

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



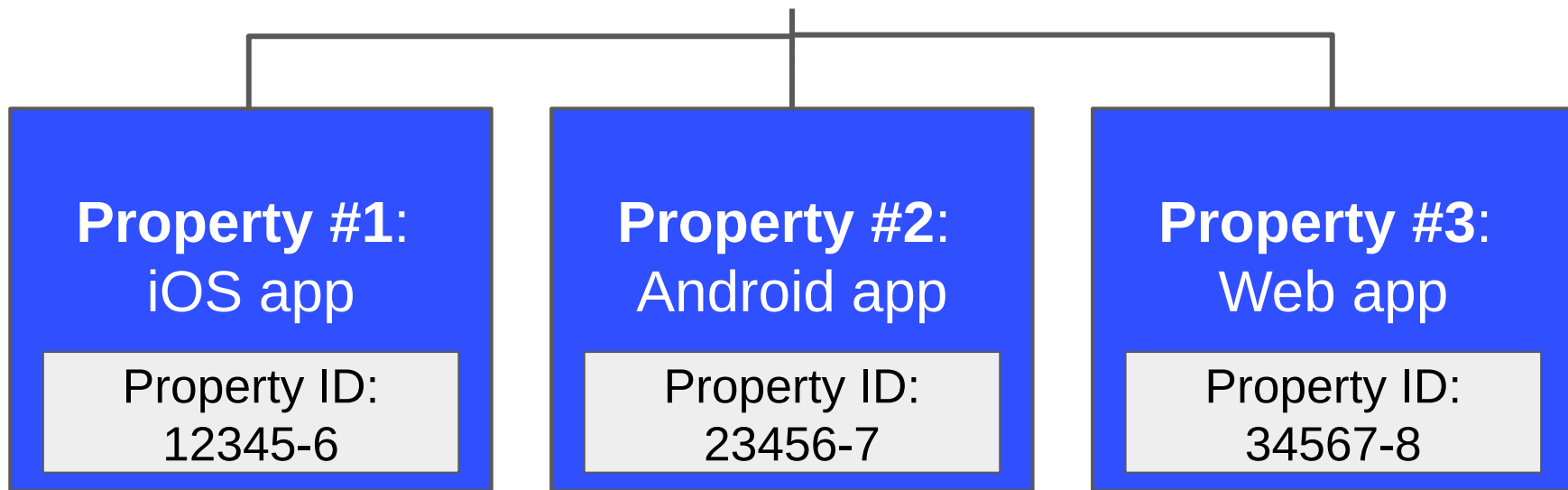
Reports are
generated

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>
```

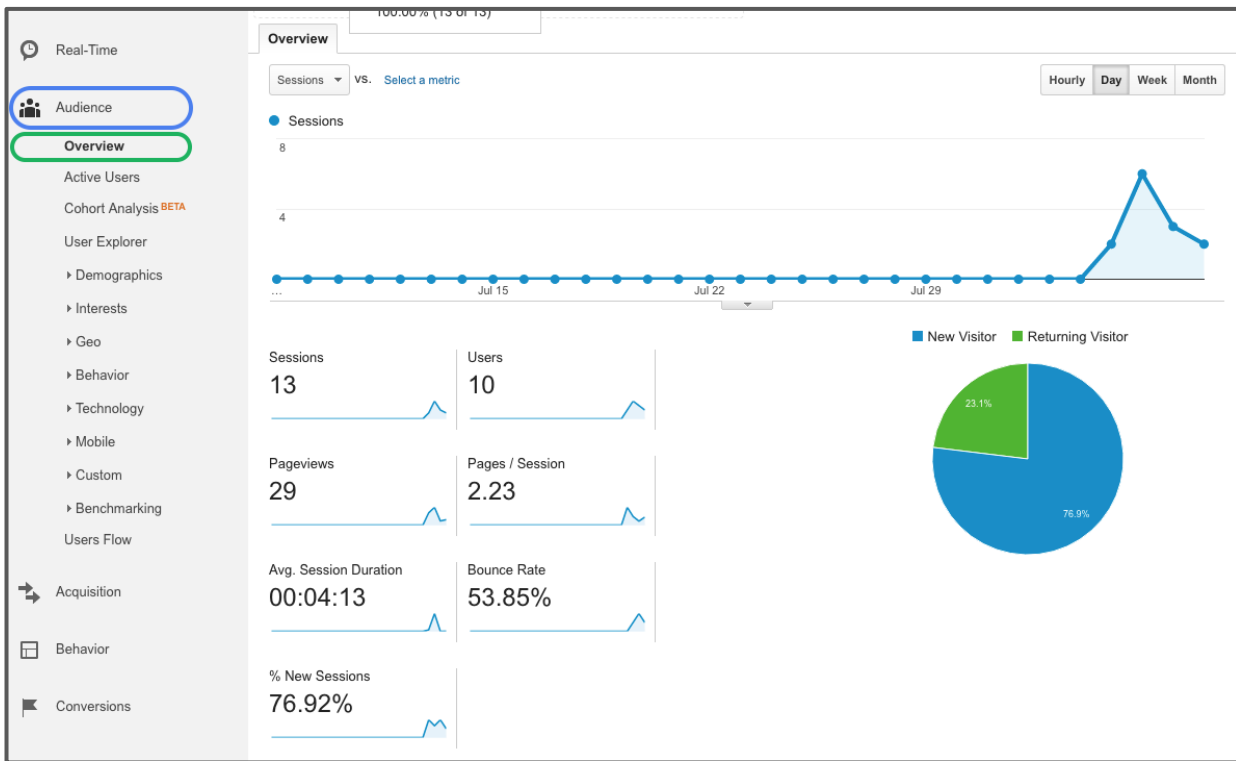
```
  // [a bunch of uglified JS]
```

