



**Uno para mandarlos a todos.**

María Andrea Vignau  
Ing. en Sistemas de Información

# María Andrea Vignau



**Ing en Sistemas de Información**

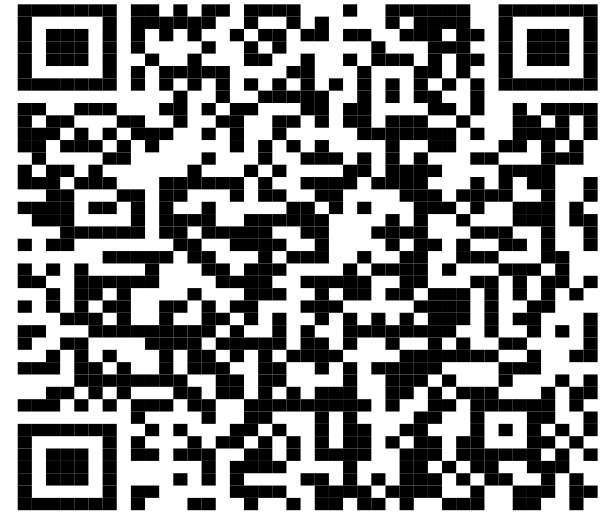
**Perito Informático Forense**

**Poder Judicial Chaco**

Twitter: **@mavignau**

Telegram: **@mavignau**

GitHub: **marian-vignau**



Permite correr **clusters** de máquinas virtuales o contenedores

**Mejor seguridad:** aislo servidores

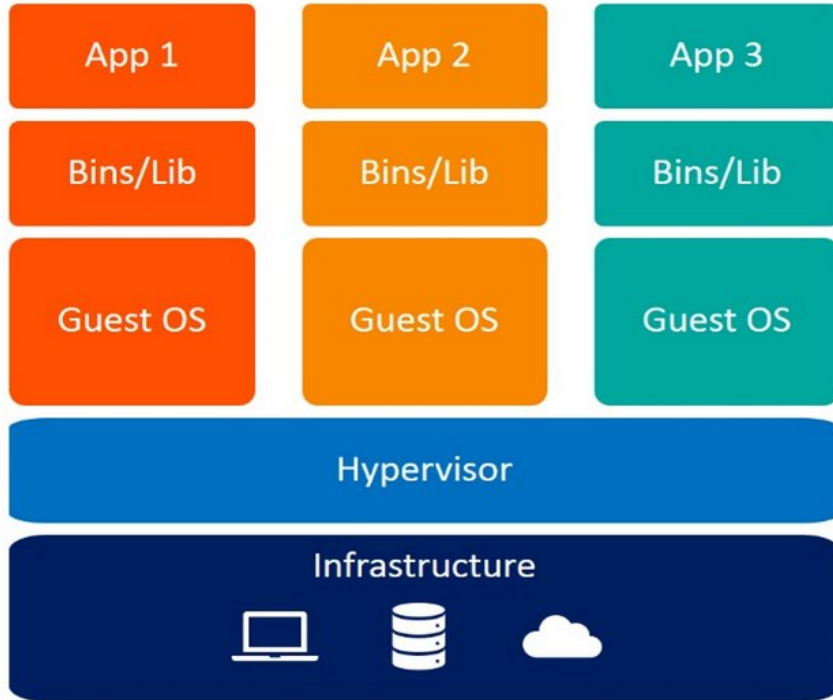
Operaciones de **backup** central

**Independizar** servers de máquina física

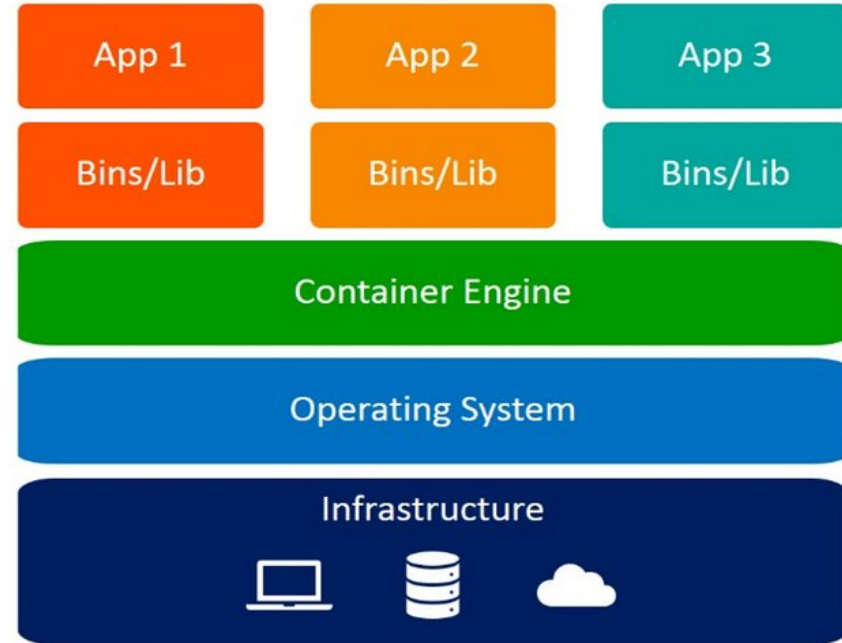
Flexibilidad para **experimentar**

**Laboratorio** para desarrollo, seguridad ...

**etc**



Virtual Machines



Containers



