

Tarea Evaluable 3 - Docker

Alumno: Roberto Morán Noriega

Módulo: Despliegue de Aplicaciones Web

Contenidos:

1. (Ejercicio 1 - Trabajo con Imágenes)
 1. (Servidor Web)
 2. (Parte 2 - Webgrafía)
-
-

Ejercicio 1 - Trabajo con Imágenes

Servidor Web

Partimos de la siguiente situación:

- Tenemos servidor propio montado con sistema Ubuntu Server 22.04.
- Tenemos ip dinámica para ese servidor (cemtarme.dynamic-dns.net)
- Durante toda la tarea, usaremos el servidor con la ip pública mapeando los puertos en el router de la siguiente manera:
 - puerto externo 55084 - puerto interno 8084 - ip interna 192.168.55.52
 - puerto externo 55088 - puerto interno 8088 - ip interna 192.168.55.52
 - puerto externo 55080 - puerto interno 80 - ip interna 192.168.55.52
 - puerto externo 1234 - puerto interno 1234 - ip interna 192.168.55.52

The screenshot shows the TP-Link 300M Wireless N Router web interface. The left sidebar contains a navigation menu with options like Status, Quick Setup, WPS, Network, Wireless, DHCP, Forwarding, and Security. The main content area is titled 'Virtual Servers' and displays a table of configured virtual servers. The table has columns for ID, Service Port, Internal Port, IP Address, Protocol, Status, and Modify. There are 15 entries listed. Below the table are buttons for 'Add New...', 'Enable All', 'Disable All', and 'Delete All'. On the right side, there is a 'Virtual Servers Help' section with detailed instructions on how to configure and manage virtual servers.

ID	Service Port	Internal Port	IP Address	Protocol	Status	Modify
9	20	20	192.168.55.52	All	Enabled	Modify Delete
10	55080	80	192.168.55.52	All	Enabled	Modify Delete
11	50306	3306	192.168.55.52	All	Enabled	Modify Delete
12	55084	8084	192.168.55.52	All	Enabled	Modify Delete
13	1234	1234	192.168.55.52	All	Enabled	Modify Delete
14	58080	8080	192.168.55.52	All	Enabled	Modify Delete
15	55088	8088	192.168.55.52	All	Enabled	Modify Delete

Virtual Servers Help

Virtual servers can be used for setting up public services on your LAN. A virtual server is defined as a service port, and all requests from Internet to this service port will be redirected to the computer specified by the server IP. Any PC that was used for a virtual server must have a static or reserved IP address because its IP address may change when using the DHCP function.

- Service Port** - The numbers of External Service Ports. You can enter a service port or a range of service ports (the format is XXX - YYY, XXX is Start port, YYY is End port).
- Internal Port** - The Internal Service Port number of the PC running the service application. You can enter a specific port number, or leave it blank if the **Internal Port** is the same as the **Service Port**.
- IP Address** - The IP address of the PC running the service application.
- Protocol** - The protocol used for this application, either **TCP**, **UDP**, or **All** (all protocols supported by the Router).
- Status** - The status of this entry, "Enabled" means the virtual server entry is enabled.
- Common Service Port** - Some common services already exist in the pull-down list.
- Modify** - To modify or delete an existing entry.

To setup a virtual server entry:

- Click the **Add New...** button.
- Select the service you want to use from the **Common Service Port** list. If the **Common Service Port** menu does not list the service that you want to use, enter the number of the service port or service port range in the **Service Port** box.
- Enter the IP address of the computer running the service application in the **IP Address** box.
- Select the protocol used for this application from the pull-down list, either **TCP**, **UDP**, or **All**.
- Select the **Enabled** option in the **Status** pull-down list.
- Click the **Save** button.

Note It is possible that you have a computer or server that has more than one type of available service. If so, select another service, and type the same IP address for that computer or server.

