



Google

Developers



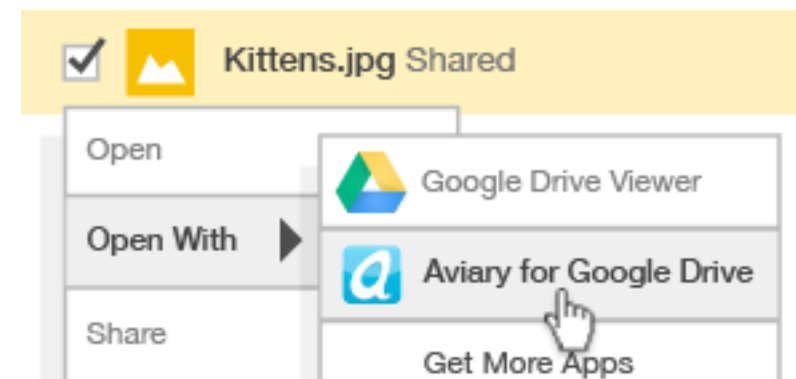
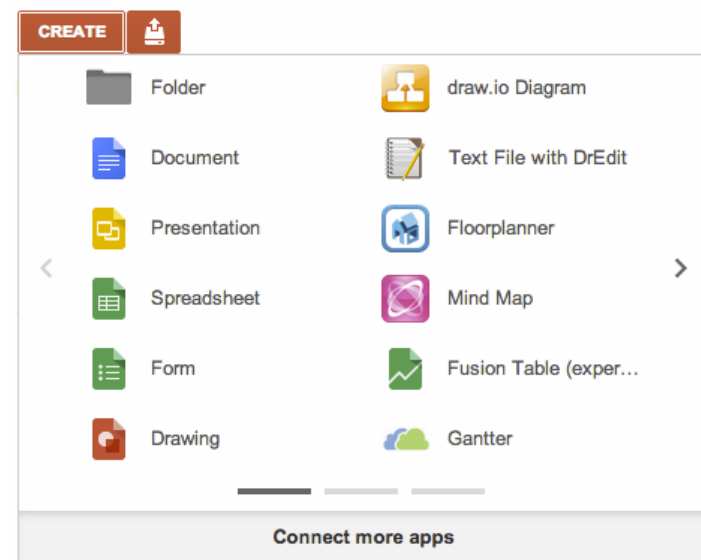
Integrate Google Drive with Google Apps Script

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Google Apps Script + Google Drive

Focus on 2 integration scenarios

- Drive SDK integration to allow for Create and Open with capabilities



- Access files in Drive with new Drive Service in Apps Script

```
7 function listFilesByName() {  
8   var files = DriveApp.getFilesByName("commonName");  
9   var file, name;  
10  while(files.hasNext()) {  
11    file = files.next();  
12    name = file.getName();  
13    Logger.log(name);  
}
```



Demo - Quiz Manager








Demo - Quiz Manager

Use student roster to generate and share files

A	
Student Name	Student Email
Tom Smith	anagarajan@
Jane Singh	arun.at.pyxis@
John Chen	arun.appscri
Jerry Bob	jerrybobthird@
Joe Dirt	joedirt@gmail



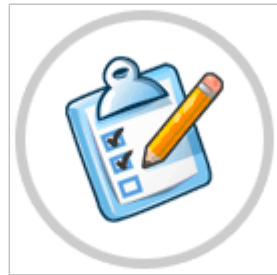
My Drive > New Assignment

- TITLE**
- ☆  Quiz - Jane Singh Shared
- ☆  Quiz - Jerry Bob Shared
- ☆  Quiz - Joe Dirt Shared
- ☆  Quiz - John Chen Shared
- ☆  Quiz - Tom Smith Shared



Demo - Quiz Manager

Requirements



- Manage quiz lifecycle
- Facilitate creation of multiple files
- Integrated with Drive UI
- Built with simple to manage App Script code





Demo time!

github.com/entaaq/GoogleAppsScript

Demo recap

- Classroom example that lets the Teacher work within the Drive UI
- Convert a Roster to a set of shared documents with one click
- Custom MIME type files for "command runners"
- Several improvement possibilities
 - Monitor progress and alert before deadline
 - Auto "close" assignments
 - Create nice assignment dashboard





Key concepts

Apps Script and Drive SDK



Google Apps Script

What is Google Apps Script



Do more
with Google.

