

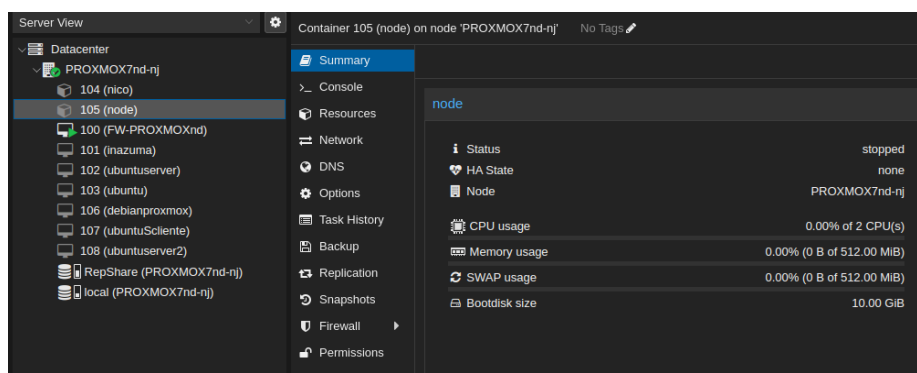
Despliegue de una app de Node Nico

Enunciado: En este manual se pretende mostrar los pasos para arrancar una aplicación en Node a partir de los ficheros del código. Características:

- Aplicación Node publicada en el puerto 3000/tcp , no requiere permisos especiales y se accede por http.
- La aplicación no accede a bases de datos de ningún tipo. En caso que lo necesitara debería tener conectividad con la base de datos.
- Se va a lanzar en un servicio propio del sistema para que arranque con la máquina donde está instalada.
- Se provee el código js fina, sin necesidad de realizar importaciones ni exportaciones.



1. Creamos el contenedor. Hay que colocarlo en la DMZ (vmbr1) y configurar el netplan para que la IP que le hemos dado en proxmox nos coincida con la suya..



```
GNU nano 6.2                                01-network-manager-all.yaml *
```

```
network:
  version: 2
  renderer: networkd
  ethernet:
    eth0:
      dhcp4: no
      addresses:
        - 172.16.1.20/24
      gateway4: 172.16.1.254
      nameservers:
        addresses: [8.8.8.8, 8.8.4.4]
```

2. Prerrequisitos y descarga de la clave del repositorio: introducimos los comandos

“sudo apt-get update && sudo apt-get install -y ca-certificates curl gnupg”.

```
⚠ No es seguro | https://pro.ousiasmarch.es:52201/?console=lx&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
```

```
root@node:/etc/netplan# sudo apt-get update && sudo apt-get install -y ca-certificates curl gnupg
Get:1 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy/main Translation-en [510 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy/main amd64 c-n-f Metadata [30.3 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy/restricted Translation-en [18.6 kB]
Get:7 http://archive.ubuntu.com/ubuntu jammy/restricted amd64 c-n-f Metadata [488 B]
Get:8 http://archive.ubuntu.com/ubuntu jammy/universe Translation-en [5652 kB]
Get:9 http://archive.ubuntu.com/ubuntu jammy/universe amd64 c-n-f Metadata [286 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy/multiverse Translation-en [112 kB]
Get:11 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 c-n-f Metadata [8372 B]
Get:12 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1246 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [257 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metadata [16.1 kB]
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1226 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [199 kB]
Get:17 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 c-n-f Metadata [520 B]
Get:18 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1018 kB]
Get:19 http://archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [226 kB]
Get:20 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [22.1 kB]
Get:21 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [41.6 kB]
Get:22 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [9768 B]
Get:23 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [472 B]
Get:24 http://archive.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1037 kB]
Get:25 http://archive.ubuntu.com/ubuntu jammy-security/main Translation-en [197 kB]
Get:26 http://archive.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [11.4 kB]
Get:27 http://archive.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1205 kB]
Get:28 http://archive.ubuntu.com/ubuntu jammy-security/restricted Translation-en [195 kB]
Get:29 http://archive.ubuntu.com/ubuntu jammy-security/restricted amd64 c-n-f Metadata [520 B]
Get:30 http://archive.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [815 kB]
Get:31 http://archive.ubuntu.com/ubuntu jammy-security/universe Translation-en [152 kB]
Get:32 http://archive.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [16.8 kB]
Get:33 http://archive.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [36.5 kB]
Get:34 http://archive.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [7060 B]
Get:35 http://archive.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [260 B]
Fetched 15.1 MB in 5s (2933 kB/s)
```

