

Google Analytics for Government

Learn How to Analyze Meaningful Metrics for Your Agency

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Part 1: Introduction

When I first started working with Google Analytics for my agency, I had no background on using analytic tools to evaluate websites. I came to my assignment in public affairs with a love of analyzing data and learning new databases, but I didn't really know where to start when it came to Google Analytics for government use. I decided to jump right in with teaching myself as much as I could about the program, watching online tutorials, and reading articles and blogs on the subject. I'm proud to say that today I am considered the "Analytics Guru" and go-to person for analyzing and presenting Google Analytics data for my office and to other agencies across government.

During my research and learning, I found that there was no one manual to read that was targeted toward government websites. I am someone who still prefers to download and read a report rather than watch multiple short tutorials. I have a feeling that others in government may be similar to me in that respect, and so, here is my attempt at creating a practical manual for government employees trying to make sense of their Google Analytics data.

I hope this manual provides you with the tools you need to identify meaningful metrics to report to your management and website stakeholders. Regardless of whether you work in communications or information technology, you can use this manual to understand how to tailor Google Analytics for your agency's needs. This manual covers everything from the basics of setting up user profiles, to the nuances of writing regular expressions. While you might not be the person in your office who creates new custom segments or configures the internal site search, understanding these concepts will help you communicate effectively about these topics and ensure your agency gets the most out of Google Analytics. I should also note that the agency I work for does not use eCommerce or Google AdWords, so those topics are not covered in this manual.

At the end of the day, everyone wants to make their government websites as useful as possible to the digital citizen, and my hope is that this manual can help achieve that goal.

All views and opinions expressed are my own. Images are screen shots of Google Analytics reports and documents.

Sincerely,

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Part 2: First Steps

Lesson 1: Web Tracking

Google Analytics is a free service that generates detailed statistics about visits to a website. Google Analytics gives you insights into how visitors use your site, how they arrived on your site, and how you can keep them coming back. The content report and analysis tools help you understand which parts of your website are performing well, and which pages are most popular so you can create a better experience for your customers.

The Google Analytics tracking code collects visitor data using cookies for your web property (all the pages where a set of tracking code is installed), and returns that data to Analytics where you can see it in reports. When you add a new web property to your Analytics account, Analytics generates the tracking code snippet that you need to add to the pages whose data you want to collect. The tracking code snippet contains a unique ID for the web property that lets you identify that property's data in your reports. You can use only the snippet that Analytics generates for you, or you can customize the tracking code to collect additional data like visitor behavior across primary and subdomains (cross-domain tracking).

To set up tracking, you will need to have access to the source code for your website. You also need to set up and use an Analytics account for the site. Before you create an account, make sure to check with your Chief Information Officer's office, your public affairs office, or your agency's Google Analytics Terms of Service contact. You will also have to add your site as a property to the account you are using.

Find the tracking code snippet for your property by clicking on the "Admin" link from any Analytics page. Next select the property you want to track. Check that the URL at the top matches the one for your website. Click the "Tracking Info" tab. You'll see something similar to the code snippet below, where XXXXX-Y indicates the property ID.

```
<script type="text/javascript">

  var _gaq = _gaq || [];
  _gaq.push(['_setAccount', 'UA-XXXXX-Y']);
  _gaq.push(['_trackPageview']);

  (function() {
    var ga = document.createElement('script'); ga.type = 'text/javascript'; ga.async = true;
    ga.src = ('https:' == document.location.protocol ? 'https://ssl' : 'http://www') + '.google-
analytics.com/ga.js';
    var s = document.getElementsByTagName('script')[0]; s.parentNode.insertBefore(ga, s);
  })();

</script>
```

Next, turn on the tracking options you want, then click "Save." Copy and place the code snippet into your web page, just before the closing `</head>` tag. If your website uses templates to generate pages, enter it just before the closing `</head>` tag in the file that contains the `<head>` section. (Most websites re-use one file for common content, so it's likely that you won't have to place the code snippet on every single page of your website.)

Lesson 2: Web Properties, Profiles, Adding New Users

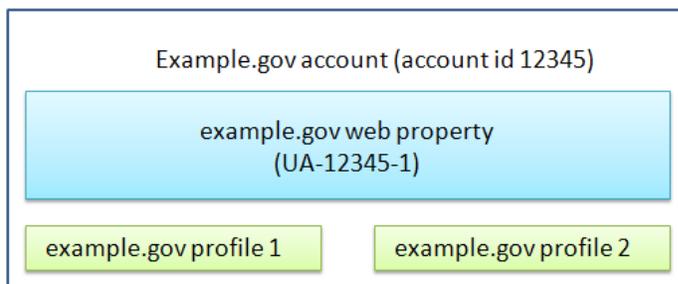
Google Analytics provides two tools for partitioning traffic results: profiles and web properties. A **web property** can be thought of as all the pages where a particular set of tracking code is installed, including the web property ID or UA number (e.g. UA-xxxxx-y). Your department may have different web properties for each unique entity you want to track in a Google Analytics account. For example, if you work for a larger department with several sub-agencies, each agency website may be tracked as a different web property. Within your account, each of these web properties would have a unique UA number that is installed only on the web pages of the corresponding agency's site.

By contrast, your department may use the same web property for all sub-agency websites. In this case, you could analyze data department wide, and create profiles to grant access to users who only need to view a subset of data, such as the data for the agency for which they work. A **profile** is a set of rules that defines the data you see for a web property. Using profiles, you can view reports on specific domains, subdomains, or on filtered data. For example, you might have web property department.gov, for which you have three profiles:

- One of the profiles might show all the data for all the traffic that comes to department.gov.
- Another profile might use filters to only show the data for traffic to a certain agency in the department.
- Still another profile might use a different set of filters to show only another subset of data, such as excluding internal traffic based on your department's IP address.

If you are an account administrator, you might want to give certain users access only to one or two profiles. This has the effect of only allowing these users to see specified subsets of traffic to your web property (in the case below, example.gov).

Figure 1: A schematic showing an Analytics account with one web property and two profiles



If you are an administrator on the account, you'll see the sub-tabs that list the Assets, Users, Goals, Filters, and Profile Settings that are associated with the profile. You'll also see the "Create/Edit/Delete Profile" link – which you can use to create a new profile. But, if you are not an administrator, you'll only see the Assets tab.

Figure 2: Administrator view of Assets for the “example.gov” profile



Each profile has its own goals, which you set on the Goals sub-tab. Administrators control who has access to the profile via the Users sub-tab. Administrators can also use the Filters sub-tab to control what data is included in the profile. The Profile Settings sub-tab is where you enable site search reports, set your preferred time zone, and other settings.

To remove a profile, administrators can click “Delete this profile” on the Profile Settings sub-tab. Be careful that you are deleting the correct profile, because you won’t be able to recover the historical data for the profile once it’s been deleted.

Add a New User

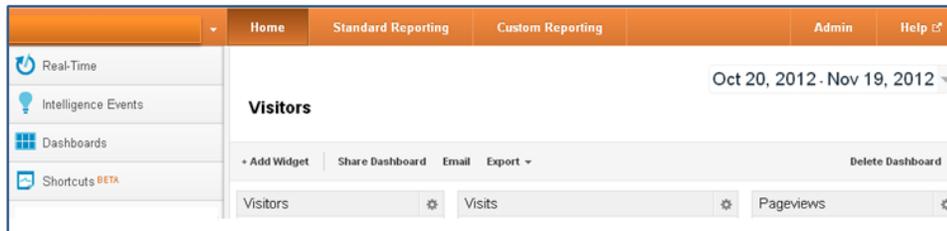
To grant someone else access to your Google Analytics data you will need to add a new user. To add a user, navigate to the “Users” sub-tab in the Profile tab under the Admin properties. Click “+ New User.” Enter the e-mail address for the user’s Google Account. (To create a Google Account associated with your government e-mail address, go to <https://accounts.google.com/NewAccount>). Next, select the new user, and from the available profiles list select the profiles to which the user should have access. You can also choose to grant the user an administrator role. As an administrator, the user would be able to: create web properties, profiles, and users; modify settings; and have access to all profiles and reports.

Lesson 3: Structural Overview

Google Analytics uses three primary navigation tabs: Home, Standard Reporting, and Custom Reporting.

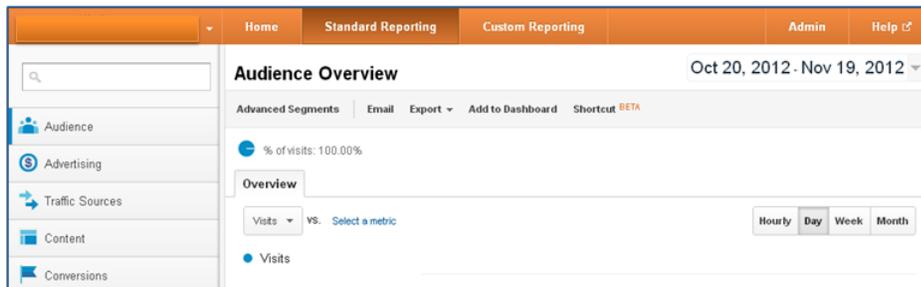
Under the Home tab, there are menu options on the left that allow you to see traffic on your website in real time (“Real-Time”), monitor significant changes in your traffic (“Intelligence Events”), and access summaries of different reports (“Dashboards”). Shortcuts remember your settings so you don't have to reconfigure a report each time you open it. Any setting you apply to a report, like adding an advanced segment or a new metric, stays applied in a shortcut until you manually change the settings. The settings are saved even if you sign out and sign back in to your account.

Figure 3: Home Tab Overview



Under the Standard Reporting tab, there are menu options on the left that allow you to see information about your visitors (“Audience”), where your visitors came from (“Traffic Sources”), pageviews of different sections of your website and individual pages (“Content”), and the success of your custom-defined goals (“Conversions”).

Figure 4: Standard Reporting Tab Overview



Under the Custom Reporting tab you can access and create custom metrics reports.

Figure 5: Custom Reporting Tab Overview



Part 3: Interpreting Standard Reports

Lesson 4: Audience Reports

Pageviews, Visits, and Visitors

Pageviews

A **pageview** is counted every time a page on your website loads. For example, if someone comes to your site and views page A, then page B, then Page A again, and then leaves your site—the total pageviews for the visit is 3. A **unique pageview** represents the number of visits during which that page was viewed—whether one or more times. In other words, if a visitor views page A three times during one visit, Google Analytics will count this as three pageviews and one unique pageview. If a person only views one page, Google Analytics reports this as a **bounced** visit. **Average pages per visit** tells you the average number of pages viewed on your website by all visitors over a set amount of time. This average can be an indication of the level of interest or involvement that visitors have with your site.

It is important to note that Google Analytics does not measure **hits**, rather, it measures views of a page. Hits are not a reliable way to measure website traffic because they overstate the amount of traffic coming to your website. Hits count the number of requests to a server for individual files. Pages are composed of files, and every image in a page is a separate file. For example, if you have a page with 10 pictures, then a request to a server to view that page generates 11 hits (10 for the pictures, and one for the html file). A single pageview can encompass hundreds of hits.

