

UNIVERSIDAD NACIONAL DE SAN AGUSTÍN
FACULTAD DE INGENIERÍA DE PRODUCCIÓN Y SERVICIOS
ESCUELA PROFESIONAL DE INGENIERÍA DE SISTEMAS



Tema: Docker

Curso: Programación web 2 – laboratorio G

Alumno:

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Semestre: A - 2024

Arequipa – Perú

2024

Actividad:

Procesos realizados:

Instalación de componentes:

PS C:\Users\miguel> docker run --name pw2_lab01 -p 8084:80 -p 8085:3306 -p 8086:22 -it ubuntu:20.04 /bin/bash
root@096e8659972e:/# |

Extensions

test_01_Ubu

bfb1816cf8a

ubuntu:20.04

Exited

0%

3 minutes ago

pw2_lab01

096e8659972e

ubuntu:20.04

Running

8086:22

0%

18 seconds ago

Show all ports (3)

Add Extensions

invoke-rc.d: could not determine current runlevel
invoke-rc.d: policy-rc.d denied execution of start.
Processing triggers for libc-bin (2.31-0ubuntu9.15) ...
Processing triggers for ca-certificates (20230311ubuntu0.20.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
root@096e8659972e:/# |

Extensions

test_01_Ubu

bfb1816cf8a

ubuntu:20.04

Exited

0%

6 minutes ago

pw2_lab01

096e8659972e

ubuntu:20.04

Running

8086:22

8085:3306

8084:80

0%

3 minutes ago

Show less

Add Extensions

root@096e8659972e: /

update-alternatives: warning: skip creation of /usr/share/man/pl/man1/editor.1.gz because associated file /usr/share/man/pl/man1/vim.1.gz (of link group editor) doesn't exist
update-alternatives: warning: skip creation of /usr/share/man/ru/man1/editor.1.gz because associated file /usr/share/man/ru/man1/vim.1.gz (of link group editor) doesn't exist
update-alternatives: warning: skip creation of /usr/share/man/man1/editor.1.gz because associated file /usr/share/man/man1/vim.1.gz (of link group editor) doesn't exist
Processing triggers for libc-bin (2.31-0ubuntu9.15) ...
Processing triggers for mime-support (3.64ubuntu1) ...
root@096e8659972e:/# |

Extensions

test_01_Ubu

bfb1816cf8a

ubuntu:20.04

Exited

0%

31 minutes ago

pw2_lab01

096e8659972e

ubuntu:20.04

Running

8086:22



0%

28 minutes ago

Show all ports (3)

Add Extensions

```
root@096e8659972e:/# apt-get install libapache2-mod-php7.4
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libargon2-1 libbsd0 libedit2 libsodium23 php-common php7.4-cli php7.4-common php7.4-json php7.4-opcache
  php7.4-readline psmisc ucf
Suggested packages:
```