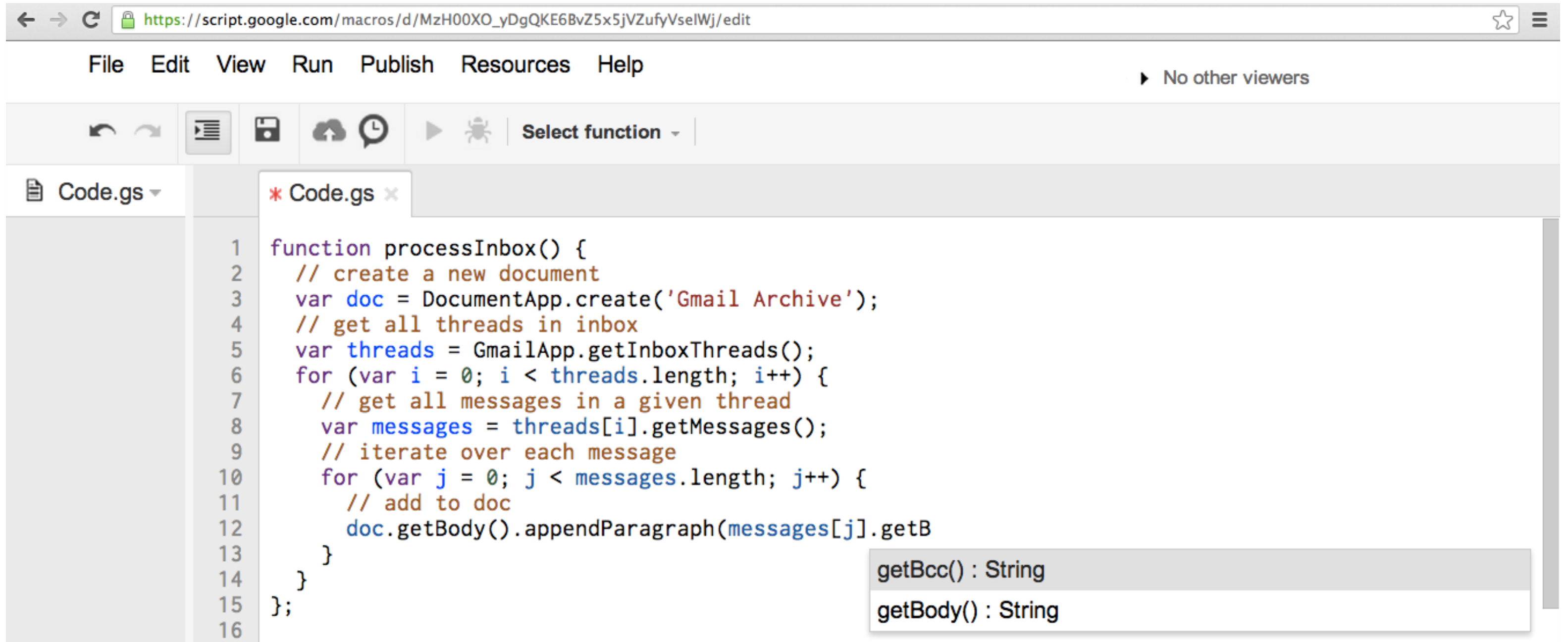
Increase the power of your favorite Google apps
— like Calendar, Docs, Drive, Gmail, and Sheets.

