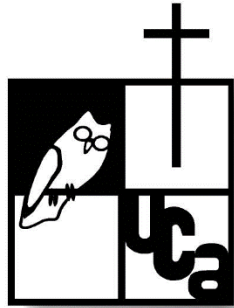


# Universidad Centroamericana “José Simeón Cañas”

Departamento de Ingeniería y Arquitectura

Programación Web

Sección 1



Trabajo de curso:

Proceso de despliegue y funcionamiento del Deployment

Estudiante:

**Flores Vásquez, Abraham Alejandro**

Carné:

**00067323**

Catedrático:

**Néstor Santiago Aldana Rodríguez**

Antiguo Cuscatlán, 16 de enero del 2023

## Proceso del despliegue de un sitio web utilizando Digital Ocean

Para crear una conexión segura se sugiere crear una clave SSH para acceder al repositorio, esta misma será utilizada por la plataforma de Digital Ocean para crear la conexión con el Droplet (lugar en la nube con la ip de acceso para la página web)

```
root@ubuntu-best-forever-01:~# ssh-add ~/.ssh/id_ed25519
Error loading key "/root/.ssh/id_ed25519": error in libcrypto
root@ubuntu-best-forever-01:~# ssh-add ~/.ssh/id_ed25519
Error loading key "/root/.ssh/id_ed25519": error in libcrypto
root@ubuntu-best-forever-01:~# ssh-add ~/.ssh/id_ed25519
~.ssh/id_ed25519: No such file or directory
root@ubuntu-best-forever-01:~# ssh-add ~/.ssh/id_ed25519

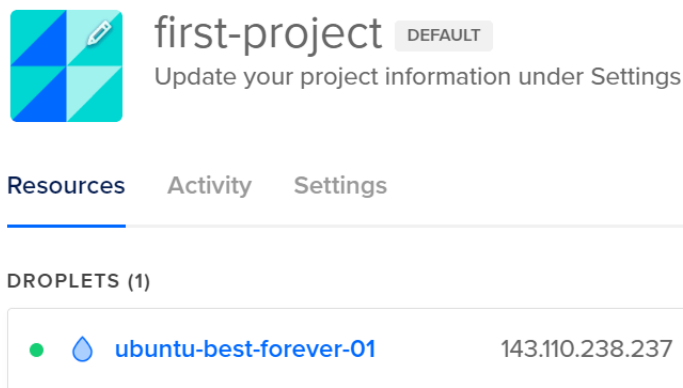
root@ubuntu-best-forever-01:~# chmod 600 ~/.ssh/id_ed25519
root@ubuntu-best-forever-01:~# ssh-add ~/.ssh/id_ed25519
Identity added: /root/.ssh/id_ed25519 (00067323@uca.edu.sv)
root@ubuntu-best-forever-01:~# ssh -T git@github.com
Hi AlejandroFV74! You've successfully authenticated, but GitHub does not provide shell access.
root@ubuntu-best-forever-01:~# git clone git@github.com:UCASV/02-2024-primer-examen-parcial-AlejandroFV74.git
Cloning into '02-2024-primer-examen-parcial-AlejandroFV74'...
remote: Enumerating objects: 63, done.
remote: Counting objects: 100% (63/63), done.
remote: Compressing objects: 100% (58/58), done.
remote: Total 63 (delta 1), reused 58 (delta 1), pack-reused 0 (from 0)
Receiving objects: 100% (63/63), 5.87 MiB | 10.94 MiB/s, done.
Resolving deltas: 100% (1/1), done.
root@ubuntu-best-forever-01:~# mv UCASV/02-2024-primer-examen-parcial-AlejandroFV74/* /var/www/html/
mv: cannot stat 'UCASV/02-2024-primer-examen-parcial-AlejandroFV74/*': No such file or directory
root@ubuntu-best-forever-01:~# mv 02-2024-primer-examen-parcial-AlejandroFV74/* /var/www/html/

root@ubuntu-best-forever-01:~# nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
root@ubuntu-best-forever-01:~# systemctl restart nginx
```