nsions	:	<input type="checkbox"/>		test_01_Ubu bfbe1816cf8a ubuntu:20.04	Exited	0%	33 minutes ago	▶	:	🗑
Add Extensions		<input type="checkbox"/>		pw2_lab01 096e8659972e ubuntu:20.04	Running	0%	30 minutes ago	■	:	🗑
8086:22 Show all ports (3)										

```
Processing triggers for php7.4-cli (7.4.3-4ubuntu2.22) ...
Processing triggers for libapache2-mod-php7.4 (7.4.3-4ubuntu2.22) ...
root@096e8659972e:/# /etc/init.d apache2 restart
bash: /etc/init.d: Is a directory
root@096e8659972e:/# vim /var/www/html/hola.php
root@096e8659972e:/# apt-cache search php7.4
libapache2-mod-php7.4 - server-side, HTML-embedded scripting language (Apache 2 module)
php7.4 - server-side, HTML-embedded scripting language (metapackage)
php7.4-cgi - server-side, HTML-embedded scripting language (CGI binary)
php7.4-cli - command-line interpreter for the PHP scripting language
php7.4-common - documentation, examples and common module for PHP
php7.4-curl - CURL module for PHP
php7.4-dev - Files for PHP7.4 module development
php7.4-gd - GD module for PHP
php7.4-gmp - GMP module for PHP
php7.4-json - JSON module for PHP
php7.4-ldap - LDAP module for PHP
php7.4-mysql - MySQL module for PHP
php7.4-odbc - ODBC module for PHP
php7.4-opcache - Zend OpCache module for PHP
php7.4-pgsql - PostgreSQL module for PHP
php7.4-pspell - pspell module for PHP
php7.4-readline - readline module for PHP
php7.4-snmp - SNMP module for PHP
php7.4-sqlite3 - SQLite3 module for PHP
php7.4-tidy - tidy module for PHP
php7.4-xml - DOM, SimpleXML, XML, and XSL module for PHP
```

```
root@096e8659972e:/# apt-get install openssl-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  dbus distro-info-data dmsetup gir1.2-glib-2.0 libapparmor1 libcap2 libcbor0.6 libcryptsetup12 libdbus-1-3 libdevmapper1.02.1 libfido2-1
  libgirepository-1.0-1 libglib2.0-0 libglib2.0-data libip4tc2 libjson-c4 libkmod2 libnss-systemd libpam-systemd libpython3-stdlib libwrap0 libx11-6
  libx11-data libxau6 libxcb1 libxdmcp6 libxext6 libxmuu1 lsb-release ncurses-term networkd-dispatcher openssh-client openssh-sftp-server python3
  python3-certifi python3-chardet python3-dbus python3-distro python3-gi python3-idna python3-minimal python3-pkg-resources python3-requests python3-six
  python3-urllib3 python3.8 python3.8-minimal shared-mime-info ssh-import-id systemd systemd-sysv systemd-timesyncd wget xauth xdg-user-dirs
Suggested packages:
  default-dbus-session-bus | dbus-session-bus iw | wireless-tools keychain libpam-ssh monkeysphere ssh-askpass molly-guard ufw python3-doc python3-tk
  python3-venv python-dbus-doc python3-dbus-dbg python3-setuptools python3-cryptography python3-openssl python3-socks python3.8-venv python3.8-doc
  binutils binfmt-support systemd-container policykit-1
The following NEW packages will be installed:
  dbus distro-info-data dmsetup gir1.2-glib-2.0 libapparmor1 libcap2 libcbor0.6 libcryptsetup12 libdbus-1-3 libdevmapper1.02.1 libfido2-1
  libgirepository-1.0-1 libglib2.0-0 libglib2.0-data libip4tc2 libjson-c4 libkmod2 libnss-systemd libpam-systemd libpython3-stdlib libwrap0 libx11-6
  libx11-data libxau6 libxcb1 libxdmcp6 libxext6 libxmuu1 lsb-release ncurses-term networkd-dispatcher openssh-client openssh-server openssh-sftp-server
  python3 python3-certifi python3-chardet python3-dbus python3-distro python3-gi python3-idna python3-minimal python3-pkg-resources python3-requests
  python3-six python3-urllib3 python3.8 python3.8-minimal shared-mime-info ssh-import-id systemd systemd-sysv systemd-timesyncd wget xauth xdg-user-dirs
0 upgraded, 56 newly installed, 0 to remove and 0 not upgraded.
Need to get 12.8 MB of archives.
After this operation, 53.8 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 python3.8-minimal amd64 3.8.10-0ubuntu1~20.04.9 [1890 kB]
Get:2 http://archive.ubuntu.com/ubuntu focal/main amd64 python3-minimal amd64 3.8.2-0ubuntu2 [23.6 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 python3.8 amd64 3.8.10-0ubuntu1~20.04.9 [387 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal/main amd64 libpython3-stdlib amd64 3.8.2-0ubuntu2 [7068 B]
Get:5 http://archive.ubuntu.com/ubuntu focal/main amd64 python3 amd64 3.8.2-0ubuntu2 [47.6 kB]
Get:6 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libapparmor1 amd64 2.13.3-7ubuntu5.3 [35.4 kB]
Get:7 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libcap2 amd64 1:2.32-1ubuntu0.1 [15.8 kB]
Get:8 http://archive.ubuntu.com/ubuntu focal/main amd64 libdevmapper1.02.1 amd64 2:1.02.167-1ubuntu1 [127 kB]
Get:9 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libjson-c4 amd64 0.13.1+dfsg-7ubuntu0.3 [29.3 kB]
Get:10 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libcryptsetup12 amd64 2:2.2.2-3ubuntu2.4 [166 kB]
Get:11 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libip4tc2 amd64 1.8.4-3ubuntu2.1 [19.1 kB]
```










