Welcome!

*In this example we are going to showcase a full SPA Micro-service and how to deploy it using **SYNAISTHISI**.*

The service is going to utilise the camera of your machine to determine the number of faces in its field of view at any given moment, and inform you through the speakers!

Particularly,

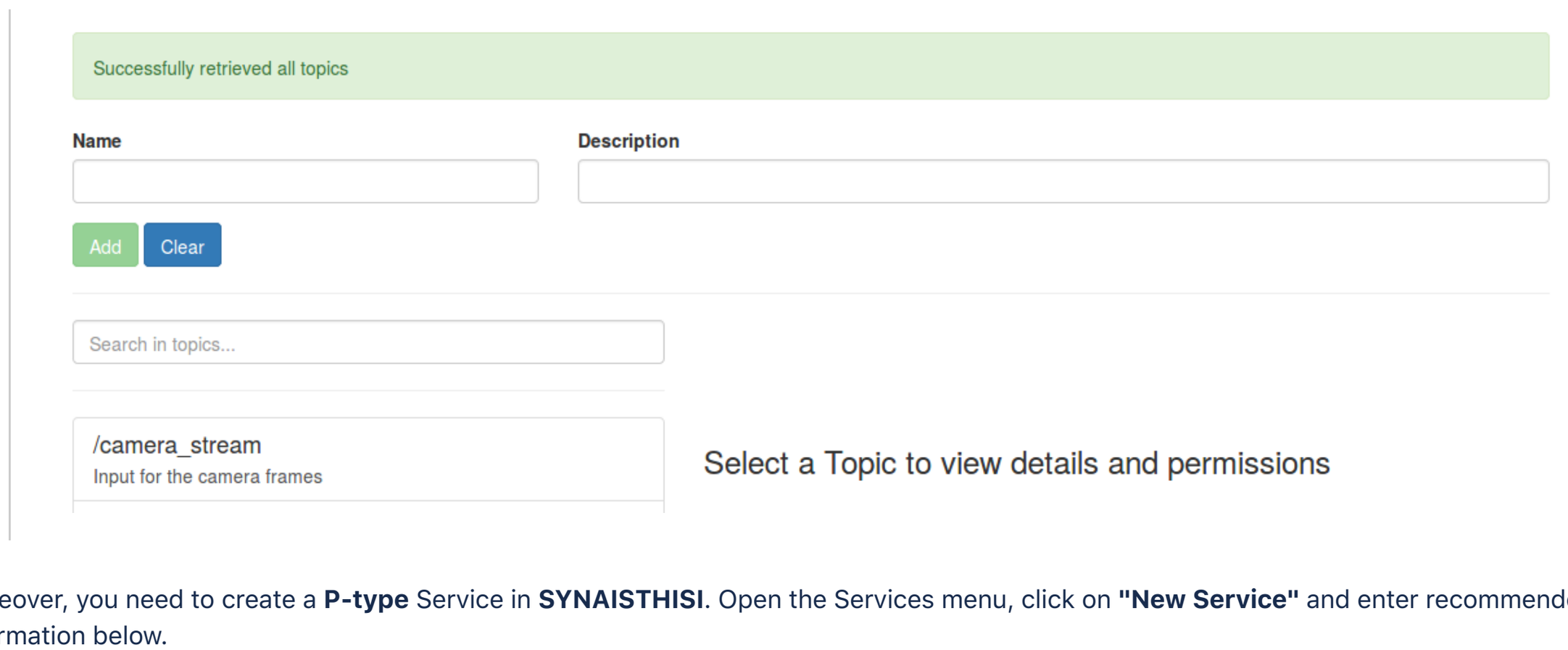
- The **S-type** service for the Face Detection Micro-Service, captures a frame from the camera and publishes it to the output topic every 2 seconds.
- The **P-type** service for the Face Detection Micro-Service, receives a frame from the input topic and detects the number of faces that are present. Then, it publishes the number of faces found to the output topic.
- The **A-type** service for the Face Detection Micro-Service, receives the number of faces detected by the P-type service from the input topic and then outputs it using *"Text to Speech"*.

To begin with

Log in to **SYNAISTHISI** the way we described in the *Home* Wiki page and go to the **Topics** menu.