Resultaría poco práctico por mi parte, disponer de un servidor y virtualizar sistemas cuando los puedo realizar en modo real. Hay que tener en cuenta que en lugar de utilizar un cliente ubuntu, se utiliza un servidor ubuntu

Para acceder al sistema nos autentificamos como:

```
ssh cotomusel@cemtarme.dynamic-dns.net
```

The screenshot shows a Windows command prompt window. The title bar reads 'Símbolo del sistema'. The command prompt shows the user typing the command 'ssh cotomusel@cemtarme.dynamic-dns.net' and pressing Enter. The prompt then shows the user typing the password 'cotomusel@cemtarme.dynamic-dns.net's password:' and pressing Enter.

```
C:\Users\eltra>ssh cotomusel@cemtarme.dynamic-dns.net
cotomusel@cemtarme.dynamic-dns.net's password:
```

```
cotomusel@centarme: ~
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.15.0-67-generic x86_64)

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

System information as of jue 30 mar 2023 08:39:54 UTC

System load:                0.0
Usage of /:                  16.4% of 97.87GB
Memory usage:               3%
Swap usage:                 0%
Processes:                  166
Users logged in:            1
IPv4 address for br-09afc9212b11: 172.27.0.1
IPv4 address for br-505cd8e4f018: 172.25.0.1
IPv4 address for br-998a0768562d: 172.24.0.1
IPv4 address for br-aa4f51ffe56a: 192.168.100.1
IPv4 address for br-dc222db8624d: 172.26.0.1
IPv4 address for docker0:    172.17.0.1
IPv4 address for enp4s0:     192.168.55.52
IPv4 address for enp5s0:     192.168.55.54

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.
   https://ubuntu.com/engage/secure-kubernetes-at-the-edge

 * Introducing Expanded Security Maintenance for Applications.
   Receive updates to over 25,000 software packages with your
   Ubuntu Pro subscription. Free for personal use.
   https://ubuntu.com/pro

El mantenimiento de seguridad expandido para Applications está desactivado
Se pueden aplicar 8 actualizaciones de forma inmediata.
Para ver estas actualizaciones adicionales, ejecute: apt list --upgradable

Active ESM Apps para recibir futuras actualizaciones de seguridad adicionales.
Vea https://ubuntu.com/esm o ejecute «sudo pro status»

*** System restart required ***
```

Arrancamos el contenedor que ejecuta la instancia de la imagen php:7.2-apache. Nos vemos obligados a instalar esa versión, y no la 7.4 que se pide en el enunciado, porque después de intentar conectar con el contenedor en varias ocasiones no se consigue.

```
docker run -d --name servidor -p 1234:80 php:7.4-apache
```

```
cotomusel@centarme: ~/contenedores/DAW/DAW_Tarea_Evaluable_3
cotomusel@centarme:~/contenedores/DAW/DAW_Tarea_Evaluable_3$ docker run -d --name servidor -p 1234:80 php:7.4-apache
Unable to find image 'php:7.4-apache' locally
7.4-apache: Pulling from library/php
a603fa5e3b41: Pull complete
c428f1a49423: Pull complete
156740b07ef8: Pull complete
fb5a4c8af82f: Pull complete
25f85b498fd5: Pull complete
9b233e420ac7: Pull complete
fe42347c4ecf: Pull complete
d14eb2ed1e17: Pull complete
b6d98f73acb6: Pull complete
d2c43c5efbc8: Pull complete
ab590b48ea47: Pull complete
80692ae2d067: Pull complete
05e465aaa99a: Pull complete
Digest: sha256:c9d7e608f73832673479770d66aacc8100011ec751d1905ff63fae3fe2e0ca6d
Status: Downloaded newer image for php:7.4-apache
01c8a0f30c04ab8c9ccf2e24da06cc8b963130b05fc1fdf958f7d89adb7989a9
cotomusel@centarme:~/contenedores/DAW/DAW_Tarea_Evaluable_3$
```

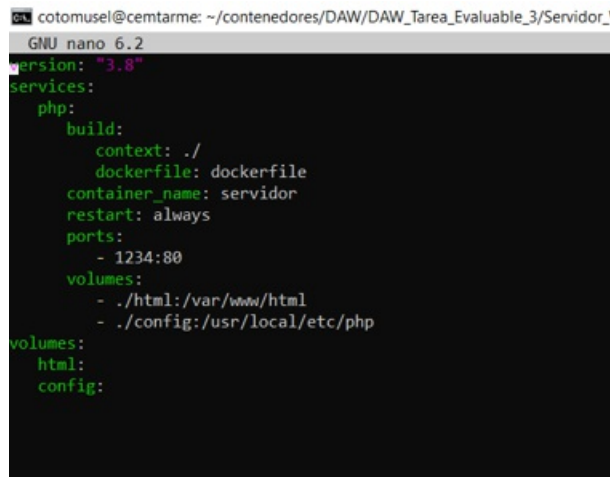
Finalmente probamos con la 7.2 y Bingo !!!, todo funciona con normalidad

Para crear el contenedor, como el enunciado no especifica que tengamos que usar algún método en concreto y después de varias pruebas y por comodidad, decidimos hacerlo creando un fichero **docker-compose.yml**, complementado con un fichero **dockerfile**, y así vamos experimentando otras opciones.

