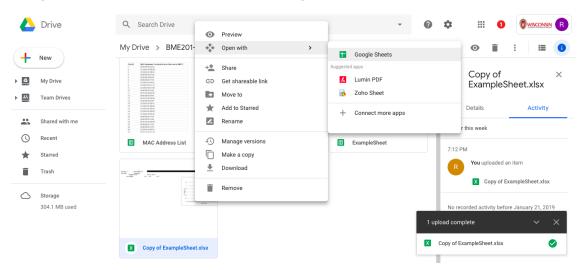
Instructions on how to set-up Google Sheets:

Required files are attached at the bottom of this entry

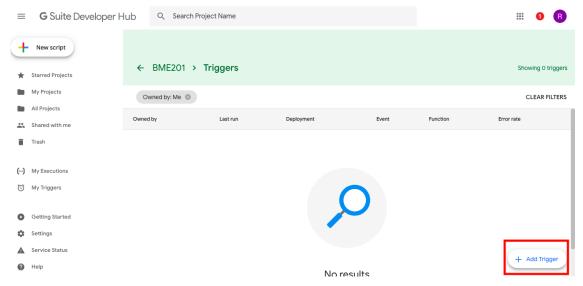
- 1. Upload "ExampleSheet.xlsx" in your UW Google Drive account
- Right click on ExampleSheet -> Open with -> Google Sheets



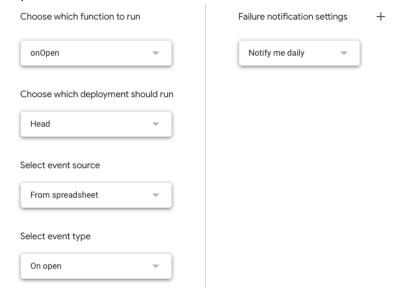
- Tools → Script Editor
- 4. Copy and paste the code from GoogleScript.txt into the workspace
 - 1. Replace 'AAAAAAAAA' in the line that includes var SS to the unique identifier of the Google Sheet (found in the URL of the Google Sheet (example bolded in red below)
 - https://docs.google.com/spreadsheets/d/1PVqv5EXZEgy2MSj3WHtSsNtvaKultSXdlwtcTI E/edit#gid=0
 - 2. The line should look something like this when you're done: var SS = SpreadsheetApp.openById('1PVqv5EXZEgy2MSj3WHtSsNtvaKultSXdIwtcTIE');
 - 2. Parameters first_row, saveThreshold, tempThreshold can be changed if needed but is not necessary
- 5. Click on the 'current project's triggers' icon



1. A new tab will open. Click Add a Trigger or Create a new Trigger at the bottom of the page



2. Make sure your settings match those shown below. You can select whatever option you want for the "Notify me" drop-down.



- 2. Click Save at the bottom of the page.
- Click Allow when the page asks for access.
- 4. Close this page.
- 3. Authorization required
 - 1. Click Review Permissions
 - Choose your wisc.edu account
 - 3. Allow
- 4. Go back to the script. Publish → Deploy as web app
 - 1. Enter a project name and press okay
 - 2. Project Version: New
 - Execute the app as: Me (yourname@wisc.edu)
 - Who has access to the app: Anyone, even anonymous
 - 5. Deploy

5. You will see the following window pop-up

× Deploy as web app This project is now deployed as a web app. Current web app URL: https://script.google.com/macros/s/AKfycbzEhWqq4XUyrRdL Test web app for your latest code.

- 1. Copy and save the text that comes after /macros/s/ and before /exec
- 2. It should look something like:
 - AKfycbzEhWqq4XUyrRdUew_gGFWHy_UFScdC9xA-syYZLhUJLZfc
- 3. This is the GoogleScriptID that you will need to use in your Arduino Sketch
- 6. Close and reopen the Google Sheets spreadsheet.
 - 1. At the top, there should be a new tab labeled BME 201. It has three options:
 - 1. Activate Timed Triggers Click this once to turn on email alerts and spreadsheet skimming
 - 1. Temperatures will be checked every hour on the hour and you will be emailed if the temperatures are greater than the set threshold
 - 2. Spreadsheet data is trimmed every day at 3am. Half the data is saved to a txt file and half is retained.
 - 2. Deactivate Timed Triggers Click this to turn off email alerts and spreadsheet skimming
 - 3. Export data and clear This will save any existing data into the txt file and clear the spreadsheet. Only run this once all your data collection is done. The txt file can be imported into MATLAB to plot.
 - 1. To convert the String of date and time into a datetime in MATLAB, read the MATLAB documentation. An example is shown below:
 - 1. dateTime = datetime(d,'InputFormat','dd/mm/yyyy HH:mm:ss') %d is an array of strings
 - 2. Datetime arrays can be used in plots. You can also convert them to numeric values. See the documentation to see how.
- 7. The Google Sheet is now ready to receive data
 - 1. Modify row 2: {columns C, D, E, ...} in the sheet to add header names for your data
 - 2. Modify cell B1 to include the emails of your group members, separated by commas

3. Do not modify anything else. The below image shows what you should **not** modify in RED.

	A	В	С	D
1	Email(s) to alert (comma separated)>	yourname@wisc.edu, fakemail@wisc.edu		
2	Date & Time (generated by Google)	Temperature		
3	Average	#DIV/0!	#DIV/0!	#DIV/0!
3	Average Last updated		#DIV/0! #N/A	#DIV/0! #N/A
3 4 5	_			

- 4. An additional column is required in order to display the plot, but no data is required in this.
- 5. You may choose to add additional plots if you are recording more data other than temperature.
- 8. README → Details about the program:
 - 1. The Google Script is programed to send an email if the value in the second column reaches tempThreshold. It will check the temperature once an hour.
 - 2. The Google Script will save a txt file in the same folder as the spreadsheet when the data in the spreadsheet reaches row saveThreshold. It will remove the earliest half of the data. This helps keep the spreadsheet running fast and smooth. The name of the txt file is the same as the Sheet.