

# Tópicos especiales en telemática – Lab 2 - Unidad 2

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## 1. Aplicación monolítica en contenedores.

- Se crea la instancia de maquina virtual en GCP y se habilitan los puertos 443 y 5000 (backend)

The screenshot shows the Google Cloud Platform console for the project 'Lab2U2-TET'. The left sidebar is expanded to 'Máquinas virtuales' (Virtual Machines), with 'Instancias de VM' (VM Instances) selected. The main content area shows the 'INSTANCIAS' (Instances) tab. A table lists the VM instances:

Estado	Nombre	Zona	Recomendaciones	En uso por	IP interna	IP externa
<input checked="" type="checkbox"/>	monolitico	us-central1-a			10.128.0.2 (nic0)	34.71.55.102

The screenshot shows the Google Cloud Platform console for the project 'Lab2U2-TET', specifically the 'Firewall' section. The left sidebar is expanded to 'VPC network', with 'Firewall' selected. The main content area shows the 'Firewall' tab. A table lists the firewall rules:

Name	Type	Targets	Filters	Protocols / ports	Action
allow5000	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:5000 udp:5000	Allow
default-allow-https	Ingress	https-server	IP ranges: 0.0.0.0/0	tcp:443	Allow
default-allow-icmp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	icmp	Allow
default-allow-internal	Ingress	Apply to all	IP ranges: 10.128.0.0/9	tcp:0-65535 udp:0-65535 icmp	Allow
default-allow-rdp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:3389	Allow
default-allow-ssh	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:22	Allow

- Dentro de la maquina instalar mongodb (BareMetal) e insertar los libros.

```

svaneg11@monolitico:~$ mongo --version
MongoDB shell version v5.0.7
Build Info: {
  "version": "5.0.7",
  "gitVersion": "b977129dc70eed766cbee7e412d901ee213acbda",
  "opensslVersion": "OpenSSL 1.1.1n 15 Mar 2022",
  "modules": [],
  "allocator": "tcmalloc",
  "environment": {
    "distmod": "debian10",
    "distarch": "x86_64",
    "target_arch": "x86_64"
  }
}
svaneg11@monolitico:~$

```

```

svaneg11@monolitico:~/svaneg11_ST0263/U2-Lab2/monolitico/frontend$ mongosh
Current Mongosh Log ID: 625fab09195f9060312fac4f
Connecting to:      mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appname=mongosh
Using MongoDB:      5.0.7
Using Mongosh:      1.3.1

For mongosh info see: https://docs.mongodb.com/mongodb-shell/

To help improve our products, anonymous usage data is collected and sent to MongoDB periodically (https://www.mongodb.com/legal/privacy-policy).
You can opt-out by running the disableTelemetry() command.

-----
The server generated these startup warnings when booting:
2022-04-20T05:01:36.052+00:00: Using the XFS filesystem is strongly recommended with the WiredTiger storage engine
2022-04-20T05:01:37.178+00:00: Access control is not enabled for the database. Read and write access to data is unrestricted
2022-04-20T05:01:37.178+00:00: /sys/kernel/mm/transparent_hugepage/enabled is 'always'. We suggest setting it to 'madvise' to reduce transient page faults
-----

Warning: Found ~/.mongorc.js, but not ~/.mongoshrc.js. ~/.mongorc.js will not be loaded.
You may want to copy or rename ~/.mongorc.js to ~/.mongoshrc.js.

test> use bookstore-production
switched to db bookstore-production
bookstore-production> db.books.insertOne({
...   name: 'Leonardo Davinci: La Biografia',
...   image: '/images/img-ld-labiografia.jpeg',
...   author: 'Walter Issacson',
...   description: 'Basándose en las miles de páginas de los cuadernos manuscritos de Leonardo y sus obras, y nos muestra cómo el genio del hombre más visionario de la historia nació de habilidades que todos tenemos. Como la de todo gran innovador, resultó de la intersección entre la tecnología y las humanidades. Despelegó la historia, la de la Mona Lisa. Exploró las leyes de la óptica, demostró cómo la luz incidía en la pintura.'
...   countInStock: '2',
...   price: '$50.000.00'
... })
Browserslist: caniuse-lite is outdated. Please run:
  npx browserslist@latest --update-db
  Why you should do it regularly: https://github.com/browserslist/browserslist#browsers-data-updating
{
  acknowledged: true,
  insertedId: ObjectId("625fac9cbbbfecac9e67a0c")
}
bookstore-production>

bookstore-production> db.books.insertOne({
...   name: 'Inteligencia Genial',
...   image: '/images/img-ld-inteligenciagenial.jpeg',
...   author: 'Michael Gelb',
...   description: 'El que, para muchos, ha sido el mayor genio de todos los tiempos, Leonardo da Vinci, nos muestra cómo el genio del hombre más visionario de la historia nació de habilidades que todos tenemos. Como la de todo gran innovador, resultó de la intersección entre la tecnología y las humanidades. Despelegó la historia, la de la Mona Lisa. Exploró las leyes de la óptica, demostró cómo la luz incidía en la pintura. Este libro muestra el camino para ampliar los horizontes de la mente.'
...   countInStock: '3',
...   price: '$30.000.00'
... })
{
  acknowledged: true,
  insertedId: ObjectId("625facc8b1bbfecac9e67a0d")
}