Fichero docker-compose.yaml:

```
version: "3.8"
services:
  php:
    build:
      context: ./
      dockerfile: dockerfile
    container-name: servidor
    restart: always
    ports:
      - 1234:80
    volumes:
      - ./html:/var/www/html
      - ./config:/usr/local/etc/php
volumes:
  html:
  config:
```

Esta configuración lo que hace es instalar el servicio php, que parte del directorio actual abriendo el fichero **dockerfile** para realizar los pasos que marca, luego nombra al contenedor como **servidor**, dice al sistema que si por cualquier problema se reinicie, luego mapea al puerto 1234 externo con el 80 interno, luego sincroniza los directorios locales **html** y **config** del servidor ubuntu (anfitrión), con los directorios **/var/www/html** y **/usr/local/etc/php/** del contenedor. Finalmente confirma los volúmenes.



```
cotomusel@cemtarme: ~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_1
GNU nano 6.2
version: "3.8"
services:
  php:
    build:
      context: ./
      dockerfile: dockerfile
    container_name: servidor
    restart: always
    ports:
      - 1234:80
    volumes:
      - ./html:/var/www/html
      - ./config:/usr/local/etc/php
volumes:
  html:
  config:
```

Para iniciar el fichero **docker-compose.yaml** utilizamos la instrucción

```
docker-compose up -d --build
```

Fichero **dockerfile**

```
FROM php:7.2-apache

MAINTAINER Roberto Morán Noriega robertomn23@educastur.es

#carpeta de trabajo
WORKDIR /home/cotomusel/contenedores/DAW/DAW_Tarea_Evaluable_3

#copiamos el index de la web a la carpeta de inicio del servidor php
COPY ./html/index.html servidor:/var/www/html
COPY ./html/info.php servidor:/var/www/html
COPY ./html/cabeceras.php servidor:/var/www/html
```

Este fichero lo que hace es llamar a la imagen **php:7.2-apache** para crear el contenedor, nos informa por pantalla quien es el programador y su correo electrónico, luego nos sitúa en el directorio de trabajo y finalmente copia los ficheros de la carpeta local **html** a la carpeta del contenedor **/var/www/html**

```
cs cotomusel@cemtarme: ~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web
GNU nano 6.2
FROM php:7.2-apache

COPY ./info.php servidor:/var/www/html
COPY ./index.html servidor:/var/www/html

#COPY ./css/ ./html/.
#COPY ./img/ ./html/.
#COPY ./js/ ./html/.

#COPY ./css/ servidor:/var/www/html/.
#COPY ./img/ servidor:/var/www/html/.
#COPY ./js/ servidor:/var/www/html/.

#COPY servidor:/usr/local/etc/php/php.ini-production servidor:/usr/local/etc/php/php.ini
#COPY servidor:/usr/local/etc/php ./config
```

A continuación comprobamos que el contenedor se ha iniciado y está funcionando y a la vez comprobamos lo que nos ocupa en el disco con la instrucción

```
docker ps -a -s
```

```
cs cotomusel@cemtarme: ~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web
cotomusel@cemtarme:~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web$ docker ps -a -s
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES	SIZE
b32617774dcf	servidor_web_php	"docker-php-entrypoi..."	31 minutes ago	Up 31 minutes	0.0.0.0:1234->80/tcp, :::1234->80/tcp	servidor	2B (virtual 453MB)
6daf48d4192e	ubuntu	"/bin/bash"	3 days ago	Exited (127) 3 days ago		contenedor1	94B (virtual 77.8MB)
c2f5f9f5126f	mariadb	"docker-entrypoint.s..."	3 days ago	Exited (0) 12 hours ago		some-mariadb	0B (virtual 401MB)
a6b6730c481c	httpd:2.4	"httpd-foreground"	3 days ago	Exited (0) 11 hours ago		apacheServer	382B (virtual 145MB)

```
cotomusel@cemtarme:~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web$ ls
```

Luego hacemos un inspect para informarnos de las propiedades del contenedor