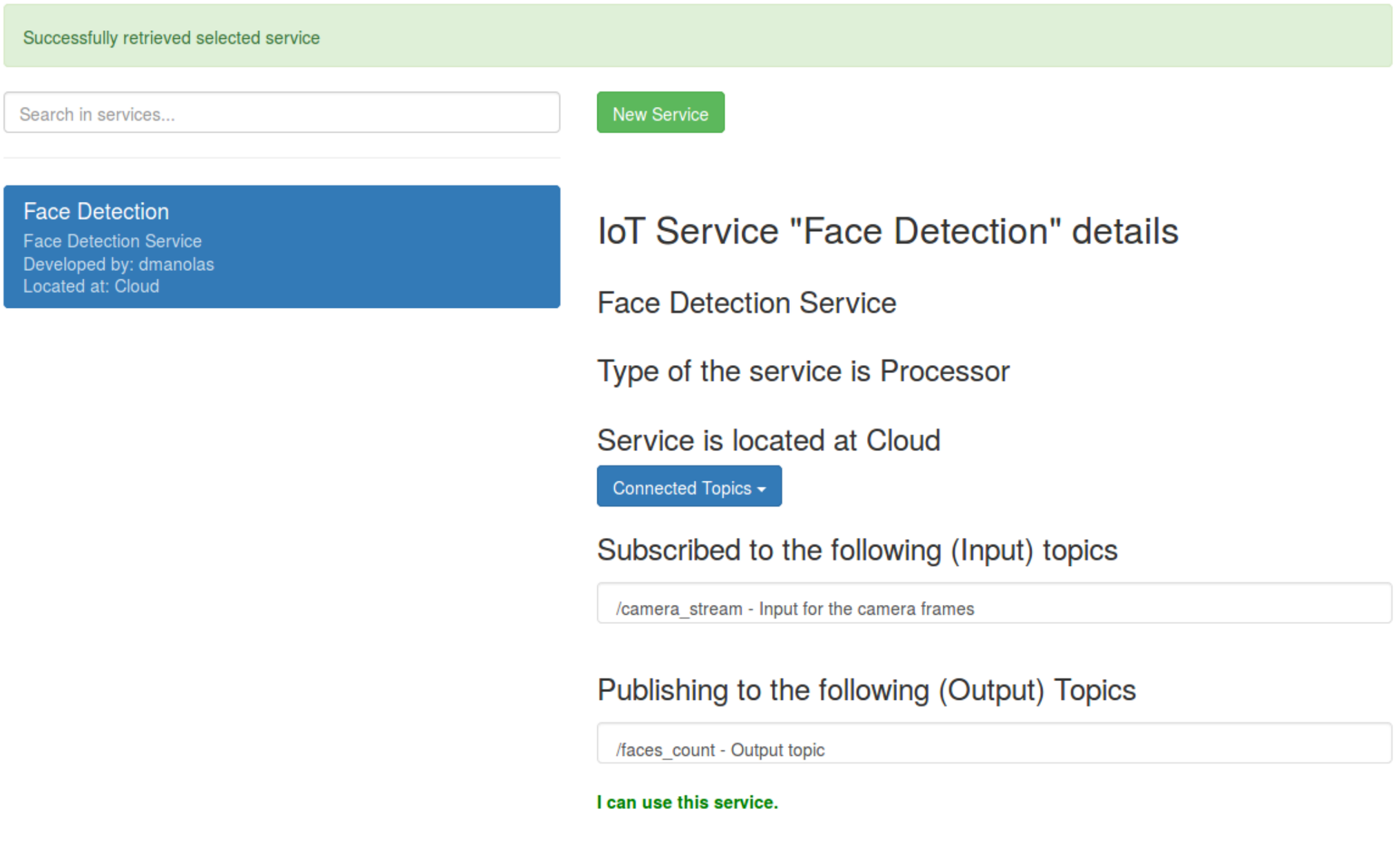
> There, you should create and add a topic to the list, with the following characteristics:
>
> - Name: **camera_stream**
> - Description: **Input for the camera frames**

Now your topics menu should look like this:



Moreover, you need to create a **P-type** Service in **SYNAISTHISI**. Open the Services menu, click on **"New Service"** and enter recommended information below.

> - Name: **Face Detection**
> - Description: **Face Detection Service**
> - Service Type: **Processor**
> - Location: **Cloud**
>
> Don't forget to connect the Service with the "**camera_stream**" input topic you created earlier and a new output topic that you will create on the spot.
>
> For this specific example give the following info to the output topic:
>
> > - Name: **faces_count**
> > - Description: **Output topic**
>
> *for reference:*



In addition

We have prepared for you and uploaded the files necessary for the service to be deployed.

