Google Mobile App Analytics

Google Analytics is an enterprise-class analytics solution that gives you rich insights into your digital traffic and marketing effectiveness. Powerful, flexible and easy-to-use features let you see and analyze your traffic data in an entirely new way. With Google Analytics, you're more prepared to write better-targeted ads, strengthen your marketing initiatives and create higher-converting digital properties.

Google Mobile App Analytics takes this same power to the mobile sphere, enabling you to measure and optimize the end-to-end value of your app. If you're a developer, you can include Google Analytics in your Android or iOS applications using the Google SDK. First, identify the places in your app that you'd like to trigger a pageview or an event. Then, call the SDK to send those events to Google Analytics.

Getting Started

What is Mobile App Analytics?

App Tracking captures mobile app specific usage data and integrates it with your Google Analytics account, where you can re-apply your knowledge of web analytics to dedicated app reports. This suite of reports provides the tools and metrics you need to analyze and evaluate your app performance, including:

- the number of installations
- devices and networks used to access app
- the geographic location and languages spoken by visitors
- in-app purchase totals
- customized tracking of special content, like video
- the number of screens seen per visit, and the order in which visitors move through these screens

Setting Up App Tracking

Setting up Mobile App Analytics is a two step process that requires administrator access to a Google Analytics account and technical knowledge of your app development environment. If you don't have a Google Analytics account yet, you can **sign up** now.

Before starting the app tracking set up process, you might want to consult our **best practices for mobile app analytics set up** and create an implementation plan. Once you're comfortable with your plan, complete Step 1 of the set up process. Step 2 should be completed by the app developer.

Step 1: Set up a new app property in your Analytics account.
In your Google Analytics account, set up a new app property for every app you want to track. A tracking ID is automatically generated for each property. You need the ID(s) to complete Step 2.

Follow the instructions on how to **set up a new app property** to complete this step.

Step 2: Download the Google Analytics SDKv2 and implement the app tracking code.
Download the Google Analytics SDK v2 for Android or iOS from the same account screen that provides the tracking ID in Step 1. Follow our **Developer Guide** to implement tracking via the SDK, including the ID from Step 1. This tracking code collects and sends usage data about your mobile app to your Analytics account.

Step 2 requires access to your app source code and should be completed by the app developer.

> Read all the implementation documentation carefully. All App Tracking reports are based on this setup. Errors in your setup can result in corrupted or incomplete data.

After you've completed your setup, see **here** for information about using the App Tracking Reports in your Google Analytics account.

Best Practices for Mobile App Analytics Set Up

Google Analytics is flexible and can support different account configurations, but these variations affect how data appears in your reports. Before you set up app tracking using Google Analytics, we recommend you consider your long term reporting goals and how they might affect your account structure.

When you're ready to get started, following these guidelines to help you collect accurate data and maintain a well organized account. Some guidelines are not applicable in all circumstances:

Track different apps in separate properties.
Track every app in its own property with a distinct tracking ID to avoid combining data in unintentional ways. Limiting the number of apps tracked in the same property also helps avoid reaching your account limit and triggering **data sampling**.

Track different platforms of an app in the same property.
If you've developed the same app for different platforms (i.e., MyApp for Android and MyApp for iOS), track them in the same property. You can then **create profiles** to organize and compare the performances in your Google Analytics reports.

Track app editions based on feature similarities.
Editions of your app (e.g. MyApp: The Original and MyApp: Special Edition) can be tracked either in the same or different properties. Base your decision on the similarity of the editions and your ultimate reporting goals:

• Track editions with significantly different features or behaviors in separate properties. This prevents any accidental comparison or conflation of unlike data.

• Track editions that are very similar to each other in the same property. This allows you to combine and directly compare data in your Analytics reports.

Track different app versions in the same property.
Google Analytics recognizes different versions of an app you're already tracking, so you won't need to create a new property each time you release a new version. For example, track *MyApp: The Original v1* and *MyApp: The Original v1.5* in the same property. Then use the App Version report to compare earlier versions of your app to the latest version in your reports. If you want to track both apps and websites using Google Analytics, you must use different tracking IDs and separate properties. App tracking data can only appear in designated app profiles, and web tracking data can only appear in designated web profiles. Alternative configurations are not supported and will result in corrupted or incomplete data.

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Trackable Activities

Goals

Goals and Funnels are a versatile way to measure how well your site or app fulfills your target objectives. You can set up individual Goals to track discrete actions, like transactions with a minimum purchase amount or the amount of time spent on a screen. A Funnel lets you specify a path you expect traffic to take to reach a Goal. Combing Goals and Funnels helps you analyze how well your site or app directs people towards your target.