Pendrive o DVD booteable,

Instalación guiada.

Mirar configuración de red (ifconfig, ipconfig, etc)

En instalación guiada poner:

IP: 192.168.0.xxx/255.255.255.0 debe ser de la misma subred.

Gateway, DNS: Igual



Proxmox VE 6.2 (iso release 1) - <https://www.proxmox.com/>



Welcome to Proxmox Virtual Environment

Install Proxmox VE

Install Proxmox VE (Debug mode)

Rescue Boot

Test memory (Legacy BIOS)



Proxmox VE Installer

## Proxmox Virtualization Environment (PVE)

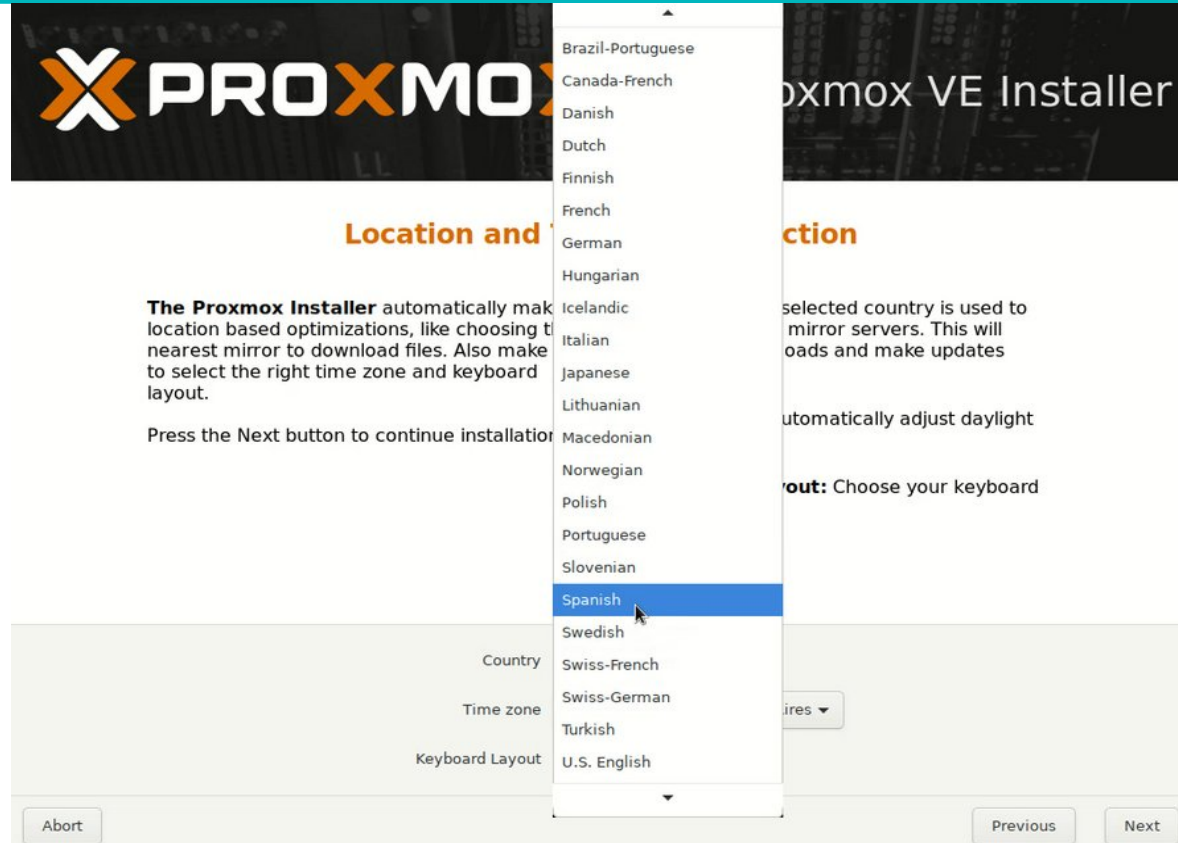
**The Proxmox Installer** automatically partitions your hard disk. It installs all required packages and finally makes the system bootable from hard disk. All existing partitions and data will be lost.

