## Google Give Me Vulnz



#### Intro

- Cameron Vincent Vulnerabilities and Mitigations team within MSRC (Microsoft Security Response Center)
- Former Full Time Bug Bounty Hunter
- Ranked #1 Researcher for Google VRP Program in 2019

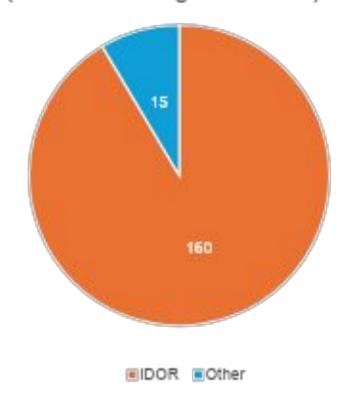
# What was the vulnerability type I was finding?

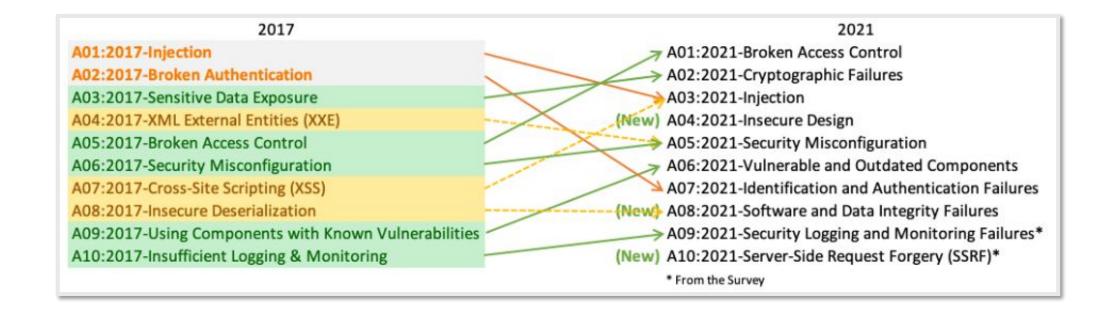
#### IDOR = Insecure Direct Object Reference

- https://secretdocuments.com/id=12345
- https://secretdocuments.com/id=123456789
- Put a different ID and see if you can access data you are not allowed to access.

### IDOR = Most Common Bug I Found Across Google

Total IDOR Findings (Across all Google Products)





## What is Burp Suite?

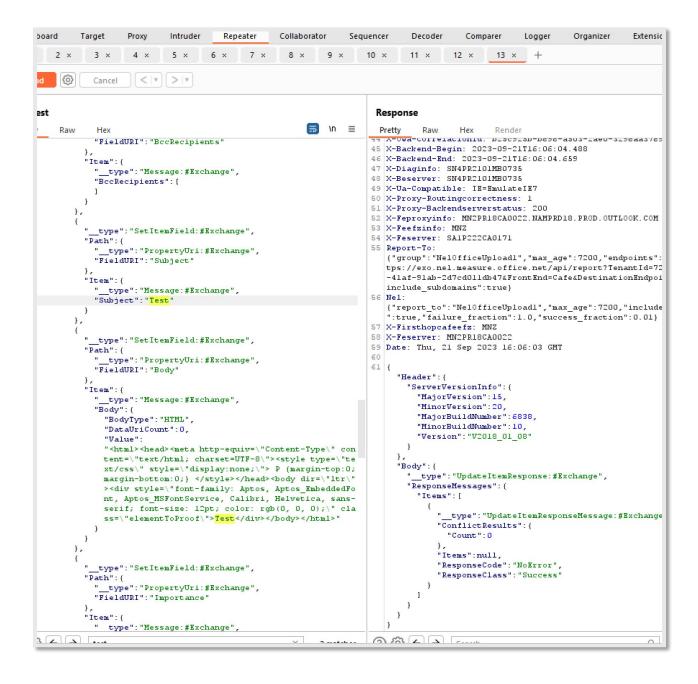
Web application security testing tool.

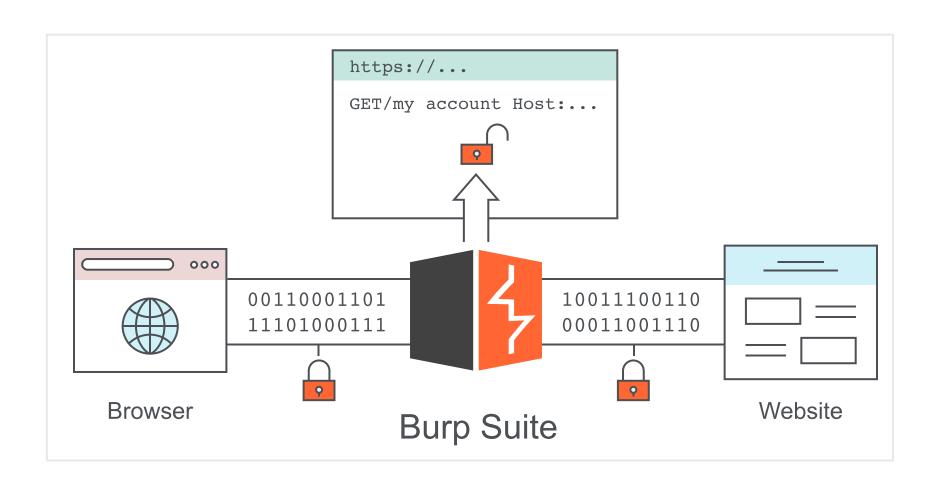
Burp Suite lets you see and manipulate browser traffic being sent to the backend of a service.

Repeater tab is going to be your best friend.

Imagine sending an email on Outlook.

Browser makes it look all pretty but Burp Suite shows you what's going on in the background.