```

cotomusel@centarme: ~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web
cotomusel@centarme:~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web$ docker inspect servidor
[
  {
    "Id": "b32617774dcf35c60ea71fbec1de5320d24ca53680c6f76172d88f4aa87626f1",
    "Created": "2023-03-27T22:18:03.00719468Z",
    "Path": "docker-php-entrypoint",
    "Args": [
      "apache2-foreground"
    ],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 125356,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-03-27T22:18:03.497005639Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    },
    "Image": "sha256:0aeb24bf4aad6faa17a96367b67ea679fef4836605c4468196cdf1163be0a2b",
    "ResolveConfPath": "/var/lib/docker/containers/b32617774dcf35c60ea71fbec1de5320d24ca53680c6f76172d88f4aa87626f1/resolve.conf",
    "HostNamePath": "/var/lib/docker/containers/b32617774dcf35c60ea71fbec1de5320d24ca53680c6f76172d88f4aa87626f1/hostname",
    "HostsPath": "/var/lib/docker/containers/b32617774dcf35c60ea71fbec1de5320d24ca53680c6f76172d88f4aa87626f1/hosts",
    "LogPath": "/var/lib/docker/containers/b32617774dcf35c60ea71fbec1de5320d24ca53680c6f76172d88f4aa87626f1/b32617774dcf35c60ea71fbec1de5320d24ca53680c6f76172d88f4aa87626f1-json.log",
    "Name": "/servidor",
    "RestartCount": 0,
    "Driver": "overlay2",
    "Platform": "linux",
    "MountLabel": "",
    "ProcessLabel": "",
    "AppArmorProfile": "docker-default",
    "ExecIDs": null,
    "HostConfig": {
      "Binds": [
        "/home/cotomusel/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web/config:/usr/local/etc/php:rw",
        "/home/cotomusel/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web/html:/var/www/html:rw"
      ],
      "ContainerIDFile": "",
      "LogConfig": {
        "Type": "json-file",
        "Config": {}
      },
      "NetworkMode": "servidor_web_default",
      "PortBindings": {
        "80/tcp": [
          {
            "HostIp": "",
            "HostPort": "1234"
          }
        ]
      },
      "RestartPolicy": {
        "Name": "always",
        "MaximumRetryCount": 0
      },
      "AutoRemove": false,
      "VolumeDriver": "",
      "VolumesFrom": [],
      "ConsoleSize": [
        0,
        0
      ],
      "CapAdd": null,
      "CapDrop": null,
      "CgroupnsMode": "private",
      "Dns": null,
      "DnsOptions": null,
      "DnsSearch": null,
      "ExtraHosts": null,
      "GroupAdd": null,
      "IpcMode": "private",
      "Cgroup": "",
      "Links": null,
      "OomScoreAdj": 0,
      "PidMode": "",
      "Privileged": false,
      "PublishAllPorts": false,
      "ReadOnlyRootfs": false,
      "SecurityOpt": null,
      "UTSMode": "",
      "UsersMode": "",
      "ShmSize": 67108864,
      "Runtime": "runc",
      "Isolation": "",
      "CpuShares": 0,
      "Memory": 0,
      "NanoCpus": 0,
      "CgroupParent": "",
      "BlkioWeight": 0,
      "BlkioWeightDevice": null,
      "BlkioDeviceReadBps": null,
      "BlkioDeviceWriteBps": null,
      "BlkioDeviceReadIops": null,
      "BlkioDeviceWriteIops": null,
      "CpuPeriod": 0,
      "CpuQuota": 0,
    }
  }
]

```



