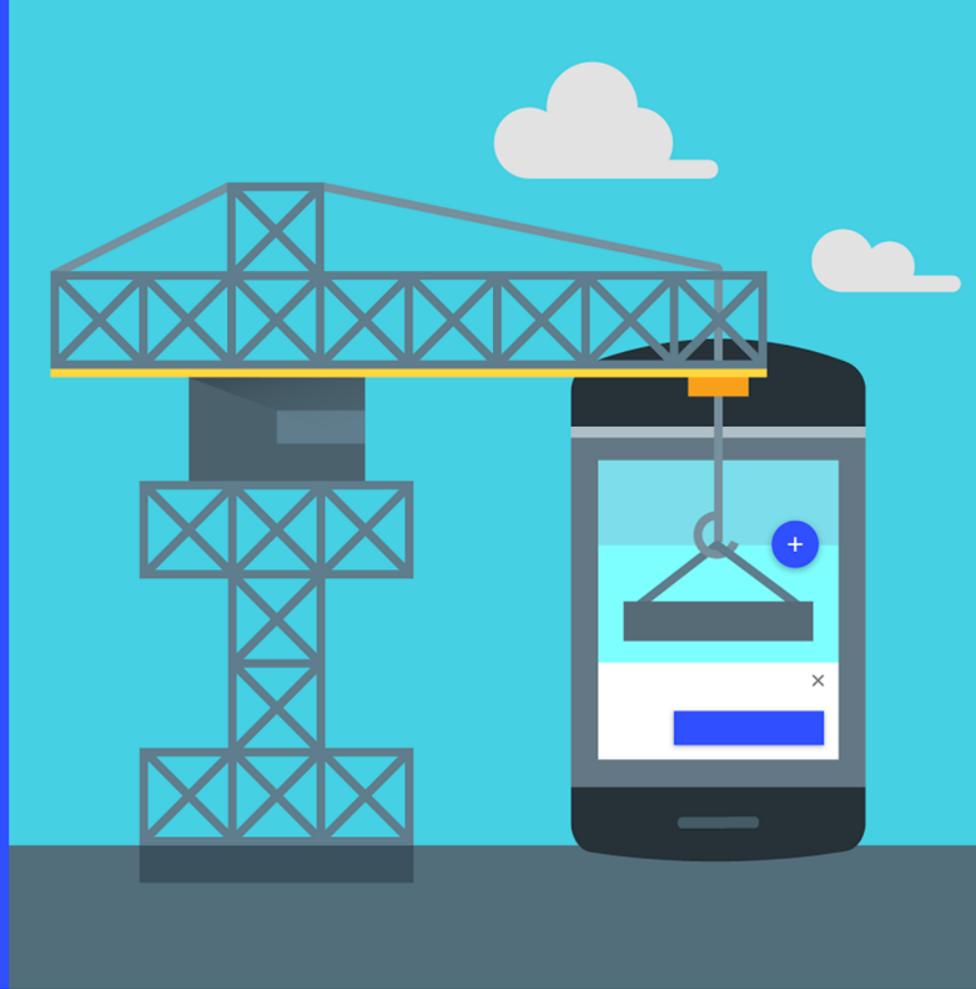


Discoverability and Analytics



Discoverability and PWA's

- Progressive enhancement = content available to all users
- JS sites *are* indexed by Google**
- Test your site with [Fetch as Google](#) tool

**Follow these [best practices](#)

What is Google Analytics?

