

Daniel Majer
DAWBIO-2
26 de febrero, 2023

DAWBIO-2 M08 UF3 PT

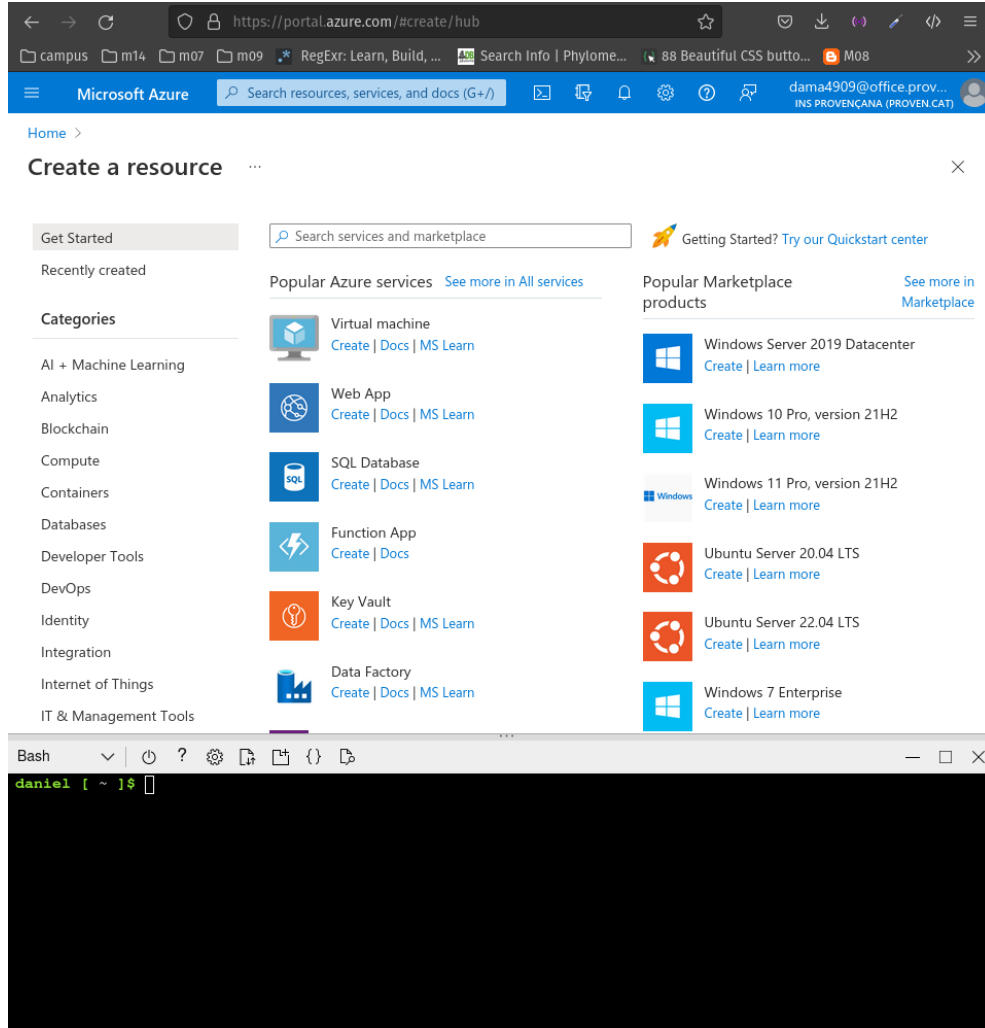
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1. Grupo

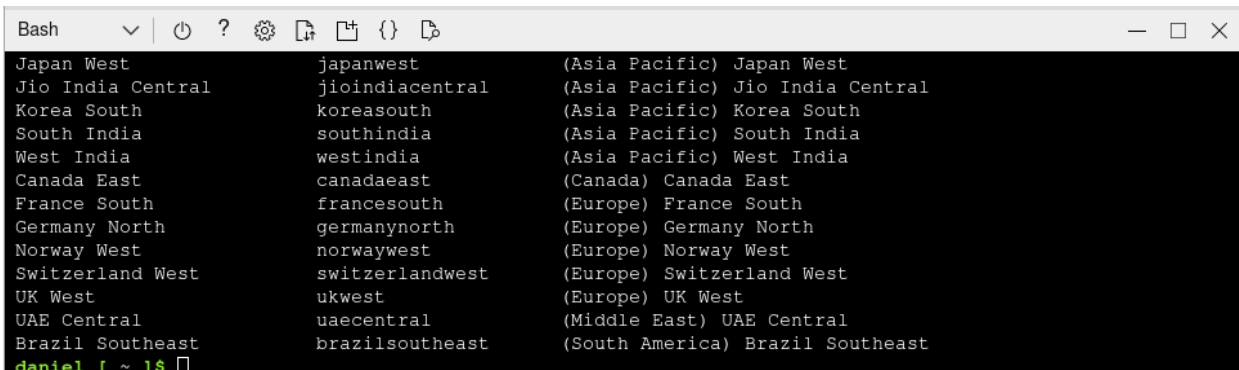
a.) Iniciamos una sesión de terminal (con bash).

