

Examen

1

```
choverivan@pop-os:~$ mkdir Examen_PPS
choverivan@pop-os:~$ cd Examen_PPS/
choverivan@pop-os:~/Examen_PPS$
```

2

```
choverivan@pop-os:~/Examen_PPS$ git init
ayuda: Usando 'master' como el nombre de la rama inicial. Este nombre de rama pr
edeterminado
ayuda: está sujeto a cambios. Para configurar el nombre de la rama inicial para
usar en todos
ayuda: de sus nuevos repositorios, reprimiendo esta advertencia, llama a:
ayuda:
ayuda: git config --global init.defaultBranch <nombre>
ayuda:
ayuda: Los nombres comúnmente elegidos en lugar de 'master' son 'main', 'trunk'
y
ayuda: 'development'. Se puede cambiar el nombre de la rama recién creada median
te este comando:
ayuda:
ayuda: git branch -m <nombre>
Inicializado repositorio Git vacío en /home/choverivan/Examen_PPS/.git/
choverivan@pop-os:~/Examen_PPS$
```

3

```
choverivan@pop-os:~/Examen_PPS$ mkdir images
choverivan@pop-os:~/Examen_PPS$ vim .gitignore
choverivan@pop-os:~/Examen_PPS$ cat .gitignore
images/
choverivan@pop-os:~/Examen_PPS$
```

4

5

```
choverivan@pop-os:~/Examen_PPS$ touch Examen_IvanChover.odt
```

6

```
choverivan@pop-os:~/Examen_PPS$ git add .
choverivan@pop-os:~/Examen_PPS$ git commit -m "Creació del fitxer examen"
[master (commit-raíz) fb4c7ce] Creació del fitxer examen
2 files changed, 1 insertion(+)
create mode 100644 .gitignore
create mode 100644 Examen_IvanChover.odt
choverivan@pop-os:~/Examen_PPS$
```

7

```

choverivan@pop-os:~/Examen_PPS$ ls
default.conf  Examen_IvanChover.odt  images  sample.war
choverivan@pop-os:~/Examen_PPS$ git add .
choverivan@pop-os:~/Examen_PPS$ git commit -m "Important fixers"
[master 6264d3a] Important fixers
 2 files changed, 16 insertions(+)
 create mode 100644 default.conf
 create mode 100644 sample.war
choverivan@pop-os:~/Examen_PPS$

```

8

```

choverivan@pop-os:~/Examen_PPS$ git branch dockerRun
choverivan@pop-os:~/Examen_PPS$ git branch
  dockerRun
* master
choverivan@pop-os:~/Examen_PPS$

```

```

choverivan@pop-os:~/Examen_PPS$ git checkout dockerRun
Cambiado a rama 'dockerRun'
choverivan@pop-os:~/Examen_PPS$ git branch
* dockerRun
  master
choverivan@pop-os:~/Examen_PPS$