```

cotomusel@centmar: ~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web
"cpuQuota": 0,
"cpuRealtimePeriod": 0,
"cpuRealtimeRuntime": 0,
"cpusetCpus": "",
"cpusetMems": "",
"devices": null,
"deviceGroupRules": null,
"deviceRequests": null,
"memoryReservation": 0,
"memorySwap": 0,
"memorySwappiness": null,
"oomKillDisable": null,
"pidLimit": null,
"ulimits": null,
"cpuCount": 0,
"cpuPercent": 0,
"ioMaximumIops": 0,
"ioMaximumBandwidth": 0,
"maskedPaths": [
  "/proc/asound",
  "/proc/acpi",
  "/proc/kcore",
  "/proc/keys",
  "/proc/latency_stats",
  "/proc/timer_list",
  "/proc/timer_stats",
  "/proc/sched_debug",
  "/proc/scsi",
  "/sys/firmware"
],
"readonlyPaths": [
  "/proc/bus",
  "/proc/fs",
  "/proc/irq",
  "/proc/sys",
  "/proc/sysrq-trigger"
]
},
"graphDriver": {
  "data": {
    "lowerDir": "/var/lib/docker/overlay2/0f2d927c4c1aaf9399587a8b955d16302645af8c28fac1e706b7727c723cac09-init/diff:/var/lib/docker/overlay2/2/b6b76d131a54c7563d10d4d241d738657acecc09f43619698cb4609c8c52/diff:/var/lib/docker/overlay2/7a7029de5ea185ab0c8943efd25fa265079e690d0c6a9d20e579d9bcdcb9530/diff:/var/lib/docker/overlay2/98f9f34074d4f0ba5079b9e7e50eb3b170d33ae9d7db60/diff:/var/lib/docker/overlay2/1fa6a0f70b2f00e089003b3d64a8722523eb978abfa18265e112ee8a86c1811/diff:/var/lib/docker/overlay2/710c1b16fc1c2080a3c23deeb9a0b9332e3d1804580f6db32b3bae2552a450/diff:/var/lib/docker/overlay2/25f8af32af163c636799e4f7d61d1c3e86fda47c459eb4c177db0b595a8c47/diff:/var/lib/docker/overlay2/a66daae1751c092a61e34029d4db2fd199b093475c83324afea7f3b1a113809a/diff:/var/lib/docker/overlay2/9c52aaac540bb3b93b297f18cc80c36d828dc2a3e7f62f338f96ca58ff6a/diff:/var/lib/docker/overlay2/31fd250217b54930aa154532d80d9e1c372b2695189a25f7e84258824f4a547/diff:/var/lib/docker/overlay2/abac4a98816c84d655c95f5c967515aedb1121db88471102279080168cfab6f/diff:/var/lib/docker/overlay2/187af0230574af20f75a69597872040f2be3d6c5837bae27641125519819cde8/diff:/var/lib/docker/overlay2/f60c4219379e858c6272ddede0a6cc5f7678a2dc763e19b753340c42893b97/diff:/var/lib/docker/overlay2/247d507bc77ead7d378c177579f08df706f50eebb7dda66182ad4d3b2489886/diff",
    "mergedDir": "/var/lib/docker/overlay2/0f2d927c4c1aaf9399587a8b955d16302645af8c28fac1e706b7727c723cac09/merged",
    "upperDir": "/var/lib/docker/overlay2/0f2d927c4c1aaf9399587a8b955d16302645af8c28fac1e706b7727c723cac09/diff",
    "workDir": "/var/lib/docker/overlay2/0f2d927c4c1aaf9399587a8b955d16302645af8c28fac1e706b7727c723cac09/work"
  }
}
}
}