Apps Script lets you do more with Google.
All on a JavaScript platform in the cloud.



Apps Script

Write code in a browser



The screenshot shows the Google Apps Script editor interface. The browser address bar displays the URL: https://script.google.com/macros/d/MzH00XO_yDgQKE6BvZ5x5jVZufyVselWj/edit. The menu bar includes File, Edit, View, Run, Publish, Resources, and Help. A toolbar contains icons for undo, redo, save, share, and a 'Select function' dropdown. The code editor shows a file named 'Code.gs' with the following JavaScript code:

```
1 function processInbox() {
2   // create a new document
3   var doc = DocumentApp.create('Gmail Archive');
4   // get all threads in inbox
5   var threads = GmailApp.getInboxThreads();
6   for (var i = 0; i < threads.length; i++) {
7     // get all messages in a given thread
8     var messages = threads[i].getMessages();
9     // iterate over each message
10    for (var j = 0; j < messages.length; j++) {
11      // add to doc
12      doc.getBody().appendParagraph(messages[j].getB
13    }
14  }
15 };
16
```

A dropdown menu is open below the code, showing two suggestions:

- getBcc() : String
- getBody() : String



Build Web Apps in Google Apps Script

- Expose Web endpoints for application logic
- Deploy to run as the end user or as the developer
- Possible to restrict access to a domain
- Implement doGet method to get access to inputs

Deploy as web app ✕

Current web app URL: [Disable web app](#)
`https://script.google.com/macros/s/AKfycbxK6aULLp8CL`
Test web app for your [latest code](#).

Please read this carefully. It's not the usual yada yada.

Project version:
27 ↕

Execute the app as:
User accessing the web app ↕
Users will be asked to authorize the script.

Who has access to the app:
Anyone ↕

[Update](#) [Cancel](#) [Help](#)





Google Drive SDK

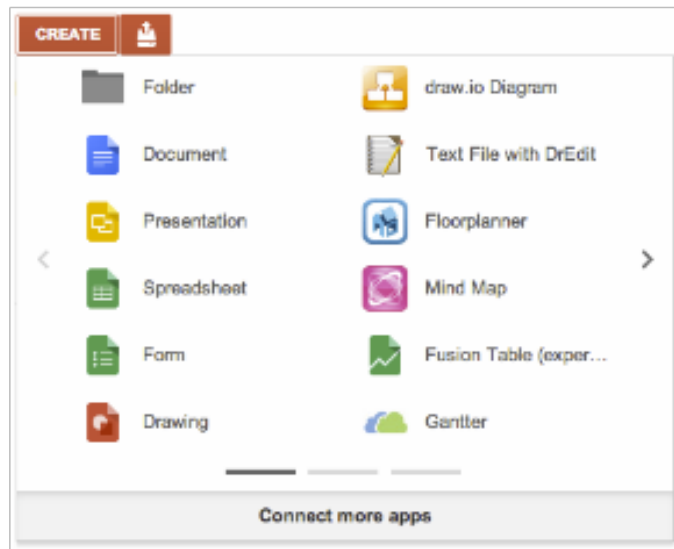
Google Drive SDK

Integrate into Drive UI

- Meta-data defined via Developer Console
- Build web app to receive context, perform application logic
- Install via OAuth 2 *drive.install* scope or Chrome Web Store



