ex3:：文本

描述已自动生成

The image above, is the result of my end of run.

I am using Google Pub/Sub. I created a google account first, please use your google account to run my code as follows, thank you. I know you must know how to set up a Google account and run my code, but I still want to describe it in detail. This is my first time using google cloud, it was a new experience for me and although it took me a lot of time to do this lab, but I am happy that I learned a lot. Firstly, please create a topic and use **lab1\_ex3** as the name. Then please in topic details page, click Create Subscription and use **sub\_one** as the name.Secondly, create service account credentials. You can follow Google's step-by-step instructions. I believe that you must have installed the Cloud SDK. if you haven’t installed it yet, please follow the instructions for installing and initializing the Cloud SDK. And then, at use the gcloud before, you can use this gcloud command:

**gcloud pubsub topics list**

**gcloud pubsub subscriptions list**

Thirdly, set up a virtual environment. Finally, Check out the publisher and subscriber code. Create a project folder to contain the Pub/Sub Python files.

Close any open terminals before proceeding.

Then set up a publisher terminal and a subscriber terminal. Create a Python3 virtual environment and activate it. In the publisher terminal, run this command to create and activate a virtual environment named pyenv-qs:

**python -m venv pyenv-qs**

**source pyenv-qs/bin/activate**

In the sub\_one terminal, run the following command:

**source pyenv-qs/bin/activate**

You can Install the Pub/Sub Python client library using pip:

**python -m pip install --user --upgrade google-cloud-pubsub**

Associate the JSON key with the service account. You can use this command:

**export GOOGLE\_APPLICATION\_CREDENTIALS=~/Downloads/key.json**

Set up an environment variable with your current project ID. You can use this command:

**export PROJECT=`gcloud config get-value project`**

To verify that your current GCP is correctly registered as this variable:

**echo $PROJECT**

Change to your project folder, then navigate to the tutorial sample folder:

**cd ex3**

**python sub.py $PROJECT sub\_one**

**python pub.py $PROJECT yourtopic**

Then you can get my code up and running. Thank you for being so patient to see this, I know these methods above are also available on google cloud, but I still describe them in detail because this is exactly how I used google cloud step by step and I think I learnt a lot from this process. When I was using google cloud I had some problems, for example I couldn't use python in a virtual environment, but later I found out that I hadn't set my environment variables correctly, and that I hadn't installed some commands behind it. In the process of making my lab, I encountered a lot of problems and I looked up a lot of information on the internet. In fact, before I did the lab, a lot of knowledge was not very clear to me. When I received the lab assignment at the very beginning, I was very worried and I also emailed you at that time and you recovered me very quickly, so thank you for your help. Finally, thank you again for giving me an extension on the lab, it gave me more time to figure out the content, it was my first time doing a lab of this kind, but I feel I got a lot out of it, it was a bit difficult for me, but I am happy that I finished it. Thank you, Professor!

Some code references in Google Pub/Sub documentation.