```
  ga('create', 'UA-XXXXXXXXX-Y', 'auto');
```

```
  ga('send', 'pageview');
```

```
</script>
```

The Google Analytics dashboard



The Google Analytics dashboard

Demographics

Language

Country

City

System

Browser

Operating System

Service Provider

Mobile

Operating System

Service Provider

Screen Resolution

City

Sessions % Sessions

1. Mountain View

6 46.15%

2. (not set)

3 23.08%

3. San Mateo

1 7.69%

4. Gig Harbor

1 7.69%

5. Lakewood

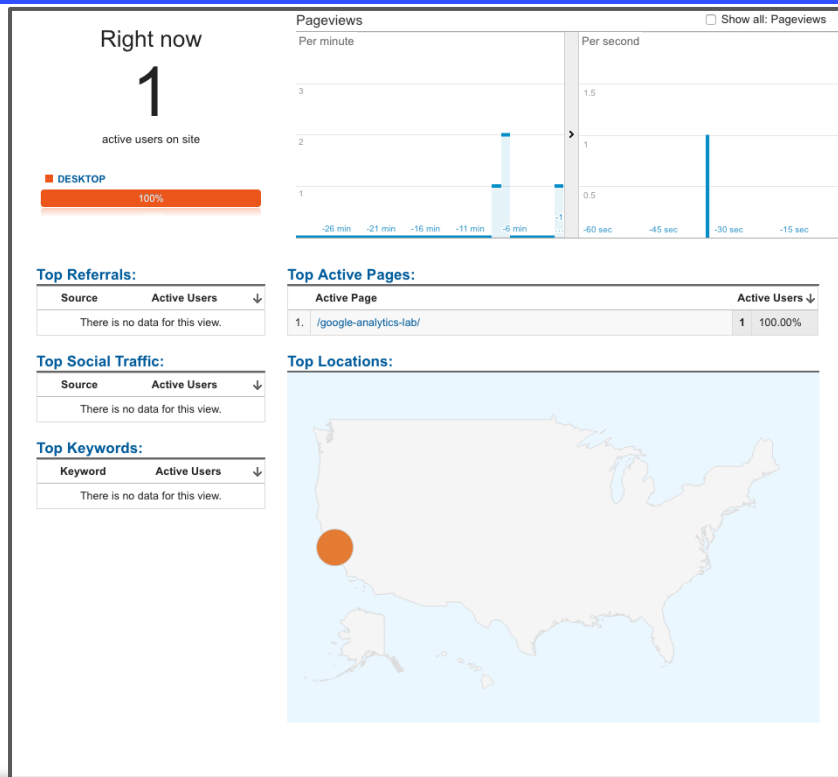
1 7.69%

