed a level, then visited the Bait and Tackle shop screen, but didn't make a purchase.

12.3 How remarketing works

When users visit a site or app with remarketing code enabled, it evaluates the session against the Audience List criteria you've specified. When a session meets that criteria, the remarketing cookie or tracking ID is added to the Audience List unless it already exists on the list. When a user associated with one of those cookies or tracking IDs visits a site or app on the Google Display Network, that user may be served a remarketing ad, based on rules that you've defined.

When you create an Audience List, you specify the AdWords account in which you'd like that list to be available, and it will appear in AdWords within minutes. You can then use that list as a target audience for your AdWords campaigns.



12.4 Conclusion

Remarketing is a powerful way of finding new users from websites or re-engaging current users who haven't visited your app in a while. Using Google Analytics, you can figure out which users it makes sense to target in your remarketing campaign.

13 How to set up Dynamic Remarketing using Data Layer variables

Dynamic Remarketing is more powerful than standard AdWords remarketing because it allows you target advertising based on information collected both in the the Data Layer and the Google Analytics cookie.

There are four steps to setup Dynamic Remarketing:

1. First, link your AdWords and Google Analytics accounts, and make sure you've enabled Analytics' advertising features.
2. Next, set up Data Layer variables that collect information about content and services users have viewed on your website.
3. Then, create Custom Dimensions that hold information sent from the Data Layer and map back to AdWords for remarketing.
4. Lastly, set up Analytics tags in Tag Manager to send information from the Data Layer to your Custom Dimension.

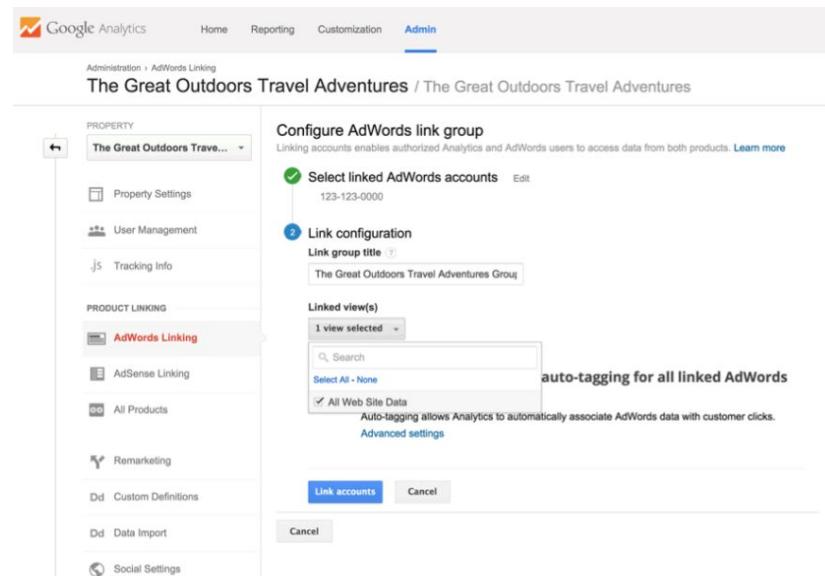
13.1 Link the AdWords and Google Analytics accounts

We want to customize our Google Analytics tag when viewing destinations on the *Travel Adventures* site so that when users click into a specific trip without purchasing, we can show them display ads for that particular vacation package. To do this, we'll first need to link our Google Analytics and AdWords accounts. In Google Analytics at the top of the page, click "Admin."

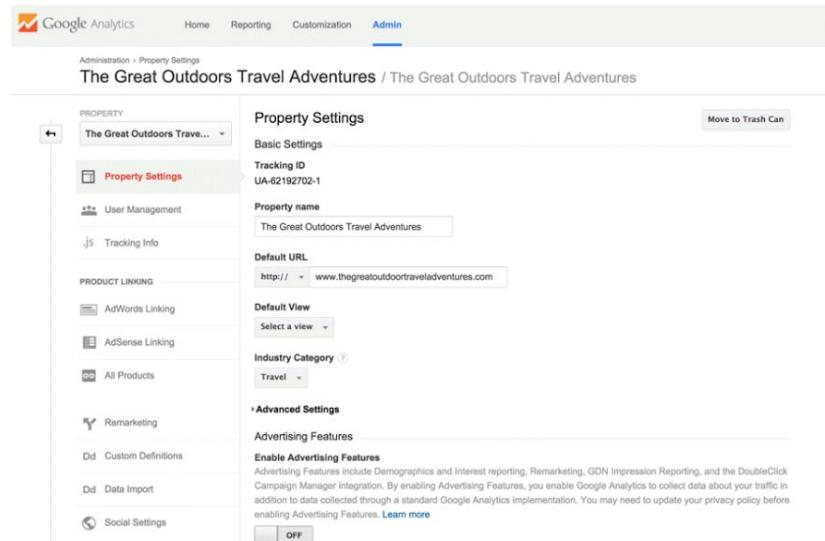
In the Property column, select "AdWords Linking." Select *The Great Outdoors*' AdWords account. Then click "Continue."