(En principio te va a pedir para montar un almacenamiento. Solo click a “Create”.)



b.) Listamos los recursos disponibles de Azure.

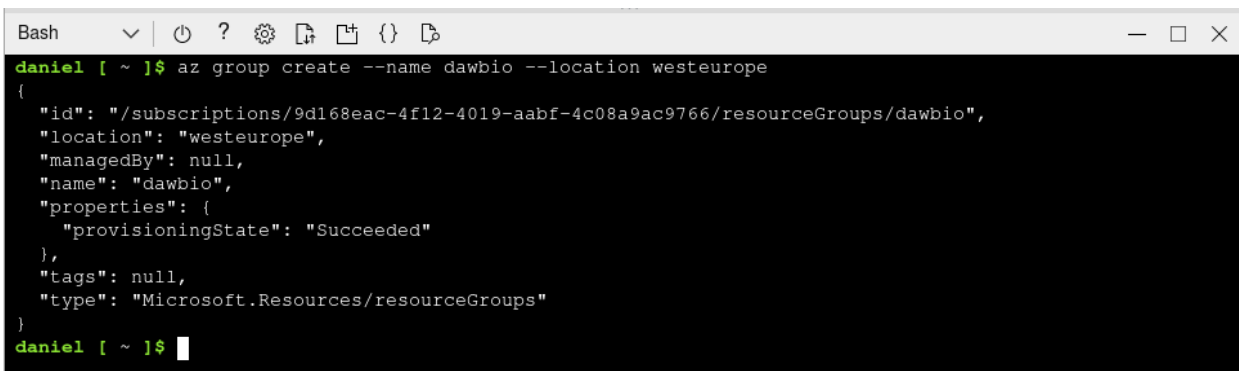
- az account list-locations -o table



```
Bash
Japan West      japanwest      (Asia Pacific) Japan West
Jio India Central jioindiacentral (Asia Pacific) Jio India Central
Korea South     koreasouth     (Asia Pacific) Korea South
South India     southindia     (Asia Pacific) South India
West India      westindia      (Asia Pacific) West India
Canada East     canadaeast     (Canada) Canada East
France South     francesouth     (Europe) France South
Germany North    germanynorth    (Europe) Germany North
Norway West     norwaywest     (Europe) Norway West
Switzerland West switzerlandwest (Europe) Switzerland West
UK West         ukwest         (Europe) UK West
UAE Central      uaecentral     (Middle East) UAE Central
Brazil Southeast brasilsoutheast (South America) Brazil Southeast
daniel [ ~ ]$
```

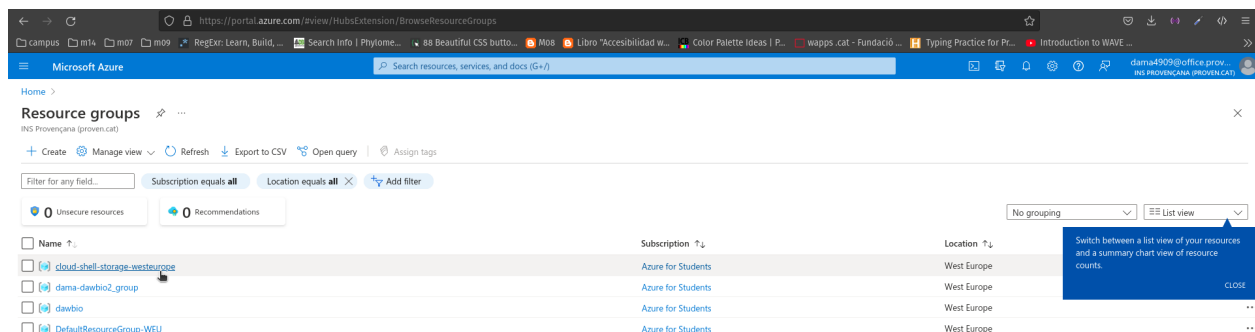
c.) Con el comando siguiente creamos un grupo utilizando el recurso de “westeurope”.