6. Vancouver

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?

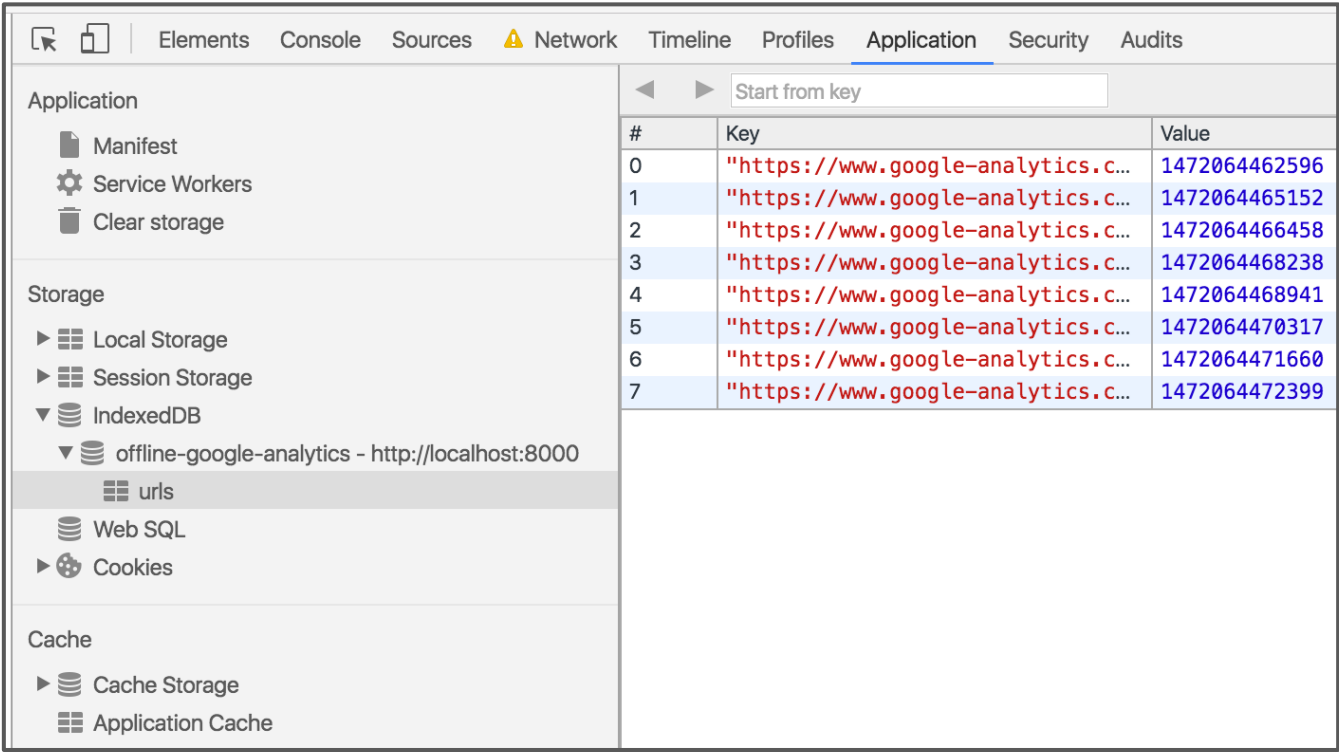
Install

```
$ 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'. Under 'offline-google-analytics - http://localhost:8000', the 'urls' database is selected. The main pane displays a table of data with 8 rows. The table has three columns: '#', 'Key', and 'Value'. The keys are all the same: "https://www.google-analytics.c...". The values are unique integers ranging from 1472064462596 to 1472064472399.

