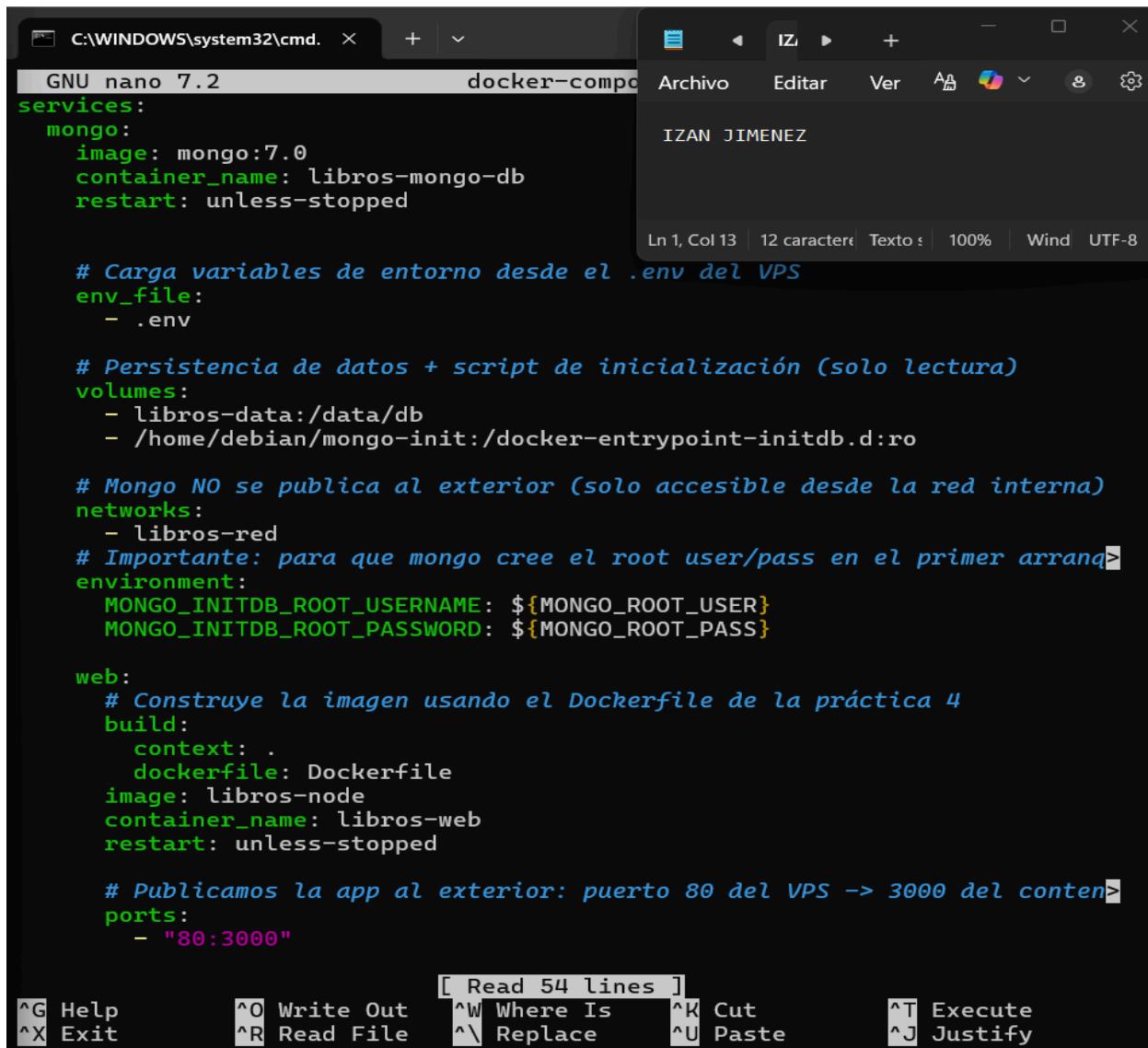


Práctica 5. Orquestación de una aplicación Node.js con Docker Compose

Captura del archivo docker-compose.yml con explicación de cada sección:

Las explicaciones van en la captura



The screenshot shows a Windows command prompt window (cmd) and a Notepad window side-by-side.