Each time a user completes a Goal, a conversion is logged in your Google Analytics account. If you set a monetary value for a Goal, you can also see the value of conversions. You can see the Goal conversions rates (i.e., the Goal completion rates) in the Goal Reports. You can also analyze Goals conversions in other reports, including the *Visitor Report*, *Traffic Reports*, *Site Search Reports*, and the *Events Reports*.

Click **here** for more information on setting up goals in Google Analytics.

Events

Events are unique content actions in your app that don't require a new screen to load, like a download, social recommendation, or an ad click. The Events reports are highly customizable and cannot provide any data until you complete additional set up.

Setting up Event Tracking requires technical knowledge and access to your app, and should be completed by the developer. Visit our Developer Guide for detailed setup instructions on setting up **Event Tracking for Android** and **Event Tracking for iOS**.

When you set up Events, you choose define and track up to five components, or categories, for each Event. The values you assign to these categories is the data that appears in the Events reports. The more organized you are about setting up Event Tracking, the easier it will be to read and interpret your reports. For more information and examples of these categories, read **About Events**.

After you set up Event Tracking, use the Events Overview report to see the summary of how well all events perform. Top Events displays data on the highest performing Events. Use the Screens report to see which screens host the most popular events.

Reports

Mobile App Overview Report

The **App Overview** report is a summary of the most salient data in all the App Tracking reports. Use this report to assess the general health of your app and to follow data trends from the key reporting areas: **Acquisitions**, **Users**, **Engagement**, and **Outcomes**. The App Overview is the default report for app properties.

Customize the Overview report using the tools found in the top menu bar. To see different data in the report, **change the date range** or add an **Advanced Segment**. Share the report via email or by exporting into a different format (i.e., CSV, PDF, TSV, etc.). Hover over a point in a line graph or the map to see more details, or click the report title to jump to the full report. Any setting you change in the Overview report, like a date change or the addition of an Advanced Segment, apply to all reports until you either remove them or sign out of your Google Analytics account.

Please note: not all report summaries are supported in when you add the App Overview report to the Dashboard.

Mobile App Acquisitions

The Acquisitions reports give you data about how your app is acquiring users, including the total of new users and the most popular devices and operating systems. You can use the *New Users* report to identify characteristics of the user groups adopting your app. Use the *Google Play Sources* report to see which channels should be optimized to attract more downloads and launches of your app.

New Users

This report gives you an overview of the first launches, or the number of visits in which the app is opened for the first time on a device, including the total number of New Users their Operating System, App Version, and the Country/Territory. Note that Active Users includes all users, both new users and the returning users that have opened your app at least once during the selected time period. You can find more in-depth data on all your users and how they interact with your app with the **Users** and **Engagement** reports.

Google Play Sources

See the *Source* and the *Medium* for traffic coming to your app via the Google Play Store. The Source is the place last visited before Google Play Store (e.g., a search engine like google.com, or your own website) while the Medium is the method a visitor used to arrive at that source (e.g, direct, referred by another site, clicking an ad). This report also displays the total number of *New Users*, *Sessions*, the *Average Session Duration*, and the *In-App Revenue* total (i.e. Ecommerce data) associated with a each Source/Medium pair.

Use the links in the Explorer tab to toggle the Acquisition metrics for Users, different Goal Sets, and Ecommerce data. Note that Goals and Ecommerce require additional set up before data appears in these reports. Read **Mobile App Outcomes: Goals and Ecommerce** to learn more about these reports, including what instructions on the additional set up.

Use Custom Campaigns to learn more about Sources

If you set up **Custom Campaigns**, you can also use the Google Play Sources reports to find more information about where users come from before they download your app. Custom Campaigns allow you to define and append parameters to a URL, including the Google Play webpage for your app and any webpages you use to host your app download. Setting up Custom Campaigns doesn't require any changes to the tracking code. You can use the URL builder tool to help create and append URL variables.

> In the Google Play Sources report, *Direct Traffic* currently includes referral traffic. To prevent any traffic from being included in this calculation, use Custom Campaigns to tag any of referral links using our *utm_* parameters. You might want to tag a link to download your app from the Google Play Store with the *utm_medium*, *utm_source*, and *utm_campaign* parameters. For example: *http://mysite.com/get-my-app.com/?utm_medium=referral&utm_source=referralsite&utm_campaign=apps*

Setting up Custom Campaigns is the same for both web and app properties. Learn more **About Custom Campaigns**.