3. Creamos un directorio para las claves y las obtenemos:

- “sudo mkdir -p /etc/apt/keyrings”
- “curl -fsSL https://deb.nodesource.com/gpgkey/nodesource-repo.gpg.key | sudo gpg dearmor -o /etc/apt/keyrings/nodesource.gpg”.

```
⚠ No es seguro | https://pro.ausiasmarch.es:52201/?console=lxc&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
root@node:~# curl -fsSL https://deb.nodesource.com/gpgkey/nodesource-repo.gpg.key | sudo gpg --dearmor -o /etc
/apt/keyrings/nodesource.gpg
root@node:~#
```

```
⚠ No es seguro | https://pro.ausiasmarch.es:52201/?console=lxc&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
root@node:~# sudo mkdir -p /etc/apt/keyrings
root@node:~#
```

4. Enlace al repositorio: insertamos todo el texto.

```
⚠ No es seguro | https://pro.ausiasmarch.es:52201/?console=lxc&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
root@node:~# NODE_MAJOR=20
echo "deb [signed-by=/etc/apt/keyrings/nodesource.gpg] https://deb.nodesource.com/node_$NODE_MAJOR.x nodistro
main" | sudo tee /etc/apt/sources.list.d/nodesource.list
deb [signed-by=/etc/apt/keyrings/nodesource.gpg] https://deb.nodesource.com/node_20.x nodistro main
root@node:~#
```

5. Instalamos el node.

```
⚠ No es seguro | https://pro.ausiasmarch.es:52201/?console=lxc&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
root@node:~# sudo apt-get update && sudo apt-get install nodejs -y
Get:1 https://deb.nodesource.com/node_20.x nodistro InRelease [12.1 kB]
Get:2 https://deb.nodesource.com/node_20.x nodistro/main amd64 Packages [4494 B]
Hit:3 http://archive.ubuntu.com/ubuntu jammy InRelease
Hit:4 http://archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:5 http://archive.ubuntu.com/ubuntu jammy-security InRelease
Fetched 16.6 kB in 1s (21.0 kB/s)
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  nodejs
0 upgraded, 1 newly installed, 0 to remove and 135 not upgraded.
Need to get 31.3 MB of archives.
After this operation, 195 MB of additional disk space will be used.
Get:1 https://deb.nodesource.com/node_20.x nodistro/main amd64 nodejs amd64 20.10.0-1nodesource1 [31.3 MB]
Fetched 31.3 MB in 1s (53.4 MB/s)
Selecting previously unselected package nodejs.
(Reading database ... 17248 files and directories currently installed.)
Preparing to unpack .../nodejs_20.10.0-1nodesource1_amd64.deb ...
Unpacking nodejs (20.10.0-1nodesource1) ...
Setting up nodejs (20.10.0-1nodesource1) ...
Processing triggers for man-db (2.10.2-1) ...
root@node:~#
```