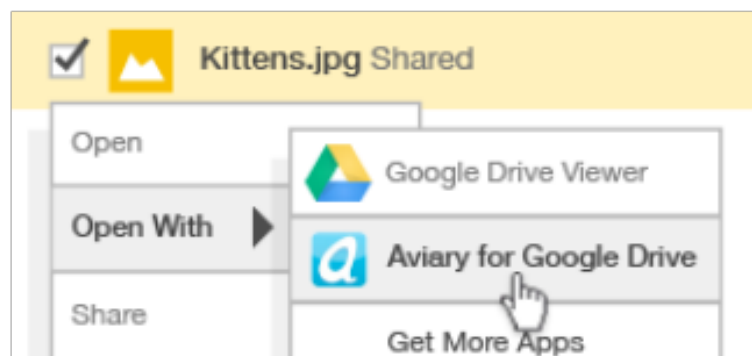
Drive SDK App lifecycle



Web App invoked with `state` parameter



```
1 function doGet(e) {  
2   if(e.parameter.state){  
3     var state = JSON.parse(e.parameter.state);  
4     if(state.action === 'create'){  
5       //create requested  
6     } else if(state.action === 'open'){  
7       //open selected files  
8     }  
9   }  
10 }
```



```
7 function listFilesByName() {  
8   var files = DriveApp.getFilesByName("commonName");  
9   var file, name;  
10  while(files.hasNext()) {  
11    file = files.next();  
12    name = file.getName();  
13    Logger.log(name);  
14  }  
15 }
```



Use `DriveApp` API to read, write to Drive






Deeper into the Drive SDK

Enable Drive SDK Service

[Search](#) [Images](#) [Maps](#) [Play](#) [YouTube](#) [News](#) [Gmail](#) [Drive](#) [More](#) ▼


Google apis

Drive Create Assignment ▾ All (56) Active (1) Inactive (55) Google Cloud Platform

- Overview
- Services**
- Team
- API Access
- Billing ⓘ
-  Drive SDK

Active services

Select services for the project.

Service	Status	Notes
 Drive SDK ⓘ	<input checked="" type="checkbox"/> ON	



Drive SDK Settings

Overview
Services
Team
API Access
Billing
Reports
Quotas
Drive SDK

Google Drive SDK

App ID: 54522657923

Icons [?]

Application Icon (Required)
Choose icons to use for this application. You must select at least one application icon. For each size.

Small (16x16):
 s6MLqGESg.png

Medium (32x32):
 s6MLqGESg.png

Large (128x128):
 s6MLqGESg.png

Document Icon
Choose icons to use for documents created with this application. If you do not select a document icon, a transparent background and select a properly-scaled icon for each size.

Small (16x16):
 s6MLqGESg.png

Medium (32x32):
 s6MLqGESg.png

Large (128x128):
 s6MLqGESg.png

Drive Integration

Authentication
 Automatically initiate the OAuth 2.0 flow when users open my application from Drive

Open URL (Required) [?]
This URL is used when the user opens an existing Google Drive item with your application.

Multiple File Support

Allow users to open multiple files using a single instance of this application

Default MIME Types [?]

List MIME types that your application can open. Users can make your application open files with these MIME types by default.

- ×
-

Default File Extensions [?]

List file extensions that your application can open. Users can make your application open items with these extensions by default.

-

Secondary MIME Types [?]

List secondary MIME types that your application supports. These MIME types are never opened with your application by default.

-

Secondary File Extensions [?]

List secondary file extensions that your application supports. These file extensions are never opened with your application by default.

-

Create With

Allow users to create new documents using this application

New URL (Required) [?]

This URL is used when the user selects your application from the "New" menu in Google Drive.

Document Name

Enter a name for the type of document that your application creates. This name will be displayed in the "Create New" menu in Google Drive. If you do not enter a name, the application name will be used instead.

Document Name Key

Import [?]

Allow users to open files that can be converted to a format that this app can open



Drive SDK Settings - The important ones



Open URL (Required)


This URL is used when the user opens an existing Google Drive item with your application.

`https://script.google.com/macros/s/AKfycbxK6aULLp8C`



Default MIME Types

List MIME types that your application can open. Users can make your application open files

1. 
2.



Create With

Allow users to create new documents using this application

New URL (Required)

This URL is used when the user selects your application from the "New" menu in Google Drive.