Navigate to "**skel-iot-platform/ examples/ face detection SPA**" in the current repository.

Getting to the Point

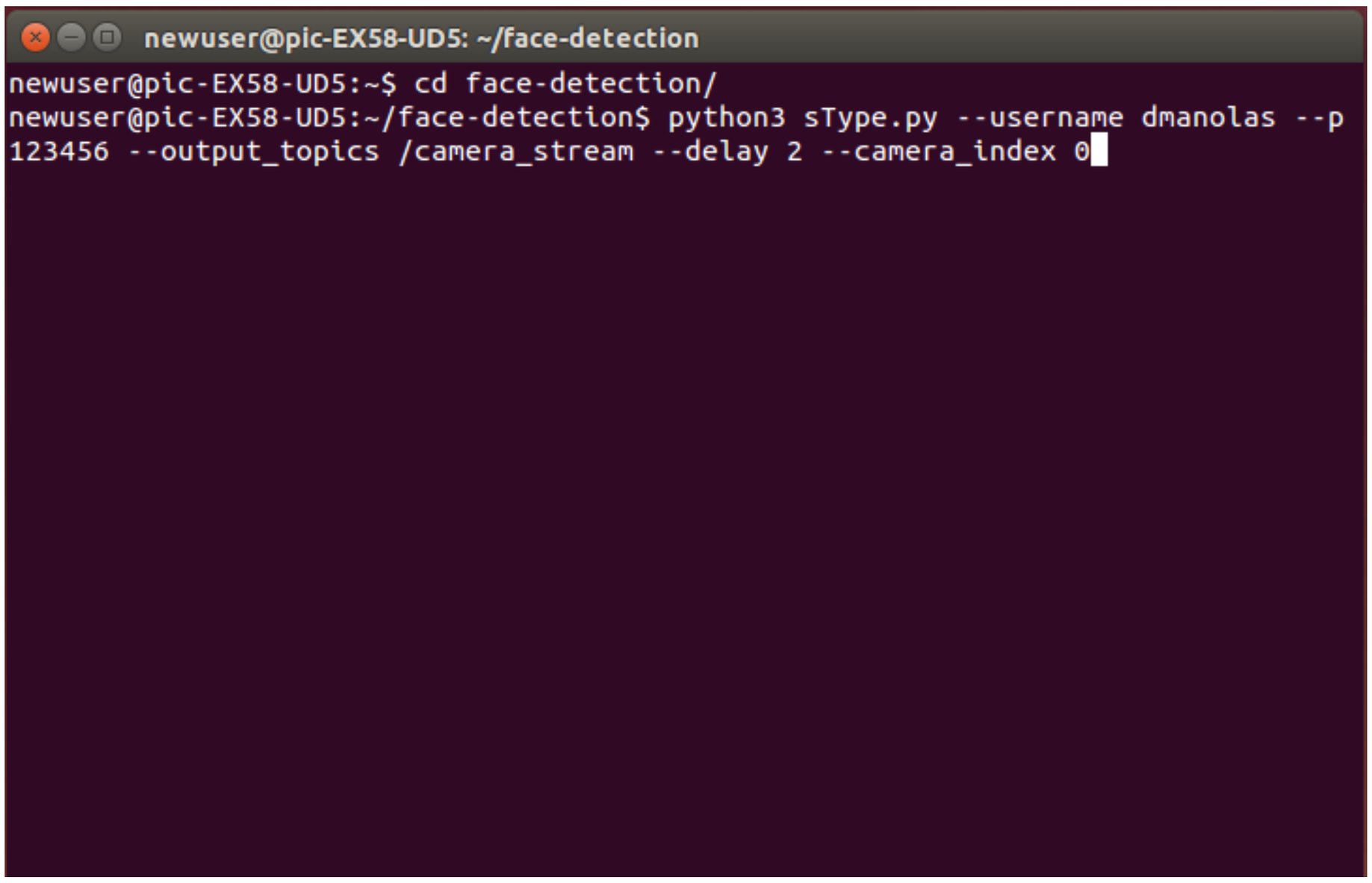
Open two different terminal windows, navigate both to the "**face detection SPA**" folder you placed in your *Home* directory earlier using the following command:

```
cd face detection SPA
```

...and run the two commands below, each in a different terminal:

```
python3 sType.py --username <your username> --p <your password> --output_topics camera_stream --delay 2 --camera_index 0
```

> **Hint:** When you execute this command, a camera window should pop-up.