#	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

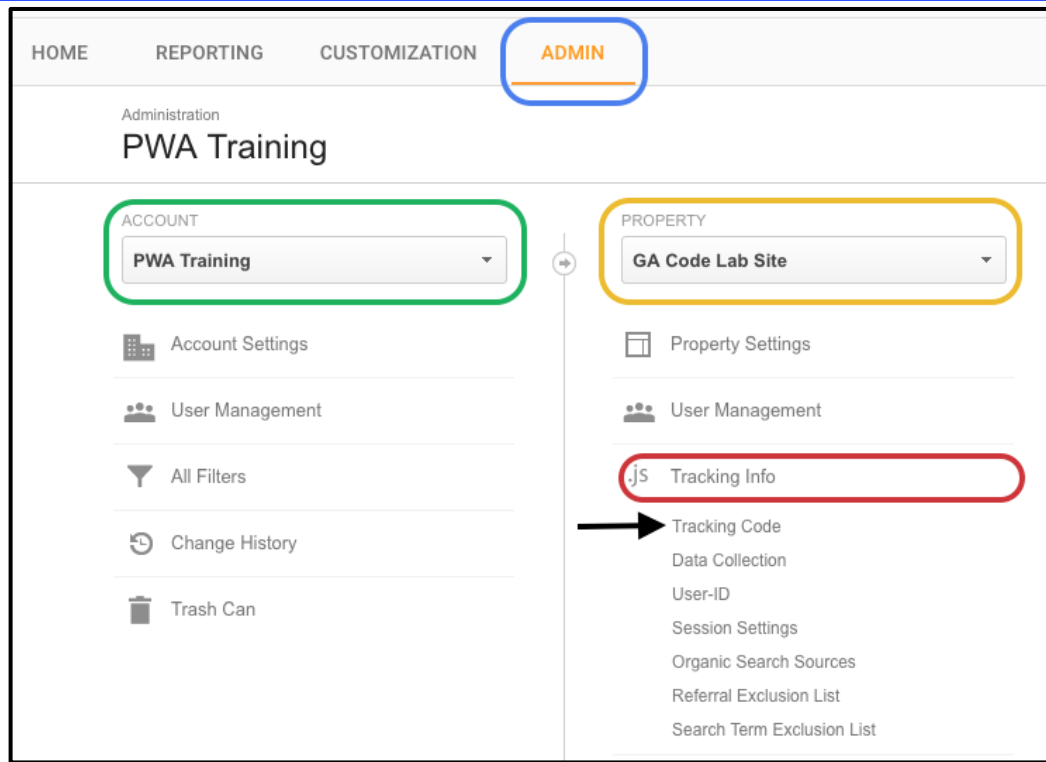
Resources

- [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