- There are extensions to help automate finding IDORs with Burp Suite.
- All my testing was manual so that is what we are focusing on today.

# What 2 Google products did I find these vulnerabilities on?



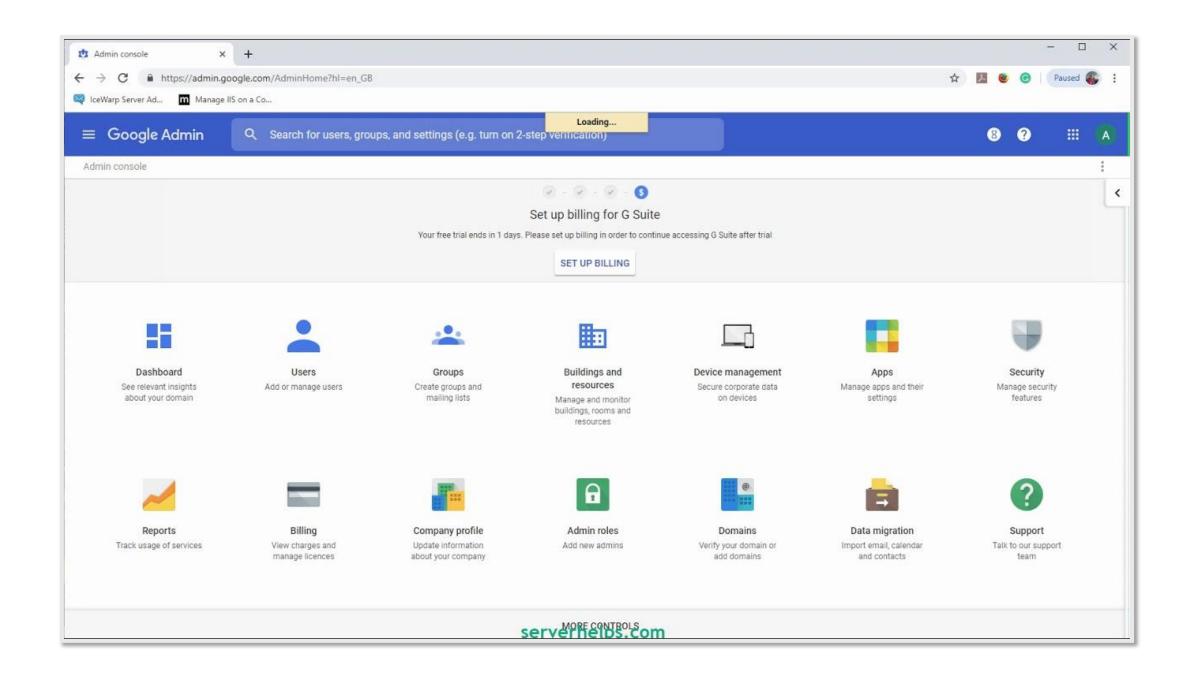


Let's Begin!



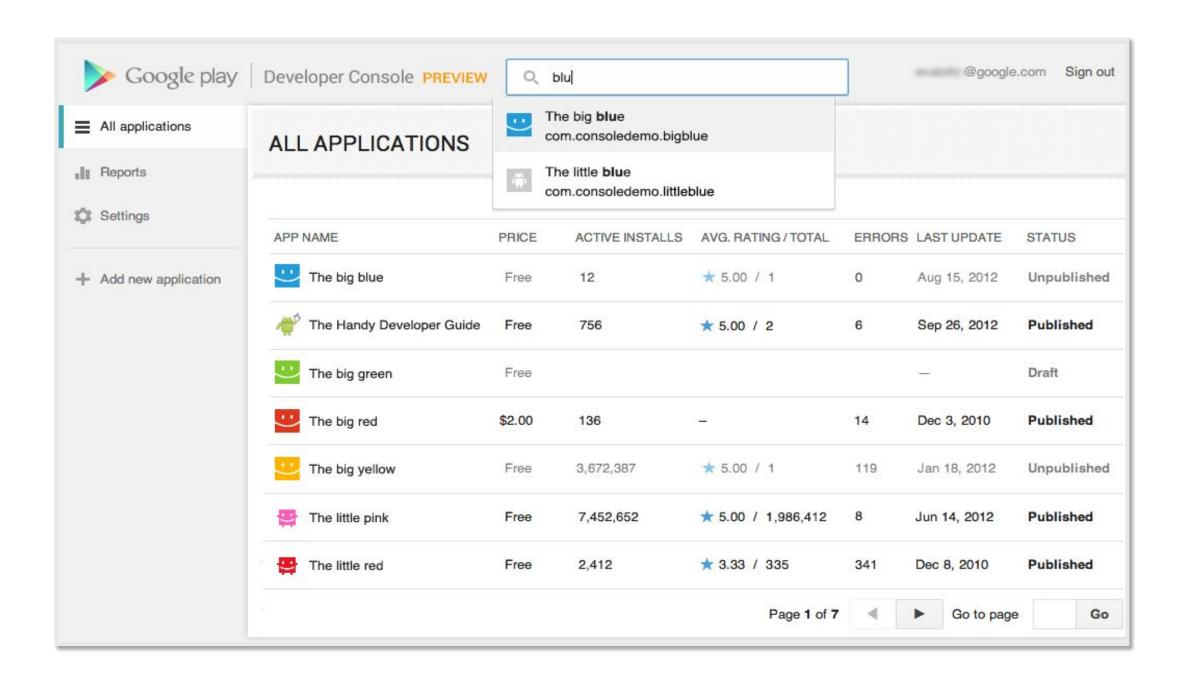
#### What is Google Workspace?

"Google Workspace plans provide a <u>custom email for your business</u> and include collaboration tools like Gmail, Calendar, Meet, Chat, Drive, Docs, Sheets, Slides, Forms, Sites, and more."