- az group create --name dawbio --location westeurope



```
Bash
daniel [ ~ ]$ az group create --name dawbio --location westeurope
{
  "id": "/subscriptions/9d168eac-4f12-4019-aabf-4c08a9ac9766/resourceGroups/dawbio",
  "location": "westeurope",
  "managedBy": null,
  "name": "dawbio",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
}
daniel [ ~ ]$
```

d.) Revisamos el grupo creado con en el GUI.

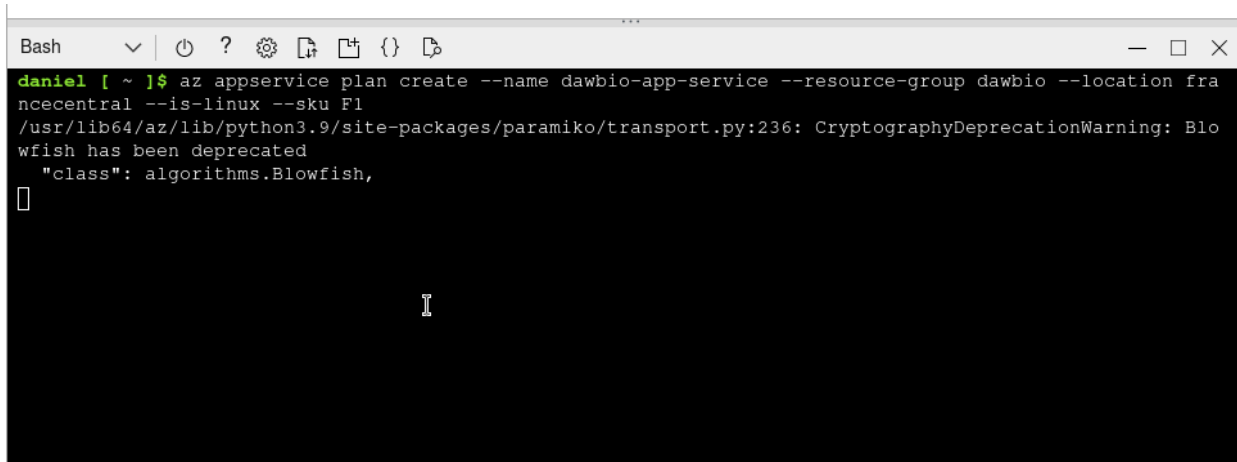


Name	Subscription	Location
cloud-shell-storage-westeurope	Azure for Students	West Europe
dana-dawbio2_group	Azure for Students	West Europe
dawbio	Azure for Students	West Europe
DefaultResourceGroup-WEU	Azure for Students	West Europe

2. App service

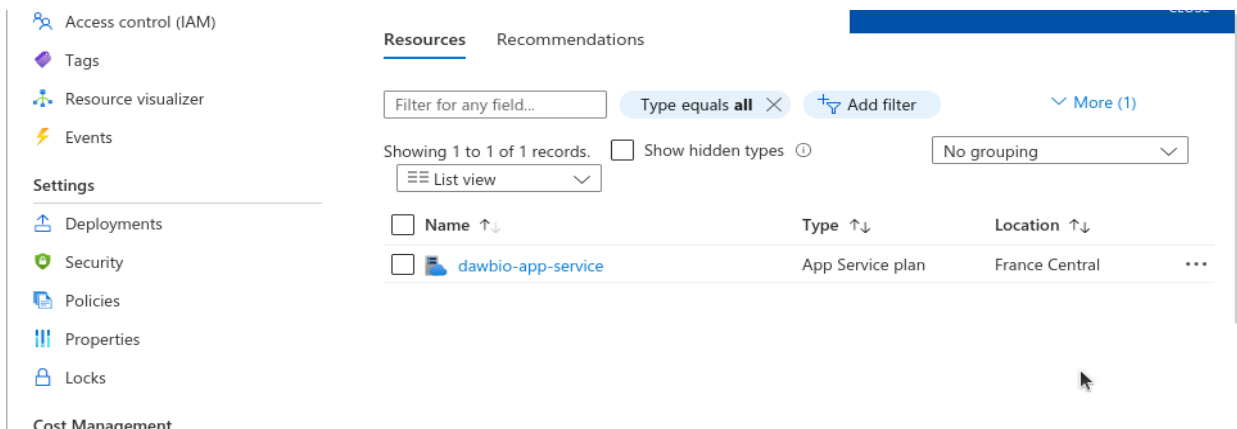
a.) Vamos a crear un “app service” plan con los recursos de “francecentral” con el siguiente comando:

- `az appservice plan create --name dawbio-app-service --resource-group dawbio --location francecentral --is-linux --sku F1`



```
Bash
daniel [ ~ ]$ az appservice plan create --name dawbio-app-service --resource-group dawbio --location francecentral --is-linux --sku F1
/usr/lib64/az/lib/python3.9/site-packages/paramiko/transport.py:236: CryptographyDeprecationWarning: Blowfish has been deprecated
  "class": algorithms.Blowfish,
```

b.) Verificamos si está creado con éxito.



c.) A continuación creamos un webapp, con el siguiente comando:

- `az webapp create --name dawbio-dama --resource-group dawbio --plan dawbio-app-service --runtime 'PYTHON|3.9'`

```

iption
daniel [ ~ ]$ az webapp create --name dawbio-dama --resource-group dawbio --plan dawbio-app-service --runtime
/usr/lib64/az/lib/python3.9/site-packages/paramiko/transport.py:236: CryptographyDeprecationWarning: Blowfish
recated
  "class": algorithms.Blowfish,
{
  "availabilityState": "Normal",
  "clientAffinityEnabled": true,
  "clientCertEnabled": false,
  "clientCertExclusionPaths": null,
  "clientCertMode": "Required",
  "cloningInfo": null,
  "containerSize": 0,
  "customDomainVerificationId": "8F63D83F208490A077BF0E6E7F800FD8847331957357B3D055A11ABCA3DEBEF0",
  "dailyMemoryTimeQuota": 0,
  "defaultHostName": "dawbio-dama.azurewebsites.net",
  "enabled": true,
  "enabledHostNames": [
    "dawbio-dama.azurewebsites.net"
  ]
}

```

d.) Vamos a listar los web apps del grupo de recursos:

- az webapp list --resource-group dawbio -o table

```

Bash
daniel [ ~ ]$ az webapp list --resource-group dawbio -o table
/usr/lib64/az/lib/python3.9/site-packages/paramiko/transport.py:236: CryptographyDeprecationWarning:
Blowfish has been deprecated
  "class": algorithms.Blowfish,
Name      Location      State      ResourceGroup      DefaultHostName      AppServicePlan
-----
-----
-----
dawbio-dama  France Central  Running  dawbio      dawbio-dama.azurewebsites.net  dawbio-app-ser
vice
daniel [ ~ ]$

```

Terminal container button

3. Contenedor

a.) Configuramos nuestro webapp creado, que servirá el imagen de contenedor previamente creado y guardado en Gitlab.

- `az webapp config container set --docker-custom-image-name registry.gitlab.com/xtec/flask --name dawbio-dama --resource-group dawbio`

```
Name                Location      State      ResourceGroup  DefaultHostName  AppServicePlan
-----
dawbio-dama         France Central Running    dawbio         dawbio-dama.azurewebsites.net  dawbio
-app-service
daniel [ ~ ]$ az webapp config container set --docker-custom-image-name registry.gitlab.com/
xtec/flask --name dawbio-dama --resource-group dawbio
/usr/lib64/az/lib/python3.9/site-packages/paramiko/transport.py:236: CryptographyDeprecation
Warning: Blowfish has been deprecated
  "class": algorithms.Blowfish,
[
  {
    "name": "DOCKER_CUSTOM_IMAGE_NAME",
    "value": "DOCKER|registry.gitlab.com/xtec/flask"
  }
]
daniel [ ~ ]$
```

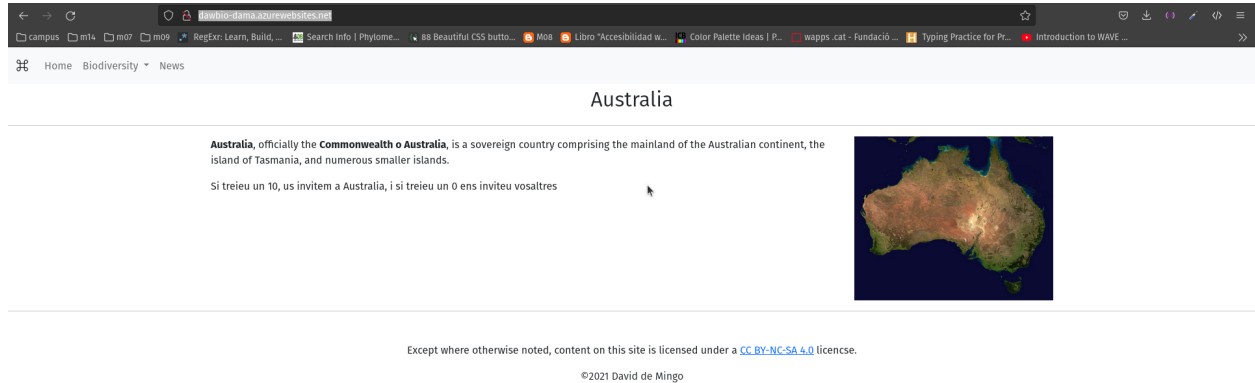
b.) Vamos a revisar el resultado de la configuración realizada en el punto anterior:

- `az webapp config container show --name dawbio-dama --resource-group dawbio`

```
Basn
daniel [ ~ ]$ az webapp config container show --name dawbio-dama --resource-group dawbio
/usr/lib64/az/lib/python3.9/site-packages/paramiko/transport.py:236: CryptographyDeprecation
Warning: Blowfish has been deprecated
  "class": algorithms.Blowfish,
[
  {
    "name": "WEBSITES_ENABLE_APP_SERVICE_STORAGE",
    "slotSetting": false,
    "value": "false"
  },
  {
    "name": "DOCKER_CUSTOM_IMAGE_NAME",
    "value": "DOCKER|registry.gitlab.com/xtec/flask"
  }
]
daniel [ ~ ]$
```

c.) Vamos a visitar nuestra aplicación web recién desplegada:

- <https://dawbio-dama.azurewebsites.net>



4. Administración de la aplicación

a.) Podemos visitar el log de nuestra app con insertando “scm” al dominio de la app:





- <https://dawbio-dama.scm.azurewebsites.net>

[illegible]

5. Crear una imagen

a.) Creamos un fork de <https://gitlab.com/xtec/flask> con nuestra cuenta de Gitlab.

The screenshot shows the 'Fork project' dialog in GitLab. At the top, the 'flask' project is identified with Project ID 42982930 and a 'Request Access' link. It shows 47 commits, 1 branch, 0 tags, and 667 KB of storage. A 'Fork' button with a fork icon and the number 9 is highlighted. Below, the 'Fork project' section explains that a fork is a copy of a project. The form fields include: 'Project name' (flask-dama), 'Project URL' (https://gitlab.com/), 'Project slug' (flask-dama), and 'Project description (optional)' (empty). The 'Visibility level' is set to 'Public' (indicated by a selected radio button and a globe icon). At the bottom, there are 'Fork project' and 'Cancel' buttons.

flask  Project ID: 42982930 [Request Access](#)   Star 0  Fork 9

47 Commits 1 Branch 0 Tags 667 KB Project Storage

Fork project


A fork is a copy of a project. Forking a repository allows you to make changes without affecting the original project.

Project name

flask-dama


Must start with a lowercase or uppercase letter, digit, emoji, or underscore. Can also contain dots, pluses, dashes, or spaces.

Project URL **Project slug**

https://gitlab.com/ heloint  flask-dama

Want to organize several dependent projects under the same namespace? [Create a group](#)

Project description (optional)