In the "Link configuration" section, the grouping feature allows you to manage multiple AdWords accounts. Since *The Great Outdoors* only has one account, we'll simply enter a "Link group title". The "Linked view" section lets you associate an AdWords account to a specific Analytics view. Click the "Linked view" pulldown menu. Then select the view for the *Travel Adventures* site.

To complete the AdWords account linking setup, click the "Link accounts" button.



Next, we need to configure our Analytics account to have “Display Advertising Features” enabled. In Google Analytics, select “Admin.” Under “Property,” click “Property Settings.” Then, under “Advertising Features,” set “Enable Advertising Features” to “on.”



13.2 Set up Data Layer variables

Now that we've linked our AdWords and Analytics accounts, and enabled display advertising, we'll need to set up the Data Layer to pass values to Analytics for Dynamic Remarketing. To do this, we'll first look up what business type dynamic attributes are available in AdWords. Dynamic Attributes are variables that AdWords uses to describe particular business types for remarketing campaigns. We can find a list of these dynamic attributes for each business type in the Google Analytics Help Center.

For the *Travel Adventures* site, we'll use the Travel business type attributes which include Destination ID, Page Type, and Total Value.

The screenshot shows a list of verticals under 'Add attributes for the [Business Type] vertical'. The 'Travel' vertical is selected, showing its specific attributes. A red box highlights the 'travel_destid' attribute description, which states: '[Required] travel_destid: The Destination ID must match values from the Destination ID column in your feed. This is a required key. This allows the dynamic ad to show users the exact destination(s) they viewed on your site.'

```
[Required] travel_destid: The Destination ID must match values from the Destination ID column in your feed.  
This is a required key. This allows the dynamic ad to show users the exact destination(s) they viewed on your site.  
[Optional] travel_pagetype: Page Type indicates which page people visited. Standard values used for  
automatic list creation are: home, searchresults, offerdetail, conversionintent, and conversion.  
[Optional] travel_totalvalue: The total value of the offer(s) viewed on your site. Please specify the total value  
(summing up the values of offers viewed on a page).  
[Optional] travel_originid: If the Origin ID is used, the Destination ID and Origin ID must match values from  
the Destination ID and Origin ID columns for a given item in your feed. This is an optional key. This allows the  
dynamic ad to show users the exact destination and origin they viewed on your site.  
[Optional] travel_startdate: Indicates the travel start date (in YYYY-MM-DD format) of the reservation. This  
allows the dynamic ad to show users offers with the exact start date(s) they viewed on your site.  
[Optional] travel_enddate: Indicates the travel end date (in YYYY-MM-DD format) of the reservation. This  
allows the dynamic ad to show users offers with the exact end date(s) they viewed on your site.
```

Using these dynamic attributes, we can associate them with the user-defined variables we created previously and push the values of trip packages that users view into the Data Layer.

```
dataLayer.push({  
  'destinationID': tripLocation,  
  'pageType': "offerdetail",  
  'totalValue': tripValue  
});
```

13.3 Create Custom Dimensions in Google Analytics

Now that we've pushed user behavior data to the Data Layer, we'll need to create Custom Dimensions in Analytics that will collect the information from the Data Layer and send it to AdWords to customize Dynamic Remarketing ads. That way, when users visit a vacation package page on the *Travel Adventures* website, AdWords can tailor ads' content to reflect that.

Let's create a new Custom Dimension in Google Analytics that will associate the data collected in the Data Layer with a dynamic attribute in AdWords. Click "Admin." Then click "Custom Definitions." Then select "Custom Dimensions." Lastly, click "New Custom Dimension."