## What is Google play console?

"PUBLISH YOUR APPS AND GAMES WITH GOOGLE PLAY CONSOLE AND GROW YOUR BUSINESS ON GOOGLE PLAY."



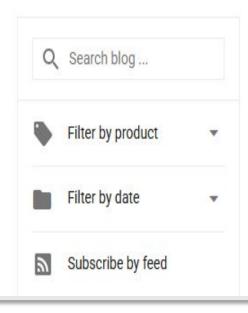
# Google Workspace Updates

This official feed from the Google Workspace team provides essential information about new features and improvements for Google Workspace customers.

#### Organize and create apps for your domain directly from the Admin console

Monday, November 12, 2018

With this launch, we're making it easier for you to create—and for your users to find—the Android apps they need at work.



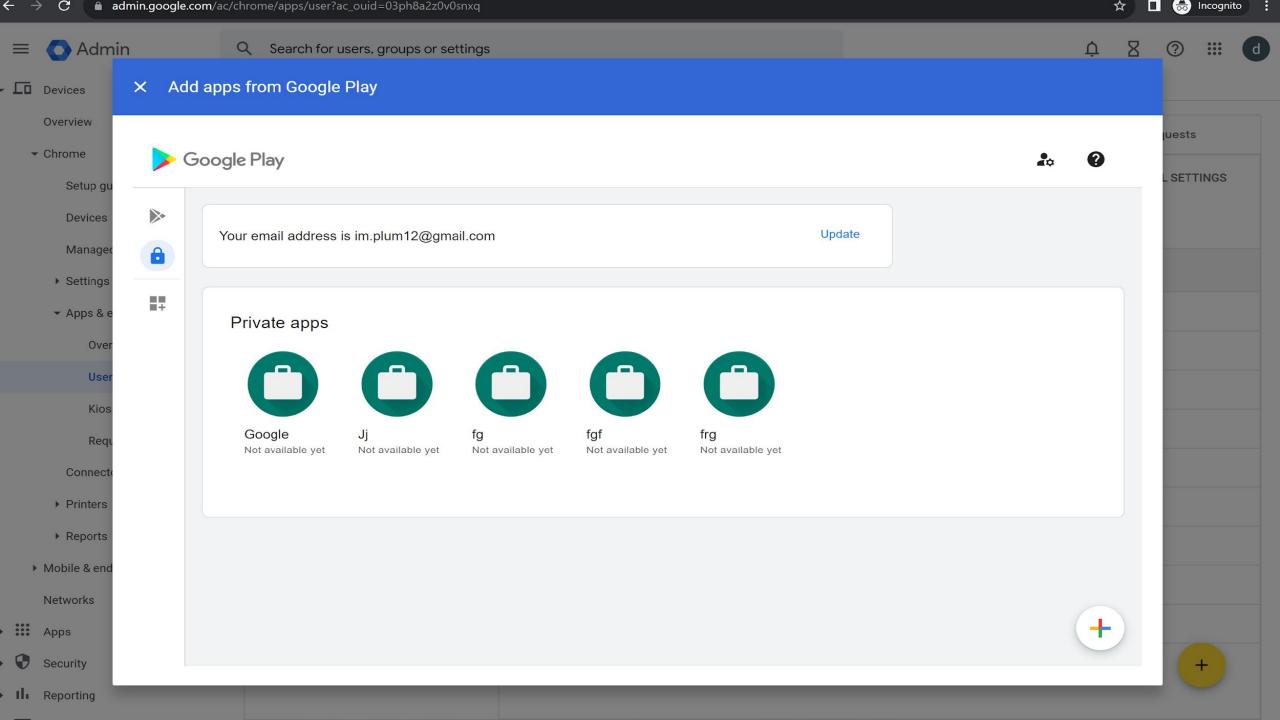
### Google Play/Google workspace

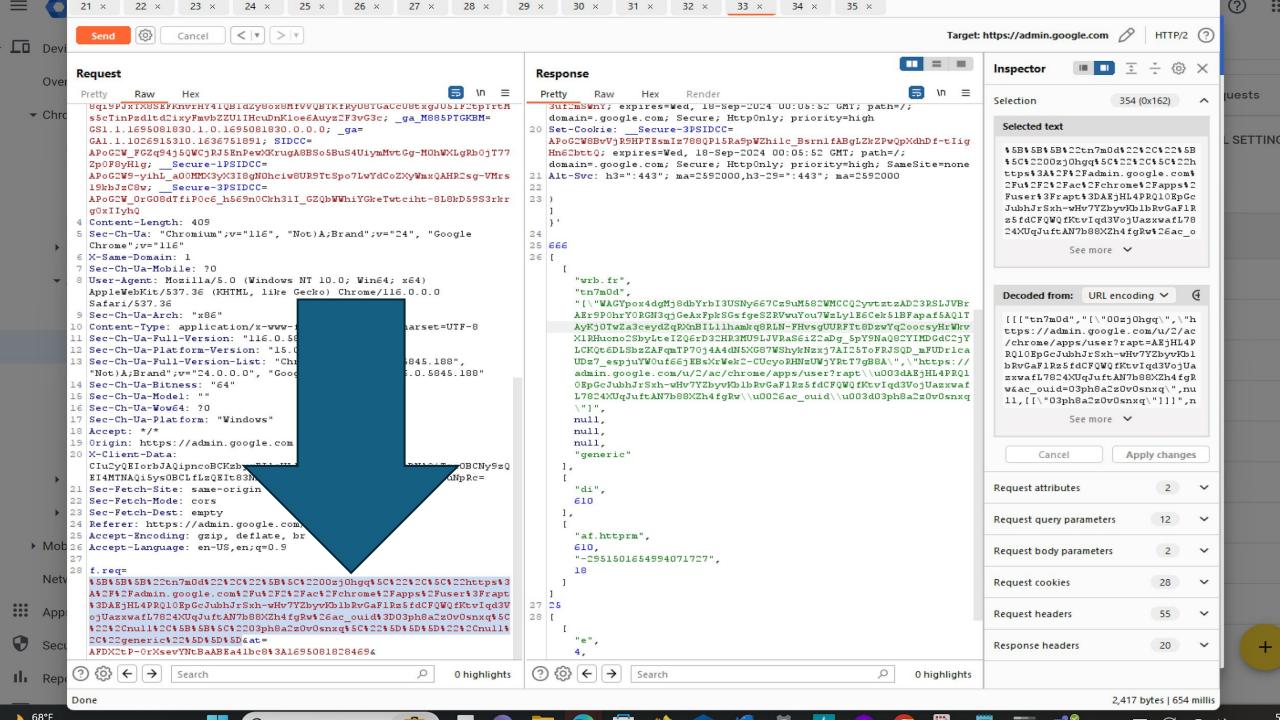
- Admins are allowed to publish private apps into their organization.
- Once published users in the organization can download the apps to their devices.
- Simply upload your APK file to the admin console and then users in your organization can download the app to their android devices.