Data is
generated from
user behavior



Data is processed
by Google
Analytics back end



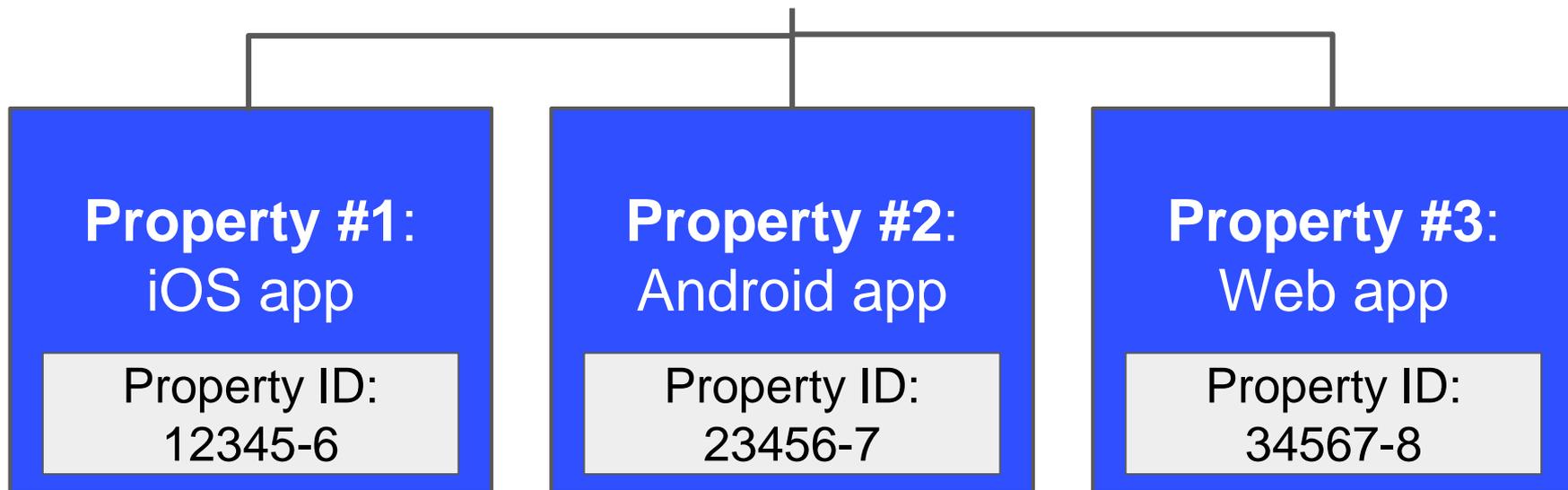
Reports are
generated

Integration process overview

1. Create account and “property”
2. Paste tracking snippet
3. (Optional) Add custom analytics

Accounts and properties

Account:
My Company



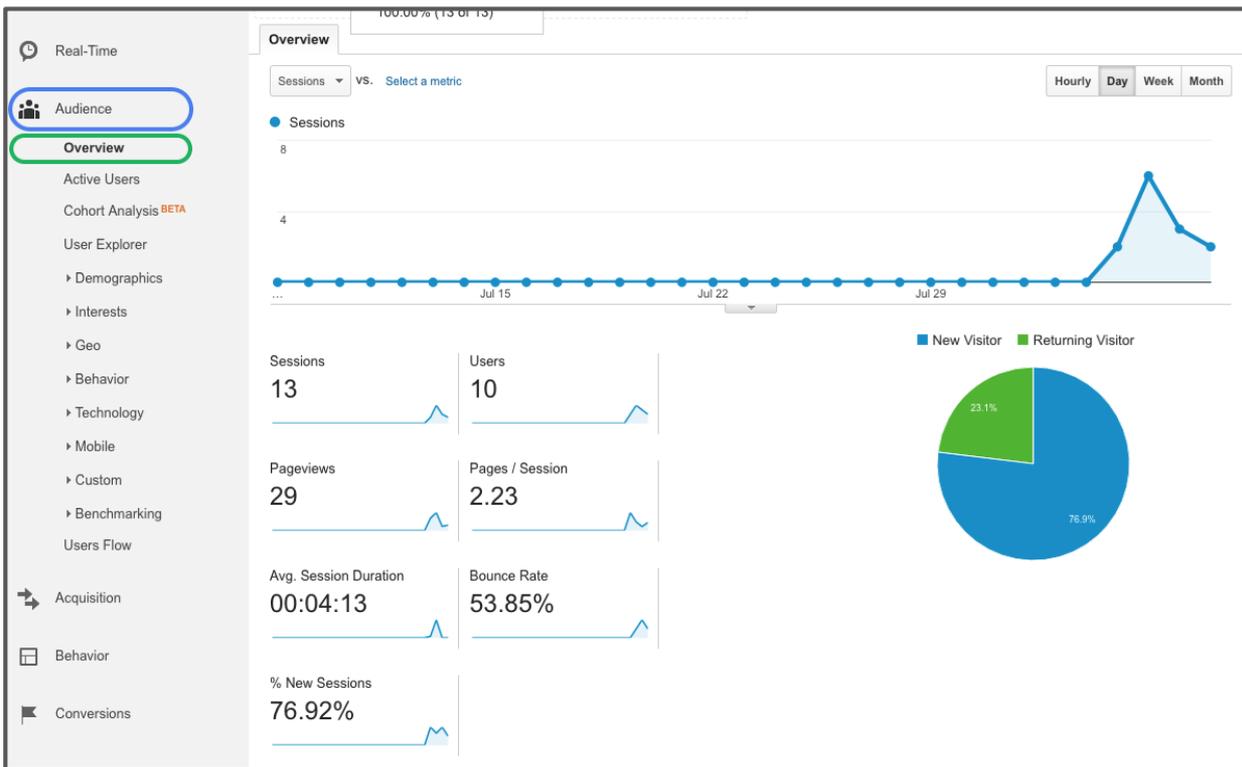
Adding analytics to your app

```
<script>
```

```
  // [a bunch of uglified JS]  
  ga('create', 'UA-XXXXXXXXX-Y', 'auto');  
  ga('send', 'pageview');
```

```
</script>
```