Press the Next button to continue installation.

- **Please verify the installation target**  
The displayed hard disk is used for installation.  
Warning: All existing partitions and data will be lost.
- **Automatic hardware detection**  
The installer automatically configures your hardware.
- **Graphical user interface**  
Final configuration will be done on the graphical user interface via a web browser.

Target Harddisk: /dev/sda (8GB, VBOX HARDDISK) ▾ Options

Abort Previous Next



**PROXMOX**

## Location and Timezone

The Proxmox Installer automatically makes location based optimizations, like choosing the nearest mirror to download files. Also make to select the right time zone and keyboard layout.

Press the Next button to continue installation

Country

Time zone

Keyboard Layout

Country selected is used to choose the nearest mirror servers. This will download and make updates

Time zone selected will automatically adjust daylight saving time

**Keyboard:** Choose your keyboard layout

Abort Previous Next



Form fields for user configuration:

- Password: [Masked]
- Confirm: [Masked]
- E-Mail:

Form fields for network configuration:

- Management Interface:
- Hostname (FQDN):
- IP Address:
- Netmask:
- Gateway:
- DNS Server:

## Summary

**Please verify** the displayed informations. Once you press the **Install** button, the installer will begin to partition your drive(s) and extract the required files.

Option	Value
Filesystem:	ext4
Disk(s):	/dev/sda
Country:	Argentina
Timezone:	America/Argentina/Buenos_Aires
Keymap:	es
E-Mail:	mavignau@gmail.com
Management Interface:	enp0s3
Hostname:	pve
IP:	192.168.0.123
Netmask:	255.255.255.0
Gateway:	192.168.0.1
DNS:	8.8.8.8



## Interfaz gráfica

Ingresar en

*<IP\_del\_Server>:8006*

Usando un navegador e ingresará a la interfaz gráfica Web

# Pasos iniciales



PROXMOX Virtual Environment 6.2-4  [Documentation](#) [Create VM](#) [Create CT](#) root@pam

Folder View: Datacenter

- > LXC Container
- > Nodes
- > Resource Pool
- > Virtual Machine
- > Storage

Search

- Summary
- Cluster
- Ceph
- Options
- Storage
- Backup
- Replication
- Permissions
- Users
- API Tokens
- Groups
- Pools
- Roles
- Authentication
- HA
- ACME

