



# Connecting BB K-12 to Google Account

BBDevDays

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# Why connect BB to Google Workspace?

- ▶ **Automate workflows, improve user access**
- ▶ Each hour, HOS interrupted bookkeeper to ask for an enrollment report to be run showing the status of all enrollment contracts
- ▶ Enrollment season takes 6-9 months...lots of stragglers
- ▶ HOS, Admission Director, and Principals not particularly interested in logging into BB K-12 account and running reports
- ▶ Wanted to distribute information securely within the school
- ▶ Be able to quickly view enrollment contract status by student and in sum – use a pivot table

# Connecting data from Enrollment Management to a Google Sheet



# Why Google Workspace?

- ▶ Schools already use Google Workspace – it's part of their Google Classroom account
- ▶ Google Apps Script is a “rapid application development platform that makes it fast and easy to create business applications that integrate with Google Workspace.” [www.google.com/script/start/](http://www.google.com/script/start/)
  - ▶ Javascript connected to Google Sheets
- ▶ Google Apps Script/Workspace can:
  - ▶ Fetch required SKY API Endpoints
  - ▶ Store SKY API codes and keys securely within a Google Apps Script
  - ▶ Email notifications on update
  - ▶ Security follows Google account (2FA, etc.)
- ▶ + there is no MS Power Platform for K-12

# An Advanced List....

- ▶ Reporting > Manage Lists > Advanced List
- ▶ List Templates > Candidate/Student Contracts
- ▶ Modify data fields and filters as needed
- ▶ Save this list – the id is in the link address when you hover: \_\_pdL('888888','Advanced List: Enrollment Contracts 23-24', '1', '~slid=139999~ml=False~sln=Enrollment Contracts 23-24', '', 'False', '0', '', 'default.aspx') to use in your Google Script

[Export](#) | [Export as HTML](#) | [Export as CSV](#)

Change page: < 1 2 3 4 5 6 7 8 9 > | Displaying page 1 of 9, items 1 to 40 of 350.

User ID	Role	First Name	Last Name	Contract Type	Grad Year	Return Date	Not Returning	Status	Entering Grade	Deposit Amt	Rec	hold	D
7157983	Candidate			A100ANB2 - Enrollment, Tzedakah v2			0	Not Started	Seventh Grade				Financial
4518448	Student			A100ANB - Enrollment, Tzedakah Only	2028	11/29/2022	0	Processed		1500.0000			1
7051257	Candidate			A100ANB - Enrollment, Tzedakah Only		1/24/2023	0	Processed	Pre-Kindergarten	0.0000			1
4900323	Student			A100ANB - Enrollment, Tzedakah Only	2026	1/31/2023	0	Processed		750.0000			1
7051134	Candidate			A100ANB2 - Enrollment, Tzedakah v2		1/23/2023	0	Processed	Kindergarten	1500.0000			1
5208849	Student			A100ANB - Enrollment, Tzedakah Only	2028	11/16/2022	0	Processed		1500.0000			1
6190993	Student			A100ANB - Enrollment, Tzedakah Only	2034	11/16/2022	0	Processed	Kindergarten	1500.0000			1
...	...	...	...	A100ANB - Enrollment, Tzedakah Only	...	...	...	...	...	...	...	...	...

# ...Becomes a Google Sheet

A	B	C	D	E	F	G
<b>Enrollment Contract Tracker 2023-24</b>	A100	updated	5/30/2023 12:42 PM	23-24		
<i>COUNTA of Last Name</i>	<i>Status</i>					
<i>schoolLevel</i>	<i>grade</i>	<i>Hold</i>	<i>Not Started</i>	<i>Saved</i>	<i>Submitted</i>	<i>Grand Total</i>
<b>- Lower School</b>	-1		1		42	43
	0				32	32
	1		1		41	42
	2				31	31
	3		3		28	31
	4		1		21	22
	5				19	19
	6				27	27
	7	2	1	1	16	20
	8				27	27
<b>Lower School Total</b>		2	7	1	284	294
<b>- Upper School</b>	9			1	12	13
	10		1		19	20
	11	1			9	10
	12			1	8	9
<b>Upper School Total</b>		1	1	2	48	52
<b>Grand Total</b>		3	8	3	332	346