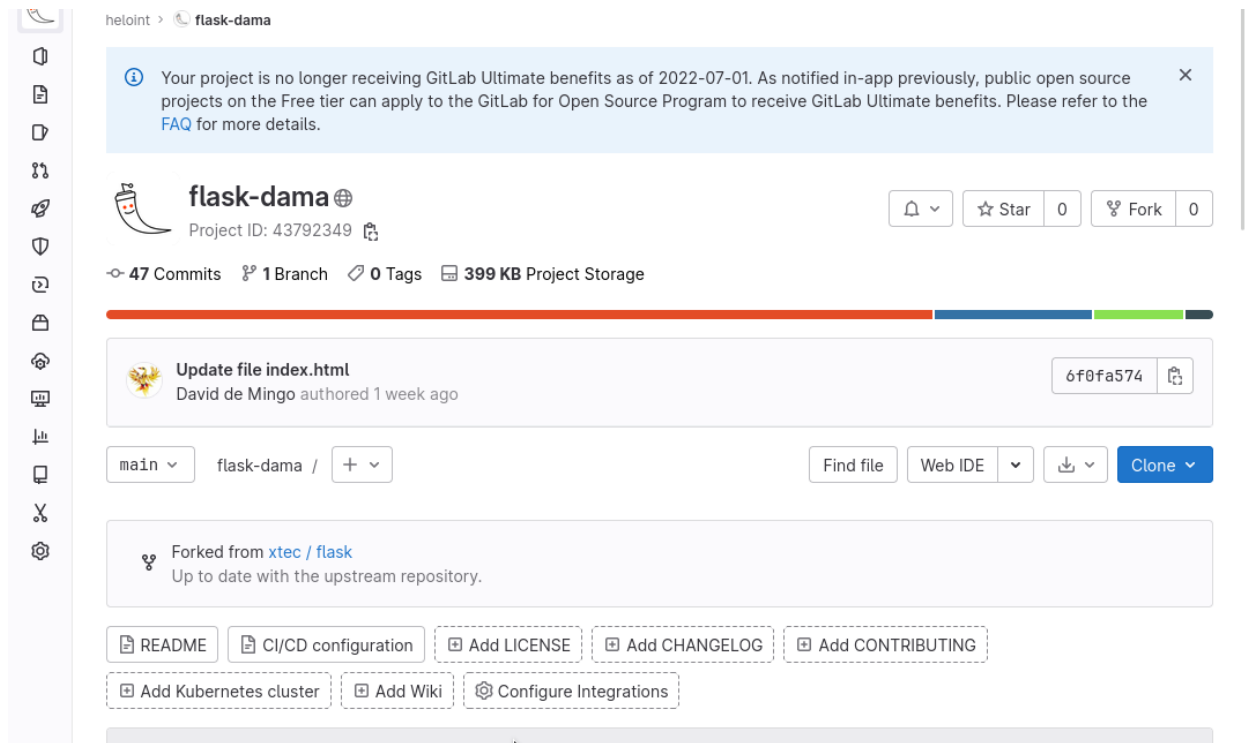
Visibility level 

☐ Private
Project access must be granted explicitly to each user. If this project is part of a group, access will be granted to members of the group.

☐ Internal
The project can be accessed by any logged in user.

☒ Public
The project can be accessed without any authentication.

Fork project **Cancel**



b.) Cambiamos a nuestra máquina virtual que utilizamos como un servidor para montar un contenedor nuestro:

```
dama@dama-box:~$ ifconfig
docker0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    inet 172.17.0.1 netmask 255.255.0.0 broadcast 172.17.255.255
    ether 02:42:d7:f8:82:d8 txqueuelen 0 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.128.93 netmask 255.255.255.0 broadcast 192.168.128.255
    inet6 fe80::a00:27ff:fe42:8310 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:42:83:10 txqueuelen 1000 (Ethernet)
    RX packets 1563 bytes 805693 (805.6 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 472 bytes 84068 (84.0 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 104 bytes 15497 (15.4 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 104 bytes 15497 (15.4 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

dama@dama-box:~$
```

c.) Clonamos el repositorio de fork de xtec/flask nuestro:

- git clone https://gitlab.com/heloint/flask-dama

```
dama@dama-box:~$ git clone https://gitlab.com/heloint/flask-dama
Cloning into 'flask-dama'...
warning: redirecting to https://gitlab.com/heloint/flask-dama.git/
remote: Enumerating objects: 241, done.
remote: Counting objects: 100% (241/241), done.
remote: Compressing objects: 100% (113/113), done.
remote: Total 241 (delta 108), reused 241 (delta 108), pack-reused 0
Receiving objects: 100% (241/241), 349.54 KiB | 3.97 MiB/s, done.
Resolving deltas: 100% (108/108), done.
dama@dama-box:~$
```

```
dama@dama-box:~/flask-dama$ ll
total 72
drwxrwxr-x  6 dama dama 4096 Feb 23 19:53 ./
drwxr-x--- 14 dama dama 4096 Feb 23 19:53 ../
-rw-rw-r--  1 dama dama 1207 Feb 23 19:53 app.py
-rw-rw-r--  1 dama dama   18 Feb 23 19:53 app.yaml
-rwxrwxr-x  1 dama dama  627 Feb 23 19:53 azure.sh*
-rw-rw-r--  1 dama dama  253 Feb 23 19:53 DEV.md
drwxrwxr-x  2 dama dama 4096 Feb 23 19:53 doc/
-rw-rw-r--  1 dama dama  205 Feb 23 19:53 Dockerfile
-rw-rw-r--  1 dama dama  112 Feb 23 19:53 .dockerignore
-rw-rw-r--  1 dama dama   52 Feb 23 19:53 .flaskenv
drwxrwxr-x  8 dama dama 4096 Feb 23 19:53 .git/
-rw-rw-r--  1 dama dama   20 Feb 23 19:53 .gitignore
-rw-rw-r--  1 dama dama  315 Feb 23 19:53 .gitlab-ci.yml
-rw-rw-r--  1 dama dama 2319 Feb 23 19:53 README.md
-rw-rw-r--  1 dama dama   42 Feb 23 19:53 requirements-dev.txt
-rw-rw-r--  1 dama dama   49 Feb 23 19:53 requirements.txt
drwxrwxr-x  2 dama dama 4096 Feb 23 19:53 static/
drwxrwxr-x  3 dama dama 4096 Feb 23 19:53 templates/
dama@dama-box:~/flask-dama$
```