+ NEW CUSTOM DIMENSION				
Custom Dimension Name	Index	Scope	Last Changed	State
Trip Category	1	Hit	Apr 23, 2015	Active
Trip Location	2	Hit	Apr 23, 2015	Active
19 custom dimensions left				

We'll title the Custom Dimension "Destination ID," since it describes the trip location data that it will receive from the Data Layer. Since we want to track each time a user has viewed particular services or content, we'll leave the scope value set to "Hit." To ensure that you can start collecting data and see the dimension in your reports, make sure the "Active" box is checked. Now click "Create."

The Great Outdoors Travel Adventures / The Great Outdoors Travel Adventures

PROPERTY
The Great Outdoors Trav... ▾

PROPERTY SETTINGS
User Management
Tracking Info

PRODUCT LINKING
AdWords Linking
AdSense Linking

Add Custom Dimension

Name: Destination ID

Scope: Hit

Active:

Create Cancel

Be sure to record the index number of the Custom Dimension you just created, so you can add it to the Analytics tag in Google Tag Manager later.

Created Custom Dimension

Example Codes for This Dimension

Copy the following code snippet for your platform. DO NOT FORGET to replace 'dimensionValue' with the value you want to send.

JavaScript (Only works for Universal Analytics properties)

```
var dimensionValue = 'SOME_DIMENSION_VALUE';
ga('set', 'dimension3', dimensionValue);
```

Android SDK

```
String dimensionValue = 'SOME_DIMENSION_VALUE';
tracker.set('Fields.customDimension(3, dimensionValue);
```

iOS SDK

```
NSString *dimensionValue = '@SOME_DIMENSION_VALUE';
[tracker.set([GAIFields customDimensionForIndex:3] value:dimensionValue];
```

Done

We can also set up additional Custom Dimensions for page type and total trip value.

+ NEW CUSTOM DIMENSION					
Custom Dimension Name	Index	Scope	Last Changed	Status	Search
Trip Category	1	Hit	Apr 23, 2015	Active	
Trip Location	2	Hit	Apr 23, 2015	Active	
Destination ID	3	Hit	Apr 27, 2015	Active	
Trip Value	4	Hit	Apr 27, 2015	Active	
Page Type	5	Hit	Apr 27, 2015	Active	

Now that we've created a Custom Dimension to hold values sent from the Data Layer, we'll need to map it to the corresponding dynamic attribute so Analytics can communicate this information to AdWords.

Click "Admin." Then in the Property column, select "Remarketing." Then select "Dynamic Attributes." Lastly, click "New Attribute."

The screenshot shows the Google Analytics Admin interface for 'The Great Outdoors Travel Adventures' property. In the top navigation bar, 'Admin' is selected. On the left sidebar, 'Dynamic Attributes' is chosen under 'Remarketing'. A modal window titled '+ NEW ATTRIBUTE' is open, showing a table with columns: Business Type (AdWords Customer ID), Definition, Type, Status, Creation Date, and Last Modified. The table contains one row with the status 'There is no data for this view.' At the bottom of the modal, there is a large 'Create' button.

In the “Business Type” pulldown menu, select “Travel.” In the “View” menu, select the view for the *Travel Adventures* site. In the “Sharing” menu, select *The Great Outdoor’s AdWords* account. Now click “Next Step.”

The screenshot shows the Google Analytics Admin interface for the property "The Great Outdoors Travel Adventures". The left sidebar lists various admin sections like Property Settings, User Management, Tracking Info, Product Linking, AdWords Linking, AdSense Linking, All Products, Remarketing, Audiences, and Dynamic Attributes. The "Dynamic Attributes" section is highlighted. The main content area is titled "Dynamic Attribute Linking" and shows two steps: "Configuration" and "Dynamic Attributes". Under Configuration, "Business Type" is set to "Travel", "View" is "All Web Site Data", and "Sharing" is "123-123-0000". There are "Next step" and "Cancel" buttons. Under Dynamic Attributes, there are fields for "Origin ID", "Start Date", "End Date", "Page Type", and "Total Value", each with a dropdown menu. At the bottom are "Save" and "Cancel" buttons.

Under “Required Attributes,” next to “Destination ID” we’ll select the Custom Dimension we just created. We’ll map the other Custom Dimensions we just created to the “Optional Attributes.” Now click “Save.”

This screenshot shows the "Dynamic Attribute Linking" configuration page. It has two main sections: "Configuration" and "Dynamic Attributes".
In the "Configuration" section, it shows "Business Type: Travel", "View: All Web Site Data", and "Sharing: 123-123-0000".
In the "Dynamic Attributes" section, under "Required Attributes", the "Destination ID" field is selected. Under "Optional Attributes", there are five fields: "Origin ID", "Start Date", "End Date", "Page Type", and "Total Value", each with a dropdown menu. At the bottom are "Save" and "Cancel" buttons.