cotomusel@centmar: ~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web
},
"Name": "overlay2"
},
"Mounts": [
  {
    "Type": "bind",
    "Source": "/home/cotomusel/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web/config",
    "Destination": "/usr/local/etc/php",
    "Mode": "rw",
    "Rw": true,
    "Propagation": "rprivate"
  },
  {
    "Type": "bind",
    "Source": "/home/cotomusel/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web/html",
    "Destination": "/var/www/html",
    "Mode": "rw",
    "Rw": true,
    "Propagation": "rprivate"
  }
],
"Config": {
  "Hostname": "b32617774dcf",
  "Domainname": "",
  "User": "",
  "AttachStdin": false,
  "AttachStdout": false,
  "AttachStderr": false,
  "ExposedPorts": {
    "80/tcp": {}
  },
  "Tty": false,
  "OpenStdin": false,
  "StdinOnce": false,
  "Env": [
    "PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin",
    "PHPIZE_DEPS=autoconf \\\t\\tdpkg-dev \\\t\\tfile \\\t\\tgg+ \\\t\\tgcc \\\t\\tlibc-dev \\\t\\tmake \\\t\\tpkg-config \\\t\\tre2c",
    "PHP_INI_DIR=/usr/local/etc/php",
    "APACHE_CONFDIR=/etc/apache2",
    "APACHE_ENVVARS=/etc/apache2/envvars",
    "PHP_CFLAGS=-fstack-protector-strong -fpic -fpie -O2 -D_LARGEFILE_SOURCE -D_FILE_OFFSET_BITS=64",
    "PHP_CPPFLAGS=-fstack-protector-strong -fpic -fpie -O2 -D_LARGEFILE_SOURCE -D_FILE_OFFSET_BITS=64",
    "PHP_LDFLAGS=-Wl,-O1 -pie",
    "GPG_KEYS=42670A7FEAD0441CE4632349E4FDC074AAEF02D 5A52880781F755608BF815FC910DEB46F53EA312",
    "PHP_VERSION=7.4.33",
    "PHP_URL=https://www.php.net/distributions/php-7.4.33.tar.xz",
    "PHP_ASC_URL=https://www.php.net/distributions/php-7.4.33.tar.xz.asc",
    "PHP_SHA256=924846abf93bc613815c55dd3f5809377813ac62a9ec4eb3778675b82a27b927"
  ],
  "Cmd": [

```

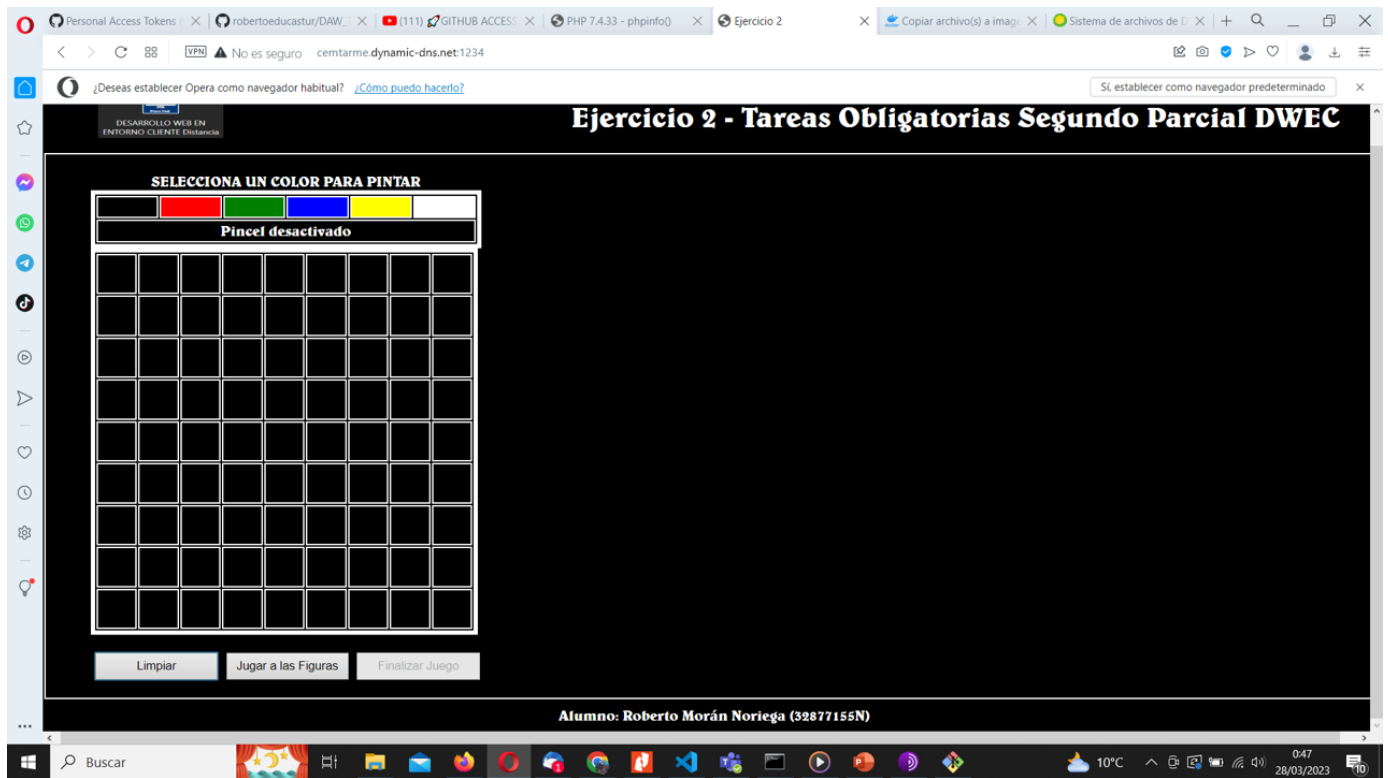
```