6. Descargamos la carpeta de dependencias.

```

No es seguro | https://pro.ousiasmarch.es:52201/?console=lx&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
root@node:~# wget --no-check-certificate 'https://docs.google.com/uc?export=download&id=10sSfH2bAUhvvvCBb7v7UGXEF0QkidUDx' -O mvc.zip
--2023-12-12 15:34:54-- https://docs.google.com/uc?export=download&id=10sSfH2bAUhvvvCBb7v7UGXEF0QkidUDx
Resolving docs.google.com (docs.google.com)... 142.250.200.142, 2a00:1450:4003:80f::200e
Connecting to docs.google.com (docs.google.com)|142.250.200.142|:443... connected.
HTTP request sent, awaiting response... 303 See Other
Location: https://doc-0s-7s-docs.googleusercontent.com/docs/securesc/ha0ro937gcuc7l7deffksulhg5h7mbp1/lunjdpdp7hboerlnhg5l6p0darhc1a1s/1702395300000/11762715588221097873/*10sSfH2bAUhvvvCBb7v7UGXEF0QkidUDx?e=download&uui
d=527ed39b-e222-4844-bc34-d76e28139b36 [following]
Warning: wildcards not supported in HTTP.
--2023-12-12 15:35:00-- https://doc-0s-7s-docs.googleusercontent.com/docs/securesc/ha0ro937gcuc7l7deffksulhg5h7mbp1/lunjdpdp7hboerlnhg5l6p0darhc1a1s/1702395300000/11762715588221097873/*10sSfH2bAUhvvvCBb7v7UGXEF0QkidUDx
?e=download&uui=527ed39b-e222-4844-bc34-d76e28139b36
Resolving doc-0s-7s-docs.googleusercontent.com (doc-0s-7s-docs.googleusercontent.com)... 142.250.200.65, 2a00:
1450:4003:80d::2001
Connecting to doc-0s-7s-docs.googleusercontent.com (doc-0s-7s-docs.googleusercontent.com)|142.250.200.65|:443.
.. connected.
HTTP request sent, awaiting response... 200 OK
Length: 19135 (19K) [application/zip]
Saving to: 'mvc.zip'

mvc.zip                               100%[=====>] 18.69K  --.-KB/s   in 0.009s

2023-12-12 15:35:00 (1.97 MB/s) - 'mvc.zip' saved [19135/19135]

root@node:~#

```

7. Instalamos unzip para poder descomprimir el archivo “mvc.zip”.

```

No es seguro | https://pro.ousiasmarch.es:52201/?console=lx&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
root@node:~# which unzip
root@node:~# sudo apt-get install unzip
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
  zip
The following NEW packages will be installed:
  unzip
0 upgraded, 1 newly installed, 0 to remove and 135 not upgraded.
Need to get 174 kB of archives.
After this operation, 385 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 unzip amd64 6.0-26ubuntu3.1 [174 kB]
Fetched 174 kB in 1s (223 kB/s)
Selecting previously unselected package unzip.
(Reading database ... 22751 files and directories currently installed.)
Preparing to unpack .../unzip_6.0-26ubuntu3.1_amd64.deb ...
Unpacking unzip (6.0-26ubuntu3.1) ...
Setting up unzip (6.0-26ubuntu3.1) ...
Processing triggers for man-db (2.10.2-1) ...
root@node:~#