Mobile App Users

The *Users* reports give you sense of the people that use an app and how they interact with it. Data from these reports can help you uncover new markets and help you improve the performance of the app itself.

Overview

Get the big-picture view of your Sessions and Users, including *Average Session Duration*, total number of *Screen Views*, *Screens Viewed per Session* (*Screens/Session*), the percentage of *New and Returning Users*, and the top *Languages* and *Location* of users. Hover over sections of the *OS Versions* and *Top Network Operators* reports to see more details, or click the report title to jump to the full report.

App Versions

Compare performances of different versions of your app. Depending on your criteria for new releases, you can use this report to compare either a large-scale change or specific feature adjustment.

> For data to appear in this report, you must include the same property tracking ID in every updated release of an app.

Demographics: Location and Languages

See who's using your app around the world. Is it popular in a specific region or language group? Is it being adopted unexpectedly by another group of users? Based on data you see in these reports, you may want to reach a broader audience or concentrate on targeting a specific demographic.

Because location data is based on mobile devices, data at the city level might not be stable. Location data for region, state, and country is more accurate.

Devices and Network

These reports tell you which devices, networks, and operating systems are used to access an app. Use this data to optimize your app for the most popular *Operating Systems*, *Screen Resolutions*, and *Devices*.

Mobile App Engagement Report

The Engagement reports help you discover how visitors use your app. You can use this set of reports to track a wide range of information about your visitors, including:

- the total number of screens seen per visit
- the order in which screens are viewed
- the number of technical errors, including app crashes
- how often visitors return to the app
- how long sessions last
- how long individual app elements take to load
- specific content actions unique to your app, like a social recommendation or an ad click

Many of the Engagement reports require additional set up in the app tracking code that should be completed by the developer. Links to detailed setup instructions are included each report description below. Data does not appear in some of these reports until you complete the required additional set up.

Although these reports require a little extra work to set up, we strongly recommend you use them. The Engagement reports are powerful tools that can help you reach a deep understanding how visitors use your specific app. The customizable tracking settings of these reports let you to track the individual elements of your app, allowing you to focus the reports on your specific business objectives. The way you set up these reports in your tracking code determines how data appears in your reports. The more organized you are about setting up them up, the easier it will be to read and interpret your reports.

Below are descriptions of each Engagement report in your Google Analytics account. Links to additional setup instructions are included where necessary:

Overview

Get a high-level summary of how users interact with app content. The Overview includes usage metrics like *Screen Views*, *Crashes*, and the *Total number of Events* that occur on a screen. Click *view full report* to jump to that specific report for a deeper analysis.

Screens

Evaluate the performance of each screen in your app. This report and breaks out screen usage metrics, like the number of *Screen Views*, *Unique Screen Views*, and the *% Exit from a Screen*.

Engagement flow

Visualize the path visitors traveled from one Screen or Event to the next. This report can help you discover what app content keeps visitors engaged with your app. See visitor movement between *Screens*, *Events*, or a blended view of both *Screens and Events*. You must set up Events in your app tracking code before they appear in the Engagement Flow. See the section on Events, below, for details.

This Engagement Flow Report is a part of the family of Flow Visualization Reports. Read **About Flow Reports** and **Using Flow Reports** articles in this Help Center for information on using Flow Reports.

Crashes and Exceptions

This report shows the name and a brief description of the top Exceptions, or technical errors, that happen in your app. Crashes are automatically parsed out from other exceptions. You can define more exception types in your App Tracking code for more detail on other exceptions. Network failures and empty search results are two examples of common exceptions you might want to define.

Defining exceptions in the App Tracking code requires some technical knowledge of your app and should be completed by the developer. Visit our Developer Guides for detailed instructions on setting up the **exceptions report for Android** and the **exceptions report for iOS**.

App Speed

Use App Speed reports to see how long different requests take to load in your app. You might, for example, want to track how quickly a game level loads or a search returns results.

The App Speed reports require additional set up in your app tracking code that should be completed by the developer. Visit our Developer Guide for detailed instructions on setting up **User Timing for Android** and **User Timing for iOS**. No data appears in these reports until you define in your app tracking code which specific actions and load times to track.

After you complete the additional set up, toggle between these three tabs to view the data:

Explorer: *Timing Category* displays the name you've associated with a specific load time you're tracking. The Average User Timing metric shows you the average length of time it takes to load that action.

Performance: *User Timing Bucket* displays the sum total the length of time (in seconds) all tracked actions take to load. Also provides a percentage sum total of sessions the sample size represents.

Map Overlay: The global distribution of *Average User Timing*. Darker shades indicate a longer load time.