The Google Analytics dashboard



The Google Analytics dashboard (cont.)

Demographics

Language

Country

City

System

Browser

Operating System

Service Provider

Mobile

Operating System

Service Provider

Screen Resolution

City

1. Mountain View

2. (not set)

3. San Mateo

4. Gig Harbor

5. Lakewood

6. Vancouver

Sessions

% Sessions

6  46.15%

3  23.08%

1  7.69%

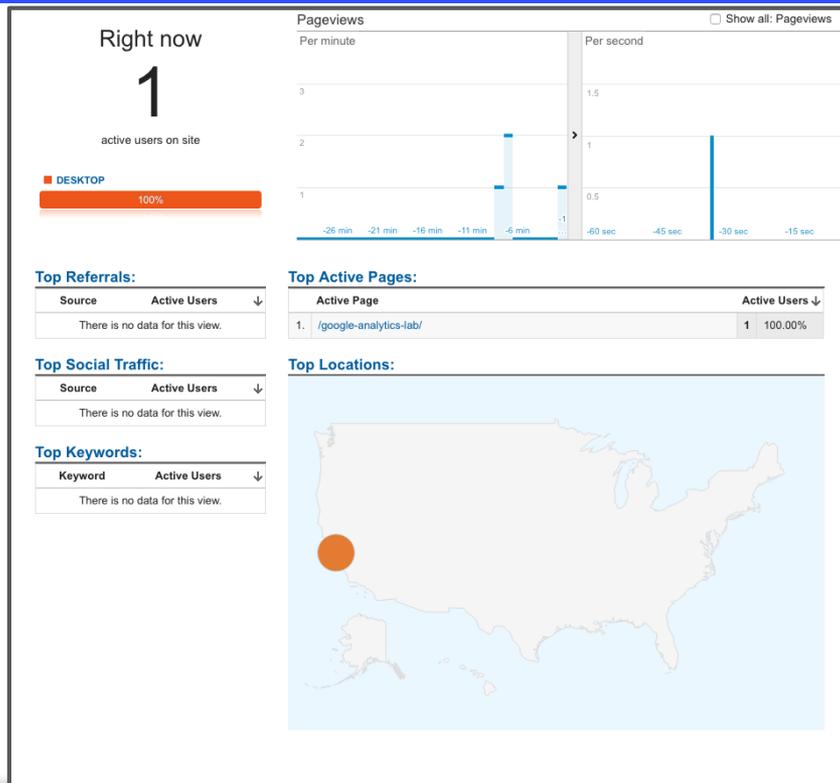
1  7.69%

1  7.69%

1  7.69%

[view full report](#)

Real-time analytics



Custom events

```
ga('send', {  
  hitType: 'event',  
  eventCategory: 'products',  
  eventAction: 'view more',  
  eventLabel: 'premium'  
});  
// Alternative syntax  
ga('send', 'event', 'products', 'view more', 'premium');
```