Figure 6: Counting pageviews



Visits

A **visit**—or session—is a period of interaction between a web browser and a website. Closing the browser or staying inactive for more than 30 minutes ends the visit. For example, if you have a visitor on your site who gets a phone call and talks for 31 minutes (during which she does not click anywhere on the site), and continues browsing after the call, Google Analytics will count this as a second visit, or a new session.

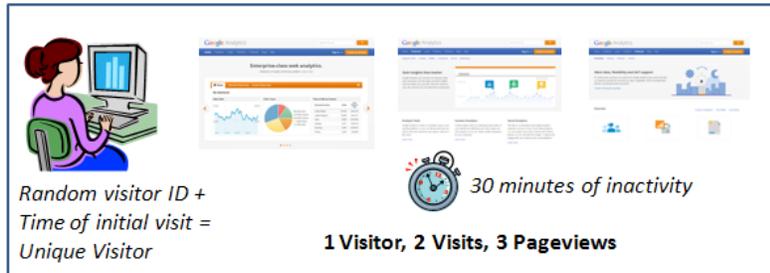
Figure 7: Counting visits



Visitors

A **visitor** is uniquely identified by a Google Analytics visitor cookie which assigns a random visitor ID to the user, and combines it with the timestamp of the visitor's first visit. The combination of the random visitor ID and the timestamp establish a unique ID for that visitor.

Figure 8: Counting visitors



Generally, the Visitors metric will be smaller than the Visits metric, which in turn will be smaller than the Pageviews metric. For example, 1 visitor could visit a site 2 times and generate a total of 5 pageviews.

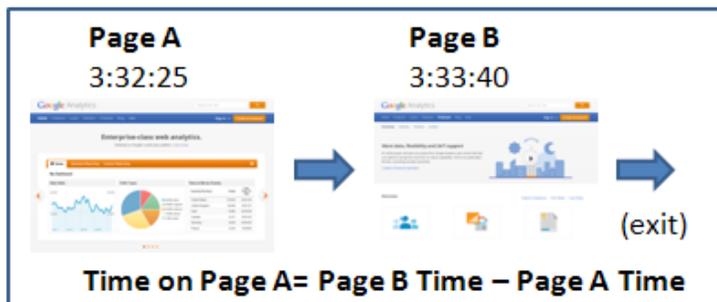
Total visitors counts each visitor during your selected date range only once. If visitor A comes to your site 5 times during the selected date range and visitor B comes to your site once, you will have 2 Visitors.

Time Metrics

Time on Page

Time on page is the amount of time a visitor spends on a single page. To calculate time on page, Google Analytics compares the timestamps of the visited pages. For example, in Figure 9, the visitor saw page A, then page B, and then left the site. The time on page for page A is calculated by subtracting the page A timestamp from the page B timestamp. The time on page for page A is 1 minute and 15 seconds.

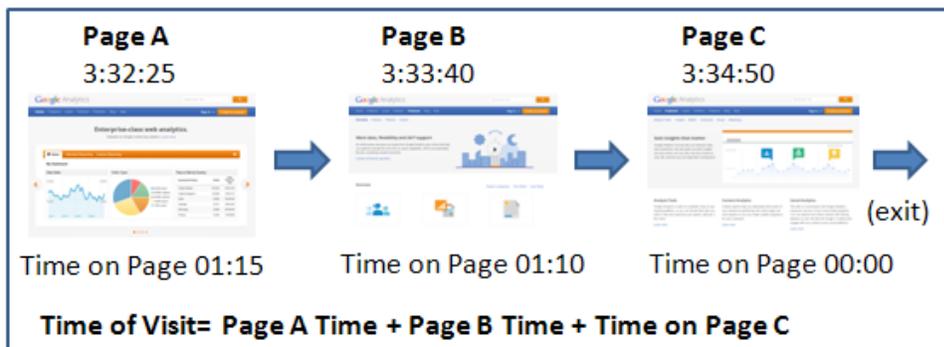
Figure 9: Time on Page



Time on Site

Now, suppose the visitor continued on to a third page before exiting, as shown in Figure 10. The second page now has a time on page of 1 minute 10 seconds. The time on site is now calculated as 2 minutes and 25 seconds. The **time on site** is the total time a visitor spent on your site.

Figure 10: Time on Site



Average Time on Page vs. Average Time on Site

Average time on page tells you the average amount of time spent on a single page by all visitors, such as the average time spent on your home page. To give you a better sense of engagement with a single page, Google Analytics excludes bounces from this calculation. In other words, any time on page of 0 is excluded from the calculation.

Average time on site tells you the average amount of time spent on your website by all visitors. To calculate average time on site, Google Analytics divides the total time for all visits by the number of visits. For average time on site, bounces remain a part of the calculation. Average time on site can be an indication of the level of interest or involvement that a visitor has with the website. Increasing the average pages per visit and average time on site can be evidence that your readers are increasingly satisfied with your content and are then more likely to recommend your site to others. Your visitors may also be finding what they're looking for on your site instead of elsewhere on the Web, which means they're likely return in the future. If you have a customer support site, however, your objective may be for visitors to get the information they need in as short a time as possible, with as few pageviews as possible. In this instance, your goal may be to decrease average time on site. It's important to keep your objectives in mind when interpreting site engagement metrics.

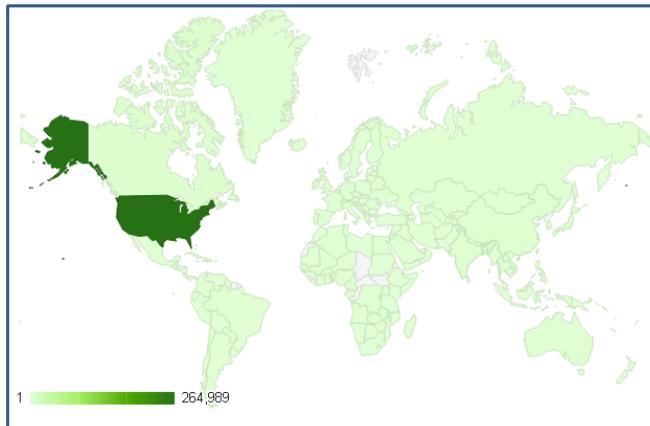
Some sites make extensive use of Flash or other interactive technologies. Often, these kinds of sites don't load new pages frequently and all the user interaction takes place on a single page. As a result, it's common for sites like this to have high **bounce rates**—meaning a high percentage of visits ended after viewing only one page—and low average times on site.

Visitor Information: Demographics, Behavior, Technology, Mobile, Flow

Demographics Reports

Demographics provide information on visitor language and location. For example, you can see whether most of your visits are from the United States, and even which cities have the highest levels of traffic.

Figure 11: Sample Visitor Location Map



Behavior Reports

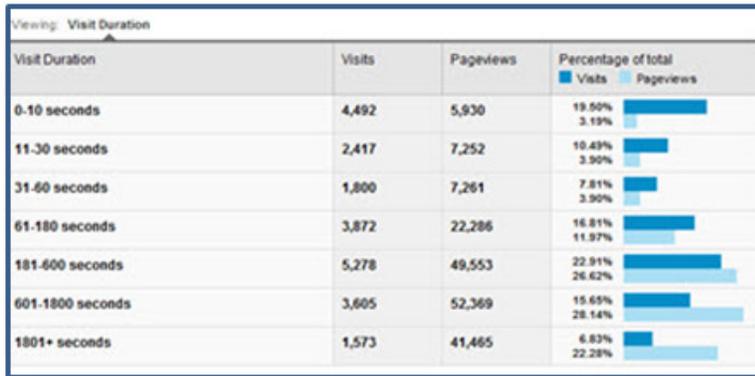
Behavior reports provide detailed information on New vs. Returning visitors, Frequency & Recency, and Engagement.

The New vs. Returning report classifies each visit as coming from either a new visitor or a returning visitor. When someone visits your site for the first time, the visit is categorized as **visit from a new visitor**. If the person has browsed your website before, the visit is categorized as **visit from a returning visitor**. A high number of new visits suggests that you are successful at driving traffic to your site, while a high number of return visits suggests that the site content is engaging enough for visitors to come back.

You can look at the Frequency and Recency report to see how recently visitors have visited. You can also look at the same report to see how frequently they return.

The Engagement report provides key information on visit duration. **Visit duration** categorizes visits according to the amount of time spent on the site during the visit. For example, you can see how many visits lasted 0-10 seconds, 11-30 seconds, 31-60 seconds, and so on. The graph allows you to visualize the entire distribution of visits instead of the 'Average Time on Site' across all visits. You can see whether a few visits are skewing your average time on site upward or downward. For example, you may have an average time on site of four minutes, but 60% of your visits may last 0-10 seconds. It's important to know that more than half of your visits lasted such a short time, as it could indicate that your site isn't making a strong first impression quickly.

Figure 12: Sample Visit Duration



Technology Reports

Technology reports provide details on data dimensions related to visitors' computer software, such as web browser and operating system, as well as service provider network (such as an agency's service provider network, or Comcast for at home users). Browser reports can show you which browsers your visitors use, as well as the browser versions. For example, you can see the number of visitors that use Internet Explorer 8.0, 9.0, 7.0, etc. Operating System reports show which operating system your visitors use, as well as the versions of those operating systems. For example, you can see the breakdown of visitors that use Windows 7, Windows XP, Windows Vista, and so on. Technology reports also include reports on network information. Network reports show visits by service provider, and can be especially helpful in seeing how many visits come from other agencies.

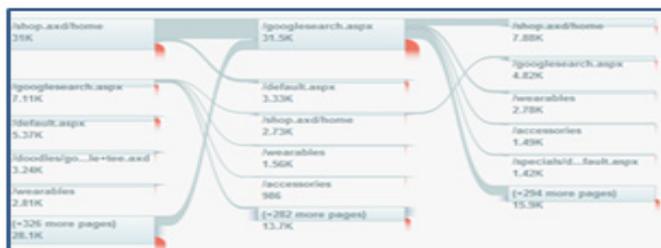
Mobile Reports

Mobile reports tell you how many visitors came from mobile devices. Mobile reports also compare behavior of mobile and non-mobile visits, by pages per visit, average visit duration, percent new visits, and bounce rate. Mobile reports also provide details on mobile devices and operating systems. This allows you to see the number of visits from iPhone, Blackberry, and Android devices.

Visitor Flow Reports

Visitor flow can help you understand how people move through your site. Visitor flow is a graphical representation of the paths visitors took through your site, from the source, through the various pages, and where along their paths they exited your site. You can break out visitor flow by different segments, such as Country/Territory, Traffic Sources, or custom variables. This report is available from the Audience report.

Figure 13: Sample Visitor Flow



Lesson 5: Traffic Sources Reports

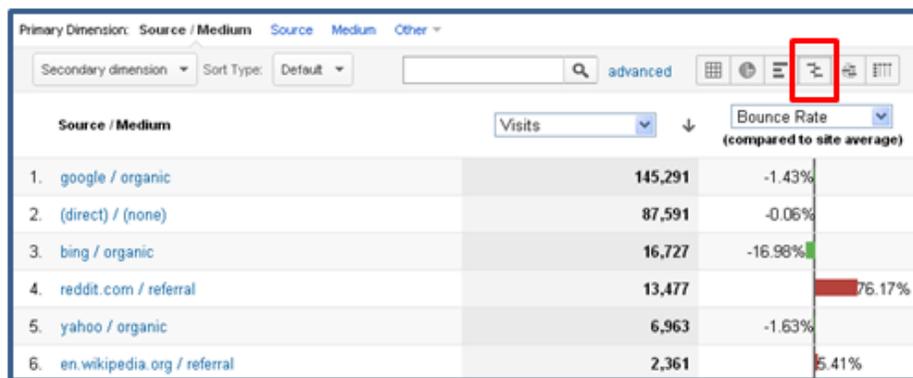
The reports in the Traffic Sources section show you where your traffic is coming from on the internet. You can compare your traffic sources against each other to find out which sources send you the highest quality traffic.