cotomusel@centarme: ~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web
},
"Cmd": [
  "apache2-foreground"
],
"Image": "servidor_web_php",
"Volumes": {
  "/usr/local/etc/php": {},
  "/var/www/html": {}
},
"WorkingDir": "/var/www/html",
"Entrypoint": [
  "docker-php-entrypoint"
],
"OnBuild": null,
"Labels": {
  "com.docker.compose.config-hash": "de8f7d3ea217846ce11609489af3b7c69a8dfd333ff18457eba6266a6abc1fd0",
  "com.docker.compose.container-number": "1",
  "com.docker.compose.oneoff": "False",
  "com.docker.compose.project": "servidor_web",
  "com.docker.compose.project.config_files": "docker-compose.yaml",
  "com.docker.compose.project.working_dir": "/home/cotomusel/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web",
  "com.docker.compose.service": "php",
  "com.docker.compose.version": "1.29.2"
},
"StopSignal": "SIGWINCH"
},
"NetworkSettings": {
  "Bridge": "",
  "SandboxID": "07327cf3fd7a2343bbd3f91b1c986dde5e56364eb4d68b24198fdc8f3896f5a",
  "HairpinMode": false,
  "LinkLocalIPv6Address": "",
  "LinkLocalIPv6Prefixlen": 0,
  "Ports": {
    "80/tcp": [
      {
        "HostIp": "0.0.0.0",
        "HostPort": "1234"
      },
      {
        "HostIp": "::",
        "HostPort": "1234"
      }
    ]
  },
  "SandboxKey": "/var/run/docker/netns/07327cf3fd7a",
  "SecondaryIPAddresses": null,
  "SecondaryIPv6Addresses": null,
  "EndpointID": "",
  "Gateway": "",
  "GlobalIPv6Address": "",
  "LinkLocalIPv6Address": "",
  "LinkLocalIPv6Prefixlen": 0,
  "Ports": {
    "80/tcp": [
      {
        "HostIp": "0.0.0.0",
        "HostPort": "1234"
      },
      {
        "HostIp": "::",
        "HostPort": "1234"
      }
    ]
  },
  "SandboxKey": "/var/run/docker/netns/07327cf3fd7a",
  "SecondaryIPAddresses": null,
  "SecondaryIPv6Addresses": null,
  "EndpointID": "",
  "Gateway": "",
  "GlobalIPv6Address": "",
  "GlobalIPv6Prefixlen": 0,
  "IPAddress": "",
  "IPPrefixlen": 0,
  "IPv6Gateway": "",
  "MacAddress": "",
  "Networks": {
    "servidor_web_default": {
      "IPAMConfig": null,
      "Links": null,
      "Aliases": [
        "b32617774dcf",
        "php"
      ],
      "NetworkID": "9a173a6935eb394a0c57e1e4a5f8518b0b0097ac4fa99560f2ef00dc17cc2cc",
      "EndpointID": "0ce903b98a6288cc6d5a94b5a39b05b1d3b5b480facbcb6ee822636a5d25c9e",
      "Gateway": "172.23.0.1",
      "IPAddress": "172.23.0.2",
      "IPPrefixlen": 16,
      "IPv6Gateway": "",
      "GlobalIPv6Address": "",
      "GlobalIPv6Prefixlen": 0,
      "MacAddress": "02:42:ac:17:00:02",
      "DriverOpts": null
    }
  }
}
}
}
cotomusel@centarme:~/contenedores/DAW/DAW_Tarea_Evaluable_3/Servidor_Web$