Example: Push notifications

```
registration.pushManager.subscribe({  
  userVisibleOnly: true  
})  
.then(function(pushSubscription) {  
  ga('send', 'event', 'push', 'subscribe');  
});
```

Analytics and service workers

- The Analytics **ga** function requires **Window**
- Service worker hits use the [Measurement Protocol](#) API:

POST /collect HTTP/1.1

Host: www.google-analytics.com

v=1&tid=UA-XXXXX-Y&cid=555&t=pageview&dp=%2Fhome

Measurement Protocol example

```
self.addEventListener('notificationclose', function(event) {  
  event.waitUntil(  
    fetch('https://www.google-analytics.com/collect', {  
      method: 'post',  
      body: 'v=1&cid=...&tid=UA-XXXXXXXXX-Y&t=event&' +  
        'ec=notification&ea=delay&el=serviceworker'  
    });  
  });  
});
```

service-worker.js

What about when users are offline?

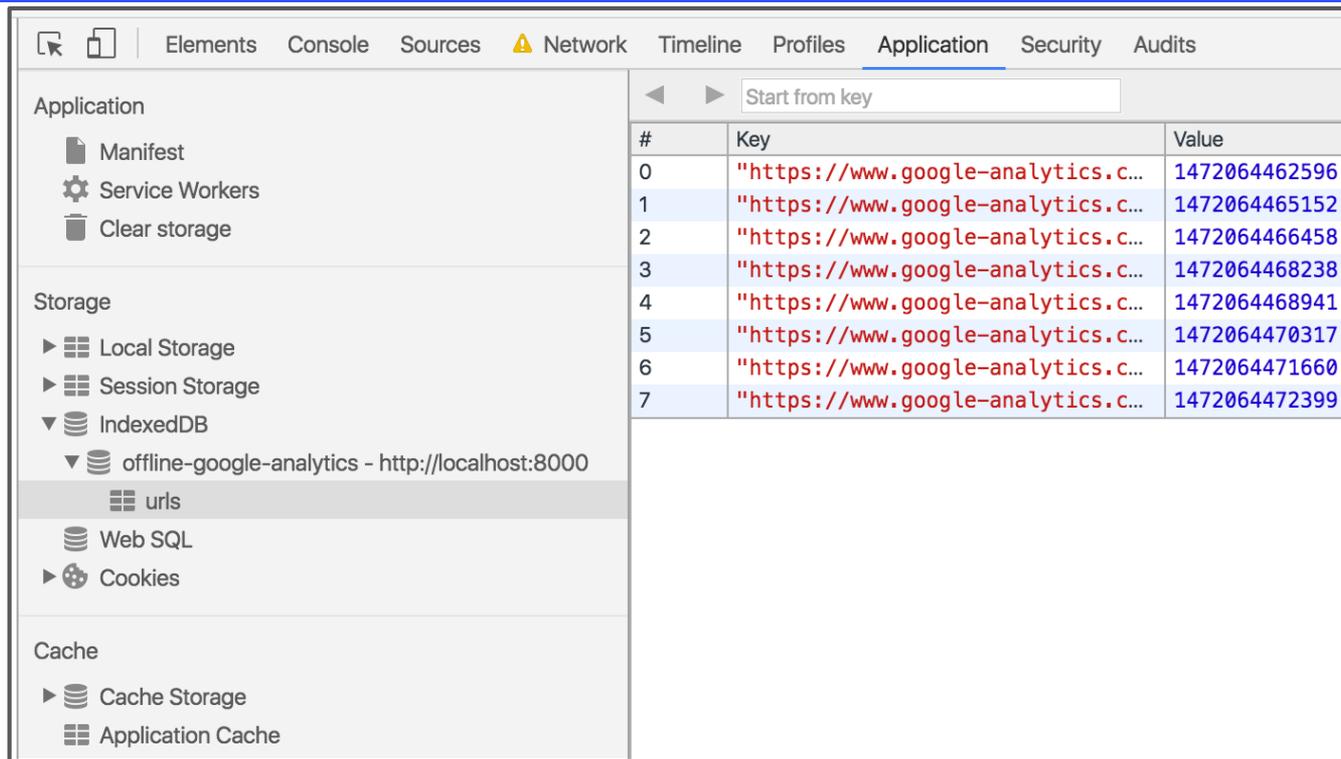
Install

```
$ npm install --save-dev sw-offline-google-analytics
```

Service worker

```
importScripts('path/to/offline-google-analytics-import.js');  
goog.offlineGoogleAnalytics.initialize();
```

Analytics stored in IndexedDB



The screenshot shows the Chrome DevTools Application tab. The left sidebar is expanded to 'Storage' > 'IndexedDB' > 'offline-google-analytics - http://localhost:8000' > 'urls'. The main pane displays a table of IndexedDB entries.