- **Direct traffic** represents visitors who clicked on a bookmark to arrive at your site, or who typed the URL directly into their browser, or who came by a link in an e-mail or in an online chat.
- **Referring sites** include any sites that send traffic to you. These could be banner ads or links featured on blogs, affiliates, or any site that links to your site. Social media sites are a subset of referring sites.
- **Search engine** traffic (organic traffic) represents visitors who click on a search results link in Google, Yahoo, or any other search engine.

Looking at the highest traffic drivers is helpful, but it's important to consider other factors as well. Another important metric is **bounce rate**—the percentage of visits in which the person left without viewing any other pages. Say blog.com sent the most traffic, but it has a 90% bounce rate. A bounce rate this high suggests that the site isn't relevant to what the visitor is looking for. It's also important to consider your site's overall bounce rate, especially in context with the purpose of your site. While a high bounce rate may mean that visitors are finding your content unappealing or irrelevant to their initial interest, it could also be the case that they found everything they need in one place. If your site is designed to provide extensive information of various topics, you may have a goal of reducing your bounce rate because you want users to engage with the content you've created.

By clicking the “compare to site average” icon and selecting a comparison metric, you can see which sources outperform and underperform the site average. For example, if you select bounce rate as your comparison metric, you can see how sources of traffic compare to the site average.

Figure 14: Comparing Traffic Sources



Source / Medium	Visits	Bounce Rate (compared to site average)
1. google / organic	145,291	-1.43%
2. (direct) / (none)	87,591	-0.06%
3. bing / organic	16,727	-16.98%
4. reddit.com / referral	13,477	76.17%
5. yahoo / organic	6,963	-1.63%
6. en.wikipedia.org / referral	2,361	5.41%

The All Traffic report lists all of the sources sending traffic to your site—including referrals, search engine traffic, and direct traffic. This report is particularly helpful because you can identify your top-performing sources. You may sometimes see referrals from google.com. These can come from Google Groups posts or static pages on other Google sites.

Keywords

To see the keywords that people used to find your site, go to the search overview under sources in the Traffic Sources section. Then, in the search overview report, click “Keyword” as the viewing option.

Figure 15: Finding Keyword Reports

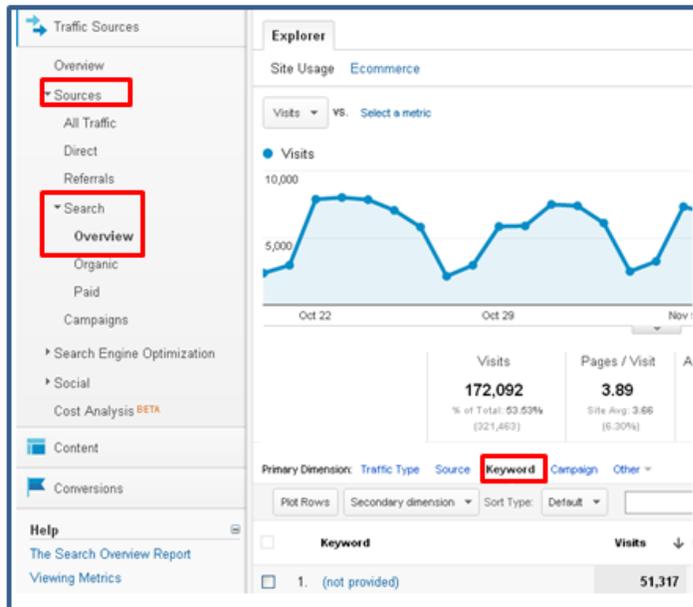
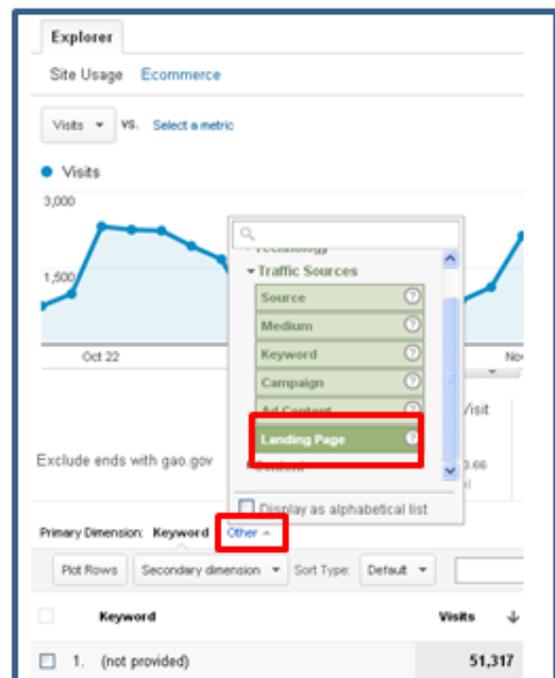


Figure 16: Finding Keyword Landing Page Reports

Looking at keywords is very useful for understanding what visitors were expecting to find on your site. Keywords with a high bounce rate tell you where you failed to meet that expectation. If you have a keyword with a high bounce rate you can look at the page(s) where your visitors entered your site (the **landing page**) after searching for that keyword. To find out which landing page is being used for a keyword, select the keyword, and from the next screen click “Other” and choose “Landing Page” under “Traffic Sources.” This report can be particularly helpful if multiple landing pages are being used. You can find out which landing pages are responsible for the lower performance and send the keyword traffic to the most effective landing page. This information can offer insights into how to best focus your search engine optimization efforts.



Lesson 6: Content Reports

All Pages, Content Drilldown, Landing Pages, and Exit Pages

The Site Content section of Content provides reports looking at pages visited.

All Pages Report

The All Page report lists each page that received traffic. The Page Title viewing option on the All Pages report groups your pages according to Title tag; this view can be useful when you have more than one name for your home page. You can click on a title to see the pages that share that title.

Content Drilldown Report

The Content Drilldown report groups pages according to folder directory. You can click on a directory to see the pages in the directory.

Landing Pages Report

The **landing pages** report lists all of the pages through which people entered your site (regardless of whether they came as a result of a keyword search). You may expect your home page to be the page where most of your visits begin, but this is often not the case. By identifying the landing page where most of your visits start, you can see the page where visitors get their first impression of your site. You can also use this report to monitor the bounce rate for each landing page. Bounce rate is good indicator of landing page relevance and effectiveness. The more relevant the page, the less likely a visitor will be to bounce.

Exit Pages Report

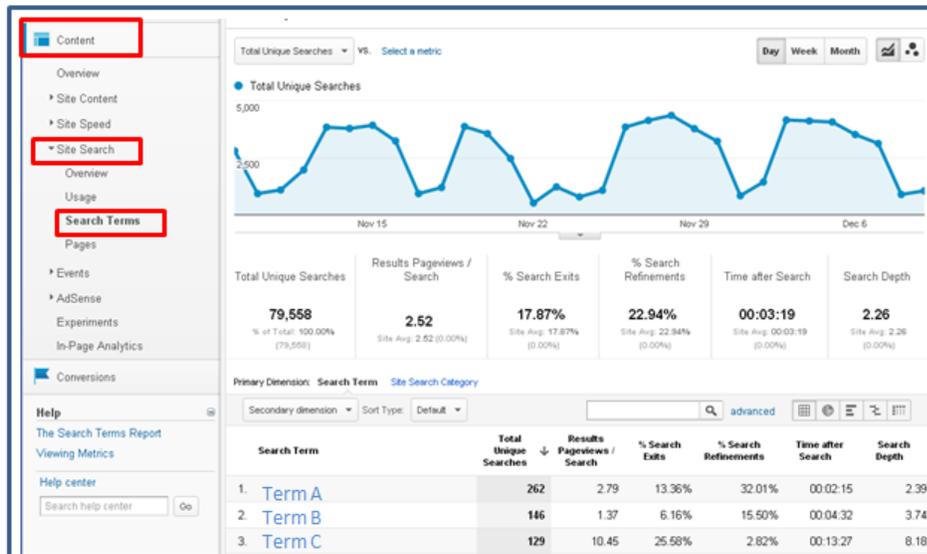
The **exit pages** report provides a breakdown of the number of exits from each page, and the percent of exits from each page. Google Analytics takes the last page viewed in each user's session and shows the pages that appear most frequently as the last one in visitor sessions. Exit rates differ from bounce rates because the visitor could have seen multiple pages before exiting, which would only be captured under exit rates because bounced visits indicate the visitor only viewed one page before leaving your site. This report is often considered less helpful than looking at bounce rates because there are many reasons why a visitor will exit your site that could have nothing to do with the site content itself.

Site Search Reports

Google Analytics provides internal **site search** reports that allow you to see how people search once they've arrived at your site. By looking at what people search for, you can identify missing or hidden content on your site and improve search results for key phrases.

Google Analytics reports use **search term** when referring to internal site searches and **keyword** when referring to external searches. You can find site search reports under Content Reports. The site search usage report compares visitors who used site search to those who did not. The search terms report only includes visits during which a search was performed. The search terms are listed in a table. You can see how each term compares in terms of number of searches, percentage of search refinements, and other metrics.

Figure 17: Finding Site Search Reports



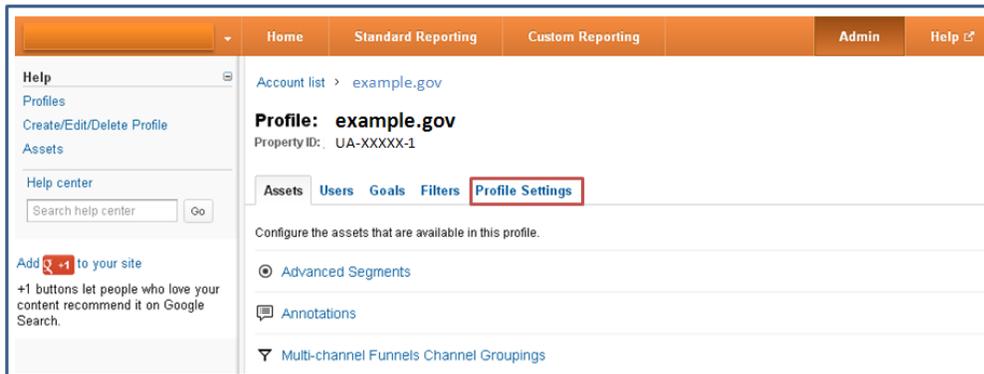
Start pages lists all of the pages from which visitors searched. To find start pages, click “Pages” under “Site Search.” Click on a page in the table to learn more about the searches that occurred from that page. A detail report will appear which lists all of the search terms that were used from that page. You can use this report to find out what visitors are searching for from your landing pages and you can use the information to improve the page content.

