Creating a File processing Service

Step 1: Install the *inotify-tools* and gzip

```
sudo apt-get install inotify-tools
sudo apt-get install gzip
```

Step 2: Create Folders for the processing files and logs

```
mkdir myfolder
mkdir compressed
mkdir logs
```

Step3: Write a bash script in file watch-myfolder.sh

```
sudo nano watch-myfolder.sh
```

#Copy the following lines to the watch-myfolder.sh

```
#!/bin/bash

MYFOLDER=~/myfolder/
COMPRESSED=~/compressed/
LOGS=~/logs/log.txt

# use -r switch if we would like to watch all the subdirectories as well.
# The script will watch only for newly created files or files moved to this directory.


inotifywait -m -e create -e moved_to --timefmt %F-%T --format "%f %e %T" $MYFOLDER \
        | while read FILENAME EVENT TIME
                do
                        NAME=$(stat --format %U $FILENAME 2>/dev/null)

                        echo "File: '$FILENAME' USER: '$NAME' Event: '$EVENT' Event
time: '$TIME' " >> $LOGS

                echo "created $FILENAME by $NAME at $TIME, it is now moved to
$COMPRESSED for compression. The log has been generated in $LOGS"
```

```
        mv "$MYFOLDER/$FILENAME" "$COMPRESSED/$FILENAME"
        gzip -9 "$COMPRESSED/$FILENAME"
    done
```

Step 4: Give the appropriate permissions to the file

```
sudo chmod +x watch-myfolder.sh
```

Step 5: Test the script

```
sudo ./watch-myfolder.sh
```

2. Create a docker image

Step 1: Installing Docker and starting the service

Update the software repository and install docker.io.

```
sudo apt-get update
sudo apt-get install docker.io
```

Start docker service and enable it to start at the boot time.

```
sudo systemctl start docker
sudo systemctl enable docker
```

Step 2: Create a Docker file

Use nano to create a docker file

```
nano Dockerfile
```

Copy the following lines in the Dockerfile

```
#Download base image ubuntu 16.04
FROM ubuntu:18.04

# Update Software repository
RUN apt-get update

# Install the inotify-tools and Gzip

RUN apt-get install gzip
RUN apt-get install -y inotify-tools

#Make the Directories for the File processing and logs
```

```
RUN mkdir /root/myfolder
RUN mkdir /root/compressed
RUN mkdir /root/logs


# Copy the bash script for the file processing service and start the service
COPY watch-myfolder.sh /
RUN chmod +x /watch-myfolder.sh
CMD ["./watch-myfolder.sh"]
```

Step 3: Create a docker image:

```
docker build -t watchmyfolder .

sudo docker save -o {Path}  watchfolder
```

Step 4: Test the docker image and run the docker container

```
sudo docker run watchfolder
```

Step 5: Test the functionality of the service

copy some files from host to the /root/myfolder in the docker container to see if it generate the logs and compress the files.

```
sudo docker cp {file to copy} {Container ID}:/root/myfolder
```