Para probar la conexión con el servidor se utiliza el comando:

```
ssh -i ~/.ssh/id_ed25519 root@<dirección_IP_del_servidor>
```

donde la dirección IP del servidor es la generada por Digital Ocean en el apartado del proyecto:



El primer error que tuve en la prueba de la conexión era que no se encontraba la clave SSH generada, al parecer el agente no la tenía guardada por lo que se tuvo que guardar manualmente, en el proceso se generó una clave errónea, y esa no existía en Digital Ocean, eso explica el error de la conexión en la siguiente captura, luego de definir la clave correcta se logró el acceso correcto.

```
-rw-r--r-- 1 root root 284 Oct 13 02:58 known_hosts
root@ubuntu-best-forever-01:~# ssh -T git@github.com
git@github.com: Permission denied (publickey).
root@ubuntu-best-forever-01:~# client_loop: send disconnect: Connection reset
PS C:\Users\Abraham> ssh -i ~/.ssh/id_ed25519.digital_ocean root@143.110.238.237
root@143.110.238.237: Permission denied (publickey).
PS C:\Users\Abraham> ssh -i ~/.ssh/id_ed25519 root@143.110.238.237
Welcome to Ubuntu 24.10 (GNU/Linux 6.11.0-8-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Mon Oct 14 00:36:16 UTC 2024

System load:  0.08          Processes:      105
Usage of /:   21.6% of 8.55GB Users logged in:  0
Memory usage: 42%          IPv4 address for eth0: 143.110.238.237
Swap usage:   0%           IPv4 address for eth0: 10.48.0.5

0 updates can be applied immediately.

Last login: Sun Oct 13 02:38:23 2024 from 190.150.164.191
root@ubuntu-best-forever-01:~# git clone https://github.com/AlejandroFV74/02-2024-primer-examen-parcial-AlejandroFV74.git
Cloning into '02-2024-primer-examen-parcial-AlejandroFV74'...
Username for 'https://github.com': AlejandroFV74
Password for 'https://AlejandroFV74@github.com':
remote: Support for password authentication was removed on August 13, 2021.
```

Luego se debe de configurar la instalación de Nginx y el Firewall, proceso en el cual se habilita el tráfico de datos entre HTTP y SSH, y se confirma la configuración con el comando `ufw status`.

```
Get:1 http://mirrors.digitalocean.com/ubuntu oracular/main amd64 nginx-common all 1.26.0-2ubuntu3 [30.7 kB]
Get:2 http://mirrors.digitalocean.com/ubuntu oracular/main amd64 nginx amd64 1.26.0-2ubuntu3 [600 kB]
Fetched 631 kB in 0s (8185 kB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 76054 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.26.0-2ubuntu3_all.deb ...
Unpacking nginx-common (1.26.0-2ubuntu3) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.26.0-2ubuntu3_amd64.deb ...
Unpacking nginx (1.26.0-2ubuntu3) ...
Setting up nginx (1.26.0-2ubuntu3) ...
Setting up nginx-common (1.26.0-2ubuntu3) ...
Created symlink '/etc/systemd/system/multi-user.target.wants/nginx.service' -> '/usr/lib/systemd/system/nginx.service'.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.1-3) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ubuntu-best-forever-01:~# systemctl start nginx
```

```
root@ubuntu-best-forever-01:~# apt update
Hit:1 http://mirrors.digitalocean.com/ubuntu oracular InRelease
Hit:2 http://mirrors.digitalocean.com/ubuntu oracular-updates InRelease
Hit:3 http://mirrors.digitalocean.com/ubuntu oracular-backports InRelease
Hit:4 https://repos.insights.digitalocean.com/apt/do-agent main InRelease
Hit:5 http://security.ubuntu.com/ubuntu oracular-security InRelease
Hit:6 https://repos-droplet.digitalocean.com/apt/droplet-agent main InRelease
All packages are up to date.
root@ubuntu-best-forever-01:~# apt upgrade -y
Summary:
  Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 0
root@ubuntu-best-forever-01:~# apt install nginx -y
Installing:
  nginx

Installing dependencies:
  nginx-common

Suggested packages:
  fcgiwrap nginx-doc ssl-cert

Summary:
  Upgrading: 0, Installing: 2, Removing: 0, Not Upgrading: 0
  Download size: 631 kB
  Space needed: 1811 kB / 7198 MB available
```