Destination Pages tells you which pages are most commonly found through search on your site. To find Destination Pages, click “Pages” under Site Search. Select “Destination Page” as the viewing option above the table. The table shows popular destination pages. Click on a page in the table to see the search terms that led to the page.

Set up Site Search for a Profile

In order to set up site search tracking for your website, you'll need to configure your profile settings. Note that you need to be an administrator to complete these steps. Click the “account administration” icon at the top right of any screen in Analytics. Navigate to the account, web property, and profile for which you want to enable site search reports.

Figure 18: Navigating to Profile Settings



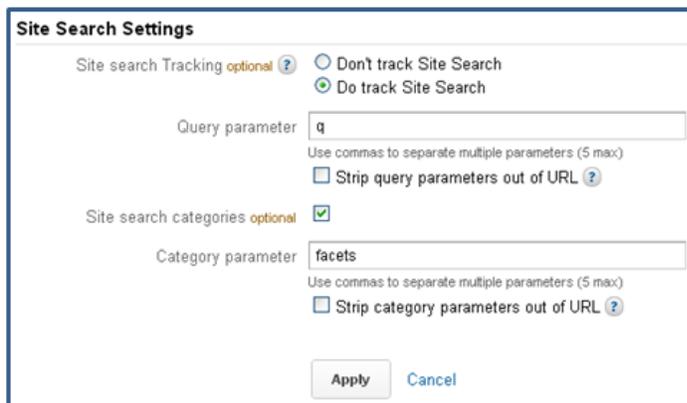
In the Site Search Settings section, select the “Do Track Site Search” radio button. In the “Query Parameter” field, enter the letter, word, or words that designate an internal query parameter, such as “term,search,query”. Sometimes the word is just a letter, such as “s” or “q”. Enter up to five parameters, separated by commas. To find out what the query parameter is, perform a search on your site. Normally when a user searches on your site, their query can be found in the URL. For example, if you search on Google.com, you will see your search query preceded by “q=”. Therefore, Google's query parameter would be “q”.

Select whether or not you want Google Analytics to strip the query parameter from your URL. Note that this strips only the parameters you provided and not any other parameters in the same URL. This has the same functionality as excluding URL Query Parameters in your Main Profile: if you strip the query parameters from your Site Search Profile, you don't have to exclude them again from your Main Profile.

Select whether or not you use *categories*, such as drop-down menus to refine a site search. If you select no, you are finished. Click “Save Changes.” If you select yes, you have two additional steps before clicking “Apply”:

- In the “Category Parameter” field, enter the letters that designate an internal query category such as “cat, qc,”.
- Select whether or not you want Google Analytics to strip the category parameters from your URL. Note that this strips only the parameters you provided and not any other parameters in the same URL.

Figure 19: Sample Site Search Settings



Part 4: Working with Data

Lesson 7: Working with Data, Using Tables, and Advanced Segmentation

Google Analytics provides important data on **metrics**, or measurements. Examples of metrics are number of visits, pages viewed per visit, and average time on site. Metrics appear in tables and can also be graphed.

Figure 20: Sample metrics

Country / Territory	Visits	Pages / Visit
1. United States	280,408	3.83
2. United Kingdom	4,677	2.08
3. Canada	4,103	2.67
4. Australia	2,849	1.82
5. Japan	2,255	3.25
6. Germany	2,203	2.52
7. China	2,171	3.92
8. (not set)	1,966	2.49
9. India	1,835	1.91
10. South Korea	1,016	4.33

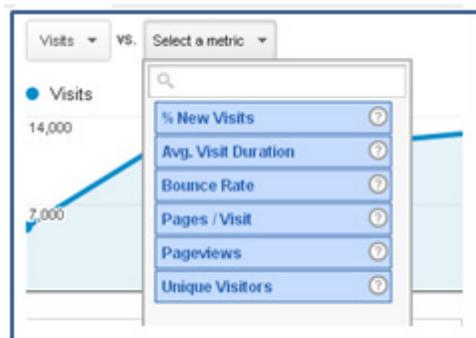
You can graph any metric (shown in blue in the left column of tables), by clicking it.

Figure 21 Sample graph



You can compare two metrics on the same graph to see how they are correlated. To do so, click “Select a Metric” and choose from the drop-down menu.

Figure 22: Comparing metrics



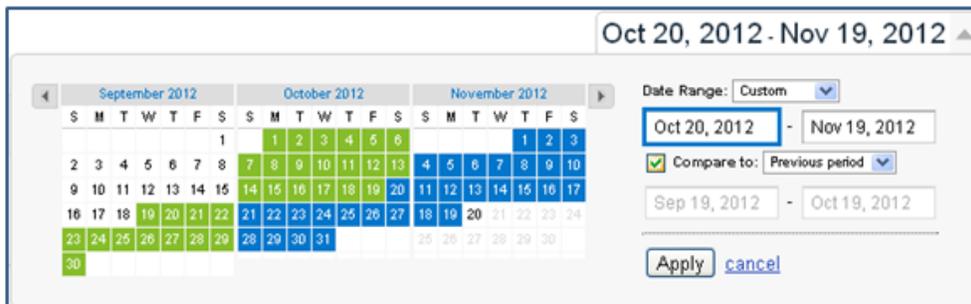
Use the calendar to set your active date range – the time period for which you want to look at data. Select date ranges by clicking on the day and month within the calendar or typing dates in the date range boxes. Once you set a date range, it stays active until you change it, or log out.

Figure 23 Selecting a custom date range



You can use a comparison date range to see how your site is performing month over month, year over year, or from one day to another. The date range and comparison date ranges you select will apply to all your reports and graphs. You will need to reset your date ranges when switching between custom reports and saved dashboards.

Figure 24: Selecting a comparison date range



Most reports include a graph of metrics over time at the top. You can make this graph display data by day, week, or month by clicking on one of those options.

Figure 25: Selecting graph by frequency



You can attach short notes or annotations to specific dates. Annotations are useful when you're looking at historical data and wondering whether outside events had an effect on your traffic. To add an annotation, click the date on the graph and select "Create new annotation." You can allow anyone with access to the profile to see the annotation, or make it private so that only you see it.

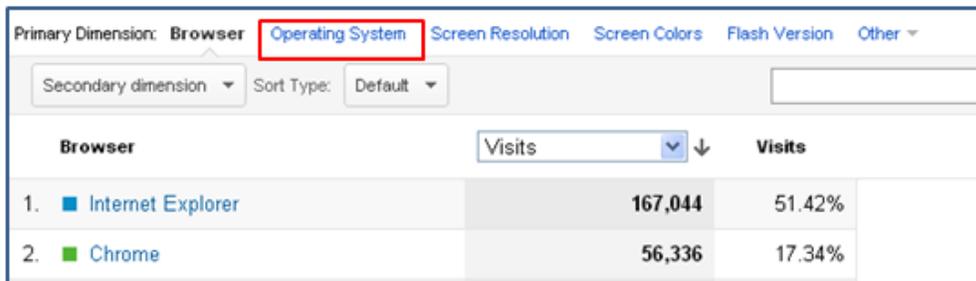
Figure 26: Attaching notes to specific dates



Working with Data in Tables

Many standard reports contain tables. These tables usually break out your data by a single dimension. A **dimension** describes attributes, such as city or region, browser or operating system, or mobile device information or service provider. Each row in the table shows the data for a different value of the dimension. Figure 27 shows a table that lets you change the dimension from Browser to Operating System, Screen Resolution, Screen Colors, Flash Version, or Other dimension. If you click the dimension Operating System, the table shows data for each kind of operating system, such as how many visits came from Internet Explorer versus Chrome.

Figure 27: Dimensions and report tables



The screenshot shows a report interface with a primary dimension dropdown set to 'Browser'. A red box highlights the 'Operating System' option. Below the dropdown, there are controls for 'Secondary dimension' and 'Sort Type'. The table below has columns for 'Visits' and 'Visits' (percentage). The data rows are:

Browser	Visits	Visits
1. Internet Explorer	167,044	51.42%
2. Chrome	56,336	17.34%

You can also see data for combinations of two dimensions by adding a secondary dimension. The example table shows data for the visitors' operating systems. Use the drop-down menu to select a secondary dimension. In this example, the secondary dimension is for the visitors' web browsers. Now you will be able to see data for each combination of operating system and browser data attributes (i.e., Windows/IE7; Mac/Chrome).

Figure 28: Selecting a secondary dimension

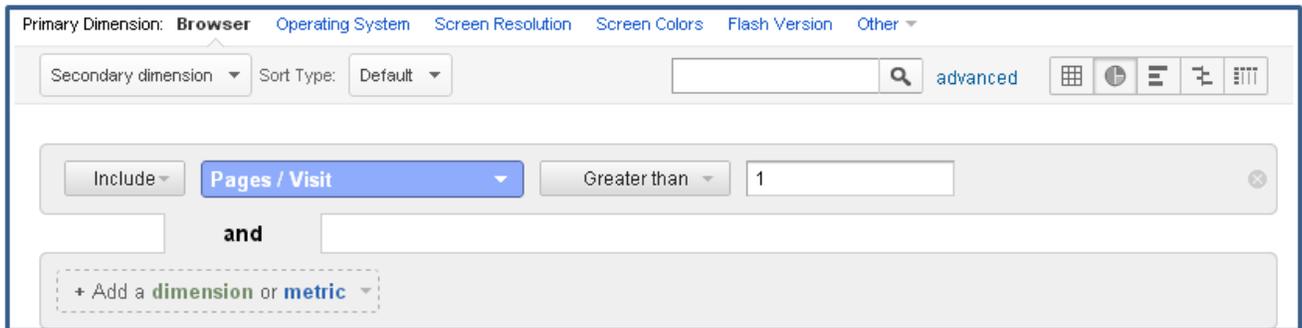


The screenshot shows a report interface with a primary dimension dropdown set to 'Operating System'. A dropdown menu is open, showing a list of secondary dimensions: Visitors, Technology, Browser, Operating System, Domain, Connection Speed, Screen Colors, Screen Resolution, Flash Version, Java Support, and Traffic Sources. The table below has columns for 'Pages/Visit' and 'Avg. Time'. The data rows are:

Operating System	Pages/Visit	Avg. Time
1. Windows	2.62	
2. Macintosh	4.48	
3. Linux	4.00	
4. Android	2.81	
5. Playstation 3	1.75	
6. iPhone	2.26	
7. SymbianOS	1.89	
8. Other	2.3%	

You can also filter the data that appears in a table. To do so, click the "Advanced" option above the table. For example, you may be interested in only seeing data for users that visited more than one page when they viewed your site.

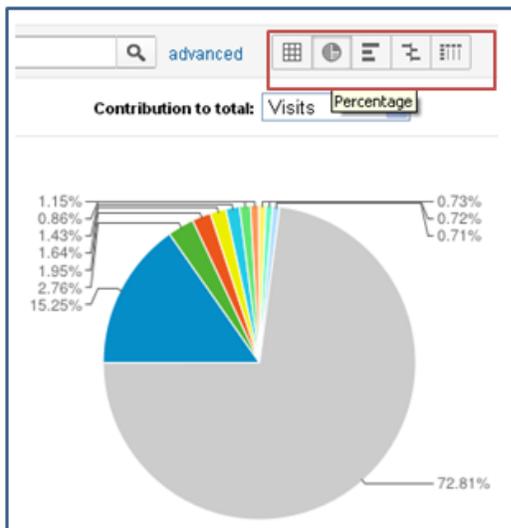
Figure 29: Filtering data in tables



The View option lets you visualize data in different ways.