#	Key	Value
0	"https://www.google-analytics.c...	1472064462596
1	"https://www.google-analytics.c...	1472064465152
2	"https://www.google-analytics.c...	1472064466458
3	"https://www.google-analytics.c...	1472064468238
4	"https://www.google-analytics.c...	1472064468941
5	"https://www.google-analytics.c...	1472064470317
6	"https://www.google-analytics.c...	1472064471660
7	"https://www.google-analytics.c...	1472064472399

Lab Overview

- Create a Google Analytics & Firebase account
- Add analytics to an app
- View analytics data
- Add custom events to understand user behavior
- Use analytics with service workers (& push notifications)
- Use the Measurement Protocol API
- Add offline analytics to an app

Resources

- [analytics.js](#)
- [Reporting API](#)
- [Google Analytics Academy](#)
- [Account signup](#)
- [Analytics for mobile applications](#)
- [Chrome debugger extension](#)
- [ImportScripts](#)
- [Offline Google Analytics](#)
- [IndexedDB](#)
- [Measuring Critical Performance Metrics with Google Analytics](#)
- [Measurement Protocol](#)
- [Google I/O offline example](#)

UI reference slides

Finding your tracking snippet & ID

1. Select the Admin tab
2. Under “account”, select your account from the drop down list.
3. Then under “properties”, select your property from the down list.
4. Now choose “tracking info”, followed by “tracking code”.

The screenshot displays the Google Analytics Admin interface. At the top, there are navigation tabs: HOME, REPORTING, CUSTOMIZATION, and ADMIN (highlighted with a blue circle). Below the tabs, the page title is "Administration PWA Training".

The main content area is divided into two columns. The left column is titled "ACCOUNT" and contains a dropdown menu with "PWA Training" selected (highlighted with a green circle). Below this are links for Account Settings, User Management, All Filters, Change History, and Trash Can.

