Documentation d'installation de Proxmox VE et Proxmox Backup Server

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1. Prérequis

- Un ordinateur ou une machine virtuelle répondant aux exigences de Proxmox.
- L'image ISO de Proxmox VE ou Proxmox Backup Server (disponible sur le site officiel).

2. Installation de Proxmox

Cette section couvre l'installation de Proxmox VE ou de Proxmox Backup Server. L'exemple suivant utilise Proxmox Backup Server.

- 1. Démarrez la machine avec l'image ISO de Proxmox.
- 2. Choisissez l'option « Install Proxmox in console mode » (option 2).

Proxmox Backup Server 3.0 (iso release 1) - https://www.proxmox.com/



Welcome to Proxmox Backup Server

Install Proxmox Backup Server (Graphical) Install Proxmox Backup Server (Console) Advanced Options

enter: select, arrow keys: navigate, esc: back

- Acceptez les conditions d'utilisation en sélectionnant « Agree ».

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(Abort>

- 1. Sélectionnez le disque et cliquez sur « Advanced options ». Choisissez le type de filesystem ZFS (RAID0). Cliquez sur OK.
- 2. Vérifiez les paramètres, puis cliquez sur « Next ».

	Proxmox Backup Serve	r (3.0-1) Installer	
Target harddisk:	<	/dev/sda (Virtual disk) (80.00 GiB)	>
		KAdva	nced options>
<abort></abort>		<prev< td=""><td>/ious> <next></next></td></prev<>	/ious> <next></next>

Filesystem:					<			ZFS	S (RAID0))
	ZFS is not co	mpatible wi	th hardwa.	ne RAI	D contr	ollers,	for	details see	the docume	ntation.		
		Disk set	up						Advanced	l options		
Harddisk 0:	<	/dev/sda	(Virtual	disk)	(80.00)	GiB)	>	ashift: compress: checksum: copies: hdsize:		12 < 1 80.00	on on)) GE

	Advanced bootdisk options		
Filesystem: Total size: Swap size: Minimum free LVM space:	5	ext4 XFS 2FS (RAID0) 2FS (RAID1) 2FS (RAID2-1) 2FS (RAID2-2) 2FS (RAID2-2) 2FS (RAID2-2)	> GB GB GB (0k>

	Proxmox Backup Server (3.0-1) Installer	
Target harddisk:	ZFS (RAID0)	
		<advanced options=""></advanced>
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Configurez votre région (France), le fuseau horaire et la disposition du clavier (French).

Couptraut	Proxmox Backup Server	(3.0-1) Installer	
Timezone: Keyboard layout:	< < <	Europe/Paris French	>
<abort></abort>			<previous> <mark><next></next></mark></previous>

Définissez un mot de passe root et une adresse e-mail d'administrateur.

Attribuez un nom à votre machine, configurez l'adresse IP (ex. : 192.168.2.3/24), la gateway si nécessaire, et le DNS (ex. : 127.0.0.1).

	Proxmox VE (8.0-2	2) Installer			
Management interface: Hostname (FQDN):		< pve2.infra.alle	ens192		>
IP address (CIDR): Gateway address: DNS server address:		192.168.3.2 192.168.3.254 192.168.2.1			
<abort></abort>				<previous> 🔥</previous>	lext>

- 1. Vérifiez la configuration, décochez « Automatically reboot after successful installation » si vous souhaitez retirer la clé USB avant redémarrage.
- 2. Lancez l'installation en cliquant sur « Install ».

note : Le port web par défaut est 8007 pour Proxmox Backup Server et 8006 pour Proxmox VE.

Bootdisk filesystem ZFS (RAID0) Bootdisk(s) /dev/sda Timezone Europe/Paris Keyboard layout Administator email alizeeoceane.lecerf@sfr.fr Administator email pv2.infra.alle Hostname pv2.infra.alle Host IP (CIDR) 192.168.3.2/24 Gateway 192.168.3.254 DNS 192.168.2.1	Option	Proxmox VE (8.0-2) Installer	
[X] Automatically reboot after successful installation	Bootdisk filesystem Bootdisk(s) Timezone Keyboard layout Administator email Management interface Hostname Host IP (CIDR) Gateway DNS	2FS (RAID0) /dev/sda Europe/Paris French alizeeoceane.lecerf@sfr.fr ens192 pve2.infra.alle 192.168.3.2244 192.168.3.254 192.168.2.1	
	[X] Automa	tically reboot after successful installation	
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	Proxmox Backup Server (3.0-1) Installer	
- -	2 %	
	create partitions	
<abort></abort>		

3. Accès à l'interface web

Une fois l'installation terminée et la machine redémarrée, connectez-vous via la console Proxmox avec le compte root.

Notez l'adresse IP affichée (ex. : https://192.168.2.3:8007).

Ouvrez votre navigateur et accédez à cette adresse. Ignorez l'avertissement de sécurité et continuez vers le site.