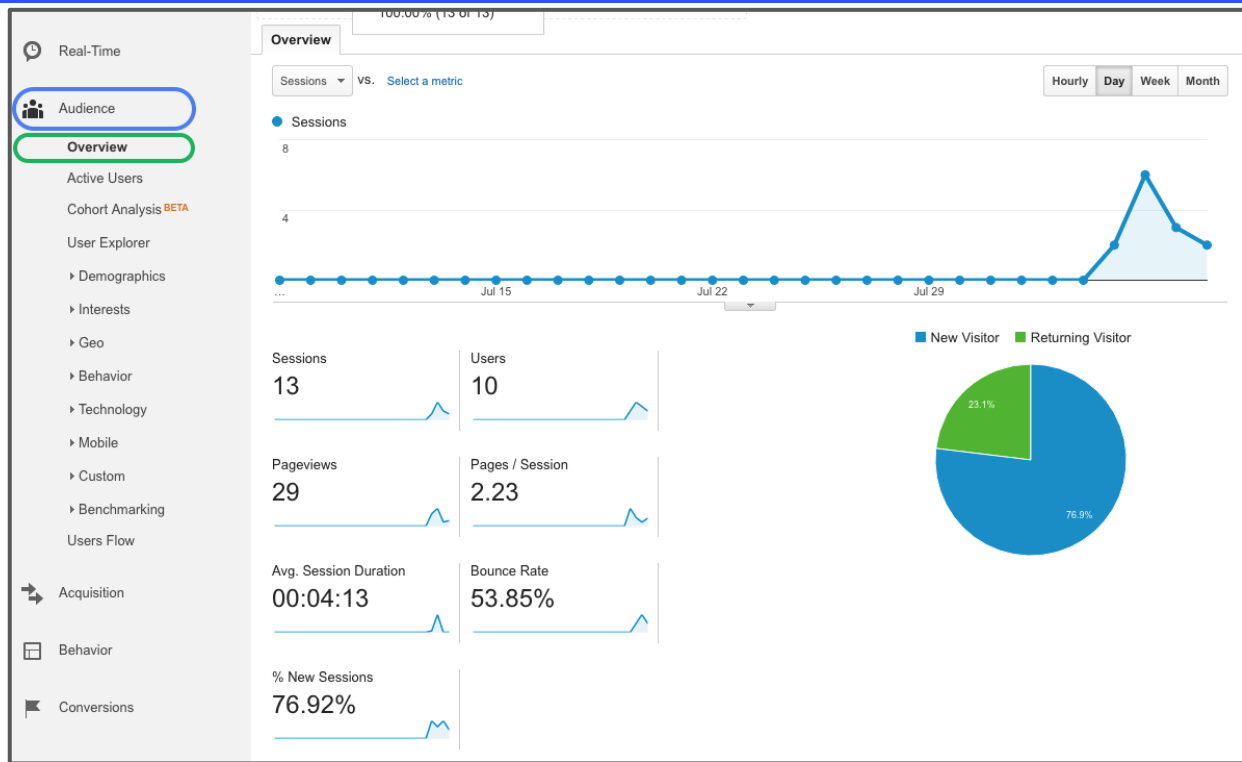
Finding your tracking snippet & ID

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”.