```

9

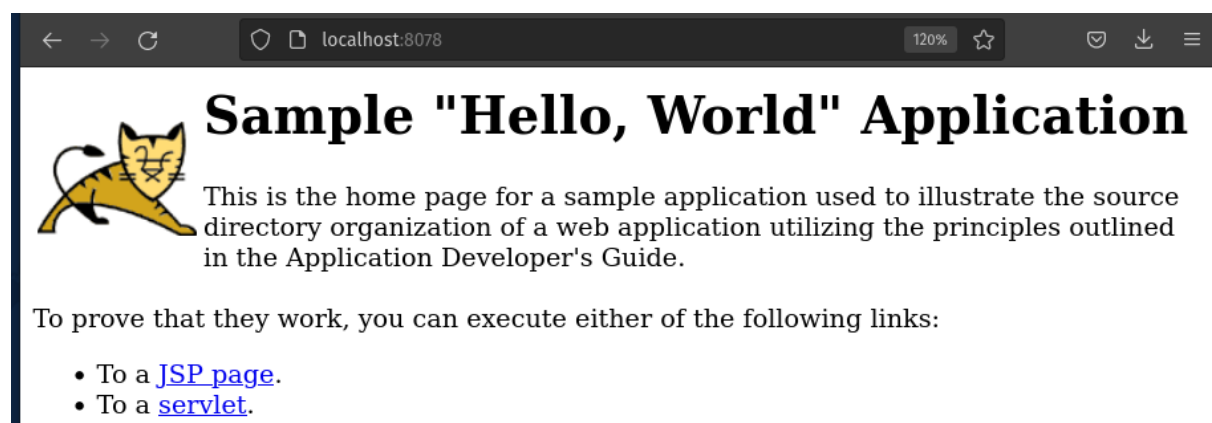
Deberemos lanzar dos comandos docker run. El primero para el servidor Tomcat y el segundo para nginx:

```

choverivan@pop-os:~/Examen_PPS$ docker run -d --network examenP -v /home/choverivan/Examen_PPS/sample.war:/usr/local/tomcat/webapps/sample.war --name aplicacionjava tomcat:9.0
30bf2228b82cb5bc98e3c1947a1271104f9fa3edec7d9e2de476b225cb3892dd
choverivan@pop-os:~/Examen_PPS$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES
30bf2228b82c   tomcat:9.0 "catalina.sh run"        2 seconds ago    Up 1 second    8080/tcp    aplicacionjava
choverivan@pop-os:~/Examen_PPS$ docker run -d --network examenP -v /home/choverivan/Examen_PPS/default.conf:/etc/nginx/conf.d/default.conf -p 8078:80 --name nginx nginx
docker: Error response from daemon: Conflict. The container name "/nginx" is already in use by container "c4a2602f7965585cal11d1decda9f77d4c16bda60376b9ec465543d2b99c380". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
choverivan@pop-os:~/Examen_PPS$ docker rm nginx
nginx
choverivan@pop-os:~/Examen_PPS$ docker run -d --network examenP -v /home/choverivan/Examen_PPS/default.conf:/etc/nginx/conf.d/default.conf -p 8078:80 --name nginx nginx
29aa69706c22a43863061f99b7c67ffd23dd9956b7692445937e7174a266a573
choverivan@pop-os:~/Examen_PPS$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES
29aa69706c22   nginx     "/docker-entrypoint..." 2 seconds ago    Up 1 second    0.0.0.0:8078->80/tcp, :::8078->80/tcp    nginx
30bf2228b82c   tomcat:9.0 "catalina.sh run"        24 seconds ago    Up 23 seconds    8080/tcp    aplicacionjava
choverivan@pop-os:~/Examen_PPS$

```

Accedemos a la ruta y nos muestra la página:



Realizamos el commit i ya:

```
choverivan@pop-os:~/Examen_PPS$ vim Examen_IvanChover.odt
choverivan@pop-os:~/Examen_PPS$ git add .
choverivan@pop-os:~/Examen_PPS$ git commit -m "docker run"
[dockerRun 06b062f] docker run
1 file changed, 1 insertion(+)
choverivan@pop-os:~/Examen_PPS$
```

Por cierto, la network la he creado: docker network create ExamenP

```
choverivan@pop-os:~/Examen_PPS/tomcat$ docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
59d52bb99d3b        bridge              bridge              local
21292788202e        examenP            bridge              local
c77d6dd5608b        graylog_default     bridge              local
f724ed667635        host                host                local
208e3660645b        minikube            bridge              local
8d9a27e61492        network_app         bridge              local
45246aa6b451        none                null                local
13ba85baac7b        redtest            bridge              local
choverivan@pop-os:~/Examen_PPS/tomcat$
```

10

```
choverivan@pop-os:~/Examen_PPS$ git merge dockerRun
Actualizando 6264d3a..06b062f
Fast-forward
 Examen_IvanChover.odt | 1 +
1 file changed, 1 insertion(+)
choverivan@pop-os:~/Examen_PPS$ git log
```

11

```
choverivan@pop-os:~/Examen_PPS$ git branch Dockerfile
choverivan@pop-os:~/Examen_PPS$ git checkout Dockerfile
Cambiado a rama 'Dockerfile'
choverivan@pop-os:~/Examen_PPS$ git branch
* Dockerfile
  dockerRun
  master
choverivan@pop-os:~/Examen_PPS$
```

12

Primero deberemos crear las dos imagenes con “docker build ./ -t “label”