```

- Dentro de la maquina instalar Docker, configurarlo para que corra el servicio y probar que funciona.

```
svaneg11@monolitico:~$ sudo systemctl enable docker
Synchronizing state of docker.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable docker
svaneg11@monolitico:~$ sudo systemctl start docker
svaneg11@monolitico:~$ sudo usermod -a -G docker svaneg11
svaneg11@monolitico:~$ docker ps -a
Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock:
svaneg11@monolitico:~$ sudo docker ps -a
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS     NAMES
svaneg11@monolitico:~$
```

- Instalar docker-compose

```
svaneg11@monolitico:~/svaneg11_ST0263/U2-Lab2/monolitico$ sudo curl -L "https://github.com/docker/compose/releases/download"
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left   Speed
100 664    100 664    0     0  4150      0 --:--:-- --:--:-- --:--:-- 4176
100 12.1M  100 12.1M    0     0  31.3M      0 --:--:-- --:--:-- --:--:-- 31.3M
svaneg11@monolitico:~/svaneg11_ST0263/U2-Lab2/monolitico$ sudo chmod +x /usr/local/bin/docker-compose
svaneg11@monolitico:~/svaneg11_ST0263/U2-Lab2/monolitico$ docker-compose --version
docker-compose version 1.29.2, build 5becea4c
svaneg11@monolitico:~/svaneg11_ST0263/U2-Lab2/monolitico$
```

- Agregar la IP interna del host (172.17.0.1) en la configuración de mongod para que permita al contenedor del backend conectarse.

/etc/mongod.conf

```
# network interfaces
net:
  port: 27017
  bindIp: 127.0.0.1,172.17.0.1
```

- Correr el Docker-compose.

```
svaneg11@monolitico:~/svaneg11_ST0263/U2-Lab2/monolitico/frontend$ docker-compose up --build
Creating frontend ... done
Creating backend ... done
Creating nginx ... done
Attaching to frontend, backend, nginx
nginx | /docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
nginx | /docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
nginx | /docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
nginx | 10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
nginx | 10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
nginx | /docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
nginx | /docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
nginx | /docker-entrypoint.sh: Configuration complete; ready for start up
backend |
backend | > backend@1.0.0 start
backend | > node server.js
backend |
frontend |
frontend | > frontend@0.1.0 start
frontend | > react-scripts start
frontend |
backend | Server running in production and listening on PORT 5000
backend | MongoDB is connected:host.docker.internal
backend | MongoDB URL= mongodbs://host.docker.internal/bookstore-production
frontend | (node:30) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarning: 'onAfterSetupMiddleware'
frontend | (Use 'node --trace-deprecation ...' to show where the warning was created)
frontend | (node:30) [DEP_WEBPACK_DEV_SERVER_ON_BEFORE_SETUP_MIDDLEWARE] DeprecationWarning: 'onBeforeSetupMiddleware'
frontend | Starting the development server...
frontend |
frontend | Compiled successfully!
frontend |
frontend | You can now view frontend in the browser.
frontend |
frontend | Local:           http://localhost:3000
frontend | On Your Network: http://172.21.0.3:3000
frontend |
frontend | Note that the development build is not optimized.
frontend | To create a production build, use npm run build.
frontend |
frontend | asset static/js/bundle.js 2.22 MiB [emitted] (name: main) 1 related asset
frontend | asset index.html 1.67 KiB [emitted]
frontend | asset asset-manifest.json 190 bytes [emitted]
frontend | orphan modules 290 KiB [orphan] 171 modules
frontend | runtime modules 28.5 KiB 13 modules
frontend | modules by path ./ 1.97 MiB
frontend |   modules by path ./node_modules/ 1.61 MiB 193 modules
frontend |   modules by path ./src/ 373 KiB 12 modules
frontend | asset modules 2.66 KiB
frontend |   data:image/svg+xml,%3csvg xmlns=%27.. 324 bytes [built] [code generated]
frontend |   data:image/svg+xml,%3csvg xmlns=%27.. 216 bytes [built] [code generated]
frontend |   data:image/svg+xml,%3csvg xmlns=%27.. 390 bytes [built] [code generated]
frontend |   data:image/svg+xml,%3csvg xmlns=%27.. 261 bytes [built] [code generated]
frontend |   data:image/svg+xml,%3csvg xmlns=%27.. 193 bytes [built] [code generated]
frontend |   + 5 modules
frontend | webpack 5.72.0 compiled successfully in 14679 ms
```