d.) Visitamos el fichero “Dockerfile”:

```
1 FROM python:3.8-slim-buster
2 WORKDIR /app
3
4 COPY requirements.txt requirements.txt
5 RUN pip install -r requirements.txt --no-cache-dir
6 COPY . .
7
8 EXPOSE 80
9 CMD ["gunicorn", "--bind", "0.0.0.0:80", "app:app"]
```

e.) Visitamos el fichero “.gitlab-ci.yml”

```
1 build:
2   image: docker:20.10.10
3   services:
4     - docker:20.10.10-dind
5   #rules:
6     # - if: $CI_PIPELINE_SOURCE == "schedule"
7   script:
8     - echo $CI_REGISTRY_PASSWORD | docker login -u $CI_REGISTRY_USER $CI_REGISTRY --password-stdin
9     - docker build -t $CI_REGISTRY_IMAGE .
10    - docker push $CI_REGISTRY_IMAGE
```

f.) Modificamos el fichero de “./templates/index.html” como ejemplo para realizar un push.

- nvim ./templates/index.html

```
dama@dama-box: ~/flask-dama
5 {% extends "base.html" %}
4 {% block title %}Australia{% endblock %}
3 {% block content %}
2 <div class="row">
1   <div class="col-12 col-md-9">
6     <h1>DANIEL WAS HERE! xD </h1>
1     <p><strong>Australia</strong>, officially the <strong>Commonwealth o Australia</strong>, is a sovereign cou
2       comprising the mainland of the Australian continent, the island of Tasmania, and numerous smaller islan
3     </p>
4     <p>Si treieu un 10, us invitem a Australia, i si treieu un 0 ens inviteu vosaltres</p>
5   </div>
6   <div class="col-6 col-md-3">
7     
8   </div>
9 </div>
10 {% endblock %}
```

- git status
- git commit -am "<tu mensaje>"
- git push origin main

```

dama@dama-box: ~/flask-dama

dama@dama-box:~/flask-dama$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   templates/index.html

no changes added to commit (use "git add" and/or "git commit -a")
dama@dama-box:~/flask-dama$ git add .; git commit -m "DANIEL WAS HERE"
Author identity unknown

*** Please tell me who you are.

Run

    git config --global user.email "you@example.com"
    git config --global user.name "Your Name"

to set your account's default identity.
Omit --global to set the identity only in this repository.

fatal: unable to auto-detect email address (got 'dama@dama-box.(none)')
dama@dama-box:~/flask-dama$ git config --global user.email "majerdaniel93@gmail.com"
dama@dama-box:~/flask-dama$ git config --global user.name "heloint"
dama@dama-box:~/flask-dama$ git add .; git commit -m "DANIEL WAS HERE xD"
[main 0aef3fe] DANIEL WAS HERE xD
 1 file changed, 2 insertions(+), 1 deletion(-)
dama@dama-box:~/flask-dama$ git push origin main
Username for 'https://gitlab.com': heloint
Password for 'https://heloint@gitlab.com':
warning: redirecting to https://gitlab.com/heloint/flask-dama.git/
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 475 bytes | 475.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
To https://gitlab.com/heloint/flask-dama
 6f0fa57..0aef3fe  main -> main
dama@dama-box:~/flask-dama$ git log -1
commit 0aef3fea9c360f5e4d88b14d8f638e1ff3623 (HEAD -> main, origin/main, origin/HEAD)
Author: heloint <majerdaniel93@gmail.com>
Date:   Thu Feb 23 20:06:00 2023 +0000

    DANIEL WAS HERE xD
dama@dama-box:~/flask-dama$ 

```

g.) Creamos el “registry” vinculado entre Docker y Gitlab con los siguientes comandos:

(Ejecutados en el directorio raíz de nuestra app.)