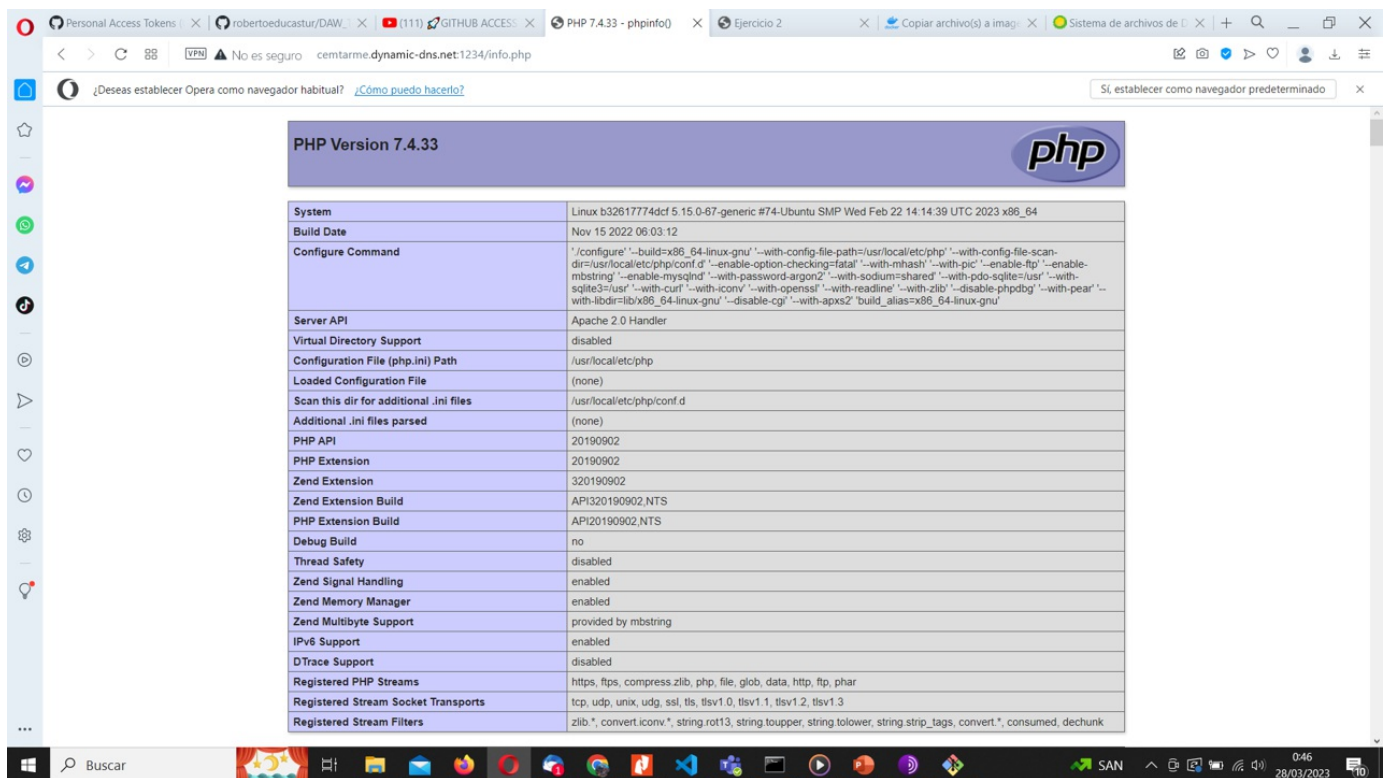
```

Y obtenemos los siguientes resultados al conectar desde el navegador web introduciendo la dirección de nuestro servidor personal ubuntu y el puerto demandado en el enunciado

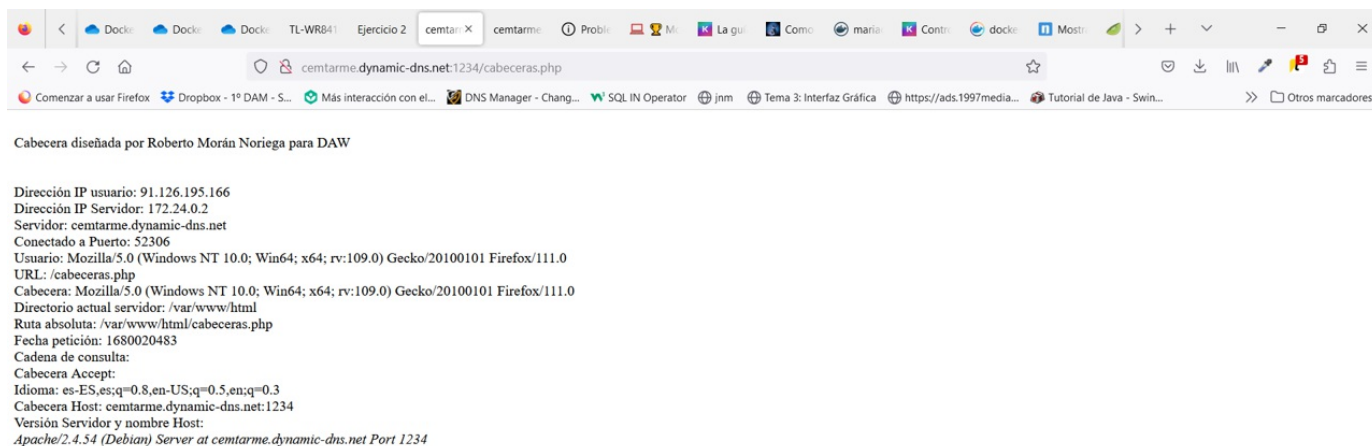
centarme.dynamic-dns.net:1234



cemtarme.dynamic-dns.net:1234/info.php



cemtarme.dynamic-dns.net:1234/cabeceras.php



(Volver)

Parte 2 - Webgrafía

[Colaboratorio.net](#)

[Carlos-compains.medium.com](#)

(Volver)
