Tartan Thom – Deployment in Heroku

For my TartanThom project, I utilised Heroku, a “platform as a service (PaaS) that enables developers to build, run, and operate applications entirely in the cloud”.

1. Create Heroku app

I already had a Heroku account from previous app deployments so for this project, I firstly needed to login and create a new app, which provisions a server to deploy the TartanThom Django project to.

Command: heroku create tartanthom --region eu

```
gitpod /workspace/TartanThom $ heroku create tartanthom --region eu
 ›   Warning: heroku update available from 7.40.0 to 7.42.1.
Creating ⬢ tartanthom... done, region is eu
https://tartanthom.herokuapp.com/ | https://git.heroku.com/tartanthom.git
gitpod /workspace/TartanThom $
```

Heroku updates were available so I ran the following command to update Heroku to the latest version

Command: heroku update

```
gitpod /workspace/TartanThom $ heroku update
heroku: Updating CLI from 7.40.0 to 7.42.1... done
heroku: Updating CLI... done
Updating completions... done
gitpod /workspace/TartanThom $
```

Checked visibility of my new tartanthom app associated with my Heroku account

Command: heroku apps

```
gitpod /workspace/TartanThom $ heroku apps
 ▸    Invalid credentials provided.
 ›   Warning: heroku update available from 7.40.0 to 7.42.1.
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/aa114df9-f848-4e29-9bb5-48368cc59c07
Logging in... done
Logged in as joanneingle1987@yahoo.co.uk
=== joanneingle1987@yahoo.co.uk Apps
broomy-blog-test-app (eu)
broomy-ecommerce (eu)
tartanthom (eu)
task-manager-flask-mongo87 (eu)
whats4t (eu)
```

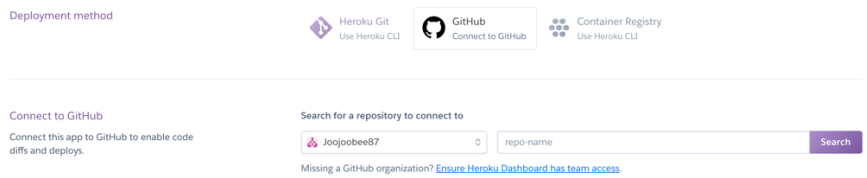
To ensure that git commits are pushed out to Heroku, I associated the Heroku application with the master branch of tartanthom

Command: heroku git:remote -a tartanthom

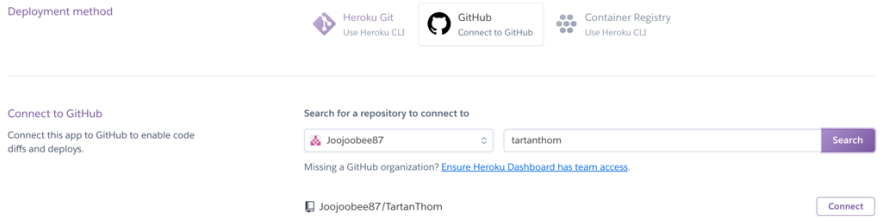
```
gitpod /workspace/TartanThom $ heroku git:remote -a tartanthom
 ›   Warning: heroku update available from 7.40.0 to 7.42.1.
set git remote heroku to https://git.heroku.com/tartanthom.git
gitpod /workspace/TartanThom $
```

In Heroku, I navigated to my app and navigated to the 'Deployment' tab

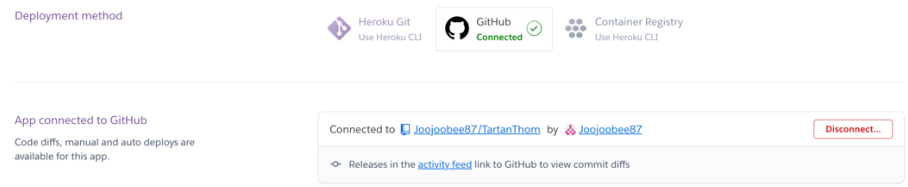
GitHub was selected as the deployment method



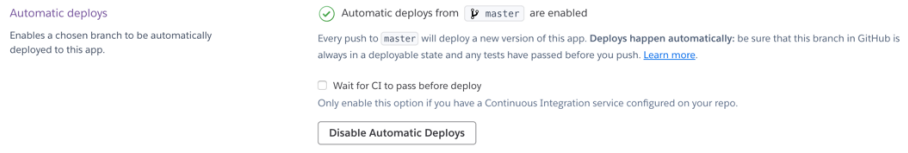
I used the search tool to browse GitHub to find the tartanthom repository



Heroku was then connected with my tartanthom repository in GitHub



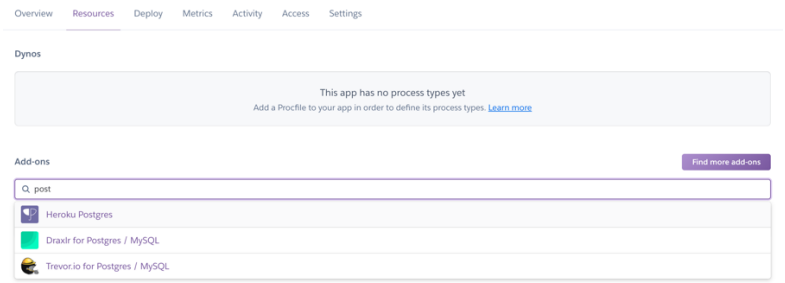
Heroku has been configured to allow automatic deployment of code to Heroku when pushed to GitHub master branch



