

1) Stop the existing Docker services

```
aws — ec2-user@ip-172-31-36-138:~/project/dap_pstm — ssh -i analytics_pipeline.pem ec2-user@ec2-18-218-0-230.us-east-2.compute.amazonaws.com — 181x51
[ec2-user@ip-172-31-36-138 dap_pstm]$ docker container stop ptsm_api
ptsm_api
[ec2-user@ip-172-31-36-138 dap_pstm]$ docker container rm ptsm_api
ptsm_api
[ec2-user@ip-172-31-36-138 dap_pstm]$
```

2) Git pull; for the new code

```
aws — ec2-user@ip-172-31-36-138:~/project/dap_pstm — ssh -i analytics_pipeline.pem ec2-user@ec2-18-218-0-230.us-east-2.compute.amazonaws.com — 181x51
[ec2-user@ip-172-31-36-138 dap_pstm]$ git pull
remote: Enumerating objects: 85, done.
remote: Counting objects: 100% (85/85), done.
remote: Compressing objects: 100% (68/68), done.
remote: Total 124 (delta 47), reused 25 (delta 17), pack-reused 39
Receiving objects: 100% (124/124), 123.89 KiB | 11.26 MiB/s, done.
Resolving deltas: 100% (64/64), completed with 9 local objects.
From https://github.com/vg00164/dap_pstm
 d030de7..ce1c245 master -> origin/master
Updating d030de7..ce1c245
Fast-forward
 API/Dockerfile | 1 -
 Database/Create Stored Procedures.sql | 48 ++++++
 Database/Create_Topics.sql | 4 +
 Database/DB_Objects.sql | 6 +
 Database/Data_Model.pdf | Bin 17657 -> 31578 bytes
 Database/Topics_metadata.sql | 5 +
 README.md | 9 +
 TwitterData/dataServices.py | 39 ++++++
 TwitterData/saveconfig.py | 5 +
 TwitterData/tweetData.py | 49 ++++++
 TwitterData/watsonNLU.py | 51 ++++++
 UI/index.html | 307 ++++++
 UI/styles.css | 38 ++++++
 imgs/MVP-DataModel.png | Bin 117431 -> 66856 bytes
 requirements.txt | 1 +
 test/metadata.json | 4 ++
 test/test.py | 15 +++++
 test/testwatson.py | 36 ++++++
 test/weather_data_train.csv | 1 +
 19 files changed, 403 insertions(+), 216 deletions(-)
 delete mode 108644 Database/Topics_metadata.sql
 create mode 108644 TwitterData/watsonNLU.py
 create mode 108644 test/metadata.json
 create mode 108644 test/testwatson.py
 create mode 108644 test/weather_data_train.csv
[ec2-user@ip-172-31-36-138 dap_pstm]$
```

3) Clean-up old docker images

```
aws — ec2-user@ip-172-31-36-138:~/project/dap_pstm — ssh -i analytics_pipeline.pem ec2-user@ec2-18-218-0-230.us-east-2.compute.amazonaws.com — 181x51
[ec2-user@ip-172-31-36-138 dap_pstm]$ pwd
/home/ec2-user/project/dap_pstm
[ec2-user@ip-172-31-36-138 dap_pstm]$ docker system prune
WARNING! This will remove:
 - all stopped containers
 - all networks not used by at least one container
 - all dangling images
 - all build cache
Are you sure you want to continue? [y/N] y
Deleted Images:
deleted: sha256:c80d98f0fd58c97196fea0c5675aa3a3d7fca3f60a5389e02d21c2da574401e
deleted: sha256:cbddb8074515b65c9720462a2e6d1e2671745103f26e7efefe049f0f3dd4209f
deleted: sha256:550e386e80d959799ca1e38523279e2b12d25ae577b54f125c0024cf667ee4d8
deleted: sha256:1116b847c61802c7870b619072d39c16e1fa88ba532dc510fef0fe8451ace78
deleted: sha256:b3461a66a8b95997fce374dae77f48173603f738d728d7687b295560b852a4d
deleted: sha256:cba362a086ddfc408ae5fda0aa25812f5aa20b1983aa8467a30bc415c37def33
deleted: sha256:9714729832b7996f74813af3d04bde7158d1b9333e32e73f0f43a7a4e99beed6
deleted: sha256:dc83a206f7ce9b1a5655bea2df2933852b2eca60b7ac8fba84d395a1f70819b
deleted: sha256:de9d6a2f25c90628da555180249a6de6d4842f410179b994d4ef7b3da8cf0a67
deleted: sha256:e1806c054f18e0ae4f3f33c281582552d716304b78851b54b3f5b45aa0f2ba82
Total reclaimed space: 268.2MB
[ec2-user@ip-172-31-36-138 dap_pstm]$
```