# How to connect Enrollment Management and Google Workspace

1. Library Script: Google Apps Script for SKY API data retrieval
  - ▶ This script becomes a library to be used by other Google Apps Scripts
  - ▶ Include Google Oauth2 library ([github.com/googleworkspace/apps-script-oauth2](https://github.com/googleworkspace/apps-script-oauth2))
  - ▶ This Script will stores/refresh keys required by SKY API securely
  - ▶ Authorize and generate call-back URL
  - ▶ Include call to List API ([developer.sky.blackbaud.com/docs/services/school/operations/V1ListsAdvancedByList\\_idGet](https://developer.sky.blackbaud.com/docs/services/school/operations/V1ListsAdvancedByList_idGet))
2. Developer App: Add a new application to your SKY Developer account
  - ▶ Callback URL is generated from the Google Apps Script #3 above
  - ▶ Need admin privileges for the environment
3. Sheet & Script: Create Google sheet with an attached script
  - ▶ Create a new script, with the script from #1 as a library
  - ▶ This script will pull the data from the SKY API and list it in a Google sheet
  - ▶ Format the pivot table using the data from that sheet
  - ▶ Create a trigger so this script auto updates

Sample code at [github.com/bray-field/sky-api](https://github.com/bray-field/sky-api)

# Processing Available in Google Apps Script

- ▶ Lists can be filtered for different types of contracts
  - ▶ School uses multiple contracts per student – different sheets for different contract types
  - ▶ Use different sheets (or different tabs) to monitor different contracts
- ▶ Data can be modified within Google to make presentation easier
  - ▶ Example: Submitted/Processed status combined
- ▶ Changes in enrollment can trigger email update to users notifying them of any change and link to the sheet
  - ▶ Contract creation when student is accepted
  - ▶ When parent looks at Contract (but doesn't sign it)
  - ▶ When a Contract processed



# Sample use cases

- ▶ Any Advanced List can be accessed using the SKY API
- ▶ Google Apps Script can be used to add functionality
  - ▶ Automated email notification based on filters
  - ▶ Data manipulation
- ▶ Implemented for client schools:
  - ▶ **Automated requirements analysis of transcripts**
    - ▶ Problem: Registrar need to review student transcripts to ensure number of credits by department. School requirements were more complicated than BB K-12 allows (hundreds of courses, changed regularly)
    - ▶ Solution: Advanced list download and analysis/grouping of data in Google Sheet
  - ▶ **Official notes tracking**
    - ▶ Problem: Summary and alerts when Official Notes were sent for a particular reason
    - ▶ Solution: Advanced list download, create Pivot Table by day and student
  - ▶ **Attendance tracking & reminders**
    - ▶ Problem: Teachers needed reminder to take attendance.
    - ▶ Solution: Advanced list showing absent students in spreadsheet, which teachers did not take attendance as of 9AM, email reminders to those teachers and second update at 11AM
  - ▶ **Analyze Academic Schedule for next school year**
    - ▶ Problem: School wanted to use BB Scheduler, but had complicated schedule with many special changes
    - ▶ Solution: Advanced list to extract course requests and fulfillment status to identify missing classes
  - ▶ **There are more examples!** Anything that can be captured in Advanced List can be exported

## Use Cases for other BB Products

- ▶ Linking the SKY API to Google Workspace allows endpoint access to RE NXT, FE NXT, and Payments API
- ▶ Implemented Google Apps Scripts for many purposes:
  - ▶ Automated uploading of RE Gifts from Google Spreadsheet
  - ▶ Automated Payments API using BB Checkout from Google Apps Script Forms
  - ▶ Automated Journal Entry uploads from Google Sheets
  - ▶ A lot more ...



## Contact/Follow Up

- ▶ Email  
[robert.raymond@gmail.com](mailto:robert.raymond@gmail.com)
- ▶ Independent Consultant  
available to work with  
schools
- ▶ Github – Sample Scripts  
[github.com/bray-field/sky-api](https://github.com/bray-field/sky-api)