- The Data view organizes your report data into a table. This is the default view for many reports.
- The Percentage view creates a pie chart based on any one of the metrics in the report.
- The Performance view shows a bar graph based on any metric you select.
- The Comparison view allows you to quickly see whether each entry in the table is performing above or below average.
- The Pivot view allows you to create a pivot table in which both rows and columns can break out dimension values.

Figure 30: Percentage view



Columns within tables can be sorted in both ascending and descending order by clicking on the column heading. The arrows next to the heading title indicate the order in which the results are listed. A down arrow indicates descending order and an up arrow indicates ascending order.

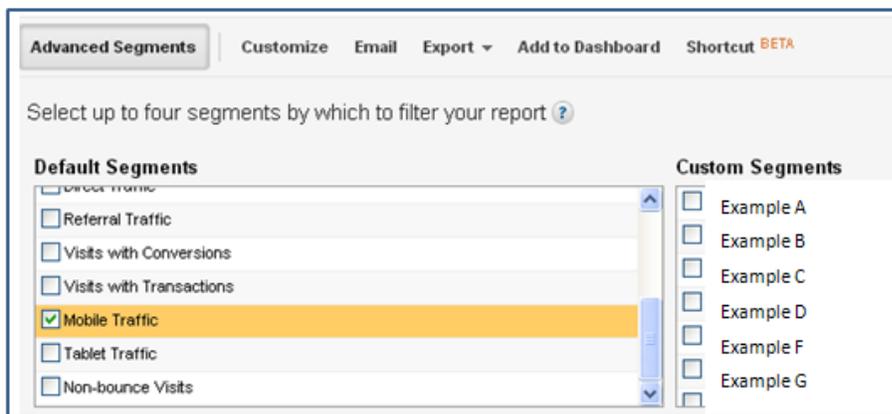
By default, all reports with tables display ten rows. To display more than ten rows, go to the bottom of your report and click the dropdown menu arrow next to "Show rows." You can display up to 500 rows per page.

Advanced Segments

An advanced segment is a subset of your data that you can apply to all of your reports at once. Advanced segmentation is applied more broadly than selecting a dimension, which would only apply to a single report. For example, by selecting “Mobile Traffic,” you can limit your analysis of all reports to only the visits from mobile devices. Within this view, you can also use dimensions to see additional details about these mobile users. If you apply a single advanced segment, all your reports are limited to the data in that segment until you select a different segment. You can always go back to seeing all your data by selecting the “All Traffic” segment. You can select up to four segments at a time. This allows you to compare data for each segment side by side as you go through your reports. The Advanced Segment pull-down shows two kinds of segments: default segments and custom segments.

Default segments are predefined and available to anyone using Google Analytics. **Custom segments** are segments that you define. Lesson 11 discusses how to create custom segments.

Figure 31: Default and custom advanced segments



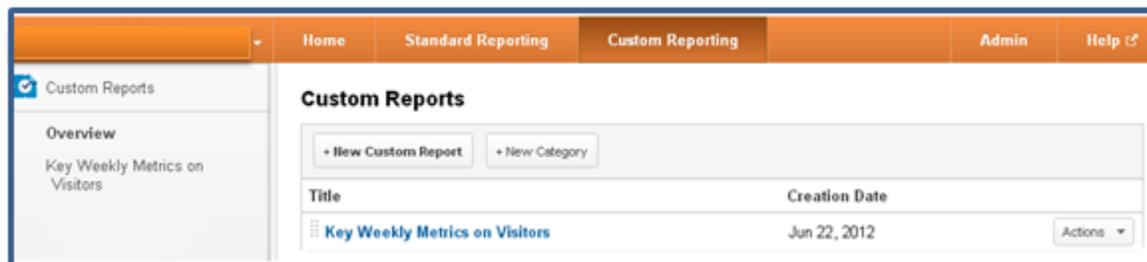
Part 5: Fundamentals

Lesson 8: Custom Reports

A **custom report** is a report that you create. You pick the dimensions (city and browser, for example) and metrics (Visits, Pageviews, and Bounce Rate, for example) and decide how they should be displayed. To access your custom reports, click the “Custom Reporting” tab. Your reports will be listed in the left navigation under custom reports. (If no custom reports have been created, you will only see an entry for overview under custom reports.)

To create a custom report, click the “Custom Reporting” tab and then click “Overview” under custom reports in the left navigation. Click “+ New Custom Report” to create a new report. To edit or delete an existing custom report, click the “Custom Reporting” tab and then click “Overview” under custom reports in the left navigation. You can edit or delete existing reports from the overview.

Figure 32: Custom Reporting View



Lesson 9: Dashboards

Dashboards are an easy way for you to access and organize metrics you review frequently. Dashboards give you an overview on how your properties are performing by displaying summaries of different reports as widgets on a single page. With a dashboard, you can monitor many metrics at once and you can quickly check the status of your accounts or see correlations between different reports. To view and manage your dashboards, use the dashboards menu on the left, found under the Home tab.

Each profile in your Google Analytics account displays a default dashboard that is pre-populated with a few widgets. You can add new widgets to a dashboard by clicking “Add to Dashboard” at the top of any report, or by clicking “Add Widget” from the dashboard menu. You can also customize and remove any widget on a dashboard, including the default widgets that automatically display in your account. Click the gear icon in the top corner of each widget to see these customization options.

You can create up to 20 dashboards, and each dashboard can contain up to 12 widgets. For example, you can create a dashboard that displays the ten common baseline performance metrics outlined by GSA as part of the Digital Government Strategy. These metrics include visits, pageviews, unique visitors, pages per visit, average visit duration, time on page, bounce rate, new vs. returned visitor, visits per visitor, and the number of internal site searches.

Dashboards are only in the profile and user account in which you created it. Use the e-mail and export menu options to share a dashboard.

Figure 33: Sample Dashboard



Lesson 10: Goals

It may be helpful to establish **goals** for your website, especially if visitors complete specific transactions on your site. Defining site goals and tracking goal conversions is one of the best ways to assess how well your site meets its objectives. In Google Analytics, a goal represents an activity or a level of interaction with your website that's important to the success of your objectives. Some examples of goals are an account signup, or even that the visitor spent a certain amount of time on the website. You can see total conversions and conversion rates for each of your goals in your reports. There are four types of goals in Google Analytics.

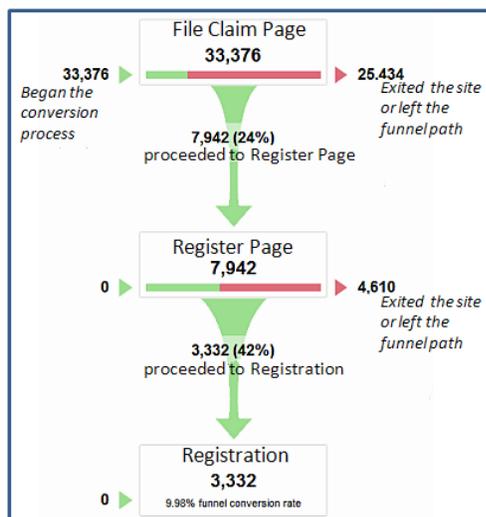
- A **URL destination goal** is a page that visitors see once they have completed an activity. For an account sign-up, this might be the “Thank You for signing up” page. A URL Destination goal triggers a conversion when a visitor views the page you've specified.
- A **visit duration goal** is a time threshold that you define. When a visitor spends more or less time on your site than the threshold you specify, a conversion is triggered.
- A **pages per visit goal** allows you to define a pages viewed threshold. When a visitor views more pages—or fewer pages—than the threshold you've set, a conversion is triggered.
- An **event goal** allows you to attach a conversion to an event that you have defined.

Funnels

For each URL destination goal that you define, you can also define a funnel. A funnel is the set of steps, or pages, that you expect visitors to visit on their way to complete the conversion. The goal page signals the end of the activity—such as a “thank you” page—and the funnel steps are the pages that visitors encounter on their way to the goal.

Defining a funnel is valuable because it allows you to see where visitors enter and exit the conversion process. For example, if you notice that many of your visitors never go further than a certain page you might focus on redesigning that page so that it's simpler. Knowing which steps in the process lose would-be customers allows you to eliminate bottlenecks and create a more efficient conversion path.

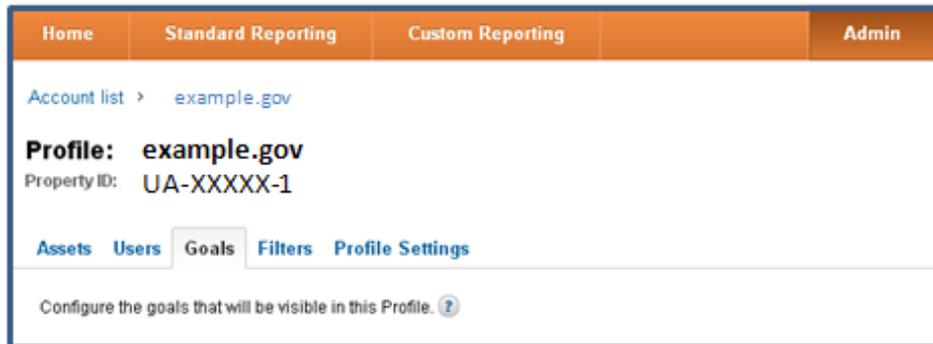
Figure 34: Sample Funnel



Setting up Goals

To set up a goal, first go the Account Administration page. Click the account and web property for which you want to configure a goal. Select the profile to which you want to add the goal. Then, click the goals tab and click “+ Goal” in one of the Goal sets. You can create up to 4 sets of 5 goals each.

Figure 35: Setting Up Goals



Defining URL Destination Goals

To define a URL destination goal, select “URL Destination” as the goal type. Next, enter the URL of the goal page. You don’t have to enter the entire URL. You can enter the request URI - that’s what comes after the domain or hostname. If the complete URL is `www.agency.gov/confirmation.php`, you only need to enter `/confirmation.php`. Make sure that the URL you enter corresponds to a page that the visitor will only see once they complete an activity. Pick something like a confirmation page for your goal. You can also enter a name for the Goal. This name will appear in your conversion reports. Defining a funnel is optional. To define your funnel steps, you add the URLs of the pages leading up to the goal URL. Just as with goals, you don’t have to enter the entire URL of a funnel step, just the request URI is fine.

The **Match Type** defines how Google Analytics identifies a goal or funnel step. You have three choices for the match type option.