- Al acceder a la página <https://svaneg11-lab2-monolitico.tk/>

```
frontend | Cached modules 2.12 KiB [javascript] 28.9 KiB [runtime] [cached] 399 modules
frontend | webpack 5.72.0 compiled successfully in 2023 ms
nginx    | 201.221.176.3 - - [20/Apr/2022:06:50:59 +0000] "GET / HTTP/2.0" 200 849 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537
nginx    | 201.221.176.3 - - [20/Apr/2022:06:50:59 +0000] "GET /static/js/bundle.js HTTP/2.0" 304 0 "https://svaneg11-lab2-monolitico.tk/" "Mozil
Safari/537.36"
nginx    | 201.221.176.3 - - [20/Apr/2022:06:50:59 +0000] "GET /favicon.ico HTTP/2.0" 304 0 "https://svaneg11-lab2-monolitico.tk/" "Mozilla/5.0
37.36"
nginx    | 201.221.176.3 - - [20/Apr/2022:06:51:00 +0000] "GET /api/books HTTP/2.0" 200 901 "https://svaneg11-lab2-monolitico.tk/" "Mozilla/5.0
37.36"
nginx    | 201.221.176.3 - - [20/Apr/2022:06:51:00 +0000] "GET /manifest.json HTTP/2.0" 304 0 "https://svaneg11-lab2-monolitico.tk/" "Mozilla/5.0
/537.36"
nginx    | 201.221.176.3 - - [20/Apr/2022:06:51:00 +0000] "GET /images/img-ld-inteligenciagenial.jpeg HTTP/2.0" 200 43778 "https://svaneg11-lab2-
Chrome/100.0.4896.127 Safari/537.36"
nginx    | 201.221.176.3 - - [20/Apr/2022:06:51:00 +0000] "GET /images/img-ld-labiografia.jpeg HTTP/2.0" 200 68655 "https://svaneg11-lab2-monolit
100.0.4896.127 Safari/537.36"
```



## 2. Aplicación distribuida

- Crear las instancias

Lab2U2-TET-distribuido

Search Products, resources, docs (/)

VM instances

CREATE INSTANCEIMPORT VMREFRESHSTART / RESUMESTOPSTOPSUSPENDRESET

INSTANCES

INSTANCE SCHEDULE

VM instances are highly configurable virtual machines for running workloads on Google infrastructure. [Learn more](#)