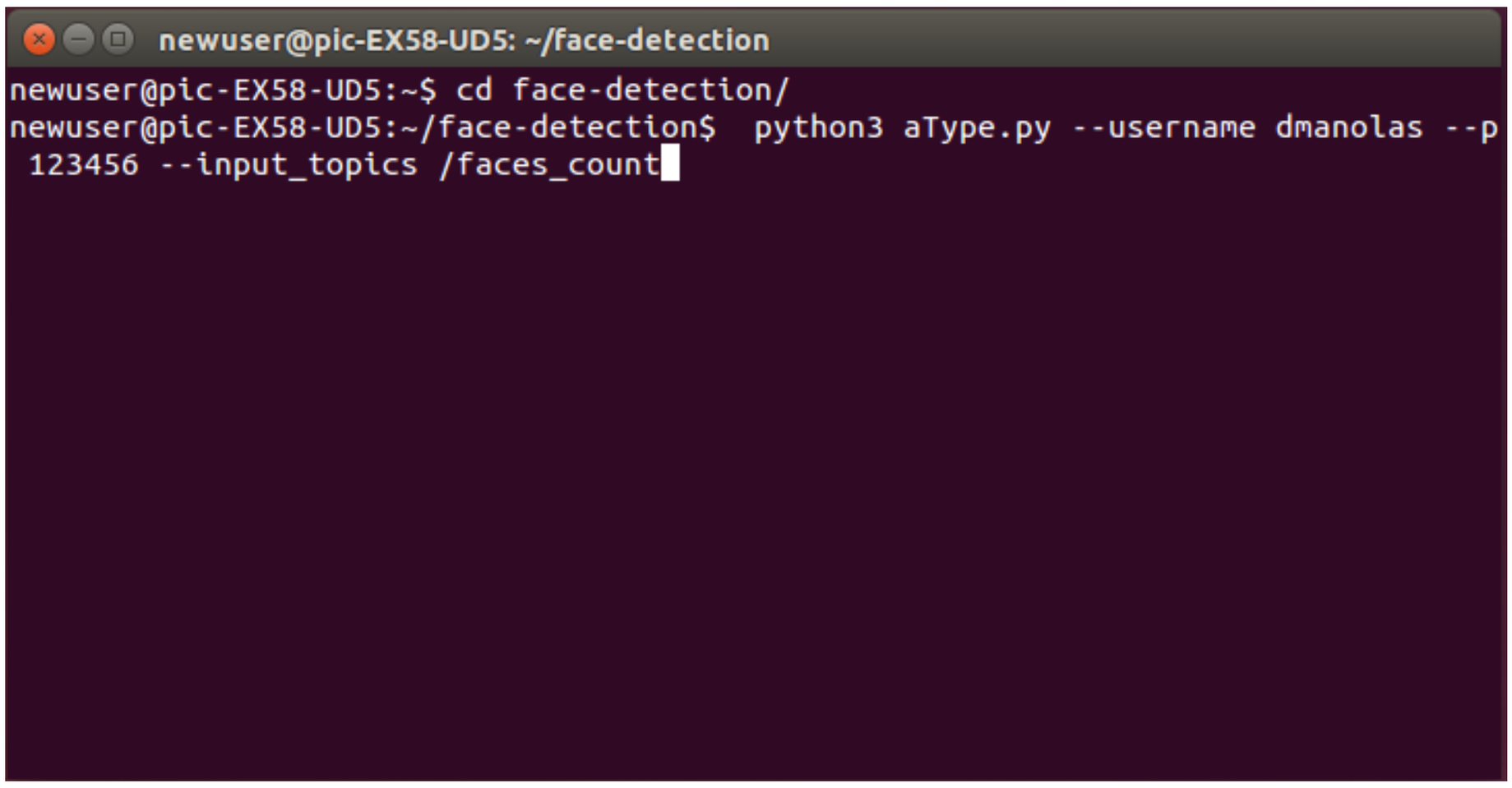


Tip: *Some parameters are configurable...*

- The "**--delay 2**" parameter stands for the refresh rate (in seconds) of the output stream.
- The "**--camera_index 0**" parameter stands for the camera you choose to work with. For example, if you have two cameras connected to your system, try "**--camera_index 1**" to work with the second camera.