#### Bug #1

 Possible To Gain Access To Every Gsuite (Google Workspace) Organizations Managed Google Play Store Admin Panel.







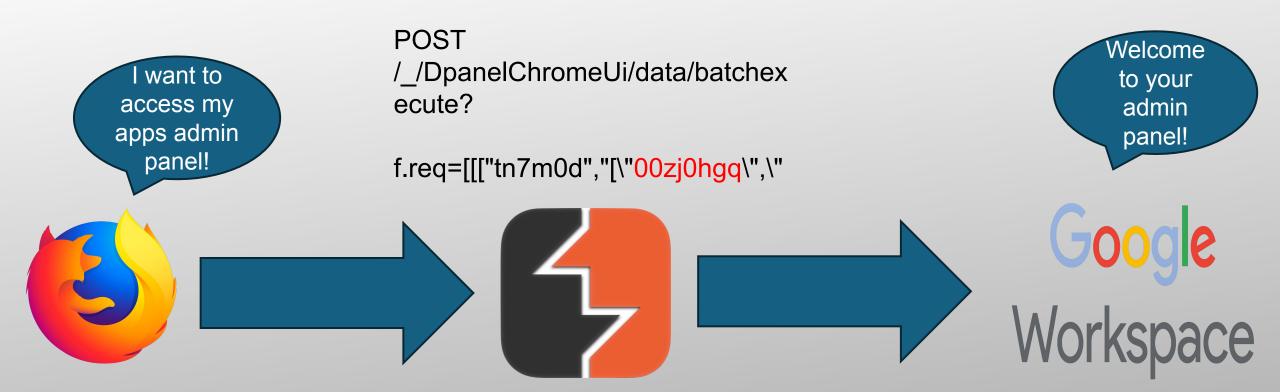
#### Bug #1

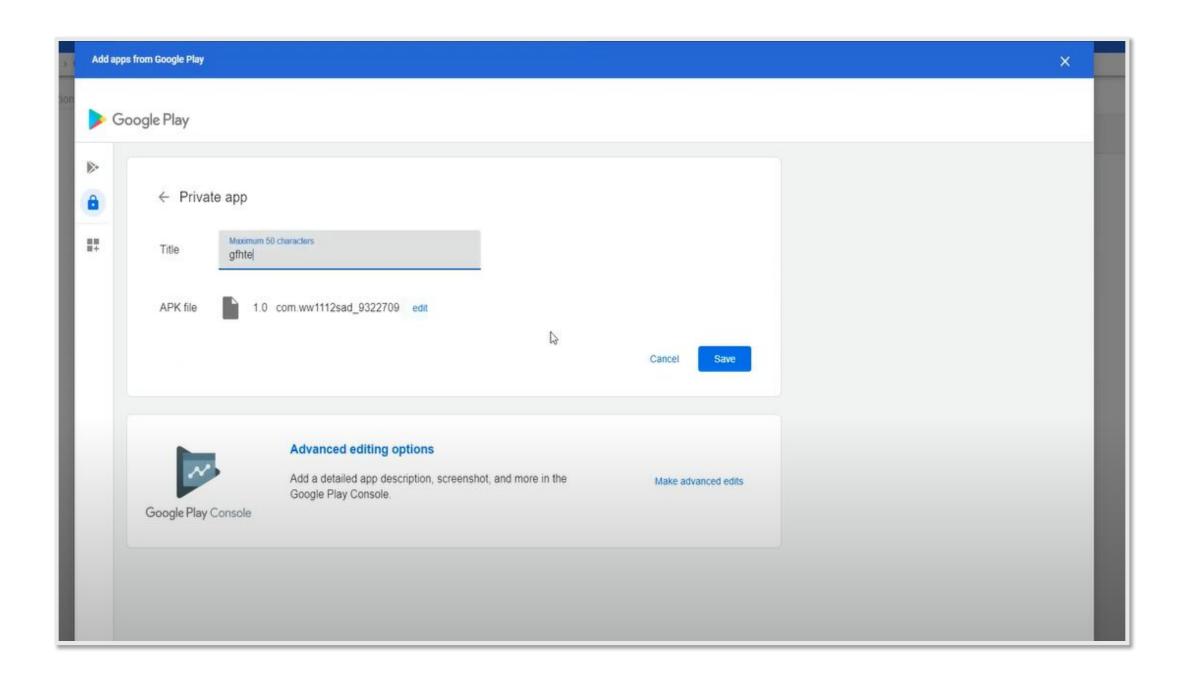
POST