Hacemos ./ dado que es donde se encuentra nuestro dockerfile. Y respecto al label, puedes poner lo quieras, no influye demasiado en el funcionamiento posterior.

```

choverivan@pop-os:~/Examen_PPS/nginx$ docker build -t "nginx_examen"
"docker build" requires exactly 1 argument.
See 'docker build --help'.

Usage:  docker build [OPTIONS] PATH | URL | -

Build an image from a Dockerfile
choverivan@pop-os:~/Examen_PPS/nginx$ docker build ./ -t "nginx_examen"
Sending build context to Docker daemon  3.072kB
Step 1/3 : FROM nginx
----> a99a39d070bf
Step 2/3 : COPY default.conf /etc/nginx/conf.d/
----> 111ef1c60519
Step 3/3 : EXPOSE 80
----> Running in 03d828837d37
Removing intermediate container 03d828837d37
----> 489a37c3880e
Successfully built 489a37c3880e
Successfully tagged nginx_examen:latest
choverivan@pop-os:~/Examen_PPS/nginx$ cd ..
choverivan@pop-os:~/Examen_PPS$ cd tomcat/
choverivan@pop-os:~/Examen_PPS/tomcat$ docker build ./ -t "tomcat_examen"
Sending build context to Docker daemon  7.168kB
Step 1/2 : FROM tomcat:9
----> b07e16b11088
Step 2/2 : ADD sample.war /usr/local/tomcat/webapps/
----> Using cache
----> f32bc63096b0
Successfully built f32bc63096b0
Successfully tagged tomcat_examen:latest
choverivan@pop-os:~/Examen_PPS/tomcat$

```

Para poder crear las imágenes necesitamos 2 Dockerfiles alojados en distintas carpetas, dado que no puede haber 2 Dockerfiles juntos.

Nginx:

```

nginx > Dockerfile
1  FROM nginx
2  COPY default.conf /etc/nginx/conf.d/
3  EXPOSE 80
4

```

Tomcat:

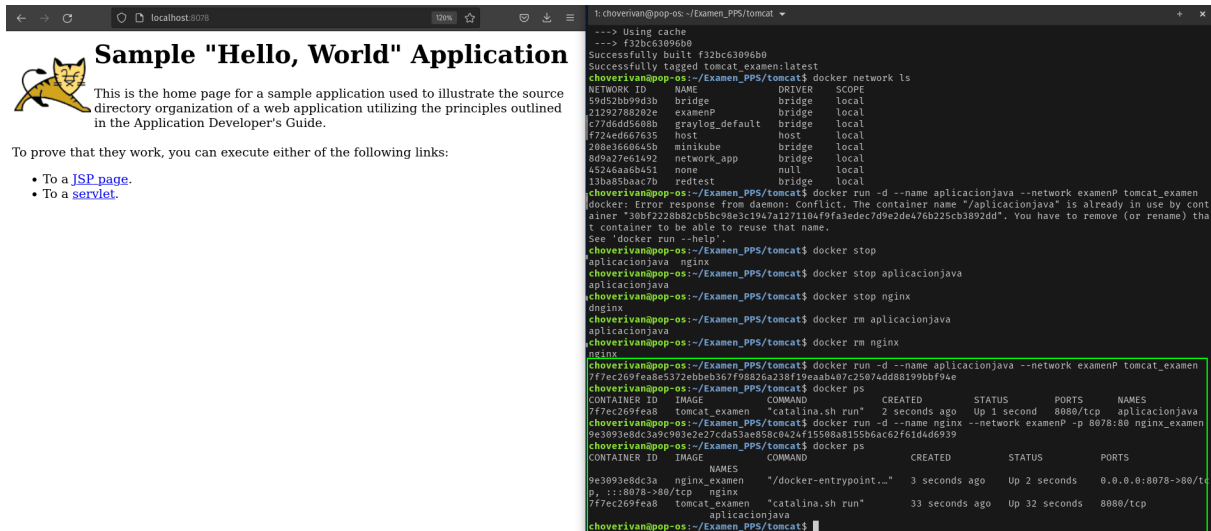
```

tomcat > Dockerfile
1  FROM tomcat:9
2  ADD sample.war /usr/local/tomcat/webapps/

```

Cabe mencionar que hemos trasladado los documentos de configuración necesarios a sus respectivas carpetas: tomcat y nginx