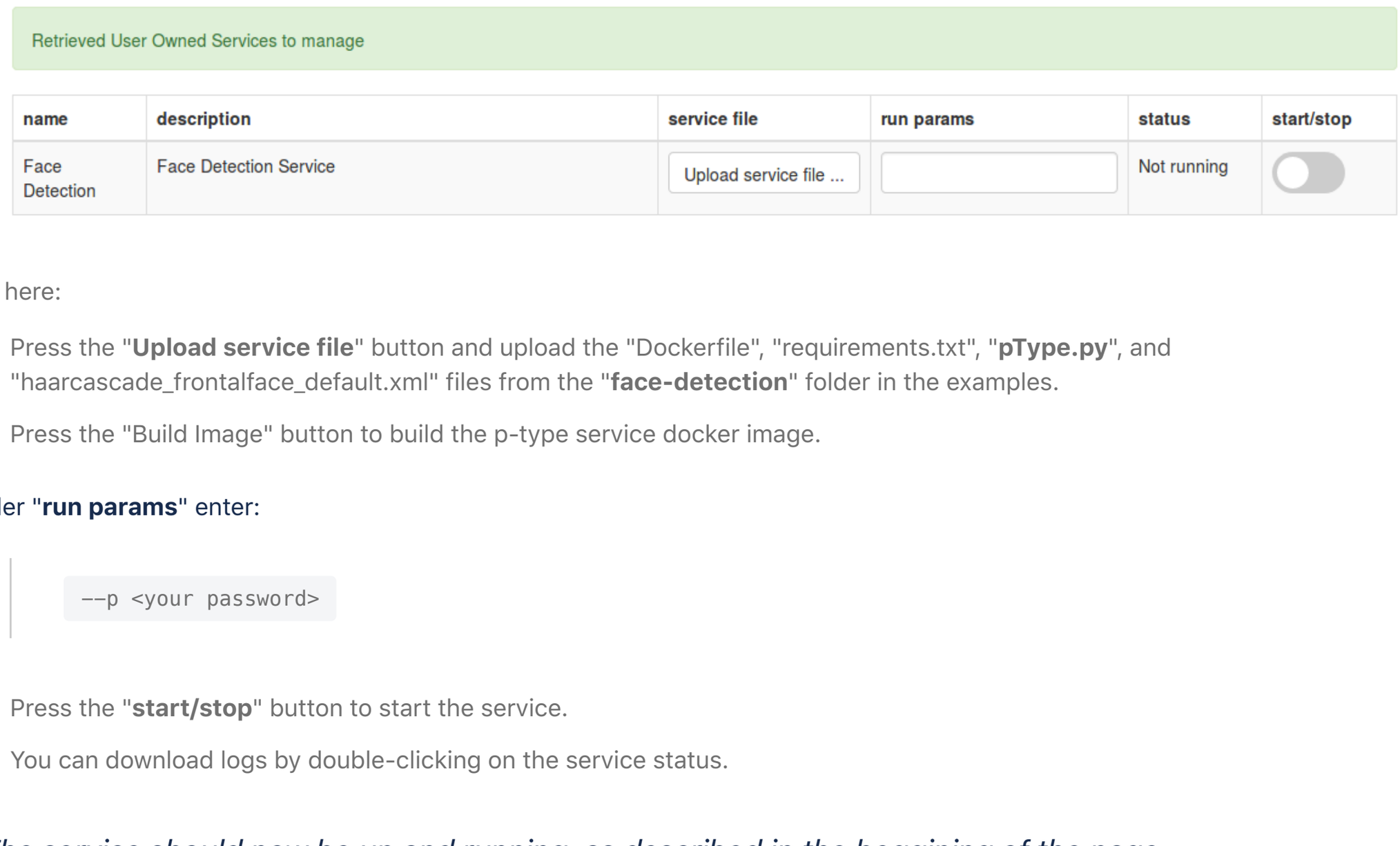
```
python3 aType.py --username <your username> --p <your password> --input_topics faces_count
```

Hint: This command starts the "Text to Speech" service which means you should hear a message through your speakers.



For the next step, go back to **SYNAISTHISI** and open the "**Start/Stop my Services**" menu, under the **Manage** button.

You should see something like:



From here:

- Press the "**Upload service file**" button and upload the "Dockerfile", "requirements.txt", "**pType.py**", and "haarcascade_frontalface_default.xml" files from the "**face-detection**" folder in the examples.
- Press the "Build Image" button to build the p-type service docker image.

- Under "**run params**" enter:

```
--p <your password>
```

- Press the "**start/stop**" button to start the service.
- You can download logs by double-clicking on the service status.

Great! The service should now be up and running, as described in the beggining of the page.

Updated 23 hours ago