Images
Volumes
Builds
Dev Environments **BETA**
Docker Scout
Extensions
Add Extensions

Container CPU usage ⓘ
0.00% / 2000% (20 CPUs available)

Container memory usage ⓘ
145.7MB / 7.48GB

Show charts

☐ Only show running containers

<input type="checkbox"/>	Name	Image	Status	Port(s)	CPU (%)	Last started	Actions
<input type="checkbox"/>	 test_01_Ubu bfbe1816cf8a	ubuntu:20.04	Exited		0%	37 minutes ago	  
<input type="checkbox"/>	 pw2_lab01 096e8659972e	ubuntu:20.04	Running	8086:22  Show all ports (3)	0%	34 minutes ago	  

root@096e8659972e: /

Setting up ssh-import-id (5.10-0ubuntu1) ...
Attempting to convert /etc/ssh/ssh_import_id
Processing triggers for systemd (245.4-4ubuntu3.23) ...
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.15) ...
root@096e8659972e: /# /etc/init.d/ssh start
* Starting OpenBSD Secure Shell server sshd
[OK]
root@096e8659972e: /#

```
root@096e8659972e: /# adduser pw2
Adding user `pw2' ...
Adding new group `pw2' (1000) ...
Adding new user `pw2' (1000) with group `pw2' ...
Creating home directory `/home/pw2' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for pw2
Enter the new value, or press ENTER for the default
  Full Name []: pw2
  Room Number []:
  Work Phone []:
  Home Phone []:
  Other []:
Is the information correct? [Y/n] y
root@096e8659972e: /#
```

```
root@096e8659972e: /# chown -R pw2:www-data /var/www/html/
root@096e8659972e: /#
```

```

root@096e8659972e:/# apt-get install mariadb-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  galera-3 gawk iproute2 libaio1 libatm1 libcap2-bin libcgi-fast-perl libcgi-pm-perl libconfig-inifiles-perl libdbd-mysql-perl libdbi-perl libelf1
  libencode-locale-perl libfcgi-perl libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl
  liblwp-mediatypes-perl libmnl0 libmpfr6 libmysqlclient21 libpam-cap libpopt0 libreadline5 libsigsegv2 libsnappy1v5 libterm-readkey-perl libtimedate-perl
  liburi-perl libxtables12 lsuf mariadb-client-10.3 mariadb-client-core-10.3 mariadb-common mariadb-server-10.3 mariadb-server-core-10.3 mysql-common
  rsync socat
Suggested packages:
  gawk-doc iproute2-doc libclone-perl libmldbm-perl libnet-daemon-perl libsql-statement-perl libdata-dump-perl libipc-sharedcache-perl libwww-perl mailx
  mariadb-test netcat-openbsd tinycd
The following NEW packages will be installed:
  galera-3 gawk iproute2 libaio1 libatm1 libcap2-bin libcgi-fast-perl libcgi-pm-perl libconfig-inifiles-perl libdbd-mysql-perl libdbi-perl libelf1
  libencode-locale-perl libfcgi-perl libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl
  liblwp-mediatypes-perl libmnl0 libmpfr6 libmysqlclient21 libpam-cap libpopt0 libreadline5 libsigsegv2 libsnappy1v5 libterm-readkey-perl libtimedate-perl
  liburi-perl libxtables12 lsuf mariadb-client-10.3 mariadb-client-core-10.3 mariadb-common mariadb-server mariadb-server-10.3 mariadb-server-core-10.3
  mysql-common rsync socat
root@096e8659972e:/# mysql> CREATE USER pw2@localhost IDENTIFIED BY \342\200\23012345678\342\200\231;
root@096e8659972e:/# mysql> GRANT ALL PRIVILEGES ON menagerie.* TO pw2@localhost;
bash: mysql: command not found
root@096e8659972e:/# mysql> FLUSH PRIVILEGES;
ERROR 1049 (42000): Unknown database 'PRIVILEGES'
root@096e8659972e:/# |