Ahora tan solo realizamos un docker run especificando algunos parámetros como `--name` para la aplicación Java, `-p` para nginx y la network para que se puedan ver los dos contenedores:



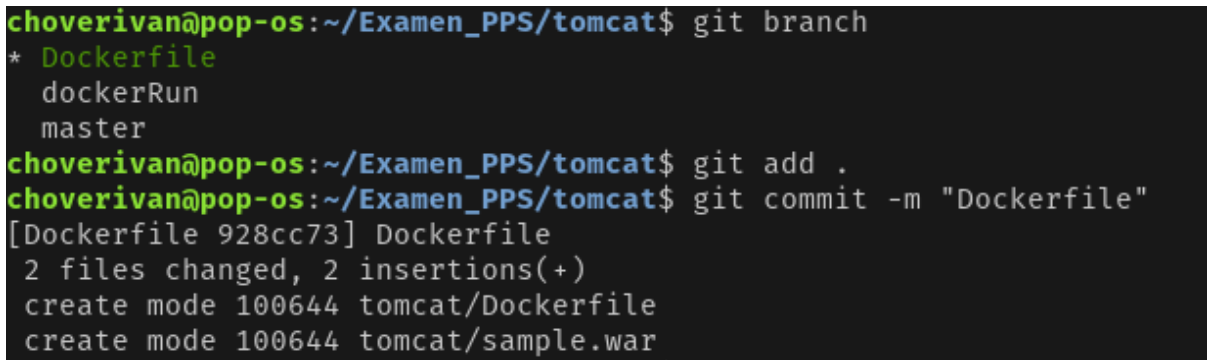
The screenshot shows a web browser window on the left displaying a "Sample 'Hello, World' Application" page. The page includes a cat logo and text explaining it's a sample application for illustrating source directory organization. It provides links to a JSP page and a servlet. On the right, a terminal window shows the execution of Docker commands. The commands include listing networks, running a container named 'aplicacionjava' with specific network and port settings, stopping the container, and listing the running containers. The output shows the container is running successfully on port 8080.

```

---> Using cache
---> f32bc63896b0
Successfully built f32bc63896b0
Successfully tagged tomcat_exam:latest
choverivan@pop-os: ~/Examen_PPS/tomcat$ docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
59452b099d3b        bridge             bridge              local
21292788202e        examenP            bridge             local
c77d6dd5608b        graylog_default    bridge             local
f724ed067635        host               host                local
208e3606645b        minikube           bridge             local
8d9a27e61492        network_app        bridge             local
45246aa8b451        none              null                local
13ba85bac7b         redtest           bridge             local
choverivan@pop-os: ~/Examen_PPS/tomcat$ docker run -d --name aplicacionjava --network examenP tomcat_exam
docker: Error response from daemon: Conflict. The container name "/aplicacionjava" is already in use by container "50bf2228b82c5bc98e3c1947a127118a49fa3edec7d9e2de476b225cb3892dd". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
choverivan@pop-os: ~/Examen_PPS/tomcat$ docker stop aplicacionjava
aplicacionjava
choverivan@pop-os: ~/Examen_PPS/tomcat$ docker stop nginx
nginx
choverivan@pop-os: ~/Examen_PPS/tomcat$ docker rm aplicacionjava
aplicacionjava
choverivan@pop-os: ~/Examen_PPS/tomcat$ docker rm nginx
nginx
choverivan@pop-os: ~/Examen_PPS/tomcat$ docker run -d --name aplicacionjava --network examenP tomcat_exam
7f7ec269feae85372ebbeb367f98826a238f19eaab407c25074dd88199dbf94e
choverivan@pop-os: ~/Examen_PPS/tomcat$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
7f7ec269feae8  tomcat_exam  "catalina.sh run"        2 seconds ago Up 1 second   8080/tcp      aplicacionjava
9e3093e8dc3a   nginx_exam   "/docker-entrypoint..." 3 seconds ago Up 2 seconds  0.0.0.0:8078->8078/tcp nginx_exam
choverivan@pop-os: ~/Examen_PPS/tomcat$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
9e3093e8dc3a   nginx_exam   "/docker-entrypoint..." 3 seconds ago Up 2 seconds  0.0.0.0:8078->8078/tcp nginx_exam
7f7ec269feae8  tomcat_exam  "catalina.sh run"        33 seconds ago Up 32 seconds  8080/tcp      aplicacionjava
choverivan@pop-os: ~/Examen_PPS/tomcat$