```

8. Descomprimos el archivo. En este caso, lo mandamos a la carpeta /srv, usamos el comando “unzip mvc.zip -d /srv”.

```

⚠ No es seguro | https://pro.ausiasmarch.es:52201/?console=lxc&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
root@node:~# unzip mvc.zip -d /srv
Archive:  mvc.zip
  creating: /srv/MVC/
  creating: /srv/MVC/dist/
  inflating: /srv/MVC/dist/app.js
  creating: /srv/MVC/dist/views/
  inflating: /srv/MVC/dist/views/404.ejs
  creating: /srv/MVC/dist/views/includes/
  inflating: /srv/MVC/dist/views/includes/head.ejs
  inflating: /srv/MVC/dist/views/includes/add-to-cart.ejs
  inflating: /srv/MVC/dist/views/includes/navigation.ejs
  inflating: /srv/MVC/dist/views/includes/end.ejs
  creating: /srv/MVC/dist/views/admin/
  inflating: /srv/MVC/dist/views/admin/products.ejs
  inflating: /srv/MVC/dist/views/admin/edit-product.ejs
  creating: /srv/MVC/dist/views/shop/
  inflating: /srv/MVC/dist/views/shop/cart.ejs
  inflating: /srv/MVC/dist/views/shop/product-detail.ejs
  inflating: /srv/MVC/dist/views/shop/product-list.ejs
  inflating: /srv/MVC/dist/views/shop/orders.ejs
  inflating: /srv/MVC/dist/views/shop/checkout.ejs
  inflating: /srv/MVC/dist/views/shop/index.ejs
  creating: /srv/MVC/dist/public/
  creating: /srv/MVC/dist/public/css/
  inflating: /srv/MVC/dist/public/css/forms.css
  inflating: /srv/MVC/dist/public/css/product.css
  inflating: /srv/MVC/dist/public/css/main.css
  creating: /srv/MVC/dist/utils/
  inflating: /srv/MVC/dist/utils/rutas.js
  creating: /srv/MVC/dist/routes/
  inflating: /srv/MVC/dist/routes/adminRoutes.js
  inflating: /srv/MVC/dist/routes/shopRoutes.js
  creating: /srv/MVC/dist/controllers/
  inflating: /srv/MVC/dist/controllers/products.js
  inflating: /srv/MVC/dist/controllers/error.js
  inflating: /srv/MVC/dist/controllers/admin.js
  inflating: /srv/MVC/dist/controllers/adminCtrl.js
  inflating: /srv/MVC/dist/controllers/shopCtrl.js
  creating: /srv/MVC/dist/models/
  inflating: /srv/MVC/dist/models/Product.js
  inflating: /srv/MVC/dist/models/Cart.js
  inflating: /srv/MVC/dist/models/User.js
  creating: /srv/MVC/dist/services/
  inflating: /srv/MVC/dist/services/databaseService.js
  creating: /srv/MVC/src/
  inflating: /srv/MVC/package.json

```

9. Descargar las dependencias: Entrando en la carpeta descargada (la que hemos descomprimido) ejecutar “sudo npm install --production”.

```

⚠ No es seguro | https://pro.ausiasmarch.es:52201/?console=lxc&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
root@node:~# cd /srv/MVC/
root@node:/srv/MVC# npm install --production
npm WARN config production Use `--omit=dev` instead.

added 78 packages, and audited 79 packages in 13s

13 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
npm notice
npm notice New patch version of npm available! 10.2.3 -> 10.2.5
npm notice Change log: https://github.com/npm/cli/releases/tag/v10.2.5
npm notice Run npm install -g npm@10.2.5 to update!
npm notice
root@node:/srv/MVC#

```

10. Starteamos el npm (npm start). Ahora nos dirá que no encuentra el daemon, eso es porque hay que instalar y configurar el servicio a continuación.

```

No es seguro | https://pro.ausiasmarch.es:52201/?console=lxc&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
root@node:/srv/MVC# npm start

> dwesnode@1.0.0 start
> nodemon dist/app.js --ignore dist/data --verbose

sh: 1: nodemon: not found
root@node:/srv/MVC#