13.4 Set up Analytics tags in Tag Manager

So far, we've associated our Analytics and AdWords accounts and set up our Data Layer with the user behavior from our website. We've also created a Custom Dimension and associated that with our dynamic attributes. Now we need to create a Google Analytics tag in Tag Manager that will pull the Custom Dimension data from the Data Layer and send it to Google Analytics.

+ NEW ATTRIBUTE							Search
Business Type	Adwords Customer ID	Definition	Type	Status	Creation Date	Last Modified	
Travel	123-123-0000	Destination ID, Page Type, Total Value	AdWords	Open	Apr 27, 2015	Apr 27, 2015	

In Tag Manager, click "Variables." Then click "New." We'll title the variable "RMKT - Travel Adventures - Destination ID." Next, choose the type "Data Layer Variable." In the Data Layer Variable name, we'll type the key we used in our Data Layer to pass the destination ID.

We'll leave the Data Layer Version setting at the default "Version 2". We'll skip the "Set Default Value" checkbox for now. Click "Create Variable."

RMKT - Travel Adventures - Destination ID ✓

1 Choose Type

Data Layer Variable

2 Configure Variable

Data Layer Variable Name: destinationID

Data Layer Version: Version 2

Version 2: dots access nested values. Values pushed to the Data Layer with dots in the name will be interpreted as nesting values according to normal JavaScript rules. [Learn More](#)

Set Default Value

Create Variable Cancel

Our last step is to add this Data Layer variable to a copy of our Analytics tag that will be set to fire when users visit the trip page. That way, we can figure out what trips users have viewed and target dynamic remarketing based on that.

Click "Tags." Then select the Analytics "Page View" tag. At the bottom right, select "Copy." We'll update the name to reflect our new tag. Then click into "Configure Tag." Be sure that "Enable Display Advertising Features" is checked. Now change the track type from "Page View" to "Event." In the event parameters, we'll set the Category as "Destination" and the Action to "View." You can keep the "Value" field blank and "Non-Interaction Hit" set to "False."

RMKT - Travel Adventures - Destinations ID ↗

Choose Product

Google Analytics

Choose a Tag Type

Universal Analytics

Configure Tag

Tracking ID ?

{{gaProperty}}

Enable Display Advertising Features ?

Track Type

Event

Event Tracking Parameters

Category

Destination

Action

View

Label

To record the Custom Dimension data, along with the custom event, click “More Settings.” Then click “Custom Dimensions.” Now click “Add Custom Dimension.” We’ll enter the index of the Custom Dimension we just created and for dimension value we’ll add the corresponding Data Layer variable.



Go to Switzerland

Ut porta dolor sit amet, consectetur adipiscing elit. Fusce risus nulla, convallis non aliquet at, scelerisque ut sem. Quisque felis mauris, auctor sit amet elementum at, gravida ut orci. Phasellus condimentum condimentum enim eu congue. Suspendisse accumsan purus dolor. Nullam eget quam donec libero dapibus pulchritudinibus et euismod. Nunc mollis eleifend justo. Vivamus nec ante nisi, eu venenatis urna. Suspendisse purus. Vivamus sit amet blandit orci. Vestibulum quis ligula quis dui volutpat lacinia. In adipiscing velit.

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Google Tag Manager Tags Variables Data Layer

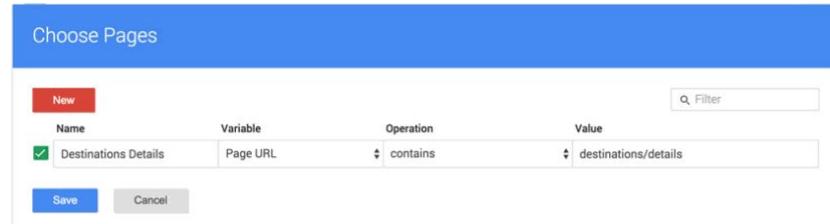
Summary

- 3 Page Load
- 2 DOM Ready
- 1 Pageview

Tags Fired On This Page:

- AW - Great Outdoors Adventures - Trip Confirmation AdWords Conversion Tracking - Fired 1 time(s)
- GA Pageview - Great Outdoors Travel Adven Universal Analytics - Fired 1 time(s)
- RMKT - Travel Adventures - Destinations ID** Universal Analytics - Fired 1 time(s)

Under “Fire On,” set this tag to fire on “Some Pages.” When the “Choose Pages” dialogue box comes up, we’ll add a trigger name. Because we want this tag to fire only when the “Details” button is clicked, set the variable to “Page URL.” Select the Operator as “contains.” And we’ll add the value “destinations/details.” Finally, next to the trigger name, check the checkbox. To save the trigger, click “Save.” Now click “Create Tag.”