- **Head Match** is the default. It indicates that the URL of the page visited must match what you enter for the goal URL, but if there is any additional data at the end of their URL then the goal will still be counted. For example, some websites append a product ID or a visitor ID or some other parameter to the end of the URL. Head Match will ignore these. If you want every page in a subdirectory to be counted as a goal, then you could enter the subdirectory as the goal and select “Head Match.”
- **Exact Match** means that the URL of the page visited must exactly match what you enter for the goal URL. In contrast to Head Match, which can be used to match every page in a subdirectory, Exact Match can only be used to match one single page.
- **Regular Expression Match** gives you the most flexibility. For example, if you want to count any sign-up page as a goal, and sign-up pages can occur in various subdirectories, you can create a regular expression that will match any sign-up page in any subdirectory. When you use regular expression match, the value you enter as the goal URL as well as each of the funnel steps will be read as a regular expression (regular expressions are discussed in lesson 12).

Regardless of which option you choose, Google Analytics is only matching Request URIs. In other words, the domain name is ignored. Check “Case Sensitive” if you want the URLs you entered into your goal and funnel to exactly match the capitalization of visited URLs.

Defining Threshold Goals

Threshold goals are useful for measuring site engagement, whereas URL destination goals are best for measuring how frequently a specific activity has been completed. If your objective is for visitors to view as much content as possible, you might set a pages per visit goal. Or, if you have a customer support site and your objective is for visitors to get the information they need in as short a time as possible, you might set a visit duration goal with a less than condition.

To define a visit duration, select “Time on Site” as the goal type. Next, select "Greater than" or "Less than" and enter an amount of time, for example 15 minutes.

To define a pages per visit goal, select “Pages per Visit” as the goal type. Next, select "Greater than," "Equal to," or "Less than," and enter a number of pages.

Figure 36: Setting Up Threshold Goals

The screenshot shows the 'Goals (set 1): Goal 1' configuration page in Google Analytics. The 'General Information' section includes a 'Goal Name' field, 'Active' and 'Inactive' radio buttons, and 'Goal Type' options: 'URL Destination', 'Visit Duration' (selected), 'Page/Visit', and 'Event'. The 'Goal Details' section has a table with columns for 'Visits with', 'Condition', 'Hours', 'Minutes', and 'Seconds'. The 'Visits with' dropdown is set to 'Visit Duration', and the 'Condition' dropdown is set to 'Less than'. The 'Hours', 'Minutes', and 'Seconds' fields are empty. Below the table is a 'Goal Value optional' field, which is also empty.

In the Reverse Goal Path report you can see this data even if you haven't defined a funnel. It lists the navigation paths that visitors took to arrive at a goal page and shows you the number of conversions that resulted from each path. This is a great report for identifying funnels that you hadn't considered before and it can give you great ideas for designing a more effective site.

Lesson 11: Filters

Google Analytics filters provide you with an extremely flexible way of defining what data are included in your reports and how it appears. You can use them to customize your reports so that data that you deem useful is highlighted in interesting ways. Filters can also help you clean up your data so that it is easier to read. Popular uses for filters include:

- Removing traffic from internal sources
- Restricting data for a profile or user
- Segmenting data
- Customizing reports

Filters process your raw traffic data based on the filter specifications. The filtered data is then sent to the respective profile. Once data has been passed through a filter, Google cannot re-process the raw data. That's why it's best to maintain one unfiltered profile so that you always have access to all of your data.

To set up a filter, first go the Account Administration page. Click your desired account. You can use the Filters tab to create new filters, edit their settings, and apply them to profiles. To create a new filter you will need to complete several fields, including the filter name and type. If you elect to create a custom filter, you will need to complete several additional fields.

Figure 37: Setting Up Filters



Rank	Filter Name	Filter Type
1	Exclude Internal Traffic	Exclude

Google Analytics provides three commonly used predefined filters.

- **Exclude Traffic from Domains** excludes traffic from the domain that you specify in the Domain field. If you apply this filter, Google Analytics will apply a reverse lookup with each visitor's IP address to determine if the visitor is coming in from a domain that should be filtered out. Domains usually represent the ISP of your visitor although larger departments generally have their IP addresses mapped to their domain name.
- **Exclude Traffic from IP Addresses** removes traffic from addresses entered into the IP address field. This filter is generally used to exclude your internal company traffic.
- **Include Traffic Subdirectories** causes your profile to only report traffic to a specified directory on your site. This is typically used on a profile that is created to track one part of a website.

As a best practice, create a filter to exclude your internal agency traffic from your reports. To do this you can use the predefined filter exclude traffic from IP addresses. You will need to enter your IP address or range of addresses into the IP address field.

Custom Filters

In addition to the pre-defined filters that Analytics offers, you can also create custom filters. Custom filters offer you greater control over what data appears in your profiles. To create a custom filter, select “Custom filter.” Additional fields will appear when you choose this option.

Figure 38: Setting Up Custom Filters

The screenshot shows the 'Add Filter to Profile' interface in Google Analytics. At the top, there are navigation tabs: Assets, Users, Goals, Filters, and Profile Settings. The main heading is 'Add Filter to Profile'. Below this, there is a section 'Choose method to apply filter to Profile' with two radio buttons: 'Create new Filter' (selected) and 'Apply existing Filter'. The 'Filter Information' section includes a 'Filter Name' text input field. Under 'Filter Type', there are two radio buttons: 'Predefined filter' (selected) and 'Custom filter' (highlighted with a red box). Below the radio buttons, there are three dropdown menus: 'Exclude', 'traffic from the ISP domain', and 'that are equal to'. There is a text input field for 'From ISP Domain' with a placeholder '(e.g. mydomain.com)'. At the bottom, there is a 'Case Sensitive' section with two radio buttons: 'Yes' and 'No' (selected).

Each custom filter has three main parts.

- The first part of a custom filter is filter types. There are six filter types available and each one serves a specific purpose.
- The second part is the filter field. There are numerous fields you can use to create your filter. Examples of some commonly used fields are the Request URI and Visitor Country fields.
- The third part of a custom filter is the filter pattern. This is the text string that is used to attempt to match pageview data. The pattern that you provide is applied to the field and, if it matches any part of the field, it returns a positive result and causes an action to occur. You'll need to use Regular Expressions to create the filter.

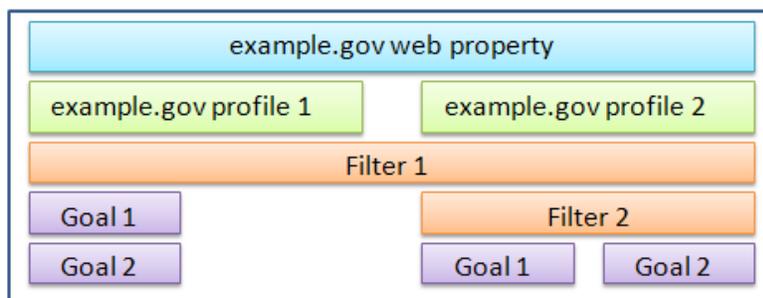
Table 1: Types of Filters

Filter Type	Description
Exclude	If the pattern matches, the hit is excluded
Include	If the pattern doesn't match, the hit is excluded
Lowercase/Uppercase	Converts the field into all lowercase or uppercase characters. Lowercase and Uppercase filters are very useful for consolidating line items in a report. For example, if you see multiple entries in your reports for a keyword or a URL, and the only difference between the multiple entries is that sometimes the URL or keyword appears with a different combination of uppercase and lowercase letters. You can use the Lowercase and Uppercase filters to consolidate these multiple entries into a single entry.
Search & Replace	Search for a pattern within a field and replace it with something else. Often used to replace long URL strings with a shorter string that is easier to read and identify in your reports.
Advanced	Construct a field from one or two other fields. For example, append Hostname to Request URI. You can use Advanced filters to remove unnecessary data, replace one field with another, or combine elements from multiple filter fields. For example, a best practice when tracking multiple subdomains in a single profile is to append the subdomain name to the page names. You can do this by creating an advanced filter that appends Hostname to Request URI.

Using Filters and Profiles

Once you've defined a filter, you can apply it to a single profile or across several profiles. For example, the graphic shows a single web property with two profiles. Filter 1 has been applied to both profiles. Filter 2 has been applied only to Profile 2. By setting up multiple profiles and applying filters creatively to each of them, you have a great deal of reporting and analysis flexibility.

Figure 39: Filters and Profiles

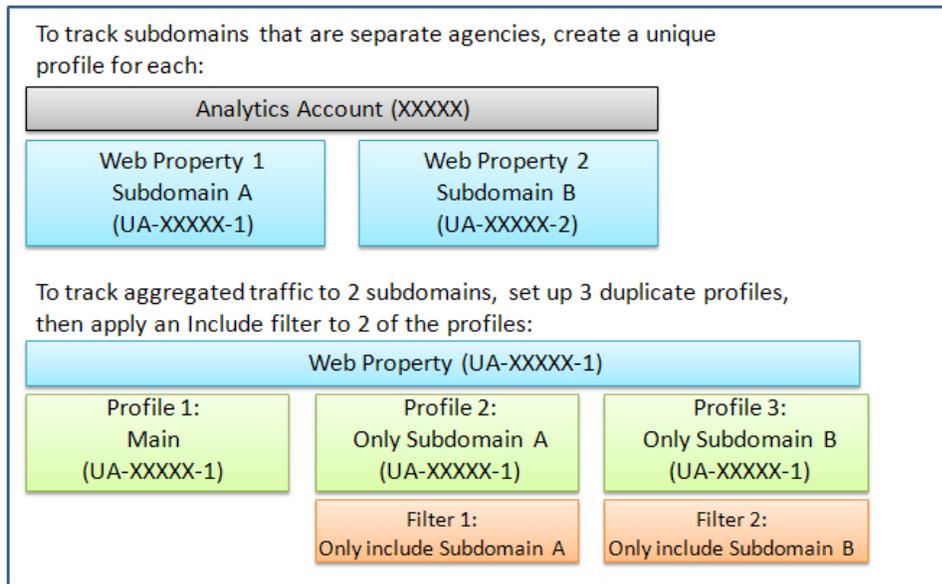


Filters and Subdomains

If your subdomains are totally separate agencies, and you have no need for reports that include cumulative traffic to both, then you could create a unique web property for each subdomain. Google Analytics creates a unique web property ID for each web property you set up. The web property ID comprises the letters "UA", the account ID, and a unique number that distinguishes the web property from other web properties in the account.

In the example figure, web property 1 is distinguished by a dash 1. Web property 2 is distinguished by a dash 2. You'd install the "dash 1" version of your tracking code on your Subdomain A pages, and the "dash 2" version of your tracking code on your Subdomain B pages. If you want to analyze the traffic aggregated across both subdomains, you could set up 3 duplicate profiles under a single web property. Then, you'd apply an Include filter to two of the profiles. Profile 1 includes all traffic to both subdomains. Profile 2 only includes traffic to subdomain A. Profile 3 only includes traffic to subdomain B. In this scenario, you'd install identical tracking code on every page of the site regardless of subdomain.

Figure 40: Tracking Subdomains



Best Practices for Filters and Profiles

As mentioned earlier, when setting up profiles and filters for your Analytics account, you should always create one unfiltered profile that can be a back-up in case your filters do not function as planned or you need more data than you originally thought. Once your raw data has passed through filters, Google cannot go back and reprocess the data. Maintaining an unfiltered profile provides you with a backup.