4) Build the image

```
aws — ec2-user@ip-172-31-36-138:~/project/dap_pstm — ssh -i analytics_pipeline.pem ec2-user@ec2-18-218-0-230.us-east-2.compute.amazonaws.com — 181x51
[ec2-user@ip-172-31-36-138 dap_pstm]$ pwd
/home/ec2-user/project/dap_pstm
[ec2-user@ip-172-31-36-138 dap_pstm]$ docker build -t rest_api_ptsm -f API/Dockerfile .
Sending build context to Docker daemon 12.22MB
Step 1/7 : FROM python:3.6-slim
--> b75d8db45c17
Step 2/7 : COPY . /app
--> 2193c764bba8
Step 3/7 : RUN apt-get update
--> Running in 7310f7935336
Ign:1 http://deb.debian.org/debian stretch InRelease
Get:2 http://deb.debian.org/debian stretch-updates InRelease [91.0 kB]
Get:3 http://deb.debian.org/debian stretch Release [118 kB]
Get:4 http://security.debian.org/debian-security stretch/updates InRelease [94.3 kB]
Get:5 http://deb.debian.org/debian stretch Release.gpg [2434 B]
Get:6 http://deb.debian.org/debian stretch-updates/main amd64 Packages [31.7 kB]
Get:7 http://deb.debian.org/debian stretch/main amd64 Packages [7082 kB]
Get:8 http://security.debian.org/debian-security stretch/updates/main amd64 Packages [487 kB]
Fetched 7987 kB in 1s (4821 kB/s)
Reading package lists...
Removing intermediate container 7310f7935336
--> 977cf8ce572d
Step 4/7 : RUN pip3 install --upgrade pip
--> Running in 8a365695aa42
```

5) Open the http port 80 on the EC2 instance

6) Run the docker process

```
aws — ec2-user@ip-172-31-36-138:~/project/dap_pstm — ssh -i analytics_pipeline.pem ec2-user@ec2-18-218-0-230.us-east-2.compute.amazonaws.com — 181x51
[ec2-user@ip-172-31-36-138 dap_pstm]$ docker run -d -p 80:5000 --name ptsm_api rest_api_ptsm
228164227a17b93ac9e6bcd140e81cf06f0d7c8af39db9cc9fc680a0c204310e
[ec2-user@ip-172-31-36-138 dap_pstm]$
[ec2-user@ip-172-31-36-138 dap_pstm]$
```