Filter

Enter property name or value

<input type="checkbox"/>	Status	Name ↑	Zone	Recommendations	In use by	Internal IP	External IP	Connect	
<input type="checkbox"/>	✓	backend-1	us-central1-a			10.128.0.11 (nic0)	34.122.205.66	SSH	⌵⋮
<input type="checkbox"/>	✓	backend-2	us-central1-a			10.128.0.12 (nic0)	34.134.91.254	SSH	⌵⋮
<input type="checkbox"/>	✓	frontend-1	us-central1-a			10.128.0.9 (nic0)	34.69.189.5	SSH	⌵⋮
<input type="checkbox"/>	✓	frontend-2	us-central1-a			10.128.0.10 (nic0)	35.232.96.253	SSH	⌵⋮
<input type="checkbox"/>	✓	mongo-1	us-central1-a			10.128.0.13 (nic0)	34.72.110.131	SSH	⌵⋮
<input type="checkbox"/>	✓	mongo-2	us-central1-a			10.128.0.14 (nic0)	35.224.106.117	SSH	⌵⋮
<input type="checkbox"/>	✓	nginx-back	us-central1-a			10.128.0.8 (nic0)	35.232.0.75	SSH	⌵⋮
<input type="checkbox"/>	✓	nginx-front	us-central1-a			10.128.0.7 (nic0)	34.123.223.142	SSH	⌵⋮

Related actions

- Crear las reglas de firewall para habilitar los puertos.

Firewall

CREATE FIREWALL RULEREFRESHCONFIGURE LOGSDELETE

Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. [Learn more](#)

Note: App Engine firewalls are managed in the [App Engine Firewall rules section](#).

Filter

Enter property name or value

<input type="checkbox"/>	Name	Type	Targets	Filters	Protocols / ports	Action	Priority	Network ↑	Logs
<input type="checkbox"/>	backend-allow-5000	Ingress	backend	Tags: nginx-back	tcp:5000	Allow	1000	default	Off
<input type="checkbox"/>	default-allow-http	Ingress	http-server	IP ranges: 0.0.0.0/0	tcp:80	Allow	1000	default	Off
<input type="checkbox"/>	default-allow-https	Ingress	https-server	IP ranges: 0.0.0.0/0	tcp:443	Allow	1000	default	Off
<input type="checkbox"/>	frontend-allow-3000	Ingress	frontend	Tags: nginx-front	tcp:3000	Allow	1000	default	Off
<input type="checkbox"/>	mongo-allow-27017	Ingress	mongo	Tags: backend	tcp:27017	Allow	1000	default	Off
<input type="checkbox"/>	nginx-back-allow-80	Ingress	nginx-back	Tags: frontend	tcp:80	Allow	1000	default	Off
<input type="checkbox"/>	default-allow-icmp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	icmp	Allow	65534	default	Off
<input type="checkbox"/>	default-allow-internal	Ingress	Apply to all	IP ranges: 10.128.0.0/9	tcp:0-65535 udp:0-65535 icmp	Allow	65534	default	Off
<input type="checkbox"/>	default-allow-rdp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:3389	Allow	65534	default	Off
<input type="checkbox"/>	default-allow-ssh	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:22	Allow	65534	default	Off

- Registrar dominio en freenom y asignarle la IP de la máquina de Nginx.

DNS MANAGEMENT for [svaneg11-lab2-distribuido.tk](#)

[← Back to domain details](#)

Modify Records

Name	Type	TTL	Target	
	A	300	34.123.223.142	<a href="#">Delete</a>
WWW	A	300	34.123.223.142	<a href="#">Delete</a>

[Save Changes](#)

- El proceso es similar a la versión monolítica, solo que esta vez se organizó en .sh los procesos de instalación de dependencias para agilizar un poco la instalación de Docker y las librerías de nodeJS entre otras cosas. Por cada maquina instalar git, bajar el repositorio, y correr el respectivo archivo .sh.
- Después de desplegar todas las partes de la aplicación, se puede acceder a <https://svaneg11-lab2-distribuido.tk/> para comprobar que funciona.


MI TIENDA DE LIBROS

## CATALOGO DE LIBROS



Leonardo Davinci: La Biografia

\$50.000.00



Inteligencia Genial

\$30.000.00

Todos los derechos reservados © MyCompanyStore



- Al recargar la pagina 2 veces se observa que la peticion pasa por el servidor de nginx-front y cada servidor de frontend responde una vez, el balancer de cargas funciona!