All of these reports use the *User Timing Sample* to display the number of visitors used to calculate the average length of time for a specific action. By default, the App Speed sets this sample rate to 1% of total visitors, but you can adjust this setting in your app tracking code for each action you want to track.

Behavior

This important set of reports points out who your most loyal users might be based on how often they visit your app. Try to retain the users that engage with your app more often and for longer. In conventional marketing, this is the audience segment that usually completes more conversions and transactions.

Because of the complexity and importance of this data, we've divided *Behavior* into the following individual reports:

New vs. Returning: The percentage of users that have previously visited your app, and the percentage of users that are first time visitors

Loyalty: The number of sessions that are the nth occurrence in your app.

In the report table, *Session Instance 1* is a session that occurs with no prior session recorded. It is the 1st session of the app associated with a specific user. The number of *Sessions* in this table row are the number of first-time sessions. The *Sessions* for *Session Instance 2* are the number of sessions that occur with 1 prior session recorded or, the 2nd session for that many users; etc.

Here are some examples of data in this report, and what it means:

• If you see *500 Sessions* in the row for *Session Instances 1*, this means that 500 sessions were first time users.

• *400 Sessions* in *Session Instances 2* means that 400 sessions were started by users that have used your app one time.

• *100 Sessions* in *Session Instances 26–50* means 100 sessions were started by users that have used your app 25–49 previous times.

Recency: The amount of time that passes between the close of one session and the opening of another.

Session Duration: How long a session lasts, in seconds.

Sessions remain open as long as activity is tracked, and are closed after 30 seconds of inactivity has passed. Developers can also manually customize this limit. Consult our Developer Guides instructions on setting up **sessions timing for Android** and **session timing for iOS**.

Each of the Behavior reports provide scorecards for the high level session metrics, including the number of *Sessions*, *Average Session Duration*, average number of screens per session (*Screens/Session*), and the *Goal Conversion Rate*.

Goals and Ecommerce Reports

When you set up *Goals and Ecommerce Tracking* in your Google Analytics account, you can use the *Outcome* reports to track performance objectives and revenue targets.

Goals are a versatile way to measure how well your app fulfills customized, targeted objectives. You can set up individual Goals to track discrete actions like a minimum session duration or completing a certain level in a game, and use the reports to measure conversions, or completion rates of these actions.

Ecommerce reports let you track in-app purchase data, including product or service sales, total revenue, and revenue per transaction. You can also track the average number of visits it takes to complete a transaction.

Below are descriptions of the Goal and Ecommerce reports in your Analytics account. Both Goals and Ecommerce reporting require a small amount of additional set up in your Google Analytics account. Ecommerce also requires modifications to app source code, and might be best completed by the app developer. Data does not appear in these reports until you complete the required additional set up. Links to setup instructions are included in the descriptions below.

Although these reports require a little extra work to set up, we strongly recommend you use them. Goals and Ecommerce are powerful tools that can give you the data you need to increase your revenue. The way you set up these reports determines how data appears in your reports. The more specific you are in your set up, the more detailed your reports will be.

Goals

Follow the instructions in **Set up Goals**. The process for a web or an app profile is the same, with some minor variation in the type of Goals you choose to track. All information is applicable to both types of property except where noted.

Once you've completed setting up Goals, you'll see data in the reports described here. By default, these reports display data for all your Goals. To view data for a specific Goal in any report, select from the *Goal Option* drop down menu above the *Option* tab.

Overview

Get a performance summary of your Goals. See the number of *Goal Completions*, *Conversion Rate* and *Abandonment Rate*, and any value you may have associated with your Goals. You can also see the a list of the top *Goal Completion Locations*, or the screens with the highest conversion rate.

Goal Screens

The *Goal Completion Location* lets you see how well each screen with Goals performs, including the total number of *Goal Completions* and the total *Goal Value* associated with each screen.

Goal Flow

The Goal Flow Report visualizes the path your visitors traveled towards a Goal. This report can help you see how well visitors completed a targeted objective in your app. The Goal Flow Report is the same for web and app properties. All information in our **Goal Flow articles** and **videos** are applicable when tracking mobile apps.

The Goal Flow Report is a part of the family of Flow Visualization Reports. Visit the **About Flow Reports** and **Using Flow Reports** articles in this Help Center for information on using Flow Reports.

Ecommerce

Setting up Ecommerce is a two step process that requires administrator access to a Google Analytics account and technical knowledge of your app development environment. Read **Set up Ecommerce Tracking** to complete the first step. To complete the second step, follow the instructions in our Developer Guides on how to set up **Ecommerce tracking for Android** and **Ecommerce tracking for iOS**. (These links to are also included at the end of the instructions for the first step.)