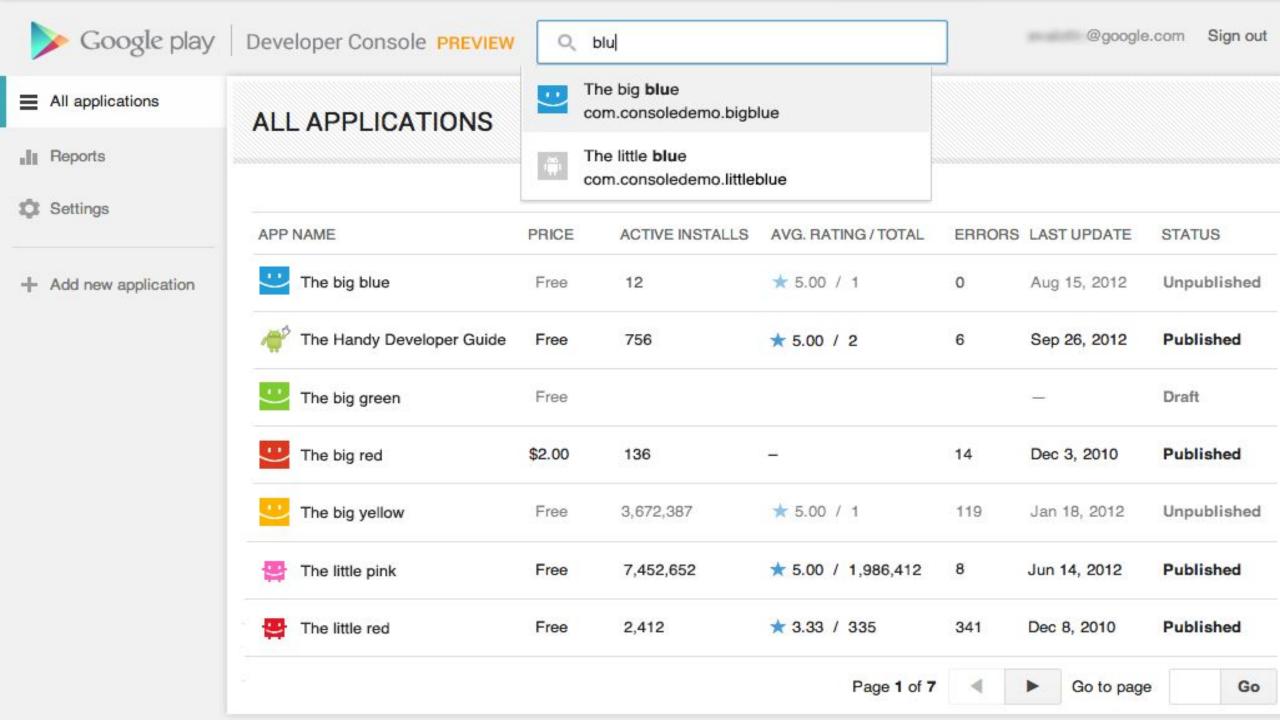
/\_/DpanelChromeUi/data/batchexecute ?rpcids=tn7m0d&f.sid=-442934382135 7402966&bl=boq\_dpanelchromeuiserv er\_20190926.03\_p0&hl=en&customer\_ id=00zj0hgq&soc-app=596&soc-platfor m=1&soc-device=1&\_reqid=404704&rt =c HTTP/1.1