- docker login registry.gitlab.com
- docker build -t registry.gitlab.com/heloint/flask-dama .
- docker push registry.gitlab.com/heloint/flask-dama

```
dama@dama-box:~/flask-dama$ docker login registry.gitlab.com
Username: heloint
Password:
WARNING! Your password will be stored unencrypted in /home/dama/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
dama@dama-box:~/flask-dama$ docker build -t registry.gitlab.com/heloint/flask-dama .
Sending build context to Docker daemon 774.7kB
Step 1/7 : FROM python:3.8-slim-buster
--> 212698d321d7
Step 2/7 : WORKDIR /app
--> Using cache
--> e5ec9ccdfeda
Step 3/7 : COPY requirements.txt requirements.txt
--> Using cache
--> 94aa44076b64
Step 4/7 : RUN pip install -r requirements.txt --no-cache-dir
--> Using cache
--> aa1fb5925266
Step 5/7 : COPY . .
--> dc212ee13913
Step 6/7 : EXPOSE 80
--> Running in 341536eeaa20
Removing intermediate container 341536eeaa20
--> 00ae5fdb65a6
Step 7/7 : CMD ["gunicorn", "--bind", "0.0.0.0:80", "app:app"]
--> Running in b89a79e25788
Removing intermediate container b89a79e25788
--> 8aa0f73ead83
Successfully built 8aa0f73ead83
Successfully tagged registry.gitlab.com/heloint/flask-dama:latest
dama@dama-box:~/flask-dama$ docker push registry.gitlab.com/heloint/flask-dama
Using default tag: latest
The push refers to repository [registry.gitlab.com/heloint/flask-dama]
d38f24e535b5: Pushed
f4738ea200dd: Pushed
ac9d5c22ebee: Pushed
09c961ba88d4: Pushed
af7d57f541a7: Pushed
0fc22002fc74: Pushed
0a68b1d9e7e0: Pushed
8d60832b730a: Pushed
63b3cf45ece8: Pushed
latest: digest: sha256:9ae01ed1fbd7bfec694e396b80c3fedcc815b477bf3fbc9f61c61bf690379b0a size: 2204
```

- Verificamos en Gitlab si el “registry” lo tenemos creado con éxito.

The screenshot shows the GitLab web interface. The browser address bar displays `https://gitlab.com/heloint/flask-dama/container_registry`. The left sidebar contains a navigation menu with the following items: flask-dama, Project information, Repository, Issues (0), Merge requests (0), CI/CD, Security & Compliance, Deployments, Packages and registries (selected), Package Registry, Container Registry (highlighted), Infrastructure Registry, and Infrastructure. The main content area is titled "Container Registry" and includes a sub-header "1 Image repository" and a status "Expiration policy is disabled." Below this is a search bar labeled "Filter results" and a button "Updated" with a dropdown arrow. A list of repositories is shown, with "flask-dama" selected, indicating "1 Tag".

heloint > flask-dama > Container Registry > flask-dama

flask-dama ⓘ

1 tag 47.06 MiB Cleanup disabled Last updated 9 minutes ago

This screenshot shows the details for the "latest" tag of the "flask-dama" repository. It features a search bar labeled "Filter results" and a "Name" dropdown menu. Below the search bar, there is a section for "1 tag" with a "Delete selected" button. The tag details include the name "latest", a size of "47.06 MiB", and a status of "Published 9 minutes ago". The digest is listed as "Digest: 9ae01ed".

h.) Modificamos el comando de Azure, para cambiar el repositorio de la imagen que vamos a servir de nuevo

(Lo ejecutaremos en nuestra máquina de servidor.)

- `az webapp config container set --docker-custom-image-name registry.gitlab.com/heloint/flask-dama --name dawbio-dama --resource-group dawbio`

```
dama@dama-box: ~/flask-dama
dama@dama-box:~/flask-dama$ az webapp config container set --docker-custom-image-name registry.gitlab.com/heloint/flask-dama --name dawbio-dama --resource-group dawbio
az: command not found
dama@dama-box:~/flask-dama$ source ~/.bashrc
dama@dama-box:~/flask-dama$ az webapp config container set --docker-custom-image-name registry.gitlab.com/heloint/flask-dama --name dawbio-dama --resource-group dawbio
Please run 'az login' to setup account.
dama@dama-box:~/flask-dama$ az login
To sign in, use a web browser to open the page https://microsoft.com/devicelogin and enter the code CPPAJ2UUU to authenticate.
[
  {
    "cloudName": "AzureCloud",
    "homeTenantId": "836f1d43-90b9-41eb-815f-6e37bd65ff30",
    "id": "9d168eac-4f12-4019-aabf-4c08a9ac9766",
    "isDefault": true,
    "managedByTenants": [],
    "name": "Azure for Students",
    "state": "Enabled",
    "tenantId": "836f1d43-90b9-41eb-815f-6e37bd65ff30",
    "user": {
      "name": "dama4909@office.proven.cat",
      "type": "user"
    }
  }
]
dama@dama-box:~/flask-dama$ az webapp config container set --docker-custom-image-name registry.gitlab.com/heloint/flask-dama --name dawbio-dama --resource-group dawbio
[
  {
    "name": "WEBSITES_ENABLE_APP_SERVICE_STORAGE",
    "slotSetting": false,
    "value": "false"
  },
  {
    "name": "DOCKER_CUSTOM_IMAGE_NAME",
    "value": "DOCKER|registry.gitlab.com/heloint/flask-dama"
  }
]
dama@dama-box:~/flask-dama$
```

i.) Verificamos sí los cambios han sido realizado con éxito y nuestra app está disponible:

- <https://dawbio-dama.azurewebsites.net/>