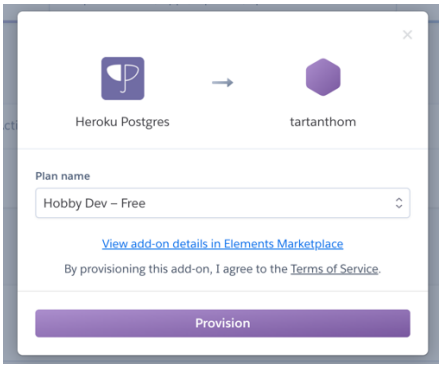
2. Database set-up

A PostgreSQL database was provisioned in Heroku when the project moved into production. Heroku Postgres is a managed SQL database service provided directly by Heroku.

In Heroku, go to Resources and under addons, find the Heroku Postgres add-on



Select and provision the free addon



It was necessary to install some additional project requirements which allow me to run and connect my app to a PostgreSQL database.

In order to use the Heroku Postgres database, some additional packages need to be installed in GitPod including dj_database_url and psycopg2-binary

Command: pip3 install dj_database_url

```
gitpod /workspace/TartanThom $ pip3 install dj_database_url
```

Command: pip3 install psycopg2-binary

```
gitpod /workspace/TartanThom $ pip3 install psycopg2-binary
Collecting psycopg2-binary
  Downloading psycopg2_binary-2.8.5-cp38-cp38-manylinux1_x86_64.whl (3.0 MB)
     |████████████████████████████████| 3.0 MB 6.5 MB/s
Installing collected packages: psycopg2-binary
Successfully installed psycopg2-binary-2.8.5
gitpod /workspace/TartanThom $
```

Gunicorn was installed in the project to act as the web server that will run the project.

Command: pip3 install gunicorn

```
gitpod /workspace/TartanThom $ pip3 install gunicorn
Collecting gunicorn
  Downloading gunicorn-20.0.4-py2.py3-none-any.whl (77 kB)
     |████████████████████████████████| 77 kB 341 kB/s
Requirement already satisfied: setuptools>=3.0 in /home/gitpod/.pyenv/versions/3.8.2/lib/python3.8/site-packages (from gunicorn) (46.1.3)
Installing collected packages: gunicorn
Successfully installed gunicorn-20.0.4
gitpod /workspace/TartanThom $ pip3 freeze > requirements.txt
gitpod /workspace/TartanThom $
```

The requirements.txt file was updated to include the new project requirements.

Command: pip3 freeze > requirements.txt

```
gitpod /workspace/TartanThom $ pip3 freeze > requirements.txt
gitpod /workspace/TartanThom $
```

The settings file was updated with the default DATABASE_URL, taken from the config variables in Heroku.

```
144   # DEBUG TESTING
145   if 'DATABASE_URL' in os.environ:
146       DATABASES = {
147           'default': dj_database_url.parse(os.environ.get('DATABASE_URL'))
148       }
149   else:
150       DATABASES = {
151           'default': {
152               'ENGINE': 'django.db.backends.sqlite3',
153               'NAME': os.path.join(BASE_DIR, 'db.sqlite3'),
154           }
155       }
156   # DEBUG TESTING END
```

As the application is now connecting to the postgres database, migrations were applied to get the database set up.

Command: python3 manage.py migrate

```
gitpod /workspace/TartanThom $ python3 manage.py migrate
Operations to perform:
  Apply all migrations: account, admin, auth, checkout, contenttypes, home, products, sessions, sites, socialaccount
Running migrations:
  Applying contenttypes.0001_initial... OK
  Applying auth.0001_initial... OK
  Applying account.0001_initial... OK
  Applying account.0002_email_max_length... OK
  Applying admin.0001_initial... OK
  Applying admin.0002_logentry_remove_auto_add... OK
  Applying admin.0003_logentry_add_action_flag_choices... OK
  Applying contenttypes.0002_remove_content_type_name... OK
  Applying auth.0002_alter_permission_name_max_length... OK
  Applying auth.0003_alter_user_email_max_length... OK
  Applying auth.0004_alter_user_username_opts... OK
  Applying auth.0005_alter_user_last_login_null... OK
  Applying auth.0006_require_contenttypes_0002... OK
  Applying auth.0007_alter_validators_add_error_messages... OK
  Applying auth.0008_alter_user_username_max_length... OK
```

A Procfile was created – an instruction to Heroku as to which file to use as the entry point to the application

Added and committed Procfile to GitHub repository

```
gitpod /workspace/TartanThom $ git add Procfile
gitpod /workspace/TartanThom $ git commit -m "added Procfile"
[master ed3e2c0] added Procfile
 1 file changed, 1 insertion(+)
 create mode 100644 Procfile
```

The heroku app was added to allowed hosts in settings.py

```
32
33  ALLOWED_HOSTS = ['localhost', 'tartanthom.herokuapp.com']
34
```