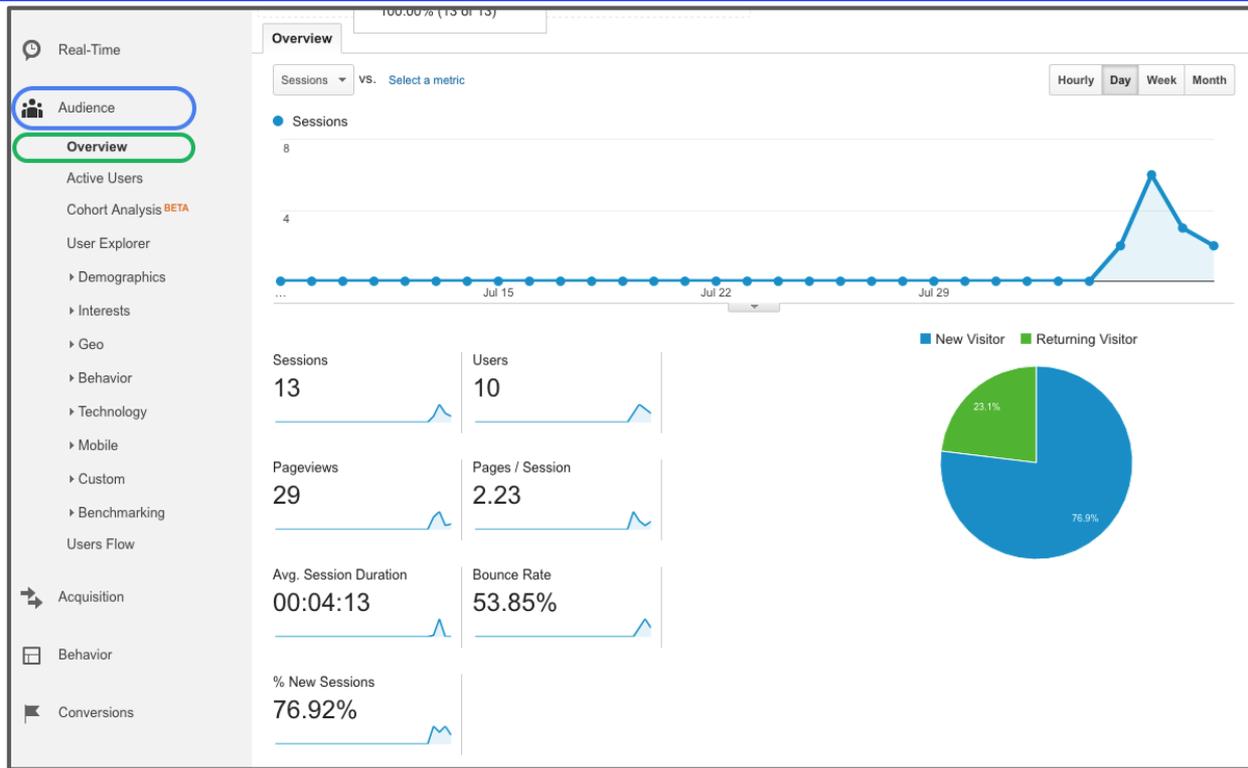
The right column is titled "PROPERTY" and contains a dropdown menu with "GA Code Lab Site" selected (highlighted with a yellow circle). Below this are links for Property Settings, User Management, and a red circle around "Tracking Info". An arrow points from "Tracking Info" to a list of options: Tracking Code, Data Collection, User-ID, Session Settings, Organic Search Sources, Referral Exclusion List, and Search Term Exclusion List.

Finding the Audience Overview interface

1. Select the Reporting tab

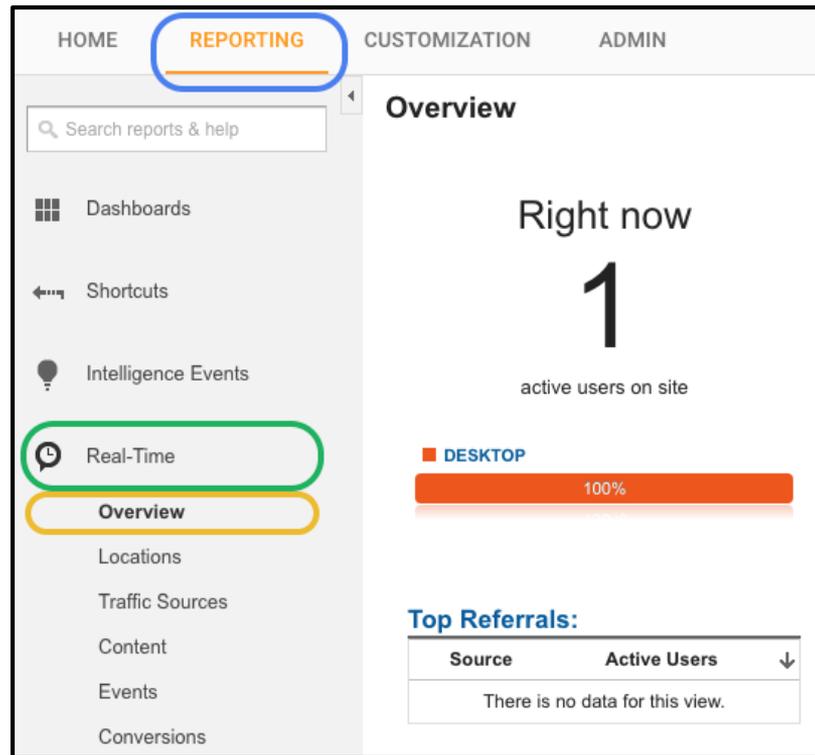
1. Select Audience in the side panel

1. Select Overview



Finding the Real-time Overview interface

1. Select the Reporting tab
1. Select Real-time in the side panel
1. Select Overview



The screenshot displays a web application interface with a navigation menu on the left and a main content area on the right. The navigation menu includes options like Dashboards, Shortcuts, Intelligence Events, Real-Time, Overview, Locations, Traffic Sources, Content, Events, and Conversions. The 'REPORTING' tab is selected in the top navigation bar. The 'Real-Time' option in the side panel is highlighted with a green circle, and the 'Overview' option is highlighted with a yellow circle. The main content area shows the 'Overview' view with a search bar, a 'Right now' section displaying '1 active users on site', a 'DESKTOP' bar chart showing 100%, and a 'Top Referrals' table with a message 'There is no data for this view.'.