```

Y realizamos un git commit:



The screenshot shows a terminal window with the following commands and output:

```

choverivan@pop-os: ~/Examen_PPS/tomcat$ git branch
* Dockerfile
  dockerRun
  master
choverivan@pop-os: ~/Examen_PPS/tomcat$ git add .
choverivan@pop-os: ~/Examen_PPS/tomcat$ git commit -m "Dockerfile"
[ Dockerfile 928cc73 ] Dockerfile
2 files changed, 2 insertions(+)
create mode 100644 tomcat/Dockerfile
create mode 100644 tomcat/sample.war

```

```

choverivan@pop-os:~/Examen_PPS$ git merge Dockerfile
Actualizando 06b062f..928cc73
Fast-forward
 tomcat/Dockerfile | 2 ++
 tomcat/sample.war | Bin 0 -> 4606 bytes
 2 files changed, 2 insertions(+)
 create mode 100644 tomcat/Dockerfile
 create mode 100644 tomcat/sample.war
choverivan@pop-os:~/Examen_PPS$ git log
commit 928cc730eae64bb53d01919c0913e8e347c84aab (HEAD -> master, Dockerfile)
Author: ivanchover98 <escbivanci@gmail.com>
Date: Fri Feb 3 17:59:06 2023 +0100

    Dockerfile

commit 06b062fcf53b0927d1c2adedbc554239f3ce4b17 (dockerRun)
Author: ivanchover98 <escbivanci@gmail.com>
Date: Fri Feb 3 17:24:12 2023 +0100

    docker run

commit 6264d3aa6d008a3b6a21eabcaaab58d16347bf36
Author: ivanchover98 <escbivanci@gmail.com>
Date: Fri Feb 3 16:46:32 2023 +0100

    Important fitxers

commit fb4c7ce0b39c5342bc5434c35504a9cd12029639
Author: ivanchover98 <escbivanci@gmail.com>
Date: Fri Feb 3 16:43:16 2023 +0100

    Creació del fitxer examen
choverivan@pop-os:~/Examen_PPS$

```

14

```

choverivan@pop-os:~/Examen_PPS$ git branch docker-compose
choverivan@pop-os:~/Examen_PPS$ git checkout docker-compose
Cambiado a rama 'docker-compose'
choverivan@pop-os:~/Examen_PPS$ git branch
  Dockerfile
* docker-compose
  dockerRun
  master
choverivan@pop-os:~/Examen_PPS$

```

15

Primero creamos el docker-compose.yaml.

Es importante que sea este nombre dado que sino no funcionará

```

services:
  tomcat:
    image: tomcat:9.0
    volumes:
      - /home/choverivan/Examen_PPS/sample.war:/usr/local/tomcat/webapps/sample.war
    container_name: aplicacionjava

  nginx:
    image: nginx
    container_name: nginx
    volumes:
      - /home/choverivan/Examen_PPS/default.conf:/etc/nginx/conf.d/default.conf
    ports:
      - 8078:80

```

Lo levantamos y para que no muestre información innecesaria lo hacemos con `-d`, en modo detached.

```

choverivan@pop-os:~/Examen_PPS$ docker-compose up -d
Starting aplicacionjava ... done
Starting nginx ... done
choverivan@pop-os:~/Examen_PPS$ docker ps

```

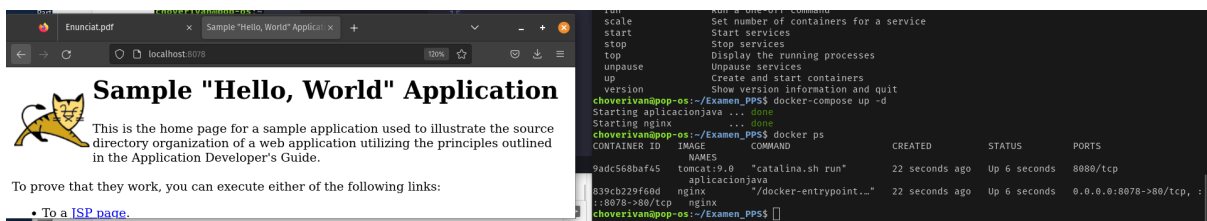
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
9adc568baf45	tomcat:9.0	"catalina.sh run"	22 seconds ago	Up 6 seconds	8080/tcp
839cb229f60d	nginx	"/docker-entrypoint..."	22 seconds ago	Up 6 seconds	0.0.0.0:8078->80/tcp, :8078->80/tcp

```

choverivan@pop-os:~/Examen_PPS$