Type ↑	Description	Disk usage...	Memory us...	CPU usage	Uptime
lxc	100 (nextcloud)				-
lxc	101 (ubuntuMate)				-
lxc	102 (ubuntu20)				-
lxc	103 (cdpedia)				-
node	host	23.4 %	7.4 %	0.6% of 4CPUs	02:46:52
pool	Universe				-
qemu	104 (Windows7)				-
storage	local (host)	23.4 %			-
storage	local-lvm (host)	25.6 %			-
storage	rivendel (host)	15.8 %			-

# Pasos iniciales



Virtual Environment 6.2-4

Documentation Create VM Create CT root@pam

Folder View Node 'host' Reboot Shutdown Shell Bulk Actions Help

Package versions Hour (average)

Summary

Notes

Shell

System

Network

Certificates

DNS

Hosts

Time

Syslog

Updates

Firewall

Disks

LVM

LVM-Thin

Directory

ZFS

host (Uptime: 02:48:58)

CPU usage	0.08% of 4 CPU(s)	IO delay	0.00%
Load average	0.08,0.10,0.06	KSM sharing	0 B
RAM usage	7.49% (896.88 MiB of 11.70 GiB)	SWAP usage	0.00% (0 B of 8.00 GiB)
HD space(root)	23.44% (12.80 GiB of 54.63 GiB)		

CPU(s) 4 x AMD Phenom(tm) II X4 955 Processor (1 Socket)

Kernel Version Linux 5.4.41-1-pve #1 SMP PVE 5.4.41-1 (Fri, 15 May 2020 15:06:08 +0200)

PVE Manager Version pve-manager/6.2-4/9824574a

CPU usage

Time	CPU usage (%)
0	0
1	4
2	0
3	8.5
4	0

**Actualizar el sistema operativo.**

**Agregar el repositorio de pve gratuito**

**Ingresar a la consola**



## */etc/apt/sources.list*

```
deb http://ftp.debian.org/debian buster main contrib
```

```
deb http://ftp.debian.org/debian buster-updates main contrib
```

```
# security updates
```

```
deb http://security.debian.org buster/updates main contrib
```

```
deb http://download.proxmox.com/debian/pve buster pve-no-subscription
```

```
> cd /etc/apt/sources.list.d  
> cp pve-enterprise.list pve-no-subscription.list
```

*pve-no-subscription.list*

```
deb http://download.proxmox.com/debian/pve buster pve-no-subscription
```



Actualizar el sistema operativo.

```
> apt-get update  
> apt-get dist-upgrade  
> apt-get clean
```

También ingresar para que las imágenes de contenedores gratuitas TurnKey se agreguen

```
> pveam update
```



## Windows

Una máquina virtual Windows



# Crear las imágenes de instalación



Copiar la **ISO** del sistema operativo en el dir de templates con **UPLOAD**

Folder View

Storage 'local' on node 'host'

- Datacenter
  - LXC Container
  - Nodes
    - host
    - Resource Pool
    - Virtual Machine
  - Storage
    - local (host)
    - local-lvm (host)
    - rivendel (host)

Summary

Content

Permissions

Restore Remove Templates Upload Show

Name

- ISO image (4 Items)
  - cdpedia-es-0.8.4-20170627-dvd5.iso
  - en\_windows\_7\_ultimate\_x64\_dvd.iso
  - ubuntu-mate-18.04.4-desktop-amd64.iso
  - virtio-win.iso
- Container template (2 Items)
  - debian-10-turnkey-nextcloud\_16.0-1\_amd64.tar.gz
  - ubuntu-20.04-standard\_20.04-1\_amd64.tar.gz

# Crear las imágenes de instalación



Bajar los drivers Virtio del sitio

```
wget https://fedorapeople.org/groups/virt/virtio-win/direct-downloads/stable-virtio/virtio-win.iso
```

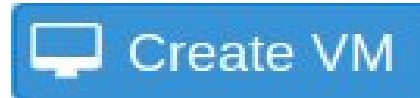
En el directorio de templates

```
cd /var/lib/vz/template/iso
```

# Crear la máquina virtual



Crear la máquina virtual



Configurar el hardware:

Se desea un sistema operativo Windows

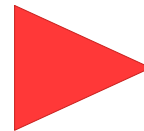
Seleccionar el **ISO** del instalador del S.O..

