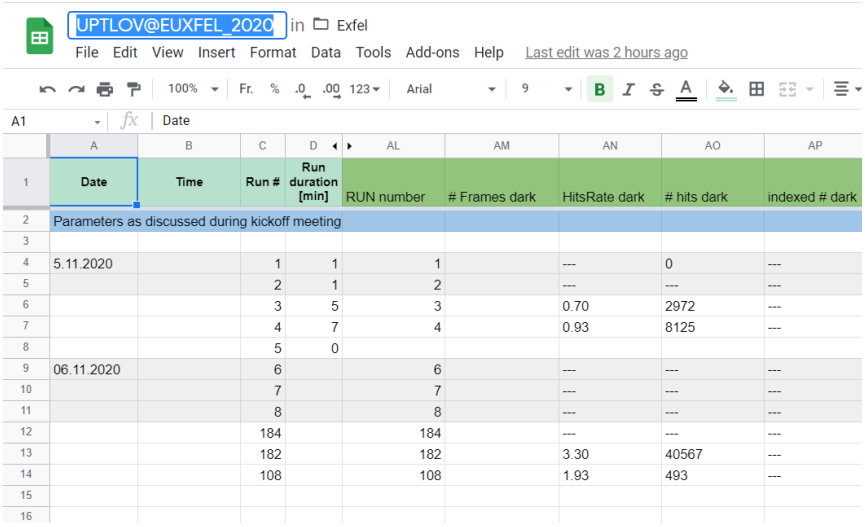
General information about the script:

`python3 upt-cheetah-to-logbook-V2.py [Google Sheet Name] [/path_Cheetah/crawler.txt] [file with information about fields]`

Below I'll show how all parameters should look like.

Ex. [Google Sheet Name] – UPTLOV@EUXFEL_2020, as shown below.



UPTLOV@EUXFEL_2020 in Exfel

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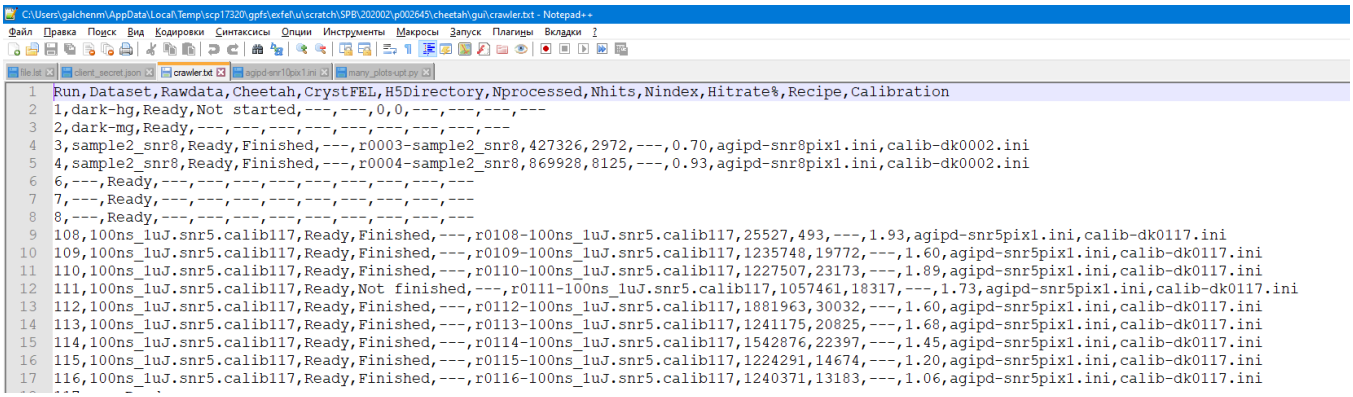
A1 | Date

	A	B	C	D	AL	AM	AN	AO	AP
1	Date	Time	Run #	Run duration [min]	RUN number	# Frames dark	HitsRate dark	# hits dark	indexed # dark
2	Parameters as discussed during kickoff meeting								
3									
4	5.11.2020		1	1	1		---	0	---
5			2	1	2		---	---	---
6			3	5	3		0.70	2972	---
7			4	7	4		0.93	8125	---
8			5	0					
9	06.11.2020		6		6		---	---	---
10			7		7		---	---	---
11			8		8		---	---	---
12			184		184		---	---	---
13			182		182		3.30	40567	---
14			108		108		1.93	493	---
15									
16									

