

Week 5: Cloud and API deployment

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The snapshots of the Assignment:

Installing Heroku:

```
(base) riyagaur@Riyas-MacBook ~ % brew tap heroku/brew && brew install heroku

==> Auto-updating Homebrew...
Adjust how often this is run with HOMEBREW_AUTO_UPDATE_SECS or disable with
HOMEBREW_NO_AUTO_UPDATE. Hide these hints with HOMEBREW_NO_ENV_HINTS (see `man brew`).
==> Downloading https://ghcr.io/v2/homebrew/portable-ruby/portable-ruby/blobs/sha256:72
0d4fb1164e600f787d656019a8e46314dc38e1885f4a8df809c180acf5e7b3
##### 100.0%
==> Pouring portable-ruby-3.3.6.el_capitan.bottle.tar.gz
==> homebrew/core is old and unneeded, untapping to save space...
Untapping homebrew/core...
Untapped 4 commands and 7362 formulae (7,512 files, 843MB).
==> Auto-updated Homebrew!
Updated 2 taps (homebrew/core and homebrew/cask).
==> New Formulae
acronym          havn              posting
action-docs      hawkkeye          probe-rs-tools
afl++            heroku            protoc-gen-grpc-java
aicommit         hgrep             proxyfor
aliae            humanlog          pscale
ampl-asl         icu4c@74          pytest
ansible-builder  icu4c@75          python-freethreading
ansible@10       icu4c@76          python-gdbm@3.13
argtable3        idsgrep           python-tk@3.13
atac             imgp              python@3.13
aws-c-auth       immich-cli        pyupgrade
aws-c-cal        inchi             qbec
aws-c-common     ipatool           rainfrog
aws-c-compression jikken            rapidyaml
aws-c-event-stream jwt-cli           ratify
aws-c-http       jxl-oxide         recc
aws-c-io         kamal-proxy       redka
aws-c-mqtt       kanata            regal
aws-c-s3         keep-sorted       render
aws-c-sdkutils   kfr              replxx
aws-checksums    koool             repren
aws-crt-cpp      kraftkit          reveal-md
azqr             ktor              rip2
azure-core-cpp   kty               rogcatt
azurehound       kubeone           roxctl
```

Adding the requirements.txt file, running the flask app and checking the correct python version installed.

```
(base) riyagaur@Riyas-MacBook flask app % pip freeze > requirements.txt

(base) riyagaur@Riyas-MacBook flask app % web: python app.py

zsh: command not found: web:
(base) riyagaur@Riyas-MacBook flask app % echo "web: python app.py" > Procfile

(base) riyagaur@Riyas-MacBook flask app % python-3.9.7

zsh: command not found: python-3.9.7
(base) riyagaur@Riyas-MacBook flask app % python app.py

* Serving Flask app "app" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: on
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
* Restarting with watchdog (fsevents)
* Debugger is active!
```

Reinstall the flask and werkzeug with updated version:

```
(base) riyagaur@Riyas-MacBook flask app % pip install Flask==2.2.2 Werkzeug==2.2.3

Requirement already satisfied: Flask==2.2.2 in /opt/anaconda3/lib/python3.9/site-packages (2.2.2)
Collecting Werkzeug==2.2.3
  Downloading Werkzeug-2.2.3-py3-none-any.whl (233 kB)
    233.6/233.6 kB 2.1 MB/s eta 0:00:00
Requirement already satisfied: Jinja2>=3.0 in /opt/anaconda3/lib/python3.9/site-packages (from Flask==2.2.2) (3.1.5)
Requirement already satisfied: itsdangerous>=2.0 in /opt/anaconda3/lib/python3.9/site-packages (from Flask==2.2.2) (2.2.0)
Requirement already satisfied: importlib-metadata>=3.6.0 in /opt/anaconda3/lib/python3.9/site-packages (from Flask==2.2.2) (4.8.1)
Requirement already satisfied: click>=8.0 in /opt/anaconda3/lib/python3.9/site-packages (from Flask==2.2.2) (8.1.8)
```

Re-running the flask app:

```
(base) riyagaur@Riyas-MacBook flask app % python app.py

* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a
production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with watchdog (fsevents)
* Debugger is active!
* Debugger PIN: 203-921-581
^C%
(base) riyagaur@Riyas-MacBook flask app %
```


Heroku Login:

```
(base) riyagaur@Riyas-MacBook flask app % heroku login

heroku: Press any key to open up the browser to login or q to exit:
Opening browser to https://cli-auth.heroku.com/auth/cli/browser/e3b0c9cd-17d9-459b-a87c-7830ca12159b?requestor=SFMyNTY.g2gDbQAAAA0xNS4xNTguMzUuMjAwbgYA-LK1MZQBYgABUYA.d85d6UtWVFiVS4sEQKnwLBgGmCbbjeYWvXQUDy8zimM
heroku: Waiting for login... ⌄
heroku: Waiting for login... ⌄
heroku: Waiting for login... ⌄
heroku: Waiting for login... done
```