El driver del disco será **Virtio**, con ReadWrite caché.

La tarjeta de red tipo **VirtIO**.

Y tarjeta gráfica tipo **SPICE**.

¡Crear!



# Optimizar la configuración



Bajar el visualizador remoto en nuestra PC.

## Linux

```
> sudo apt install virt-viewer
```

## Windows

`virt-manager`

Para *escapar* del visualizador usar

**CTRL+ALT+R**

# Crear la máquina virtual



Agregar otra **lectora de CD**, y cargar el ISO de los **drivers VirtIO**.

Virtual Machine 104 (Windows7) on node 'host'

Summary	Add	Remove	Edit
Console	Memory		
<b>Hardware</b>	Processors		
Cloud-Init	BIOS		
Options	Display		
Task History	Machine		
Monitor	SCSI Controller		
Backup	CD/DVD Drive (ide0)		
Replication	CD/DVD Drive (ide2)		
Snapshots	Hard Disk (virtio0)		
	Network Device (net0)		

# Instalar Windows



Luego instalar Windows.





# Optimizar la configuración



Ir a

[www.spice-space.org/download](http://www.spice-space.org/download)

Y bajar las mejoras para el sistema operativo invitado.

Correr el instalador



## Nextcloud

Una nube personal para tus archivos



# Instalar Nextcloud



## Bajar una plantilla TurnKey

Folder View

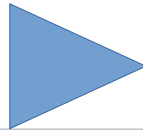
- Datacenter
  - LXC Container
  - Nodes
  - Resource Pool
  - Virtual Machine
  - Storage
    - local (host)
    - local-lvm (host)
    - rivendel (host)

Storage 'local' on node 'host'

Summary | Restore | Remove | **Templates** | Upload | Show Configuration | Search:

Content

Name	Date	Format
[-] ISO image (4 Items)		
en_windows_7_ultimate_x64_dvd.iso	2020-05-30 22:05:40	iso
ubuntu-mate-18.04.4-desktop-amd64.iso	2020-05-30 22:02:37	iso
virtio-win.iso	2020-06-09 20:34:37	iso
windows-7-home-premium-32-bits-es-win.iso	2020-08-09 18:19:23	iso
[-] Container template (1 Item)		
ubuntu-20.04-standard_20.04-1_amd64.tar.gz	2020-06-07 03:50:25	tgz





## Crear un Resource Pool

Folder View

- ▼ Datacenter
  - > LXC Container
  - > Nodes
  - > Resource Pool
  - > Virtual Machine
  - ▼ Storage
    - local (host)
    - local-lvm (host)
    - rivendel (host)

Datacenter

- Storage
- Backup
- Replication
- Permissions
  - Users
  - API Tokens
  - Groups
  - Pools**
  - Roles
  - Authentication

Create Edit Remove

Name ↑	Comment
Universe	

# Crear el contenedor



**PROXMOX**

Folder View

- Datacenter
  - LXC Contain
  - Nodes
  - Resource P
  - Virtual Mach
  - Storage
    - local (hc
    - local-lvm
    - rivendel

**Create: LXC Container**

General | Template | Root Disk | CPU | Memory | Network | DNS | Confirm

Node:

CT ID:

Hostname:

Unprivileged container:

Resource Pool:

Password:

Confirm password:

SSH public key:

[Load SSH Key File](#)

[Help](#) | Advanced  | [Back](#) | [Next](#)

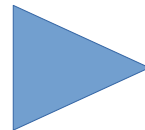
# Instalar Nextcloud



Ingresa por ssh

```
> ssh root@<IP_Nextcloud>
```

Comienza de inmediato la instalación





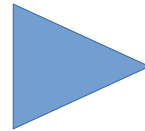
Ingresar como root

Editar

```
/var/www/nextcloud/config/config.php
```

Y agregar como **trusted domain**

```
2 => "198.162.0.*"
```



# María Andrea Vignau



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