nginx-front

```
svaneg11@nginx-front:~/svaneg11_ST0263/U2-Lab2/distribuido/nginx-front$ docker-compose up
Starting nginx ... done
Attaching to nginx
nginx | /docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
nginx | /docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
nginx | /docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
nginx | 10-listen-on-ipv6-by-default.sh: info: IPv6 listen already enabled
nginx | /docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
nginx | /docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
nginx | /docker-entrypoint.sh: Configuration complete; ready for start up
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:56 +0000] "GET / HTTP/2.0" 304 0 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:57 +0000] "GET /static/js/bundle.js HTTP/2.0" 304 0 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:57 +0000] "GET /favicon.ico HTTP/2.0" 304 0 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:57 +0000] "GET /api/books HTTP/2.0" 200 905 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:57 +0000] "GET /images/img-ld-inteligenciagenial.jpeg HTTP/2.0" 304 0 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:57 +0000] "GET /images/img-ld-labiografia.jpeg HTTP/2.0" 304 0 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:57 +0000] "GET /manifest.json HTTP/2.0" 200 493 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:57 +0000] "GET / HTTP/2.0" 304 0 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:58 +0000] "GET /static/js/bundle.js HTTP/2.0" 304 0 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:58 +0000] "GET /favicon.ico HTTP/2.0" 304 0 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:58 +0000] "GET /manifest.json HTTP/2.0" 200 493 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:58 +0000] "GET /api/books HTTP/2.0" 200 909 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:58 +0000] "GET /images/img-ld-labiografia.jpeg HTTP/2.0" 304 0 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
nginx | 201.221.176.3 - - [21/Apr/2022:14:02:58 +0000] "GET /images/img-ld-inteligenciagenial.jpeg HTTP/2.0" 304 0 "https://svaneg11-lab2-distribuido.tk/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/100.0.4896.127 Safari/537.36"
```

frontend-1

```
svaneg11@frontend-1:~/svaneg11_ST0263/U2-Lab2/distribuido/front$ docker-compose up
Starting frontend ... done
Attaching to frontend
frontend | > frontend@0.1.0 start
frontend | > react-scripts start
frontend | (node:27) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarning: 'onAfterSetupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
frontend | (Use 'node --trace-deprecation ...' to show where the warning was created)
frontend | (node:27) [DEP_WEBPACK_DEV_SERVER_ON_BEFORE_SETUP_MIDDLEWARE] DeprecationWarning: 'onBeforeSetupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
frontend | Starting the development server...
frontend | Compiled successfully!
frontend | You can now view frontend in the browser.
frontend | http://localhost:3000
frontend | Note that the development build is not optimized.
frontend | To create a production build, use npm run build.
frontend | asset static/js/bundle.js 2.22 MiB [emitted] (name: main) 1 related asset
frontend | asset index.html 1.67 KiB [emitted]
frontend | asset asset-manifest.json 190 bytes [emitted]
frontend | cached modules 2.26 MiB (javascript) 28.5 KiB (runtime) [cached] 399 modules
frontend | webpack 5.72.0 compiled successfully in 2221 ms
```



## frontend-2

```
svaneg11@frontend-2:~/svaneg11_ST0263/U2-Lab2/distribuido/front$ docker-compose up
Starting frontend ... done
Attaching to frontend
frontend | > frontend@0.1.0 start
frontend | > react-scripts start
frontend | (node:27) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarning: 'onAfterSetupMiddlew
frontend | are' option is deprecated. Please use the 'setupMiddlewares' option.
frontend | (Use 'node --trace-deprecation ...' to show where the warning was created)
frontend | (node:27) [DEP_WEBPACK_DEV_SERVER_ON_BEFORE_SETUP_MIDDLEWARE] DeprecationWarning: 'onBeforeSetupMiddl
frontend | eware' option is deprecated. Please use the 'setupMiddlewares' option.
frontend | Starting the development server...
frontend | Compiled successfully!
frontend | You can now view frontend in the browser.
frontend | http://localhost:3000
frontend | Note that the development build is not optimized.
frontend | To create a production build, use npm run build.
frontend | asset static/js/bundle.js 2.22 MiB [emitted] (name: main) 1 related asset
frontend | asset index.html 1.67 KiB [emitted]
frontend | asset asset-manifest.json 190 bytes [emitted]
frontend | cached modules 2.26 MiB (javascript) 28.5 KiB (runtime) [cached] 399 modules
frontend | webpack 5.72.0 compiled successfully in 1924 ms
```

De forma similar se aplica el balanceador de cargas para las dos maquinas virtuales del backend, pero esto no se ve tan evidente ya que no producen logs visibles en el contenedor de backend.