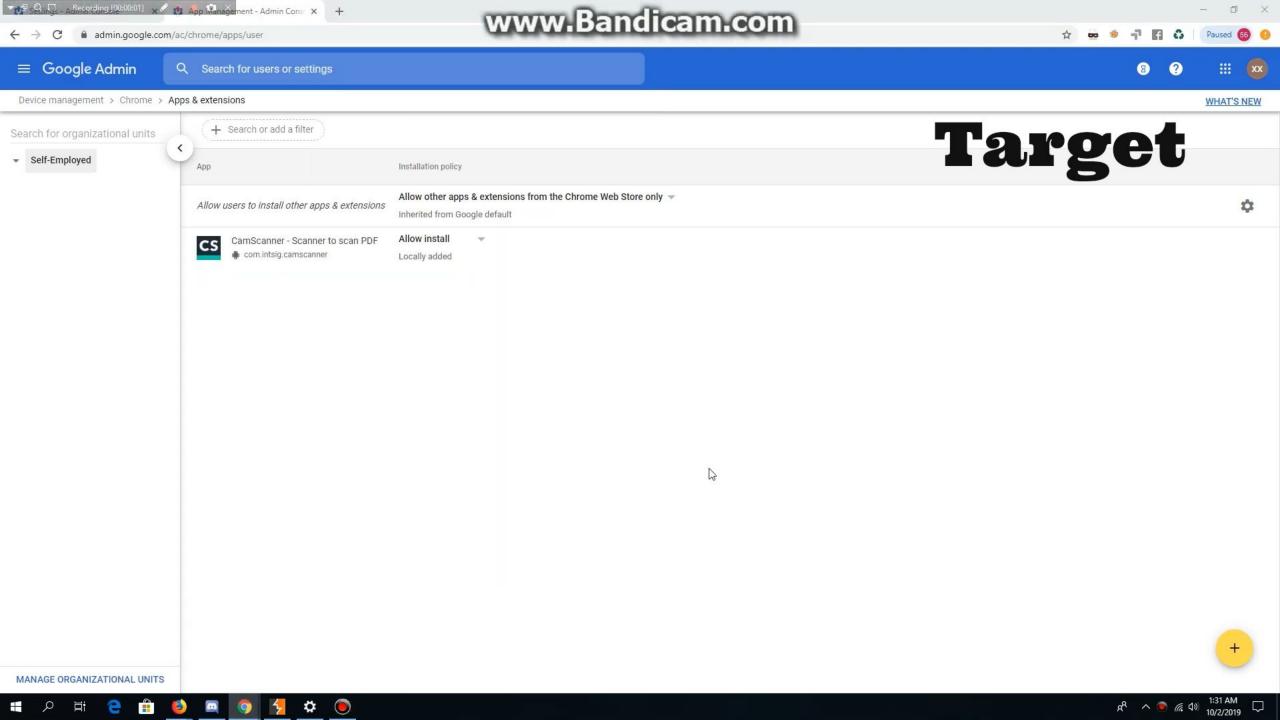
Host: admin.google.com

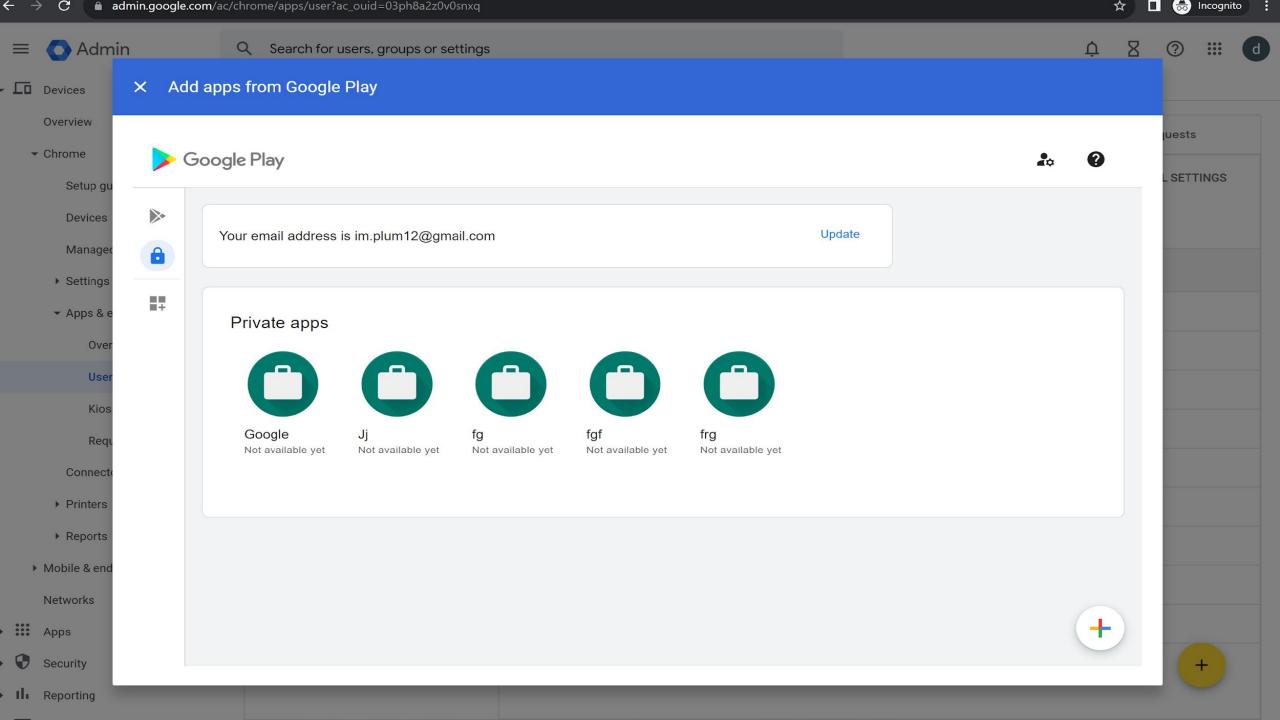
f.req=[[["tn7m0d","[\"00zj0hgq\",\"https://admin.google.com/ac/chrome/apps/user\"]",null,"generic"]]]&at=





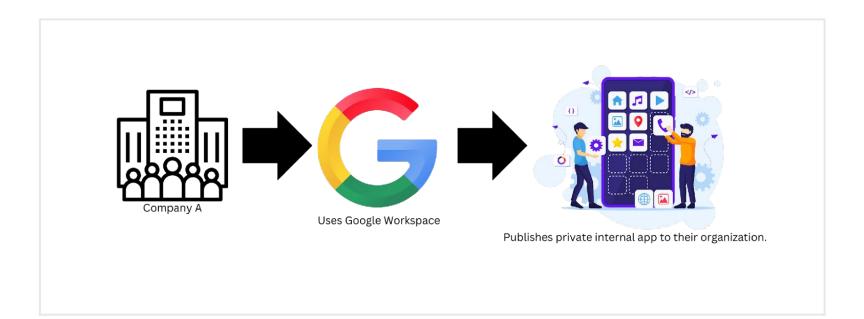






## Supply Chain Attack

 You could have accessed any Google Workspace organizations apps admin panel and pushed your own application to devices.





Attacker logs into company A's Google Workspace admin panel.

Attacker releases a new "version" for the private internal apps already published and installed on user's devices.

