How to Run the Application

Contents:

Necessary Installations

1. The easiest way to create/run our application is to do so on a Linux Operating System. We recommend Ubuntu. Even though it is foreign to most people, we recommend downloading Oracle VM and [using this guide here](#).

2. After the VM is set up, there is more software needed to be installed. This can be done in two ways:
   - Using a requirements file
   - Manually installing Flask, Docker, and any other dependencies

3. Before bigger applications can be installed, python3 and pip (a package management used to install and manage python packages). These can be done by opening a terminal in the VM and typing in:

sudo apt install python3
sudo apt install python3-pip

4. From there, Docker and Flask can be installed. To do so with a requirements file, create a requirements.txt file in the terminal using the "touch" command, and enter the following in the file:
   - flask
   - flask_restful
   - docker

Then type the command:

pip3 install -r requirements.txt

Of course, if one doesn't want to use a requirements.txt, each dependency can be installed using pip3 install *dependency*

Flask

1. Flask is a simple web server that is written in and uses python. It allows for fast and easy web development without the need of bigger web servers like nginx or apache. It is primarily involved with the frontend, i.e. what the user sees. More information will be discussed in our design choices, but to get started we recommend this link

   For Phase3 (like Phase 2), Docker initializes Flask, which in turn initializes our pubsub system. It's a layering that works like this (from outermost to innermost): Docker -> Flask -> PubSubApp. In this phase, we spin up multiple applications using a docker-compose.yml file
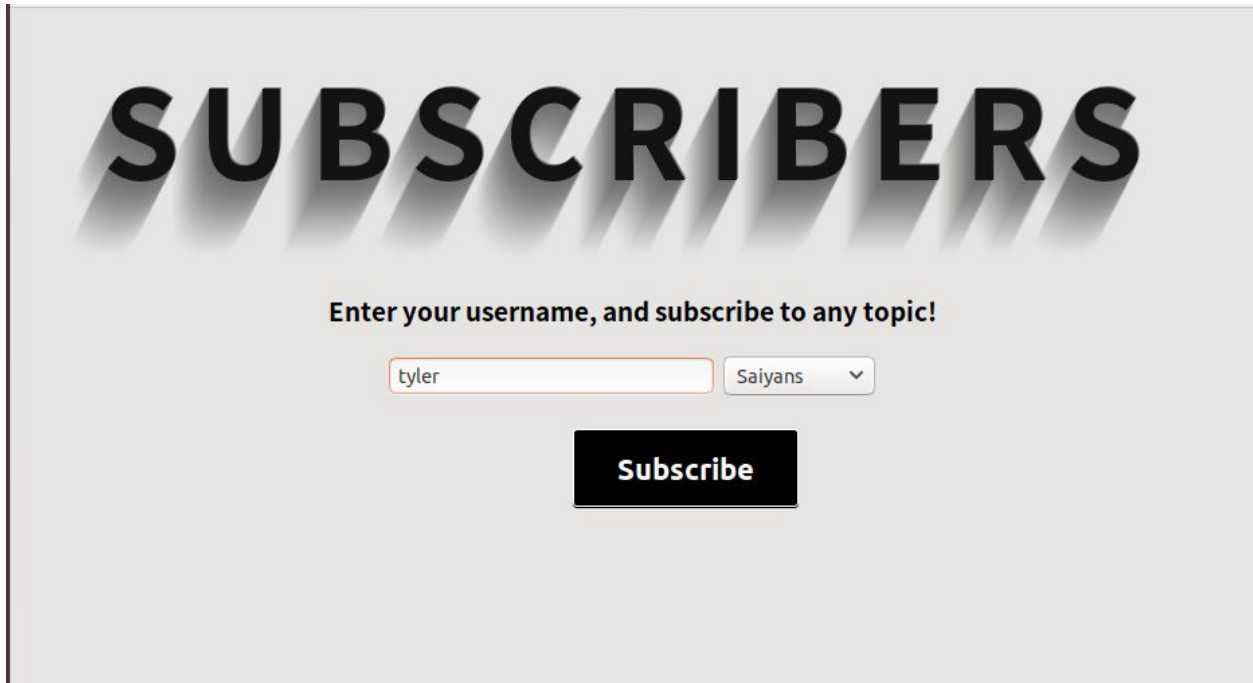
Docker

2. For Phase3, the way docker works is a little different than in Phase2. Instead of Docker handling user input, it initializes Flask which runs our PubSub system on localhost. The entire application is built, deployed, and ran on multiple docker containers. The details of setting up the docker container are vastly different than on Phase2, however, and are discussed in our Design Choices. The following two terminal commands must be run, and then you can navigate to http://localhost

Interacting With the UI

3. Now that everything is installed, we can get started.
   - Step 1: On the Subscriber side, specify a username and select a topic to subscribe to. Then click the "Subscribe" button.This

information will be stored. If someone subscribes to a topic in which there is already information published, the notification will let them know.

- Step 2: On the publisher side, enter in information to add to a specific category. This will both publish information to the category selected and notify all subscribers subscribed to that category.

PUBLISHERS

Choose your topic, and then publish the information!

Saiyans ▼

Publish