After you've set up Ecommerce tracking, you'll see these reports in your account:

Overview

Use the Overview report to get a summary of Ecommerce data, including the *In-App Revenue*, total number of *Transactions*, the percentage of sessions that included a transaction (*Ecommerce Conversion Rate*), and the *Average Value* of transactions that happen within your app. You can also see the top selling *Products* and what percentage each contributes to total sales.

Product Performance

Analyze product metrics, including the total *Quantity* sold, the number of *Unique Purchases*, and the *Product Revenue*. Depending on which transaction and item fields you include in your Ecommerce set up, you can also see *Product Categories* and *SKUs*.

Remember that you can define what a "product" is when you set up Ecommerce tracking, and that you can include intangible, digital purchases, like access to a higher game level or an information package.

Sales Performance

See the *Dates* and *Revenue* from all sales. By default, these reports show data for the *Total Revenue*. Click *Conversion Rate* and *Average Order Value* links beneath the *Explorer* tab for other data.

Transactions

See more detailed transaction data, including the *Tax*, *Shipping*, and other additional fees for individual transactions.

Time to purchase

Find out the number of days each transaction takes.

Campaign Tracking

Campaign Tracking allows you to track where your app's users come from. Campaign Tracking can help you understand and improve the value to your marketing channels and referrers by helping you attribute campaigns and traffic sources to user activity within your app.

There are several kinds of Campaign Tracking available in the Google Analytics SDK for iOS:

• General Campaign Tracking – See which campaigns or traffic sources launched your app it was installed.

• Referrer Tracking – See which referring traffic source, such as websites or apps, launched your app after it was installed.

The following sections will describe when and how to implement each type of campaign tracking in your app.

> Note: The Apple App Store does not currently support Campaign Tracking using Google Analytics.

General Campaign Tracking

General campaign tracking can be used to associate a campaign or traffic source with a user after they've already installed your app.

For example, if you were running a paid campaign to reach existing users who have already installed your app, you could use General Campaign Tracking to track which app launches were the result of that campaign.

Implementing General Campaign Tracking

To implement General Campaign Tracking, simply call *setCampaignUrl:campaignUrl*, where campaignUrl is a valid Campaign Parameter string.

General Campaign Tracking is useful if your app implements a Custom URL Scheme. For example, if your app is launched in response to a URL, you can retrieve any query parameters and pass them to *setCampaignUrl*: to store that information in Google Analytics. Any subsequent user activity would then be associated with the campaign information retrieved from the campaign parameters in that URL.

Referral Tracking

Referrer tracking is similar to setCampaign in that it allows you to track a referring source that may have launched your app after it has already been installed on a user's device.

The difference is that referrer tracking takes a single string as a parameter, rather than a campaign parameter string. When a link or another app caused your app to launch, you can then traack that referring source with a simple string like "google.com" or "myOtherApp".

To set a referrer, call *setReferrerUrl:referrer*, where referrer is a string like "google.com" or "myOtherApp".

As with General Campaign Tracking, setting a referrer will cause the next tracked activity to start a new session.

> Note: When you set a referrer, subsequent tracked activity will have the medium dimension set to referrer, and the source dimension to the string argument you provided.

Campaign Parameters

Campaign parameters are used to pass information about the traffic sources and campaigns that are bringing users to your app.

• In General Campaign Tracking, an unencoded campaign parameter string is passed as an argument to *setCampaignUrl:*.

> The following is an example of a valid, unencoded campaign string that could be used for General Campaign Tracking: "*utm_campaign=my_campaign&utm_source=google&utm_medium=cpc&utm_term=my_keyword&utm_content=ad_variation1*"

The table below shows the complete list of the available campaign parameters that can be used in General Campaign Tracking.

Parameter	Description	Example(s)
utm_campaign	Campaign name; used for keyword analysis to identify a specific product promotion or strategic campaign	*utm_campaign=spring_sale*
utm_source	Campaign source; used to identify a search engine, newsletter, or other source	*utm_source=google*
utm_medium	Campaign medium; used to identify a medium such as email or cost-per-click (cpc)	*utm_medium=cpc*
utm_term	Campaign term; used with paid search to supply the keywords for ads	*utm_term=running+shoes*
utm_content	Campaign content; used for A/B testing and content-targeted ads to differentiate ads or links that point to the same URL	*utm_content=logolink* *utm_content=textlink*
gclid	AdWords autotagging parameter; used to track Google AdWords ads. This value is generated dynamically and should never be modified.	