Ex. [/path_Cheetah/crawler.txt] - /gpfs/exfel/u/scratch/SPB/202002/p002645/cheetah/gui/crawler.txt

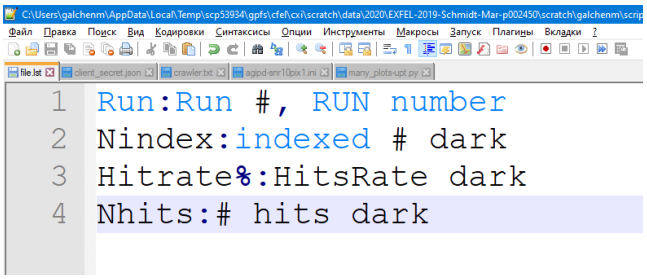


C:\Users\galchenm\AppData\Local\Temp\scp17320\gpfs\exfel\u\scratch\SPB\202002\p002645\cheetah\gui\crawler.txt - Notepad++

```
Run,Dataset,Rawdata,Cheetah,CrystFEL,H5Directory,Nprocessed,Nhits,Nindex,Hitrate%,Recipe,Calibration
1,dark-hg,Ready,Not started,---,---,0,0,---,---,---,---
2,dark-mg,Ready,---,---,---,---,---,---,---,---,---
3,sample2_snr8,Ready,Finished,---,r0003-sample2_snr8,427326,2972,---,0.70,agipd-snr8pix1.ini,calib-dk0002.ini
4,sample2_snr8,Ready,Finished,---,r0004-sample2_snr8,869928,8125,---,0.93,agipd-snr8pix1.ini,calib-dk0002.ini
6,---,Ready,---,---,---,---,---,---,---,---,---
7,---,Ready,---,---,---,---,---,---,---,---,---
8,---,Ready,---,---,---,---,---,---,---,---,---
108,100ns_1uJ.snr5.calib117,Ready,Finished,---,r0108-100ns_1uJ.snr5.calib117,25527,493,---,1.93,agipd-snr5pix1.ini,calib-dk0117.ini
109,100ns_1uJ.snr5.calib117,Ready,Finished,---,r0109-100ns_1uJ.snr5.calib117,1235748,19772,---,1.60,agipd-snr5pix1.ini,calib-dk0117.ini
110,100ns_1uJ.snr5.calib117,Ready,Finished,---,r0110-100ns_1uJ.snr5.calib117,1227507,23173,---,1.89,agipd-snr5pix1.ini,calib-dk0117.ini
111,100ns_1uJ.snr5.calib117,Ready,Not finished,---,r0111-100ns_1uJ.snr5.calib117,1057461,18317,---,1.73,agipd-snr5pix1.ini,calib-dk0117.ini
112,100ns_1uJ.snr5.calib117,Ready,Finished,---,r0112-100ns_1uJ.snr5.calib117,1881963,30032,---,1.60,agipd-snr5pix1.ini,calib-dk0117.ini
113,100ns_1uJ.snr5.calib117,Ready,Finished,---,r0113-100ns_1uJ.snr5.calib117,1241175,20825,---,1.68,agipd-snr5pix1.ini,calib-dk0117.ini
114,100ns_1uJ.snr5.calib117,Ready,Finished,---,r0114-100ns_1uJ.snr5.calib117,1542876,22397,---,1.45,agipd-snr5pix1.ini,calib-dk0117.ini
115,100ns_1uJ.snr5.calib117,Ready,Finished,---,r0115-100ns_1uJ.snr5.calib117,1224291,14674,---,1.20,agipd-snr5pix1.ini,calib-dk0117.ini
116,100ns_1uJ.snr5.calib117,Ready,Finished,---,r0116-100ns_1uJ.snr5.calib117,1240371,13183,---,1.06,agipd-snr5pix1.ini,calib-dk0117.ini
```

Ex. How [file with information about fields] looks like:

The main idea is following:
Cheetah Field: Google Sheet field1, …, Google Sheet fieldN #Sometimes users want to duplicate information in Google Sheet :)



```
Run:Run #, RUN number
Nindex:indexed # dark
Hitrate%:HitsRate dark
Nhits:# hits dark
```

It is necessary to create such file, because users differently named fields that they wanted to be filled with Cheetah results. So this part allows to make this script more universal.