You can apply multiple include and exclude filters to a single profile, but keep in mind that when more than one filter is applied, the filters will be executed in the same order that they are listed in your Profile Settings. In other words, the output from one filter is then used as the input for the next filter. For example, if you want to include only users from Virginia and New Jersey, you cannot create two separate include filters because they will cancel each other out. The solution is to create one filter that uses a regular expression to indicate that the Visitor Region should be Virginia or New Jersey.

Lesson 12: Regular Expressions (regex)

A **regular expression** (regex) is a set of characters and metacharacters (special characters) that are used to match text in a specified pattern. You can use regular expressions to configure goals and filters. For example, if you want to create a filter that filters out a range of IP addresses, you'll need to enter a string that describes the range of the IP addresses that you want excluded from your traffic.

You'll find a number of useful applications for regex as you use Google Analytics. But, it's important that you consider all the implications of each expression that you use when you set up a filter or a goal. It's easy to make a mistake and not get the data you need. Set up a duplicate profile to test your regex statements. After enough data has been collected, check your results and make sure they're what you expect. Always maintain a backup profile that includes all your data.

Table 2: Meaning of Special Characters in Regular Expressions

Characters	Description
Dot (.)	<p>. Any single character</p> <p>The regex <code>c.t</code> will match "cat", "cut", "cot", or "c3t". It will also match the letters c and t with a space or tab between them.</p>
Question Mark (?)	<p>? Zero or one of the previous character</p> <p>The regex <code>Ct?</code> will match "C" (one capital C, zero lowercase t) or "Ct" (one capital C, one lowercase t).</p> <p>This also works with numbers, so the regex <code>31?</code> will match "3" or "31".</p>
Plus Sign (+)	<p>+ One or more of the previous character</p> <p>The regex <code>Ct+</code> will match "Ct", "Ctt", "Cttt", and so on, but will <i>not</i> match "C" by itself.</p> <p>Similarly the regex <code>31+</code> matches "31", "311", "3111", and so on, but will <i>not</i> match "3" by itself.</p>
Star (*)	<p>* Zero or more of the previous character</p> <p>The regex <code>Ct*</code> will match "C", "Ct", "Ctt", "Cttt", and so on. (Note that you must have the capital C, or the match will fail.)</p> <p>Similarly the regex <code>31*</code> matches "3", "31", "311", "3111", and so on.</p> <p>.* Zero or more of any character</p>
Repetition { }	<p>{n,m} (where n >= 0 and m >= n) Repeats the previous item between n and m times</p> <p>The regex <code>31{1,3}</code> matches "31", "311", and "3111" but does <i>not</i> match "3", or "31111".</p>

	<p>{n} where n is an integer >= 1 Repeats the previous item exactly n times.</p> <p>The regex <code>3{3}</code> matches “333”</p>
Backslash \	<p>\ Escape the special meaning of special characters</p> <p>The backslash (\) signals to a regex that the following character, if it has a special regex meaning, should be interpreted literally, not in its special regex sense. So <code>.</code> by itself means “any single character,” while <code>\.</code> with the backslash means an actual period. This works for any character that has a special meaning in a regular expression: <code>*</code> means an actual star, and <code>\+</code> means an actual plus. The backslash also works on itself; to search for a literal backslash, a regex pattern must contain <code>\\</code>.</p> <p>The regex <code>U.S.</code> would match a number of unintended strings, including “UPS.,” “U.Sb”, and “U3\$g”. If you want to treat a dot like a regular dot, you have to escape it with the backslash, using the regex <code>U\.S\.</code></p>
Character Sets and Ranges []	<p>[] Match one item in this character set</p> <p>Use square brackets to enclose all of the characters you want as match possibilities. So the regex <code>[uU]\.[sS]</code> matches “u.s.” and “U.S.”</p> <p>- Use a hyphen inside a character set to specify a range</p> <p>The regex <code>[0-9]</code> matches 0 1 2 3 4 5 6 7 8 9 The regex <code>[^0-9]</code> does <i>not</i> match 0 1 2 3 4 5 6 7 8 9</p>
Grouping ()	<p>() Group and remember contents as an item</p> <p> Either/Or</p> <p>The regex <code>(U\.S\. US u\.s\. us)</code> matches “U.S.,” “US”, “u.s.,” and “us”</p>
Anchors ^ \$	<p>^ Beginning of a string</p> <p>The regex <code>^US Holiday</code> matches “US Holiday”, but not “Next Monday is a US Holiday”</p> <p>\$ End of a string</p> <p>The regex <code>US Holiday\$</code> matches “US Holiday”, but not “US Holiday Schedule”</p>
Shorthand Character Classes \d \s \w	<p>\d Match any number</p> <p>\s Match any whitespace character (including tabs and hard returns)</p> <p>\w Match any letter, number, or underscore</p>

Part 6: In-Depth Analysis

Lesson 13: Advanced Segmentation

With **Advanced Segments**, you can quickly isolate and analyze subsets of your traffic. You can create an advanced segment that only includes visits that meet a specific set of criteria. For example you can create an advanced segment that only includes visits from a certain geographic region.

While it's possible to create filtered profiles that segment traffic data, there are some differences between filtered profiles and advanced segments.

Advanced Segments

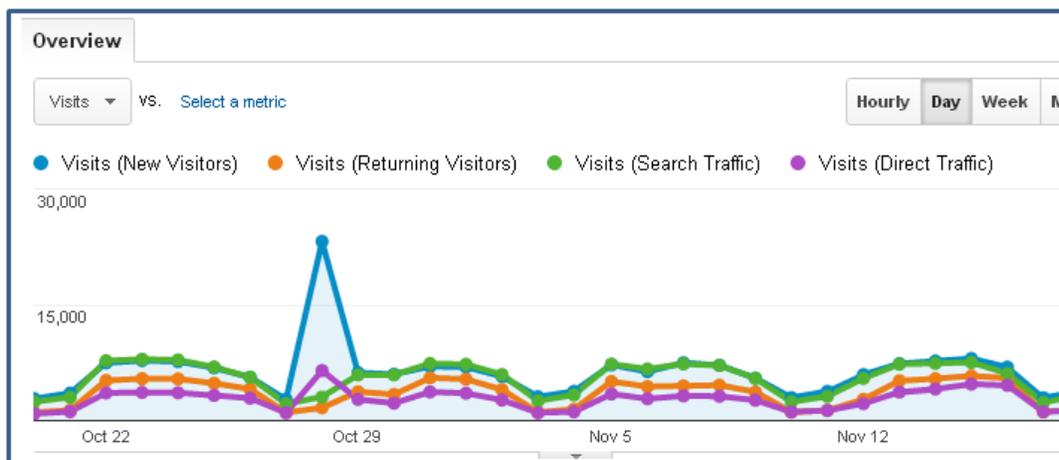
- May be applied to historical data
- Are available across all your accounts and profiles
- Can be compared side-by-side in reports
- Are easier to create than a filtered profile

Filtered Profiles

- Permanently alter or restrict the data that appears in a profile
- Can be used to restrict user access to a subset of data

To apply an advanced segment, click Advanced Segments and select the segments you want. The Default Segments are predefined, meaning you don't have to do anything to use them except to select them. Once you've applied one or more advanced segments, you can see the data for the segments throughout all of your reports. You can also change your date range and see the segments applied to historical data. The segments remain applied until you deselect them or you logoff.

Figure 41: Applying Advanced Segments



To create an advanced segment, begin by clicking the “Advanced Segments” pull down. Then click “Create a new advanced segment.” Using the next screen, you can combine one or more logical statements to define a segment. For example, you can include only visits coming from a specific domain. Click “Preview Segment” and you can see the percentage of total visits that are included in the segment. You can add as many conditions to the segment as you like. When you’ve finished, click “Save Segment.” The segment will now appear in the Custom Segments area of the Advanced Segments pull down.

Figure 42: Previewing a New Advanced Segment

The screenshot displays the 'Advanced Segments' configuration interface. At the top, there are navigation options: 'Advanced Segments', 'Email', 'Export', 'Add to Dashboard', and 'Shortcut BETA'. Below this, a text input field labeled 'Name:' contains the text 'Test'. The main configuration area features a grid of options: 'Include' (a dropdown), 'Time on Page' (a dropdown menu), 'Greater than' (a dropdown), and the value '3'. Below this grid, there are options to 'Add 'OR' statement' and 'Add 'AND' statement'. A section titled 'More Options' is partially visible. At the bottom, there are four buttons: 'Save Segment', 'Preview Segment' (which is highlighted with a red rectangular border), 'Test Segment', and 'Cancel'.

Lesson 14: Event Tracking and Virtual Pageviews

Some interactions you may wish to measure are not automatically captured by Google Analytics. This includes interactions with embedded video players, games, or other interactive experiences on site pages, as well as file downloads and clicks on links that take the visitor to another site. This is because when a visitor interacts with a video player, for example, no pageview is generated. There are two ways to track these kinds of activities: virtual pageviews and Event Tracking.

Virtual Pageviews

You can create a **virtual pageview** to represent practically any kind of activity or interaction you want. For example, you can use virtual pageviews to track a download or a Flash event. You call `_trackPageview()` and provide any name you want as the argument. It's "virtual" because you're telling Google Analytics to register a pageview even though no new page has actually been loaded. You'll see these virtual pageviews alongside ordinary pageviews in the Pages and Content Drilldown reports.

If you look at the Google Analytics tracking code, you'll notice that it calls `_trackPageview()`. This lets Google Analytics know that the browser has loaded a page. When you call `_trackPageview()`, however, you'll want to provide an argument that specifies a virtual page name for the event you're tracking.

It's a good idea to adopt a clear naming convention for your virtual pageviews. You might, for example, group virtual pageviews into categories by giving them a virtual subdirectory. Also, since virtual pageviews appear along with standard pageviews in reports, you may wish to create a duplicate profile where you filter out the virtual pageviews. To make this easy, you might organize all of your virtual pageviews into a virtual directory.

Event Tracking

The other way to track non-pageview interactions is to use **event tracking**. One advantage of using event tracking is that you won't generate an extra pageview each time an interaction occurs. Another advantage is that you can easily organize your events into categories, actions, and labels. And you can even provide values for each event you track. All of your events show up in the Events reports within the Content section.

Call the `_trackEvent()` method each time you want to register an event. The slide shows the full specification of `_trackEvent()` -- which you can also find documented on the Google code site -- and how you would actually call it, assuming that you are using asynchronous tracking.

The arguments to `_trackEvent()` are:

- Category (1st argument): the name you supply for the group of objects you want to track, e.g. "Videos"
- Action (2nd argument): a string that is uniquely paired with each category, and commonly used to define the type of user interaction for the web object, e.g. "Play" or "Stop" button clicks
- Label (optional 3rd argument): Further designation given to the event, e.g. "Finding Nemo"
- Value (optional 4th argument): numerical value assigned to the event, e.g. load time

In your reports, you'll notice that both **total events** and **unique events** are counted. Total Events is the total number of times an event occurs—the number of times `_trackEvent` was called. But, for Unique Events, each particular event is only counted once per visit. If during a single visit, a visitor presses Play 5 times on the same movie, total events will be incremented by 5. But unique events will only be incremented by 1, because for unique events, a particular event is only counted once per visit.

The arguments you provide when you call `_trackEvent` will govern how events are organized in your reports. Before you add the calls to `_trackEvent` to your site, consider these best practices. First, determine in advance all of the kinds of events you'll want to track. Try to create a hierarchy of categories, actions, and labels that will grow with your needs. Work with your report users to make sure that the hierarchy makes sense.