```

Comprobamos que funciona:



The screenshot shows a web browser window displaying a "Sample 'Hello, World' Application" page. The page includes a cat icon and text stating: "This is the home page for a sample application used to illustrate the source directory organization of a web application utilizing the principles outlined in the Application Developer's Guide." Below this, it says "To prove that they work, you can execute either of the following links:" and provides a link "To a JSP page." To the right of the browser window, a terminal window shows the command `docker-compose up -d` being executed, followed by the output of `docker ps` showing two containers: `9adc568baf45` (tomcat:9.0) and `839cb229f60d` (nginx), both in an "Up" state.

Realizamos el commit:

```

choverivan@pop-os:~/Examen_PPS$ git add .
choverivan@pop-os:~/Examen_PPS$ git commit -m "docker-compose"
[docker-compose 0b684e9] docker-compose
3 files changed, 34 insertions(+)
 create mode 100644 docker-compose.yaml
 create mode 100644 nginx/Dockerfile
 create mode 100644 nginx/default.conf
choverivan@pop-os:~/Examen_PPS$

```



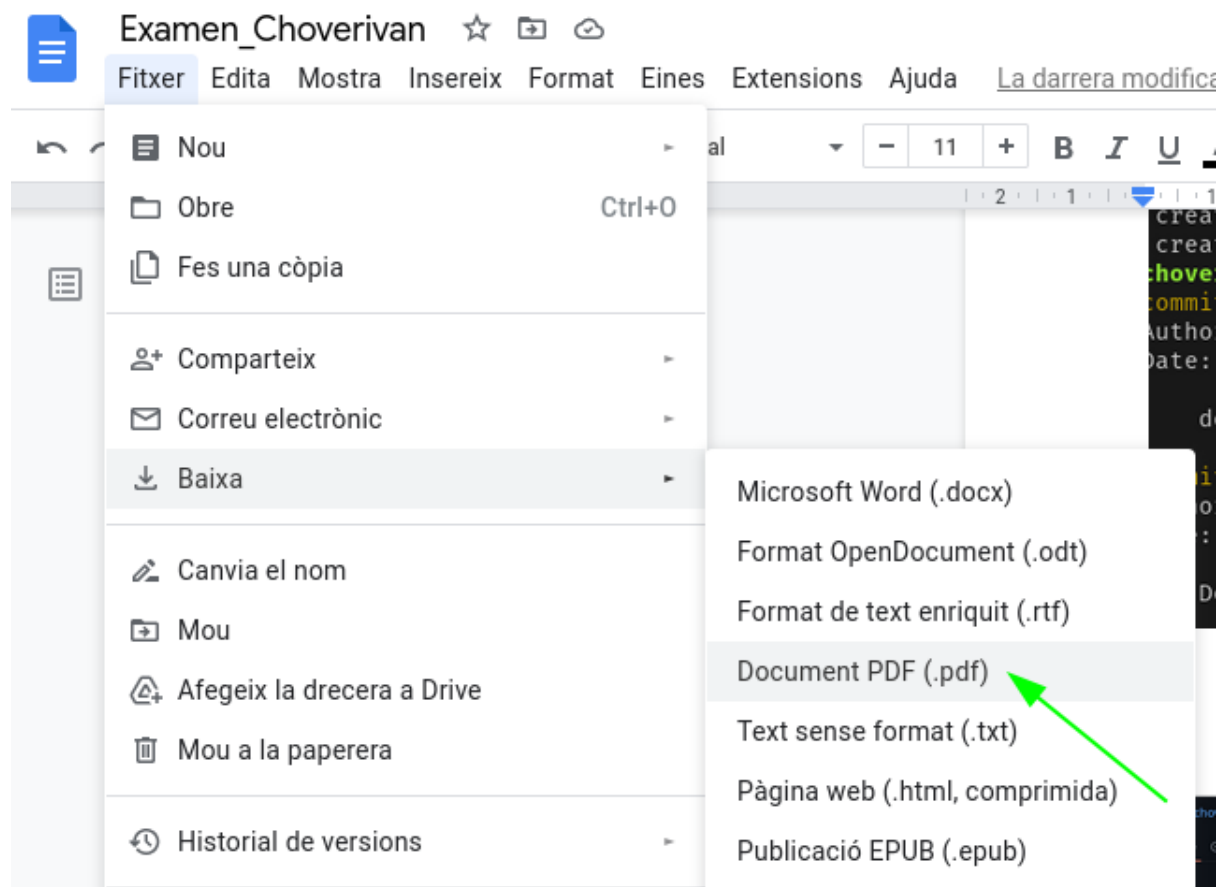
```
choverivan@pop-os:~/Examen_PPS$ git checkout master
Cambiado a rama 'master'
choverivan@pop-os:~/Examen_PPS$ git merge docker-compose
Actualizando 928cc73..0b684e9
Fast-forward
 docker-compose.yaml | 15 ++++++
