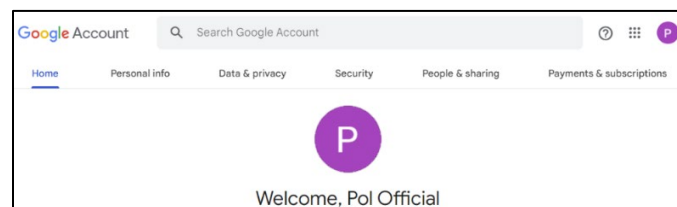


### Instructions for creating a Google account

Note: You can skip this section if you already have a Google account that you would like to use. I recommend using a personal account rather than a university account, as the latter may have restrictions in place that make it more difficult to obtain a YouTube developer account. Even if you already have a Google account, you might still consider creating a new account devoted specifically for the tutorial and future explorations with your YouTube developer account.

The following is the process that I underwent to create a new Google account. It is possible that the process will be slightly different for you (if, for example, Google is running experiments to optimize its 'onboarding flow' – the process new users go through to get an account). I do not expect the process to be much different, but please let me know if you run into issues.

1. Head over to <https://www.google.com/account/about/> and click on 'Create an account' near the top of the page.
2. Provide a First name (and a Last name if you want) and click 'Next' (this can be real or fictitious)
3. Enter a birthday and gender, then click 'Next' (real or fictitious)
4. Choose an email address, either from the ones provided or by creating a new one. Then, click 'Next'
5. Enter a password – I recommend opening a text editor, Word document, or other means of writing down your email address and password (and possibly name, birthday, etc.) so that you have them handy if you need them again. Click 'Next' after entering your password and confirming it.
6. Either enter a recovery email address or select 'Skip'
7. After reviewing your account info, click 'Next'
8. Scroll down to the bottom of the 'Privacy and Terms' window and click 'I agree'
9. In the 'Confirm personalization?' pop-up, click 'Confirm'
10. If the process completed successfully, you should find yourself in a new webpage with a welcome message like the following:



### Instructions for getting YouTube authentication

1. Head to <https://console.cloud.google.com/>, check the box to agree to the Terms of Service, and click 'AGREE AND CONTINUE'
2. At the top of the screen, click 'Select a project.' In the upper right corner of the pop up, click 'NEW PROJECT'
3. Give your project a name under 'Project name.' It could be icwsm24 or something similar - I suggest using no spaces or punctuation. Then, click 'CREATE'
4. Wait a few seconds for the project to get created. Then, click 'Select a project' again and click on the project that you just created.

5. Note: sometimes after I have created a new project Google requests to verify me using a phone number. If that happens, just go through the verification process by providing your telephone number.
6. Next, go to <https://console.cloud.google.com/apis>
7. At the top of the screen, click '+ ENABLES APIS AND SERVICES'
8. Scroll down until you see the section for YouTube. Click on 'YouTube Data API v3'
9. If a blue circle pop-up appears, click 'Got it' to close the pop-up. In the middle of the screen, click the little blue button that says 'ENABLE'
10. Next, go to <https://console.cloud.google.com/apis/credentials>
11. Click on '+ CREATE CREDENTIALS' near the top of the screen, then select 'API key'
12. The pop-up names 'API key created' includes your authentication code under 'Your API key.' Copy it by clicking on the rectangular icon to the right of the code:



13. Paste the API Key code into a text editor or Word document. You will need this code later on, so make sure you know how to relocate it. Once you have pasted it somewhere that you can relocate, click 'CLOSE' to close the pop-up.

### Exploring YouTube Data API Quotas

1. Next, go to <https://console.cloud.google.com/apis/api/youtube.googleapis.com/quotas>
2. On this page, you can see your "quotas" for using the YouTube Data API. The main limit we care about is 'Queries per day' which is capped at 10,000. You might notice that queries per minute is much larger (at 1.8 million), but this is only theoretical as you will be cut off once you reach your limit of 10,000 for the day.
3. Note that there is a process in place for you to request higher quotas. You can check the box for one of the quotas, then click 'EDIT QUOTAS' near the top. You can freely lower the quota, but higher quotas need to be reviewed first by YouTube. Our quota of 10,000 will be sufficient for the tutorial, but know that we are using the baseline quotas that can be relaxed for some use cases. For example, academics can apply for special access that makes it easier to get approved for higher quotas.
4. What does the 10,000 quota mean? You can go here for a list of how much each API operation 'costs' [https://developers.google.com/youtube/v3/determine\\_quota\\_cost](https://developers.google.com/youtube/v3/determine_quota_cost)
5. For example, if you scroll down to 'search' you will notice that this operation costs 100 units of the 10,000. If you were only retrieving YouTube videos that match a specific search term, you would be able to perform 100 searches in total in a single day (that is, 100 searches at the cost of 100 units each would eat up your daily quota of 10,000).
6. For the tutorial, we will be using two operations: search and commentThreads. The latter retrieves the comments for a particular video, and costs just 1 unit per 100 comments.
7. Both the search and comment operations limit the number of videos/comments that are retrieved when called. For example, you can see the limits of the search operation here: <https://developers.google.com/youtube/v3/docs/search/list>. Scroll down to 'maxResults' and you will see that each search operation retrieves at most 50 videos. So, if you want to retrieve 100 videos, you will use twice as many units (i.e., 200 instead of 100 for the search). We will thus want to keep careful track of the number of videos and comments we retrieve so that we do not surpass our daily quota.