13.5 Test out in Preview Mode.

Let's test this out in Preview Mode. Click “Publish.” Then click “Preview.” If we navigate to the *Travel Adventures* website and select a trip, we can see the tag listed under “Tags Fired On This Page.”

Go to Switzerland

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Google Tag Manager

Tags Variables Data Layer

Summary

3 Page Load
2 DOM Ready
1 Pageview

Tags Fired On This Page:

AW - Great Outdoors Adventures - Trip Confirmation
AdWords Conversion Tracking - Fired 1 time(s)

GA Pageview - Great Outdoors Travel Adven
Universal Analytics - Fired 1 time(s)

RMKT - Travel Adventures - Destinations ID
Universal Analytics - Fired 1 time(s)

Click on the tag and look under the Properties heading to confirm that your custom Destination ID is listed.



The screenshot shows the Google Tag Manager interface. At the top, there's a navigation bar with tabs: 'Google Tag Manager' (selected), 'Tags' (highlighted in blue), 'Variables', and 'Data Layer'. Below the navigation, there's a summary section with counts for 'Page Load', 'DOM Ready', and 'Pageview'. The main content area is titled 'Go to Switzerland' with a placeholder text 'Lorem ipsum dolor sit amet, consectetur adipiscing elit.' A breadcrumb trail 'Summary > RMKT - Travel Adventures - Destinations ID' is visible. The central part of the screen displays a 'Properties' panel for a tag. It includes fields for 'Type' (Universal Analytics), 'Account' ('UA-62192702-1'), 'Debug' (false), 'Dimension' (1: 'skiing', 2: 'switzerland'), and 'DoubleClick' (true). A 'Show More' link is present. Below this is a section titled 'Messages where this Tag Fired' with a single entry: '1 Pageview'.

Using dynamic remarketing, you can specifically target users who have taken an interest in a particular service or product on your website, and bring them back to complete the conversion.

13.6 Further reading

About Dynamic Remarketing: https://support.google.com/analytics/answer/3455585?hl=en_US&ref_topic=3455490

Dynamic Remarketing using AdWords: https://support.google.com/adwords/answer/3124536?hl=en_US

Creating Custom Dimensions and updating your tags: https://support.google.com/analytics/answer/3455600?hl=en_US

Adding dynamic attributes for your business type: https://support.google.com/analytics/answer/3455600?hl=en_US

14 Google Tag Manager in review

By now, you should be pretty familiar with the fundamentals of Google Tag Manager and comfortable with how to use a measurement plan to inform your tag implementation strategy. We looked at the Tag Manager account structure, how containers store your configurations, and how to set up tags. We also looked at how events fire triggers by evaluating built-in or user-defined variables.

Then we set up Tag Manager, including how to install the Google Analytics “Page View” tag to collect basic metrics and dimensions. And we set up a reusable variable to easily update the Google Analytics property ID. We also set up cross-domain tracking and gave you an overview of the Data Layer.

Understanding the Data Layer helped us use Tag Manager to pass values from your website. We learned to pass static and dynamic values, and to track custom events using built-in and user-defined variables.

Finally, we installed the AdWords conversion tracking tag to better understand your traffic sources. And we used Dynamic Remarketing to show targeted advertising to past website visitors.

We hope that you’ll be able apply the lessons you’ve learned about Google Tag Manager to your own business needs. You should also find these course concepts useful when managing tags in your mobile apps.

Don’t forget to take all of the assessments to receive your certificate of completion. Also, please fill out our brief end-of-course survey, so we can build even better Analytics Academy courses for you in the future.

Thanks again for your participation and happy tagging!

14.1 Further reading

GTM Help Center: https://support.google.com/tagmanager/?hl=en_US#topic=3441530

GTM Developer Center: https://developers.google.com/tag-manager/?hl=en_US

Udacity course on GTM and analytics in mobile apps:

<https://www.udacity.com/course/google-play-services-analytics--ud876-2>