 nginx/Dockerfile     | 3 +++
 nginx/default.conf   | 16 ++++++
 3 files changed, 34 insertions(+)
 create mode 100644 docker-compose.yaml
 create mode 100644 nginx/Dockerfile
 create mode 100644 nginx/default.conf
choverivan@pop-os:~/Examen_PPS$ git log
commit 0b684e9199f67047032b1bae6bbe2b6757355617 (HEAD -> master, docker-compose)
Author: ivanchover98 <escbivanci@gmail.com>
Date:   Fri Feb 3 18:17:59 2023 +0100

    docker-compose

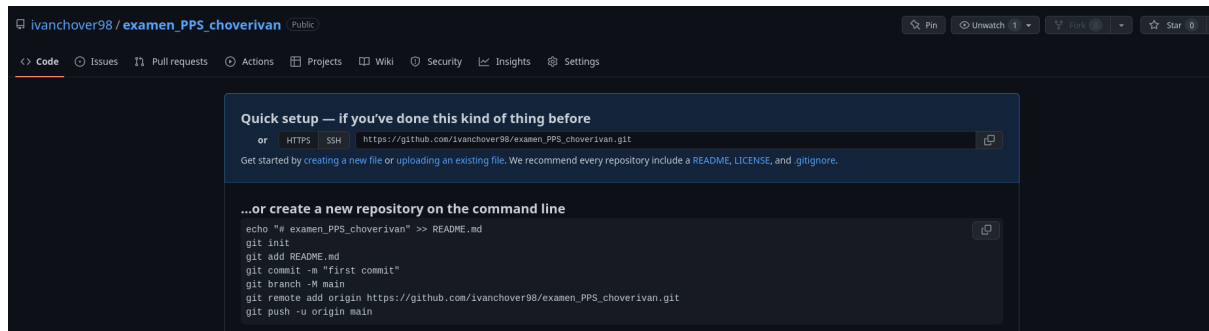
commit 928cc730eae64bb53d01919c0913e8e347c84aab (Dockerfile)
Author: ivanchover98 <escbivanci@gmail.com>
Date:   Fri Feb 3 17:59:06 2023 +0100

    Dockerfile
```

17



18



```
choverivan@pop-os:~/Examen_PPS$ git push https://github.com/ivanchover98/examen_PPS_choverivan.git
Username for 'https://github.com': ivanchover98
Password for 'https://ivanchover98@github.com':
Enumerando objetos: 20, listo.
Contando objetos: 100% (20/20), listo.
Compresión delta usando hasta 8 hilos
Comprimiendo objetos: 100% (18/18), listo.
Escribiendo objetos: 100% (20/20), 5.57 KiB | 1.39 MiB/s, listo.
Total 20 (delta 4), reusados 0 (delta 0), pack-reusados 0
remote: Resolving deltas: 100% (4/4), done.
To https://github.com/ivanchover98/examen_PPS_choverivan.git
 * [new branch]      master -> master
choverivan@pop-os:~/Examen_PPS$
```

19

https://github.com/ivanchover98/examen_PPS_choverivan.git