`https://script.google.com/macros/s/AKfycbxK6aULLp8C`



Drive SDK Actions

Create Parameters

```
{  
  folderId: "0A2wiPUk9PVA",  
  action: "create",  
  userId: "117678606781684"  
}
```

JSON

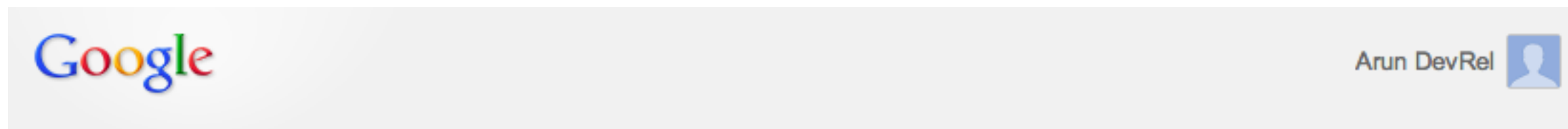
Open With Parameters

```
{  
  ids: [  
    "0B0JNj_IMMzUtYTRhNy02MTc1MDE4NjkwNzA"  
  ],  
  action: "open",  
  userId: "117678606781684"  
}
```

JSON



Install to Google Drive



Apps Script Drive integration is requesting permission to:

- ▶ Add itself to Google Drive
- ▶ View your email address
- ▶ Know who you are on Google

Allow access

No thanks



Apps Script Drive integration

[Learn more](#)