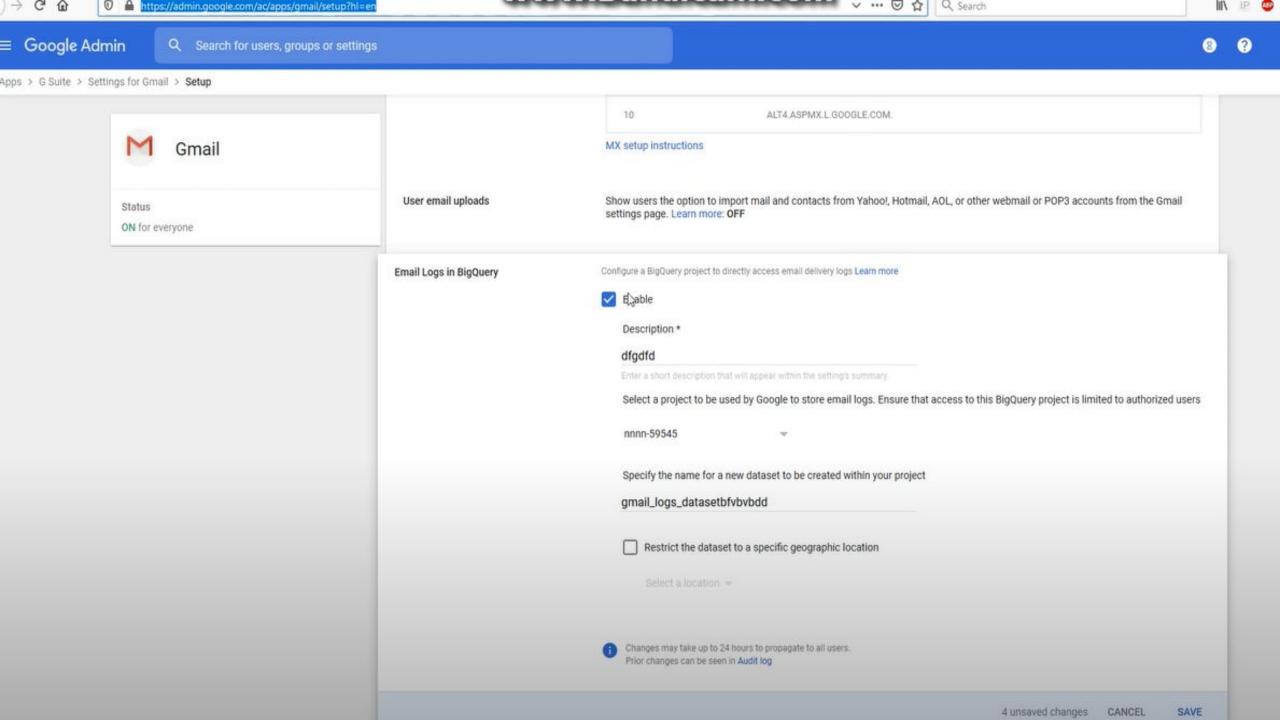
#### Bug #2

 Possible To Leak The Email Subjects/Logs For All Gsuite (Google Workspace) Organizations.



#### Bug #2

- Gmail stores logs for all stages of a message. This includes logs like the delivery process, subject, and other types of metadata.
- To view these Google Workspace has a function for admins to setup a BigQuery project for the logs to be stored to and viewed.

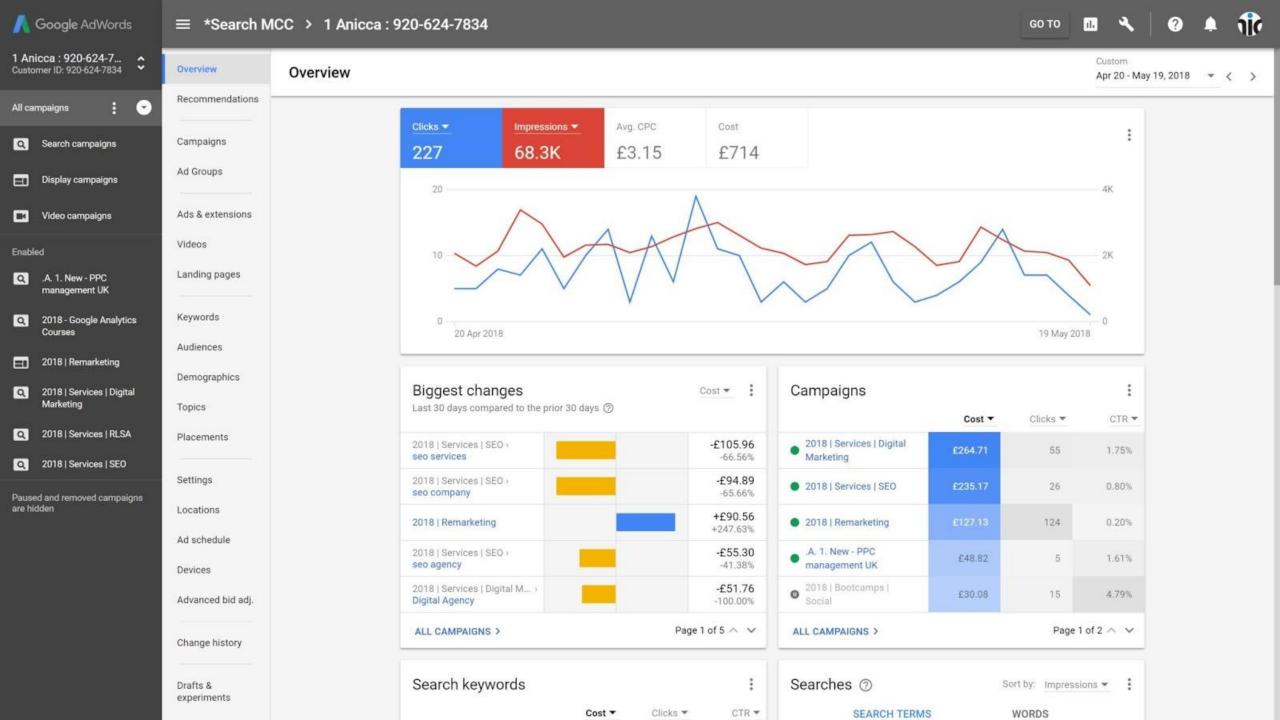


POST
 /\_/GmailAdminSettingsUi/data/batchexecute?rpcids=rsN7uc&f.sid=-335110978588
 5481808&bl=boq\_gmail-adminsettings-ui\_20191209.02\_p0&hl=en&customer\_id=0
 Ogrri8m&\_reqid=458791&rt=c HTTP/1.1
 Host: admin.google.com

 Put any Google Workspace org ID and you will save your Google Cloud project/dataset on their settings and receive their logs.