HOME **REPORTING** CUSTOMIZATION ADMIN

Search reports & help

Overview

Right now

1

active users on site

DESKTOP

100%

Top Referrals:

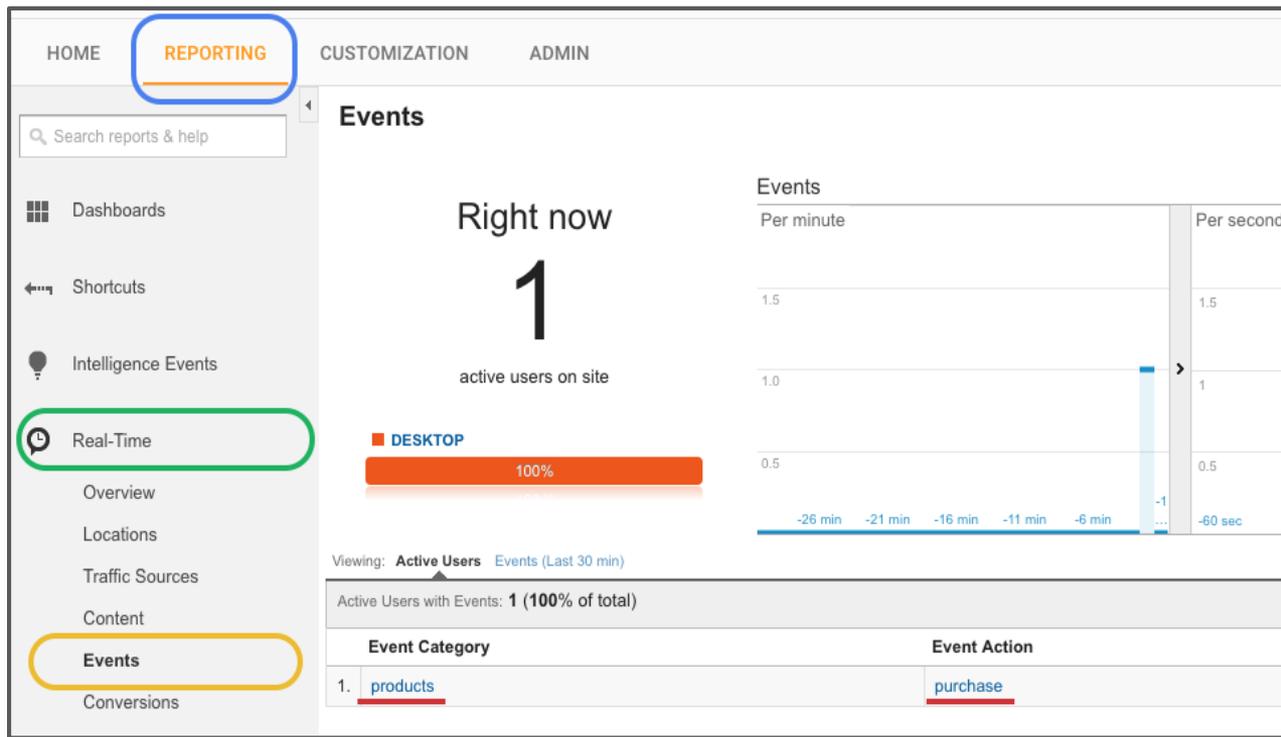
Source	Active Users	
There is no data for this view.		

Finding the Real-time Events interface

1. Select the Reporting tab

1. Select Real-time in the side panel

1. Select Events



Finding the Events Overview interface

1. Select the Reporting tab

1. Select Behavior in the side panel

1. Select Events

1. Select

Overview