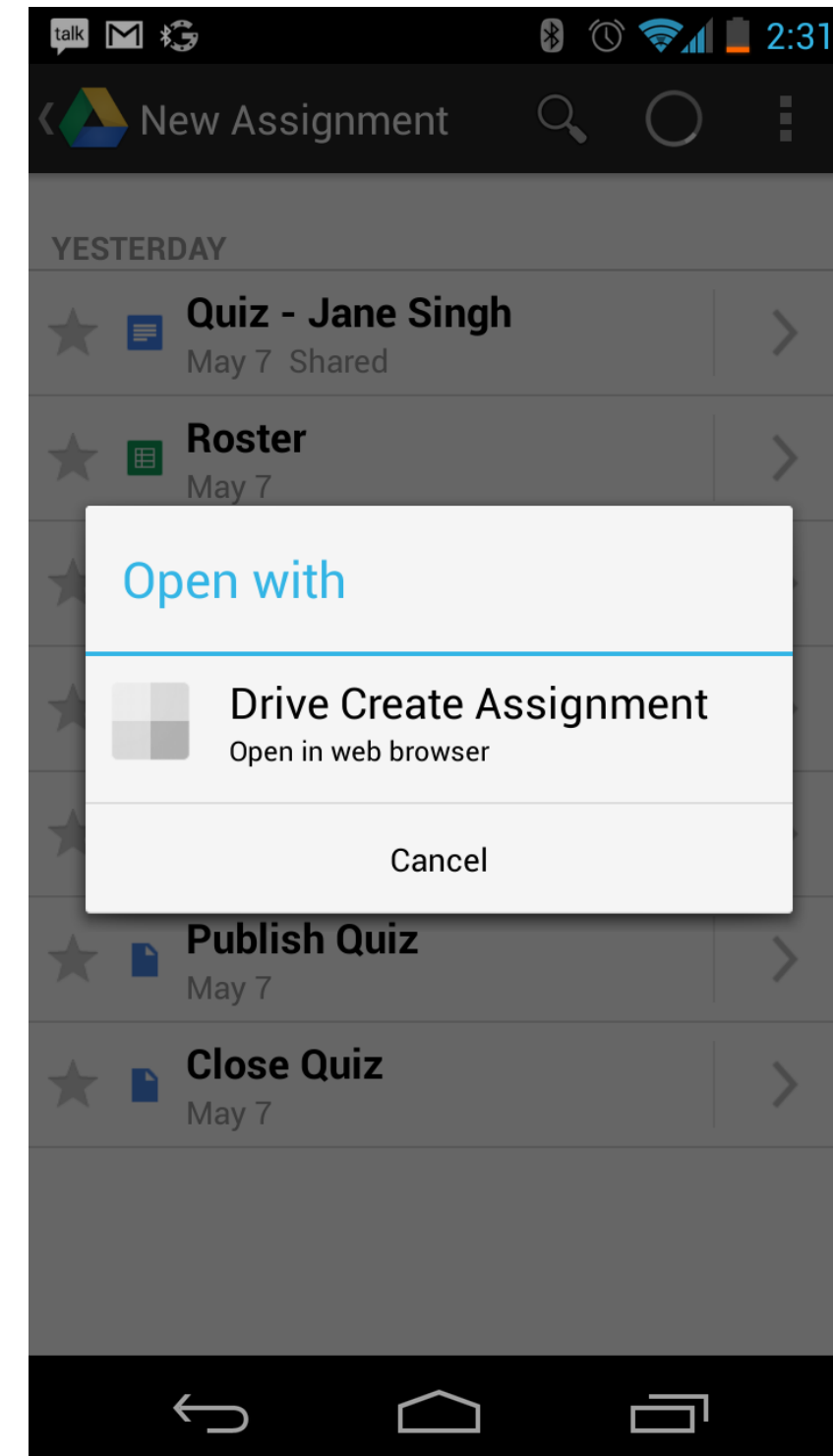


Drive Apps can be Mobile friendly

Mobile Browser Support

Check this if your application can be launched and works properly in a mobile browser