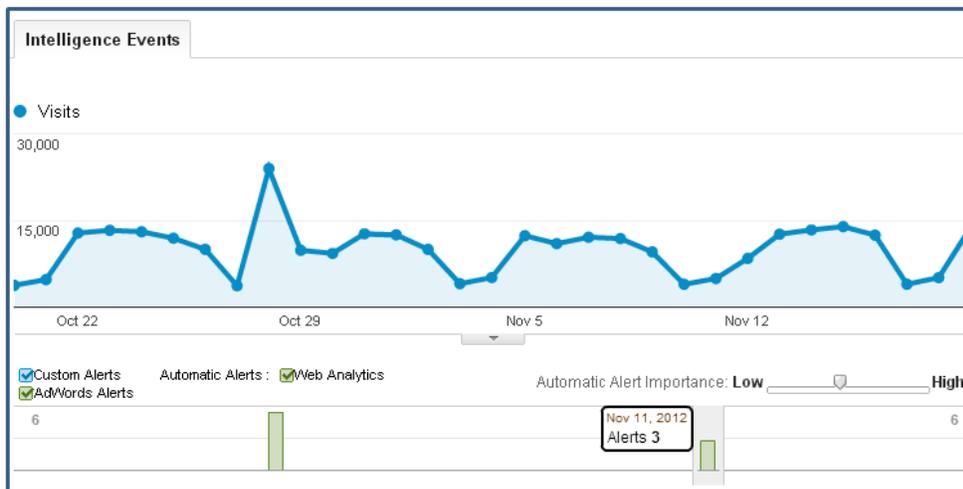
Advantages of Event Tracking over Virtual Pageviews

Event tracking allows you to analyze user interactions in much greater detail, and avoids inflating your pageview counts. For example, instead of seeing how many times a movie was played on your site, event tracking allows you to analyze how people use your video player, and see how different events correlate with site usage.

Lesson 15: Analytics Intelligence

Use **analytics intelligence** to monitor website traffic and detect significant changes with alerts. There are two kinds of alerts, automatic (shown in green) and custom (shown in blue). Automatic alerts happen on their own. You can change the alert importance level from low to high to view fewer or more alerts.

Figure 43: Viewing Analytics Intelligence



Custom alerts are based on a set of conditions you create. For example, you can set a custom alert for a spike in bounce rate associated with a certain page. This kind of alert could indicate a problem, and with the e-mail option you can be notified right away, and can even be notified by text message.

Figure 44: Creating a Custom Alert

The 'Create an Alert' dialog box is shown. It includes fields for 'Alert name', 'Apply to' (set to 'example.gov'), and 'Period' (set to 'Day'). There are checkboxes for 'Send me an email when this alert triggers' and 'Setup your mobile phone to receive a text message about Intelligence Alerts'. Under 'Alert Conditions', 'This applies to' is set to 'All Traffic', 'Alert me when' is set to 'Visits', and the condition is 'Is less than' with an empty value field. 'Save Alert' and 'Cancel' buttons are at the bottom.

Lesson 16: Content Experiments

Content experiments allow you to test how well different versions of pages work in getting visitors to accomplish specific goals. With content experiments you can test up to five full versions of a single page to see which of those pages drives the most goal conversions. Each of the pages is delivered to visitors from a separate URL. This is somewhat different from either standard A/B or multivariate testing, where you would test just two versions of a page (A/B testing) or various combinations of components on a single page (multivariate testing).

With Content Experiments, you can:

- Compare how different web pages perform using a random sample of your visitors
- Define what percentage of your visitors are included in the experiment
- Choose which goals to test

When you see which page drives the most conversions, you can make that one the live page for all visitors.

To access experiments go to the Standard Reporting tab, and in the left menu click “Content,” and then click “Experiments.” The two main requirements for starting experiments are different versions of a web page to serve to visitors and goals set up in your analytics account.

Testing Possibilities:

- Headlines and headers
- Images and icons
- Text
- Calls to action
- Page layout

Possible Goals to use as the basis for your experiments:

- URL destination goals
- Event goals
- Visit duration goals
- Pages per visit goals

To get faster and more reliable results:

- Test only a few elements so you which elements are responsible for the best results
- Use highly trafficked pages to get more data faster
- Make bold changes that your visitors won't miss

Part 7: Glossary of Terms

Term	Definition	Reference
Advanced Segments	A subset of your data applicable to all reports.	Pages 23, 35
Analytics Intelligence	Monitors website traffic and detects significant changes.	Page 39
Avg. Pages per Visit	The average number of pages viewed on your website by all visitors over a set amount of time.	Page 7
Avg. Time on Page	The average amount of time spent on a single page by all visitors, such as the average time spent on your home page. Google Analytics excludes bounces from this calculation.	Page 9
Avg. Time on Site	The average amount of time spent on your website by all visitors, including bounced visits. To calculate Average Time on Site, Google Analytics divides the total time for all visits by the number of visits.	Page 10
Bounce Rate	The percentage of visits in which the person left without viewing any other pages	Pages 7, 10, 13
Custom Segments	Advanced segments that you define.	Page 23
Dashboard	An overview on how your properties are performing by displaying summaries of different reports as widgets on a single page.	Page 25
Default Segments	Predefined advanced segments and available to anyone using Google Analytics.	Page 23
Destination Pages	Pages are most commonly found through search on your site.	Page 16
Dimension	Describes data attributes, such as city or region, browser or operating system, or mobile device information or service provider.	Page 21
Direct Traffic	Represents visitors who clicked on a bookmark to arrive at your site, or who typed the URL directly into their browser, or who came by a link in an email or in an online chat.	Page 13
Event Goal	Allows you to attach a goal conversion to an event that you have defined.	Page 26
Event Tracking	Represents an activity or interaction with an event, such as playing a podcast or video.	Page 37
Exact Match Type	The URL of the page visited must exactly match what you enter for the goal URL.	Page 27
Exclude Traffic from Domains Filter	Excludes traffic from the domain that you specify in the Domain field. If you apply this filter, Google Analytics will apply a reverse lookup with each visitor's IP address to determine if the visitor is coming in from a domain that should be filtered out.	Page 29
Exclude Traffic from IP Addresses Filter	Removes traffic from addresses entered into the IP address field. This filter is generally used to exclude your internal company traffic.	Page 29

Exit Rate	The percent of visitors that left your website from a certain page.	Page 15
Filters	Flexible way of defining what data is included in your reports and how it appears, by processing raw traffic data based on the specifications. Once data has been passed through a filter, Google cannot re-process the raw data.	Page 29
Funnel	The set of steps, or pages, that you expect visitors to visit on their way to complete the conversion.	Page 26
Goals	Represents an activity or a level of interaction with your website that's important to the success of your business objectives.	Page 26
Head Match Type	The URL of the page visited must match what you enter for the goal URL, but if there is any additional data at the end of their URL then the goal will still be counted	Page 27
Hits	Hits count the number of requests to a server for individual files. Pages are comprised of files, and every image in a page is a separate file. For example, if you have a page with 10 pictures, then a request to a server to view that page generates 11 hits (10 for the pictures, and one for the html file). A single pageview can encompass hundreds of hits.	Page 7
Include Traffic Subdirectories Filter	Causes your profile to only report traffic to a specified directory on your site. This is typically used on a profile that is created to track one part of a website.	Page 29
Keywords	Words people used to find your site on external search engines.	Page 14
Landing Pages	Pages through which people began their visit on your site. Landing pages are not necessarily the home page.	Page 14, 15
Match Type	Defines how Google Analytics identifies a goal or funnel step.	Page 27
Metric	A measurement.	Page 18
New Visitor	When someone visits your site for the first time the visit is categorized as a visit from a new visitor.	Page 11
Pages per Visit Goal	When a visitor views more pages—or fewer pages—than the threshold you've set, a goal conversion is triggered.	Page 26
Pageviews	A pageview is counted every time a page on your website loads.	Page 7
Profile	A set of rules that defines the data you see for a web property.	Page 4
Referring Sites Traffic	Include any sites that send traffic to you. These could be banner ads or links featured on blogs, affiliates, or any site that links to your site. Social media sites are a subset of referring sites.	Page 13
Regular Expression	A set of characters and metacharacters that are used to match text in a specified pattern.	Page 33
Regular Expression Match Type	The value you enter as the goal URL as well as each of the funnel steps will be read as a regular expression.	Page 27
Returning Visitor	If the person has browsed your website before, the visit is categorized	Page 11

as a visit from a returning visitor.

Search Engine Traffic	Represents visitors who click on a search results link in Google, Yahoo, or any other search engine.	Page 13
Site Search	Internal site searches for terms or phrases.	Page 16
Time on Page	Time a visitor spends on a single page.	Page 9
Time on Site	The total length of time a visitor spends on a site.	Page 9
Total Events	The total number of times an event occurs—the number of times <code>_trackEvent</code> was called.	Page 38
Total Visitors	The number of unique visitors that came to a site during a selected date range. Each visitor is only counted once during the date range, no matter how many times they may have visited a site.	Page 8
Unique Events	Each particular event is only counted once per visit.	Page 38
Unique Pageview	Represents the number of visits during which that page was viewed--whether one or more times.	Page 7
URL Destination Goal	Triggers a goal conversion when a visitor views the page you've specified.	Page 26
Virtual Pageviews	Represents an activity or interaction with a pageview. "Virtual" because you're telling Google Analytics to register a pageview even though no new page has actually been loaded.	Page 37
Visit Duration	Visit Duration categorizes visits according to the amount of time spent on the site during the visit. For example, you can see how many visits lasted 0-10 seconds, 11-30 seconds, 31-60 seconds, etc.	Page 11
Visit Duration Goal	When a visitor spends more or less time on your site than the threshold you specify, a goal conversion is triggered.	Page 26
Visitor Flow	A graphical representation of the paths visitors took through your site, from the source, through the various pages, and where along their paths they exited your site.	Page 12
Visitors	A visitor is uniquely identified by a Google Analytics visitor cookie.	Page 8
Visits	A period of interaction between a web browser and a website.	Page 7
Web Property	All the pages where a particular set of tracking code is installed, including the web property ID or UA number (e.g. UA-xxxxx-y).	Page 4

Part 8: References

- For more on Google Analytics for Government visit my website www.SarahKaczmarek.com. For example, you can view my presentation *Forum Call: Meaningful Metrics—From Gathering to Analyzing Digital Metrics* (also available at <http://www.howto.gov/training/classes/meaningful-metrics>).
- Google Analytics IQ Video Lessons: <http://www.google.com/analytics/iq.html>
- GSA's www.HowTo.gov site on Digital metrics for Federal Agencies: <http://www.howto.gov/web-content/digital-metrics>
- Occam's Razor – Analytics Blog: <http://www.kaushik.net/avinash/>
- Ben Barden's *Google Analytics, A Beginner's Guide*: <http://ebookbrowse.com/ben-barden-a-beginners-guide-to-google-analytics-pdf-d139017863>
- Slingshot^{SEO} *How to Use Google Analytics*: <http://connect.slingshotseo.com/a-beginners-guide-to-google-analytics>