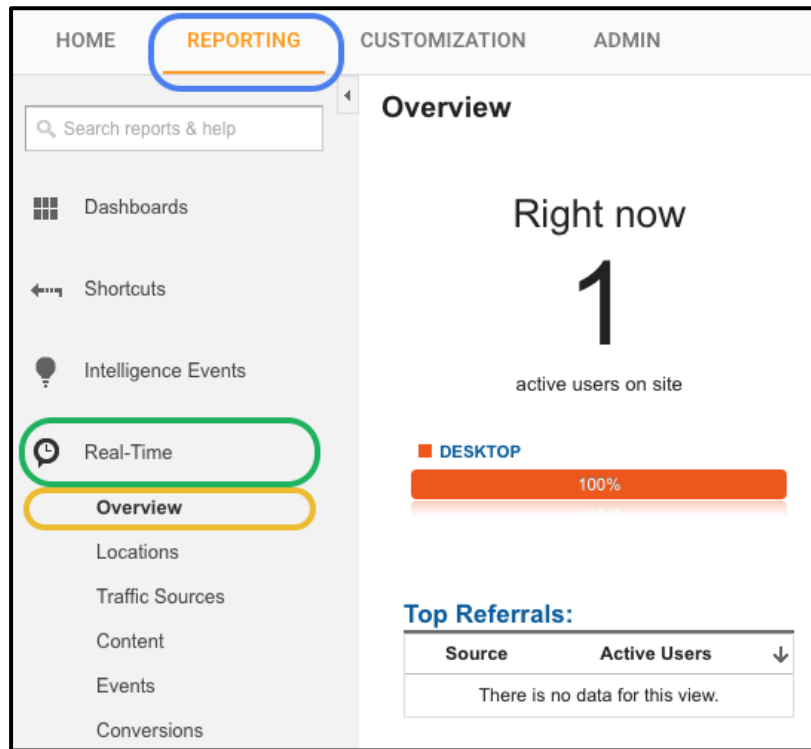
Finding the Audience Overview

1. Select the Reporting tab
2. Select Audience in the side panel
3. Select Overview



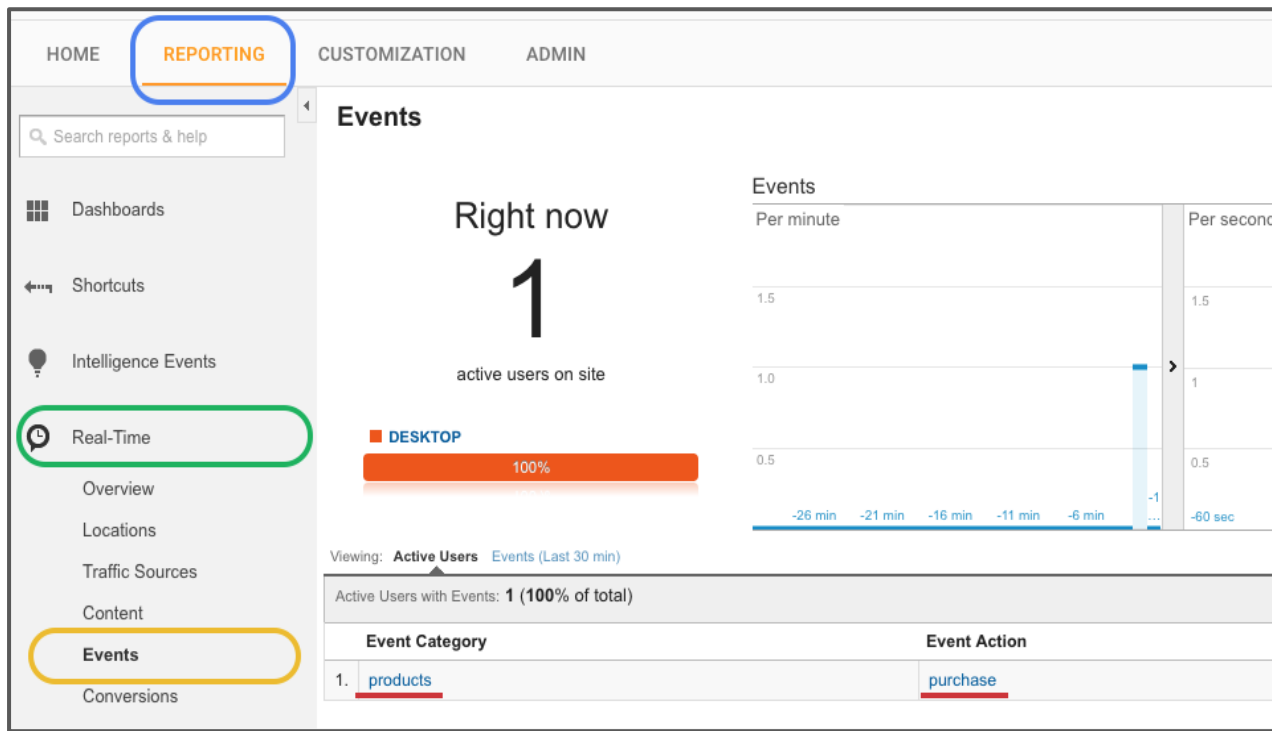
Finding the Real-time Overview

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



Finding the Real-time Events

1. Select the Reporting tab
2. Select Real-time in the side panel
3. Select Events



Finding the Events Overview

1. Select the Reporting tab
2. Select Behavior in the side panel
3. Select Events
4. Select Overview