- Will pass in same parameters
- Only "Open With" supported



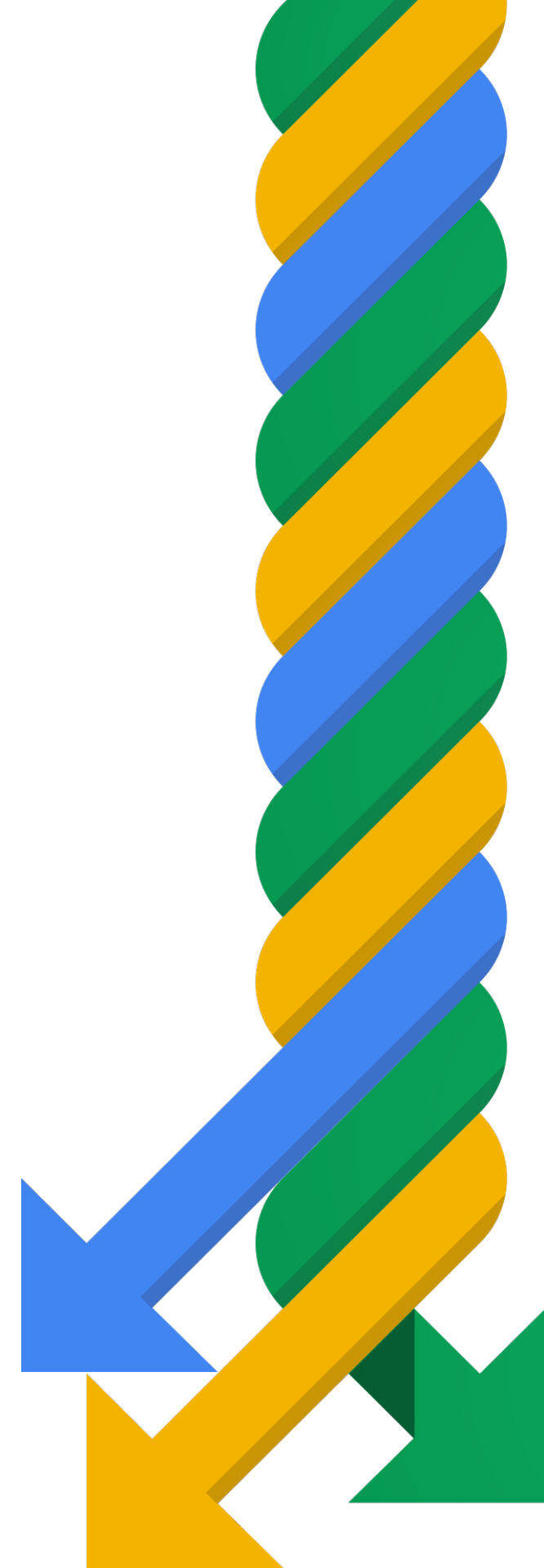


Deeper into Apps Script

The *new* Drive Service

The new Drive Service in Apps Script

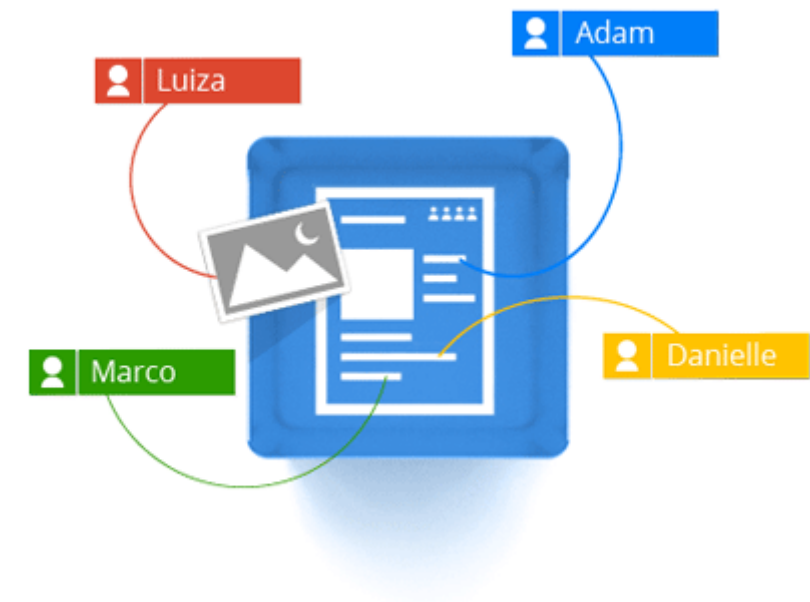
- Written to provide new features of Drive API
- More powerful search functionality
- Simpler code for retrieving files and folders



The new Drive Service in Apps Script

What's new?

- You can now change the owner of a file or folder
- Ability to share a file publicly or to a domain through the API



The new Drive Service in Apps Script




Setting the default sharing options

```
quizTemplate.setSharing(DriveApp.Access.ANYONE_WITH_LINK, DriveApp.Permission.VIEW);
```

JS

Sharing settings

Visibility options:

-  **Public on the web**
Anyone on the Internet can find and access. No sign-in required.
-  **Anyone with the link**
Anyone who has the link can access. No sign-in required.
-  **Private**
Only people explicitly granted permission can access. Sign-in required.

Access: Anyone (no sign-in required)

Can view ▾



The new Drive Service in Apps Script

The simplified code of iterators

```
var parentFolders = quiz.getParents();
```

```
while (parentFolders.hasNext()) {  
  var parent = parentFolders.next();  
  parent.removeFile(quiz);  
}
```

JS



The new Drive Service in Apps Script

Searching for files

Get all files named "Document"

```
DriveApp.searchFiles("title='Document'");
```

Get all files modified after Christmas

```
DriveApp.searchFiles("modifiedDate >= '2012-12-26T00:00'");
```

Get files writable by "user@gmail.com"

```
DriveApp.searchFiles("'user@gmail.com' in writers");
```



The new Drive Service in Apps Script

Things to note

- No longer expose email addresses
- Drive Service is built on Drive API



Write apps for Drive from anywhere...



We'd love your feedback!



Room 8



Learn More!

<http://developers.google.com/apps-script/reference/drive>

+Arun Nagarajan

+John McGowan





Google

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