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ubuntu-best-forever-01:~# systemctl start nginx
root@ubuntu-best-forever-01:~# systemctl enable nginx
Synchronizing state of nginx.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable nginx
root@ubuntu-best-forever-01:~# apt install ufw -y
ufw is already the newest version (0.36.2-6).
ufw set to manually installed.
Summary:
  Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 0
root@ubuntu-best-forever-01:~# ufw allow 'Nginx Full'
Rules updated
Rules updated (v6)
root@ubuntu-best-forever-01:~# ufw allow OpenSSH
Rules updated
Rules updated (v6)
root@ubuntu-best-forever-01:~# ufw enable
Command may disrupt existing ssh connections. Proceed with operation (y|n)? y
Firewall is active and enabled on system startup
root@ubuntu-best-forever-01:~# ufw status
Status: active

To Action From
--
Nginx Full ALLOW Anywhere
OpenSSH ALLOW Anywhere
Nginx Full (v6) ALLOW Anywhere (v6)
OpenSSH (v6) ALLOW Anywhere (v6)
```

El siguiente paso es la implementación del proyecto, para posteriormente actualizar la configuración de Nginx para que acceda a la ruta root /var/www/html, proceso para el cual debemos clonar el repositorio y luego moverlo a la carpeta mencionada.



```

Last login: Mon Oct 14 13:21:17 2024 from 181.225.133.25
root@ubuntu-best-forever-01:~# cd /var/
root@ubuntu-best-forever-01:/var# cd /www/html/
-bash: cd: /www/html/: No such file or directory
root@ubuntu-best-forever-01:/var# l
backups/  cache/  crash/  lib/  local/  lock@  log/  mail/  opt/  run@  snap/  spool/  tmp/  www/
root@ubuntu-best-forever-01:/var# cd /www/
-bash: cd: /www/: No such file or directory
root@ubuntu-best-forever-01:/var# cd www
root@ubuntu-best-forever-01:/var/www# cd html
root@ubuntu-best-forever-01:/var/www/html# l
Theme/  index.html*  index.nginx-debian.html*
root@ubuntu-best-forever-01:/var/www/html# cd Theme/
root@ubuntu-best-forever-01:/var/www/html/Theme# l
index.html*  resources/
root@ubuntu-best-forever-01:/var/www/html/Theme# lN
lN: command not found
root@ubuntu-best-forever-01:/var/www/html/Theme# ls
index.html  resources
root@ubuntu-best-forever-01:/var/www/html/Theme# nano /etc/nginx/sites-available/default
root@ubuntu-best-forever-01:/var/www/html/Theme# cd ../
root@ubuntu-best-forever-01:/var/www/html# cd ../
root@ubuntu-best-forever-01:/var/www# mv html/Theme/* html/
root@ubuntu-best-forever-01:/var/www# mv /html/
mv: missing destination file operand after '/html/'
Try 'mv --help' for more information.
root@ubuntu-best-forever-01:/var/www# cd html
root@ubuntu-best-forever-01:/var/www/html# l
Theme/  index.html*  index.nginx-debian.html*  resources/
root@ubuntu-best-forever-01:/var/www/html# rm Theme
rm: cannot remove 'Theme': Is a directory
root@ubuntu-best-forever-01:/var/www/html# systemctl restart nginx
root@ubuntu-best-forever-01:/var/www/html#

```

Durante este paso surgió el problema de que en la página web que se genera con la dirección IP generada por Digital Ocean se mostraba solo la información del HTML y no la configuración del CSS y el JavaScript, el inconveniente surgió por la estructura del proyecto, ya que el repositorio tenía como defecto una carpeta theme, en la cual se encontraba el index y a su vez la carpeta de resources, conteniendo esta a CSS y JS, se corrigió el redirección de la ruta agregando este paso faltante, luego de esto la dirección IP mostró la página web que se utilizó para el parcial.