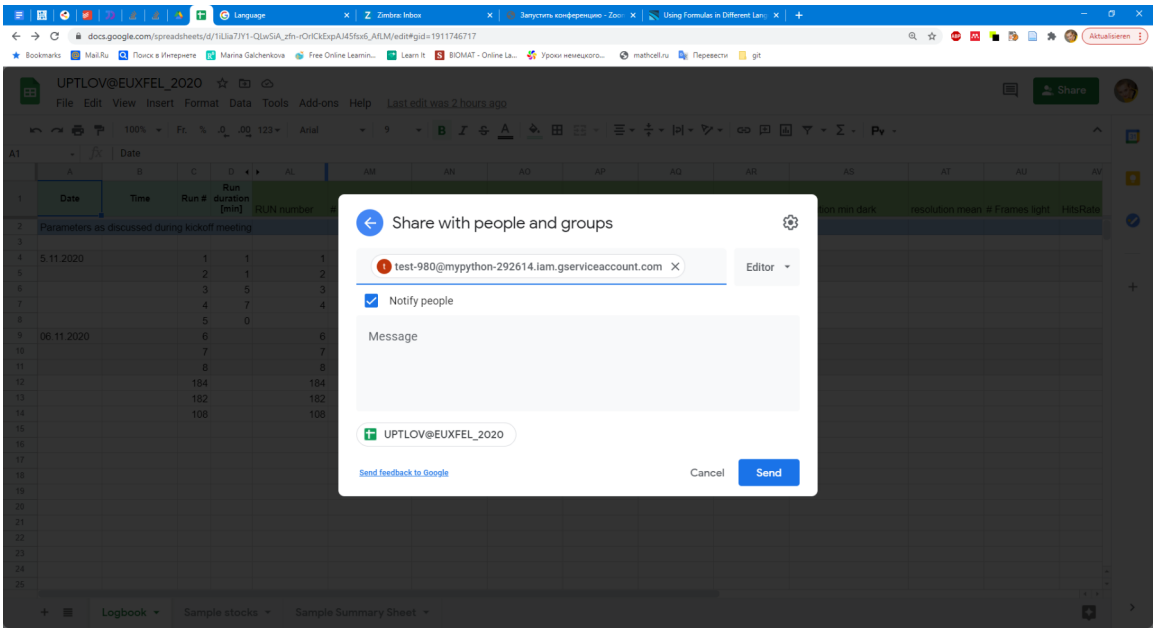
To work with Google files you need to have a token that you can get just following the instructions given, for instance, here https://www.analyticsvidhya.com/blog/2020/07/read-and-update-google-spreadsheets-with-python/. (Or you can use my json file and it is still ok)As the result you will get json file:

```
{
  "type": "service_account",
  "project_id": "mypython-292614",
  "private_key_id": "fea93cb3af60f8daf6fee619b3921ed56f07ebbe",
  "private_key": "-----BEGIN PRIVATE KEY-----\nMIIEvgIBADANBgkqhkiG9w0BAQEFAASCBKgwggSkAgEAAoIBAQDF2d6L+C6pk53E\nwjOiv5298kXmM+VpQiyP+l8ThdBkyKGKC68KDJrQDqlHqS8ov4tYVR
  "client_email": "test-980@mypython-292614.iam.gserviceaccount.com",
  "client_id": "100557732721078573319",
  "auth_uri": "https://accounts.google.com/o/oauth2/auth",
  "token_uri": "https://oauth2.googleapis.com/token",
  "auth_provider_x509_cert_url": "https://www.googleapis.com/oauth2/v1/certs",
  "client_x509_cert_url": "https://www.googleapis.com/robot/v1/metadata/x509/test-980%40mypython-292614.iam.gserviceaccount.com"
}
```

This json file will allow you to have rights to work with Google Sheet, so you need to put the path to json file in the code as following:

```
    scope = ["https://spreadsheets.google.com/feeds",'https://www.googleapis.com/auth/spreadsheets',"https://www.googleapis.com/auth/drive.file","https://www.googleap
    creds = ServiceAccountCredentials.from_json_keyfile_name('client_secret.json', scope)
    client = gspread.authorize(creds)
```

Before running script YOU HAVE TO ADD test-980@mypython-292614.iam.gserviceaccount.com via SHARE in Google Sheet. It is client_email from json file.



And final step is:

module load anaconda3/5.2
python3 upt-cheetah-to-logbook-V2.py UPTLOV@EUXFEL_2020 /gpfs/exfel/u/scratch/SPB/202002/p002645/cheetah/gui/crawler.txt file.lst