CS 553 Cloud Computing
Programming Assignment 3
Name: Kedar Kaushikkar (A20355218)

Manual

The document mentions about the steps to run the scripts

Task Executions:

Local Back-End Workers

Here the client script stores the task from the text file.

The experiments performed are sleep 0 tasks for 10000 times for each worker varying number of workers from 1,2,4,8,16.

This tasks can be performed using the below command.

python client.py -s LOCAL -t 1 -w sleep0_10K.txt

python client.py -s LOCAL -t 2 -w sleep0_10K.txt

here value of t can be changed to increase the number of workers.

The sleep0_10K text file contains the tasks that are picked up for execution.

Remote Back End Workers

This experiments follow the consumer producer architecture where the client script provides the task to the SQS Queue and the producer pulls the task and executes it. Hence we run the client.py and worker.py scripts

Create a SQS task queue. (MY_QUEUE)
Create a SQS process queue (PROCESS_QUEUE)
Create a DynamoDB table with name as '**dynamo_table**' and **task id** as the sort key (dynamo_table).
The number of reads and writes are as per the number of workers with and the utilization of the worker processor generally varying from 10 to 25 reads/writes.

Install the pip library and boto to run the Python Scripts and Amazon API on the amazon instances.

Install PIP

curl -O https://bootstrap.pypa.io/get-pip.py

sudo python get-pip.py

Install boto

pip install boto

Once the libraries are installed, run the worker using the below command,

python worker.py -s MY_QUEUE

The worker will start listening to the task which are put in the My_Queue pool.

Start the Client Script that will insert the task in the SQS pool by using the below command.

python client.py -s MY_QUEUE -t 4 -w {task_filename.txt}

The input files are stored in the source code folder.

Animoto Web Application :

This application interface will be used in our experiments to conever images task and convert them into videos.

To use this application, we need certain libraries like ffmpeg.

The static library can be downloaded from,

http://ffmpeg.gusari.org/static/64bit/

Install the latest library downloaded from the above link by below command,

wget http://ffmpeg.gusari.org/static/64bit/ffmpeg.static.64bit.latest.tar.gz

copy the setup.sh into your worker instance which is provided in the source code folder.

The setup.sh file contains the processing of image via ffmpeg library and copying each video into the S3 instance and removing the temp files.

Once the animoto setup is done , provide permissions to the setup.sh bash file,

chmod 777 setup.sh

Start the worker to listen for image urls and process it . The worker can be started using the below command.

python worker_animoto.py -s MY_QUEUE

The Client animoto file can be started using the below command,

python client_animoto.py -s MY_QUEUE -t 4 -w image_urls.txt

The client_animoto and worker_animoto scripts , image_urls.txt folder can be found in the source code folder.