7) Invoke Services to Validate

```
{
  "5": "EDUCATION",
  "3": "HEALTH CARE",
  "4": "IMMIGRATION",
  "1": "TRUMP",
  "2": "WHITE HOUSE"
}
```

```
{
  "TopicID": 1,
  "TopicName": "TRUMP",
  "TweetMsg": "@GeraldRivera What do you expect when you support Trump? He hires the most radical people who are leading us over\u0026 https://t.co/9v7JepjMno",
  "TweetTimestamp": "2019-05-11 23:59:59",
  "TweetHandle": "Silence54994655",
  "TweetID": "1127362750609412096",
  "SentimentType": "POSITIVE",
  "SentimentPercent": "0.50000"
},
{
  "TopicID": 1,
  "TopicName": "TRUMP",
  "TweetMsg": "Liberal women are threatening a sex strike.\n\nBless their lefty hearts.\n\nu0026 https://t.co/TAWenialA2",
  "TweetTimestamp": "2019-05-11 23:59:58",
  "TweetHandle": "Onocleartarget",
  "TweetID": "1127362745760919553",
  "SentimentType": "NEUTRAL",
  "SentimentPercent": "0.00000"
},
{
  "TopicID": 1,
  "TopicName": "TRUMP",
  "TweetMsg": "@LightHouseDMS @KAFosterSowell @JohnT15 @1981_mad @AmoneyResists @JohnOSullivan36 @Jim_Jordan If we're to use the P\u0026 https://t.co/3pk9lEg9BG",
  "TweetTimestamp": "2019-05-11 23:59:58",
  "TweetHandle": "sporduroy",
  "TweetID": "1127362744745775104",
  "SentimentType": "NEGATIVE",
  "SentimentPercent": "-0.62500"
},
{
  "TopicID": 1,
  "TopicName": "TRUMP",
  "TweetMsg": "@realDonaldTrump We always cared about the tax returns. You know, the ones showing you haven't paid income tax for\u0026 https://t.co/iyb9kBh6jm",
  "TweetTimestamp": "2019-05-11 23:59:58",
  "TweetHandle": "alameda ariel",
  "TweetID": "1127362746167611393",
  "SentimentType": "NEUTRAL",
  "SentimentPercent": "0.00000"
},
}
```

```

"topics": [
{
  "id": 4,
  "name": "IMMIGRATION",
  "count": 275,
  "positive": 83,
  "negative": 96,
  "tweets": [
    {
      "msg": "@howitworked @TiffanyBond @realDonaldTrump Ahem, this is a nation built on LEGAL immigration AND assimilation. Your\u2026 https://t.co/t0KxGjK0S6",
      "timestamp": "2019-05-11 23:59:45",
      "handle": "KBrod666",
      "id": "1127362691646017536",
      "sentiment": "POSITIVE",
      "sentimentPercent": "0.20000"
    },
    {
      "msg": "@EvanCull @ggreenwald @IChotiner If religious zealots or nationalists are your concern and you feel like one size f\u2026 https://t.co/tAdDA5Ct78",
      "timestamp": "2019-05-11 23:59:34",
      "handle": "moarxbt",
      "id": "1127362643340165120",
      "sentiment": "NEUTRAL",
      "sentimentPercent": "0.00000"
    },
    {
      "msg": "@IsraelUSAforevr Let's find out how each of the people associated with this gained entry into the country, illegal\u2026 https://t.co/VNFzWjYH7g",
      "timestamp": "2019-05-11 23:59:33",
      "handle": "SUPPORTTRUMPMA3",
      "id": "1127362640853000193",
      "sentiment": "NEGATIVE",
      "sentimentPercent": "-0.50000"
    },
    {
      "msg": "@cfhorgan I've thought about this. Don't know the answer. I do know social media has helped me learn from people wh\u2026 https://t.co/f3AeuKRea4",
      "timestamp": "2019-05-11 23:59:30",
      "handle": "akurjataka",
      "id": "1127362628961968128",
      "sentiment": "POSITIVE",
      "sentimentPercent": "0.03333"
    },
    {
      "msg": "@HuffPostPol Which Democrats are against border security and for allowing businesses to hire undocumented workers?\u2026 https://t.co/4gp7Jv61LF",
      "timestamp": "2019-05-11 23:59:29",
      "handle": "pastajoe5",
      "id": "1127362621970239488",
      "sentiment": "NEUTRAL",
      "sentimentPercent": "0.00000"
    }
  ]
}
]
}

```