Creating the app name- (wine-q):

```
(base) riyagaur@Riyas-MacBook flask app % heroku create wine-q
Creating ● wine-q... ?
heroku: Press any key to open up the browser to login or q to exit: Creating ● wine-q..
Creating ● wine-q... ⌄
Opening browser to https://cli-auth.heroku.com/auth/cli/browser/8caab8eb-f915-4d06-9060-b36197b7f9c9?requestor=SFMyNTY.g2gDbQAAAA0xNS4xNTguMzUuMjAwbgYAAI3JMZQBYgABUYA.UC3Eabx
Logging in... done
> Error: To create an app, verify your account by adding payment information.
> Verify now at https://heroku.com/verify Learn more at
> https://devcenter.heroku.com/articles/account-verification
>
> Error ID: verification_required
(base) riyagaur@Riyas-MacBook flask app % git add .
git commit -m "Initial commit"
```

Changed the requirements and updated with only necessary ones and removed the extras:

```
(base) riyagaur@Riyas-MacBook flask app % pip install -r requirements.txt

Requirement already satisfied: Flask==2.2.2 in /opt/anaconda3/lib/python3.9/site-packages (from -r requirements.txt (line 1)) (2.2.2)
Requirement already satisfied: gunicorn==23.0.0 in /opt/anaconda3/lib/python3.9/site-packages (from -r requirements.txt (line 2)) (23.0.0)
Requirement already satisfied: numpy==1.22.4 in /opt/anaconda3/lib/python3.9/site-packages (from -r requirements.txt (line 3)) (1.22.4)
Requirement already satisfied: scikit-image==0.18.3 in /opt/anaconda3/lib/python3.9/site-packages (from -r requirements.txt (line 4)) (0.18.3)
Requirement already satisfied: scikit-learn==1.6.0 in /opt/anaconda3/lib/python3.9/site-packages (from -r requirements.txt (line 5)) (1.6.0)
Requirement already satisfied: importlib-metadata>=3.6.0 in /opt/anaconda3/lib/python3.9/site-packages (from Flask==2.2.2->-r requirements.txt (line 1)) (4.8.1)
Requirement already satisfied: Werkzeug>=2.2.2 in /opt/anaconda3/lib/python3.9/site-packages (from Flask==2.2.2->-r requirements.txt (line 1)) (3.1.3)
Requirement already satisfied: click>=8.0 in /opt/anaconda3/lib/python3.9/site-packages (from Flask==2.2.2->-r requirements.txt (line 1)) (8.1.8)
Requirement already satisfied: itsdangerous>=2.0 in /opt/anaconda3/lib/python3.9/site-packages (from Flask==2.2.2->-r requirements.txt (line 1)) (2.2.0)
Requirement already satisfied: Jinja2>=3.0 in /opt/anaconda3/lib/python3.9/site-packages (from Flask==2.2.2->-r requirements.txt (line 1)) (3.1.5)
```

Deployed the Heroku:

```
remote:      Successfully installed Flask-2.2.2 Jinja2-3.1.5 MarkupSafe-3.0.2 PyWavelets-1.6.0 Werkzeug-3.1.3 click-8.1.8 contourpy-1.2.1 cycller-0.12.1 fonttools-4.55.3 gunicorn-23.0.0 imageio-2.36.1 importlib-metadata-8.5.0 importlib-resources-6.5.2 itsdangerous-2.2.0 joblib-1.4.2 kiwisolver-1.4.7 matplotlib-3.8.4 networkx-3.2.1 numpy-1.22.4 packaging-24.2 pillow-11.1.0 pyparsing-3.2.1 python-dateutil-2.9.0.post0 scikit-image-0.18.3 scikit-learn-1.6.0 scipy-1.13.1 six-1.17.0 threadpoolctl-3.5.0 tifffile-2024.8.30 zipp-3.21.0
remote: -----> Discovering process types
remote:      Procfile declares types -> web
remote:
remote: -----> Compressing...
remote:      Done: 167.6M
remote: -----> Launching...
remote:      Released v3
remote:      https://wine-q-6183667d8f14.herokuapp.com/ deployed to Heroku
remote:
remote: Verifying deploy..... done.
To https://git.heroku.com/wine-q.git
 * [new branch]      main -> main
(base) riyagaur@Riyas-MacBook flask app % heroku open
```