```

```

root@096e8659972e:/# a2enmod cgid
Enabling module cgid.
To activate the new configuration, you need to run:
  service apache2 restart
root@096e8659972e:/# isb_release -d hostname -i:hostname
bash: isb_release: command not found
root@096e8659972e:/# apt-get update;apt-get install perl apache2 -y
E: Invalid operation update:apt-get
root@096e8659972e:/# apt-get install libapache2-mod-fcgid
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  libapache2-mod-fcgid
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 64.9 kB of archives.
After this operation, 242 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu focal/universe amd64 libapache2-mod-fcgid amd64 1:2.3.9-4 [64.9 kB]
Fetched 64.9 kB in 1s (48.3 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libapache2-mod-fcgid.
(Reading database ... 18722 files and directories currently installed.)
Preparing to unpack .../libapache2-mod-fcgid_1%3a2.3.9-4_amd64.deb ...
Unpacking libapache2-mod-fcgid (1:2.3.9-4) ...
Setting up libapache2-mod-fcgid (1:2.3.9-4) ...
apache2_invoke: Enable module fcgid
invoke-rc.d: could not determine current runlevel
invoke-rc.d: policy-rc.d denied execution of restart.
root@096e8659972e:/# |

```

Acciones en el contenedor:

```

PS C:\Users\miguel> docker pull httpd:2.4
2.4: Pulling from library/httpd
b0a0cf830b12: Pull complete
851c52adaa9b: Pull complete
4f4fb700ef54: Pull complete
39d9f60535a6: Pull complete
943a2b3cf551: Pull complete
ea83e81966d6: Pull complete
Digest: sha256:36c8c79f900108f0f09fd4148ad35ade57cba0dc19d13f3d15be24ce94e6a639
Status: Downloaded newer image for httpd:2.4
docker.io/library/httpd:2.4

What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview httpd:2.4
PS C:\Users\miguel> |

```

```
# apt-get install -y python3
Reading package lists... Done
Building dependency tree
Reading state information... Done
python3 is already the newest version (3.8.2-0ubuntu2).
python3 set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
#
```

Copia del proyecto de Pweb1 en el contenedor:

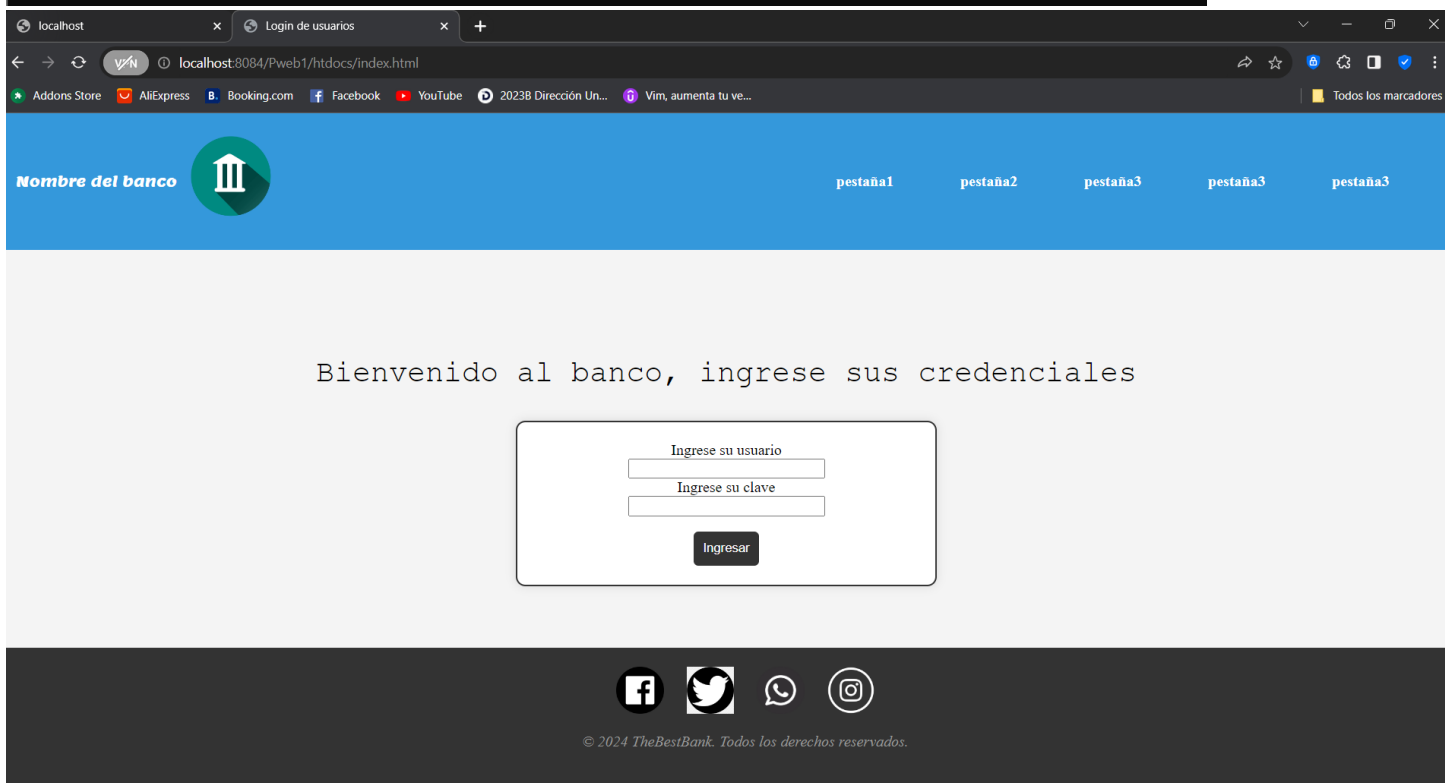
```
PS C:\Users\migue> docker cp D:\UNSA\Repositorios\Pweb1\h
tdocs pw2_lab01:/var/www/html
Successfully copied 388kB to pw2_lab01:/var/www/html
PS C:\Users\migue> |
```

Ejecución del contenedor y la página web:


```

PS C:\Users\miguel> docker star pw2_lab01
docker: 'star' is not a docker command.
See 'docker --help'
PS C:\Users\miguel> docker start pw2_lab01
pw2_lab01
PS C:\Users\miguel> docker exec -it pw2_lab01 /bin/bash
root@096e8659972e:/# /etc/init.d/ssh start
* Starting OpenBSD Secure Shell server sshd      [ OK ]
root@096e8659972e:/# /etc/init.d/mysql start
* Starting MariaDB database server mysqld      [ OK ]
root@096e8659972e:/# /etc/init.d/apache2 start
* Starting Apache httpd web server apache2
AH00558: apache2: Could not reliably determine the server
's fully qualified domain name, using 172.17.0.2. Set the
'ServerName' directive globally to suppress this message
*
root@096e8659972e:/# ls /var/www/html
Pweb1 index.html
root@096e8659972e:/# cd Pweb1
bash: cd: Pweb1: No such file or directory
root@096e8659972e:/# ls /var/www/html/Pweb1
README cgi-bin htdocs mysql
root@096e8659972e:/# ls /var/www/html/Pweb1/htdocs
README.txt          formStyle.css      style.css
banca.html          ig-logo.png        tarjetas.html
clientes.html       index.html         tw-logo.png
confirmacion.html  logo.png           wa-logo.png
cuenta.html         scriptBanca.js
fb-logo.png         scriptIndex.js
root@096e8659972e:/# |

```



- URL: Video Youtube.

https://youtu.be/-3XJFpl_kjI