The cmd window title is "C:\WINDOWS\system32\cmd." and it contains the command "nano docker-compose.yml". The file content is the docker-compose.yml configuration:

```
GNU nano 7.2          docker-compose.yml
services:
  mongo:
    image: mongo:7.0
    container_name: libros-mongo-db
    restart: unless-stopped

  # Carga variables de entorno desde el .env del VPS
  env_file:
    - .env

  # Persistencia de datos + script de inicialización (solo lectura)
  volumes:
    - libros-data:/data/db
    - /home/debian/mongo-init:/docker-entrypoint-initdb.d:ro

  # Mongo NO se publica al exterior (solo accesible desde la red interna)
  networks:
    - libros-red
  # Importante: para que mongo cree el root user/pass en el primer arranque
  environment:
    MONGO_INITDB_ROOT_USERNAME: ${MONGO_ROOT_USER}
    MONGO_INITDB_ROOT_PASSWORD: ${MONGO_ROOT_PASS}

  web:
    # Construye la imagen usando el Dockerfile de la práctica 4
    build:
      context: .
      dockerfile: Dockerfile
    image: libros-node
    container_name: libros-web
    restart: unless-stopped

    # Publicamos la app al exterior: puerto 80 del VPS -> 3000 del contenido
    ports:
      - "80:3000"

[ Read 54 lines ]
```

The Notepad window title is "IZ" and it contains the text "IZAN JIMENEZ".

At the bottom of the cmd window, there is a menu bar with Spanish labels: "Archivo", "Editar", "Ver", "Ayuda", "Notas", and "Configuración". Below the menu bar are status indicators: "Ln 1, Col 13 | 12 caracteres | Texto s | 100% | Wind | UTF-8". At the very bottom are keyboard shortcut keys for various functions like Help (^G), Exit (^X), Write Out (^O), Read File (^R), Where Is (^W), Replace (^V), Cut (^K), Paste (^U), Execute (^T), and Justify (^J).

```
# Variables de entorno de la app (MONGO_URI, PORT, SESSION_SECRET, etc)
env_file:
  - .env

networks:
  - libros-red

# Arranca después de mongo (ojo: no espera "ready", solo orden)
depends_on:
  - mongo

volumes:
  libros-data:

networks:
  libros-red:
    name: libros-red
```

AG Help ^O Write Out ^W Where Is ^K Cut
^X Exit ^R Read File ^\ Replace ^U Paste ^T Execute
 ^J Justify

Captura del comando docker compose up -d ejecutándose correctamente:

Este comando crea y arranca la aplicación

```
C:\WINDOWS\system32\cmd. × + ▾

root@vps-d0ce1e12:/home/debian/libros# docker compose down
root@vps-d0ce1e12:/home/debian/libros# docker compose up -d
WARN[0000] a network with name libros-red exists but was not created
Set 'external: true' to use an existing network
network libros-red was found but has incorrect label com.docker.compose.network
root@vps-d0ce1e12:/home/debian/libros# docker rm -f libros-web
libros-web
root@vps-d0ce1e12:/home/debian/libros# docker network rm libros-red
libros-red
root@vps-d0ce1e12:/home/debian/libros# docker compose up -d
[+] Running 4/4
  ✓ Network libros-red      Created
  ✓ Volume libros_data      Created
  ✓ Container libros-mongo-db Started
  ✓ Container libros-web    Started
root@vps-d0ce1e12:/home/debian/libros# SOY IZAN J|
```

Captura de docker compose ps mostrando los servicios activos:

Aquí se muestran los contenedores de servicios activos

```
C:\WINDOWS\system32\cmd. x + v
root@vps-d0ce1e12:/home/debian/libros# docker compose ps
NAME           IMAGE          COMMAND         SERVICE      CREATED        STATUS          PORTS
libros-mongo-db mongo:7.0   "docker-entrypoint.s..." mongo        About a minute ago Up About a minute  27017/tcp
libros-web      libros-node  "docker-entrypoint.s..." web         About a minute ago Up About a minute  0.0.0.0:80->3000/tcp, [::]:80->3000/tcp
root@vps-d0ce1e12:/home/debian/libros# SOY IZAN J]
```

Captura de los logs donde se observe la inicialización de MongoDB:

Con el comando docker compose logs mongo podemos ver el registro de los logs de los contenedores y lo que sucede con ellos y lo que ha sucedido

```
C:\WINDOWS\system32\cmd. x + v
}
libros-mongo-db | {"t": {"$date": "2026-02-02T13:01:57.136+00:00"}, "s": "I", "c": "NETWORK", "id": 51800, "ctx": "conn4", "msg": "client metadata", "attr": {"remote_ip": "172.18.0.3:58372", "client": "conn4", "negotiatedCompressors": [], "doc": {"driver": {"name": "nodejs/Mongoose", "version": "5.9.2|7.8.8"}, "platform": "Node.js v20.28.0", "LE": "L", "OS": {"name": "linux", "architecture": "x64", "version": "6.1.0-42-cloud-amd64", "type": "Linux"}}, "a_ttr": {"message": {"ts_sec": 1770037366, "ts_usec": 166456}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 4, snapshot max: 4 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 4"}, "libros-mongo-db | {"t": {"$date": "2026-02-02T13:02:46.166+00:00"}, "s": "I", "c": "WTCHKPT", "id": 22430, "ctx": "Checkpointer", "msg": "WiredTiger message", "attr": {"message": {"ts_sec": 1770037366, "ts_usec": 166456}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 4, snapshot max: 4 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 4"}, "libros-mongo-db | {"t": {"$date": "2026-02-02T13:03:46.177+00:00"}, "s": "I", "c": "WTCHKPT", "id": 22430, "ctx": "Checkpointer", "msg": "WiredTiger message", "attr": {"message": {"ts_sec": 1770037426, "ts_usec": 177651}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 5, snapshot max: 5 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 5"}, "libros-mongo-db | {"t": {"$date": "2026-02-02T13:04:46.187+00:00"}, "s": "I", "c": "WTCHKPT", "id": 22430, "ctx": "Checkpointer", "msg": "WiredTiger message", "attr": {"message": {"ts_sec": 1770037484, "ts_usec": 187849}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 5, snapshot max: 5 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 5"}, "libros-mongo-db | {"t": {"$date": "2026-02-02T13:04:46.187+00:00"}, "s": "I", "c": "WTCHKPT", "id": 22430, "ctx": "Checkpointer", "msg": "WiredTiger message", "attr": {"message": {"ts_sec": 1770037484, "ts_usec": 187849}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 5, snapshot max: 5 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 5"}, "libros-mongo-db | {"t": {"$date": "2026-02-02T13:05:46.192+00:00"}, "s": "I", "c": "WTCHKPT", "id": 22430, "ctx": "Checkpointer", "msg": "WiredTiger message", "attr": {"message": {"ts_sec": 1770037546, "ts_usec": 192696}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 7, snapshot max: 7 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 8"}, "libros-mongo-db | {"t": {"$date": "2026-02-02T13:06:46.198+00:00"}, "s": "I", "c": "WTCHKPT", "id": 22430, "ctx": "Checkpointer", "msg": "WiredTiger message", "attr": {"message": {"ts_sec": 1770037606, "ts_usec": 198841}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 9, snapshot max: 9 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 8"}, "libros-mongo-db | {"t": {"$date": "2026-02-02T13:07:46.213+00:00"}, "s": "I", "c": "WTCHKPT", "id": 22430, "ctx": "Checkpointer", "msg": "WiredTiger message", "attr": {"message": {"ts_sec": 1770037666, "ts_usec": 213730}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 11, snapshot max: 11 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 8"}, "libros-mongo-db | {"t": {"$date": "2026-02-02T13:08:46.222+00:00"}, "s": "I", "c": "WTCHKPT", "id": 22430, "ctx": "Checkpointer", "msg": "WiredTiger message", "attr": {"message": {"ts_sec": 1770037726, "ts_usec": 225553}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 12, snapshot max: 12 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 8"}, "libros-mongo-db | {"t": {"$date": "2026-02-02T13:09:06.228+00:00"}, "s": "I", "c": "WTCHKPT", "id": 22430, "ctx": "Checkpointer", "msg": "WiredTiger message", "attr": {"message": {"ts_sec": 1770037786, "ts_usec": 228172}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 13, snapshot max: 13 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 8"}, "libros-mongo-db | {"t": {"$date": "2026-02-02T13:10:46.235+00:00"}, "s": "I", "c": "WTCHKPT", "id": 22430, "ctx": "Checkpointer", "msg": "WiredTiger message", "attr": {"message": {"ts_sec": 1770037846, "ts_usec": 235819}, "thread": "1:0x7fd24bed7640", "session_name": "WT_SESSION.checkpoint", "category": "WT_VERB_CHECKPOINT_PROG_RES"}, "category_id": 6, "verbose_level": "DEBUG_1", "verbose_level_id": 1, "msg": "saving checkpoint snapshot min: 14, snapshot max: 14 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 8"}, root@vps-d0ce1e12:/home/debian/libros# SOY IZAN J
```

Captura de la aplicación funcionando en el navegador:

Mediante la URL del VPS podemos acceder a nuestro contenedor de Libros

The screenshot shows a web browser window with the following details:

- Address Bar:** Shows the URL `51.68.44.205/libros` with a warning icon indicating "No es seguro".
- Toolbar:** Includes standard browser icons for back, forward, search, and refresh.
- Header:** Shows the title "Listado de libros".
- Content:** Displays two book entries:
 - Don Quijote de la Mancha
 - Cien años de soledadEach entry has three buttons: "Ver ficha" (green), "Borrar" (red), and "Editar" (blue).
- Terminal Window:** A separate window titled "IZA" is visible, showing the command "IZAN JIMENEZ" entered. The window has a dark theme and includes standard OS X-style menu items like Archivo, Editar, Ver, and a toolbar with icons for file operations.
- Bottom Status Bar:** Shows system information: Ln 1, Col 13 | 12 caracteres | Texto | 100% | Wind | UTF-8.