```

11. Descargamos y modificamos el archivo del servicio. Le cambiamos el nombre y las rutas por las nuestras de la carpeta MVC.

```

No es seguro | https://pro.ausiasmarch.es:52201/?console=lxc&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
GNU nano 6.2                               AppNodeNico.service *
[Unit]
Description="App de node en puerto 3000"
Documentation=/root
Author= Nico
After=network.target

[Service]
ExecStart=/usr/bin/node /srv/MVC/dist/app.js

#WD para tener paths relativos consistentes...
WorkingDirectory=/srv/MVC/dist/

# Tiempo entre crash y restart
RestartSec=10
Restart=always
Restart=on-failure

# nodejs process name in syslog
StandardOutput=syslog
StandardError=syslog
SyslogIdentifier=expressMyNode

# user and group starting the app
User=www-data
Group=www-data

# set the environment (dev, prod ^` )
Environment=NODE_ENV=production

[Install]
WantedBy=multi-user.target

#Fuentes:
# https://riptutorial.com/node-js/example/28713/node-js-as-a-systemd-damon
# https://natancabral.medium.com/run-node-js-service-with-systemd-on-linux-42cfd0ad7b2
# No me abre journalctl por no tener suficientes permisos...

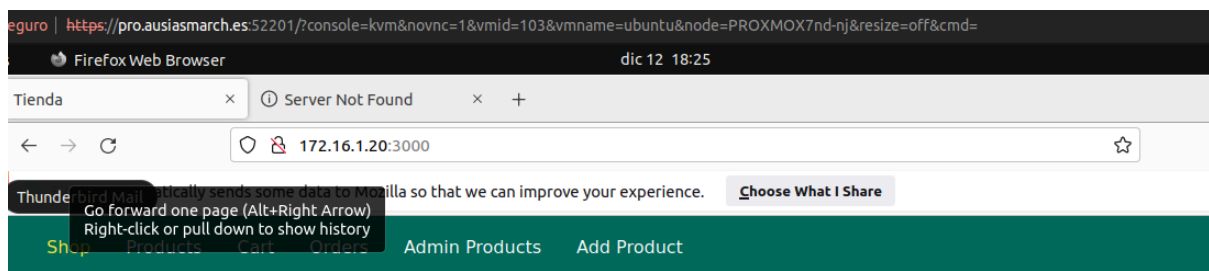
```

12. Activamos el servicio que hemos creado. Si nos va todo bien, veremos que se activa. Haciendo “ss -ltn”, veremos que el puerto 3000 está abierto y con el estatus vemos el servicio corriendo.


```
No es seguro | https://pro.ausiasmarch.es:52201/?console=lx&xtermjs=1&vmid=105&vmname=node&node=PROXMOX7nd-nj&cmd=
root@node:/srv/MVC# sudo systemctl enable --now AppNodeNico.service
Created symlink /etc/systemd/system/multi-user.target.wants/AppNodeNico.service -> /srv/MVC/AppNodeNico.service.
root@node:/srv/MVC# ss -ltn
State  Recv-Q  Send-Q  Local Address:Port  Peer Address:Port  Process
LISTEN  0        4096    127.0.0.1:53        0.0.0.0:*          users:(("systemd-resolve",pid=95,fd=14))
LISTEN  0        100     127.0.0.1:25        0.0.0.0:*          users:(("master",pid=269,fd=13))
LISTEN  0       4096    *:22               *:                users:(("systemd",pid=1,fd=58))
LISTEN  0       511     *:3000             *:                users:(("node",pid=370,fd=24))
LISTEN  0       100     [::]:25            [::]:*            users:(("master",pid=269,fd=14))
root@node:/srv/MVC# sudo systemctl status AppNodeNico.service
* AppNodeNico.service - "App de node en puerto 3000"
   Loaded: loaded (/etc/systemd/system/AppNodeNico.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2023-12-12 16:28:07 UTC; 39s ago
     Main PID: 370 (node)
       Tasks: 11 (limit: 19070)
      Memory: 10.3M
         CPU: 279ms
    CGroup: /system.slice/AppNodeNico.service
            └─370 /usr/bin/node /srv/MVC/dist/app.js

Dec 12 16:28:07 node systemd[1]: Started "App de node en puerto 3000".
Dec 12 16:28:07 node expressMyNode[370]: Servidor Express en funcionamiento: http://localhost:3000
root@node:/srv/MVC#
```

13. Nos vamos a un cliente, que en este caso está en la LAN2 (vmbr3) y nos conectamos al servidor poniendo la ip de este y el puerto 3000. Nos lleva al índice de la app.



Bienvenido index.ejs