# What is Google Ads?

Google Ads lets you advertise your business, website, promotional videos, etc. across Google.



## Google Ads

- Google Ads Bulk Upload Feature
- Download pre-created templates and then make bulk changes to your ads account.

#### Campaigns

Edit Campaigns Budget Amount 
Edit Campaigns Languages 
Apply/Remove Labels on Campaign(s) 
Edit Campaign(s) Start/End Date 
Edit Campaign(s) Name 
Create New Campaign(s) 
Edit Campaign(s) 
Delete Campaign(s) 
Pause/Enable Campaign(s) 
Edit Campaign(s) 
Pause/Enable Campaign(s)

#### Ad assets

Create Sitelink Asset 🗹
Create Call Asset 🗹
Create App Asset 🗹
Create Callout Asset 🗹
Create Structured Snippet Asset 🖸
Create Price Asset 🗹
Create Image Asset 🗷

Edit Campaign(s) Devices Settings ☑

 Leak All Uploaded Files On Every Google Ads Account!

• Remember Burp Suite?

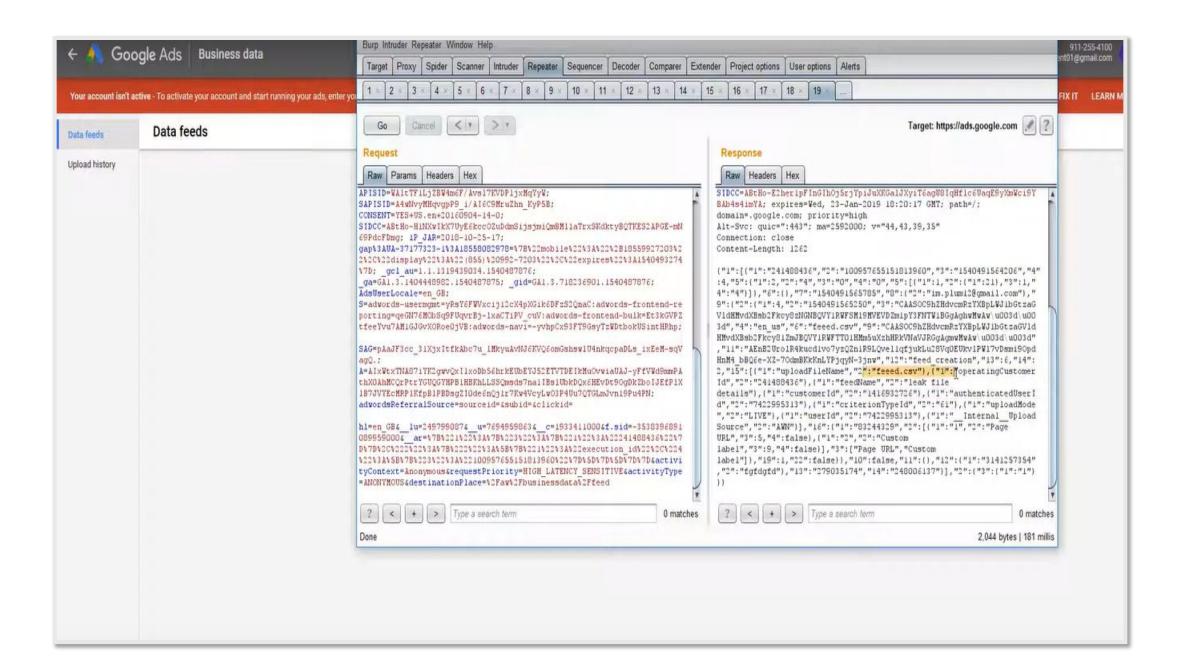


- POST
   /aw\_cm/\_/rpc/BulkExecutionService/List?authuser=0&acx-v-bv=awn\_cm\_2018101
   7\_RC03&acx-v-clt=1540487931567&rpcTrackingId=BulkExecutionService.List%3
   A6 HTTP/1.1
- Host: ads.google.com
- POST
  /aw\_cm/\_/rpc/ExecutionDetailService/List?authuser=0&acx-v-bv=awn\_cm\_201810
  17\_RC03&acx-v-clt=1540493607856&rpcTrackingId=ExecutionDetailService.List
  %3A1 HTTP/1.1
- Host: ads.google.com



- \_\_ar={"1":{"3":{"1":"241488436"},"5":"TABLE"}
- Put any Google Ads account ID and you would pull the upload history for their account.

- By using Burp Suite all you had to do was change the ID from your Ads account to another account you did not have access too and would load the files.
- Note: Only use IDs for accounts that are yours!



• Leak All Uploaded Files On Every Google Ads Account.....again.



- Leak All Google Ads Uploaded Files Again!
- After fixing the first bug a new API was released to download files.
- https://ads.google.com/api/adwords/bulksheet/upload/form/errors?xid=3087022700 61146755&customerId=1416932726&userId=7422995313&operatingCustomerId= 302261519&authuser=0
- Change the XID value (ID of the file on the account you are targeting) and customerID value to anyone's account and download their file!

#### IDs are NOT security boundaries!

- If the ID never changes and is always connected to some form of data that is not a security boundary.
- This simple URL allowed you to put anyone's file ID and Ads account ID and access their file.

# Thanks

Shoutout Google VRP as well!