Connectez-vous avec les identifiants root et le mot de passe défini durant l'installation

▲	Non sécurisé	I	https://192.168.3.2:8006	

_	_
Vo	tre connexion n'est pas privée
Les u exem	tilisateurs malveillants essaient peut-être de voler vos informations de 192.168.3.2 (par ple, les mots de passe, les messages ou les cartes de crédit).
NET:E	RR_CERT_AUTHORITY_INVALID
Av	ancé Retour
Proxmox \	/E Login
User name:	
Password:	
Realm:	Linux PAM standard authentication
Language:	English - English

× PRO×M	Virtual Environment	8.0.3 Search										6	Documentation	Create VM	Create CT	🔺 rool@parn 🦄
Server View	~ 0	Datacenter														Help
III Datacenter		1												Received of		
pve2		Q Search												Search:		
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		D Notes		🚯 node	pve2	6.9 %	32.6 %	3.8% of 2	00.02.02							
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		Cluster		a storage	local (pve2)	6.9 %										
		aga Cepn		Storage	local-zfs (pve2)	0.0 %			-							
		Options														
		Storage														
		🖺 Backup														
		13 Replicati	on .													
		Permissi	ons													
		& Users														
Tasks Cluster Id	9															
Start Time ↓	End Time	Node	User name	D	escription										Status	
Eab 10 11:34:25	Feb 10 11:34:25	eve2	moti@nam	S	tart all VMs and Containers										OK	

4. Ajout d'une image ISO ou d'un template

Pour ajouter une image ISO ou un template :

- 1. Accédez à l'interface web de Proxmox.
- 2. Dans le menu de gauche, sélectionnez le stockage cible (ex. : NFS).
- 3. Cliquez sur « ISO Images » ou « CT Templates ».
- 4. Cliquez sur « Upload » puis « Select File ». Sélectionnez votre image ISO.



Cliquez sur « Upload » pour lancer le transfert.

File:	C:\fakepath\debian-12.9.0-amdt Select Fil
File name:	debian-12.9.0-amd64-netinst.iso
File size:	632.00 MiB
MIME type:	-
Hash algorithm:	None
Checksum:	none

Une fois le transfert terminé, le message « Task OK » confirme la réussite.



5. Création d'un cluster Proxmox

Pour créer un cluster dans Proxmox :

- 1. Accédez à l'onglet « Datacenter » puis cliquez sur « Cluster ».
- 2. Cliquez sur « Create Cluster ».

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	nment	8.0.3 Search	@ Documentation 🖵 Create VM	Create CT	💄 root@pam 🗸
Server View	~ 0	Datacenter			@ Help
✓ ■ Datacenter ✓ ● pve1		O Search	Cluster Information		
100 (Windows) III localnetwork (pve1)		Summary	Create Cluster Join Information Join Cluster		
local (pve1)		D Notes	Standalone node - no cluster defined		
local-zfs (pve1)		E Cluster	Cluster Nodes		
		Ceph	Nodename	ID ↑	Votes
		Options			
		Storage			
		Backup			
		13 Replication			
		Permissions			
		•			
Tasks Cluster log					

Indiquez le nom du cluster, puis cliquez sur « Create ».

Cluster Name:	ClusterInfra
Cluster Network:	Link: 0 🗘 192.168.3.1 🗸 🗎
	Add Multiple links are used as failover, lower numbers have higher priority.
O Hala	Cros

Patientez jusqu'à l'apparition du message « Task OK ».

15	Task viewer: Create Cluster	\otimes
e	Output Status	
hc	Stop	🛓 Download
at a set of the set of	Corosync Cluster Engine Authentication key generator. Gathering 2048 bits for key from /dev/urandom. Writing corosync angle to /etc/pre/corosync.conf Restart corosync and cluster filesystem TASK OK	
	VM/CT 100 - Console	

6. Rejoindre un cluster

- 1. Depuis un autre serveur Proxmox, accédez à « Cluster ».
- 2. Cliquez sur « Join Information » depuis le serveur maître, puis copiez les informations affichées.

-				
er				
-h			Cluster Information	
na	ry		Create Cluster Join Information Join Cluster	
5			Cluster Name: ClusterInfra	Co
er			Cluster Nodes	
1			Nodename	
		te Cluster Join Ir	formation Join Cluster	
		r Name: Cluster	Infra Config Version: 1	
	Clus	Cluster Join Info	rmation	\otimes
	Nod pve1	Copy the Join Info	rmation here and use it on the node you want to add.	.3.1
		IP Address:	192.168.3.1	
		Fingerprint:	D7:02:B0:55:47:52:44:2A:79:BD:13:48:40:F7:D5:2C:8B:CC:3B:9C:EE:FC:C8:AD:16:DE:44:71:5D:6E:58:F2	
		Join Information:	eyJpcEFkZHJIc3MiOilxOTluMTY4LjMuMSIsImZpbmdlcnByaW50IjoiRDc6MDI6QjA6NTU6NDc6NTI6NDQ6MkE6 Nzk6QkQ6MTM6NDg6NDA6Rjc6RDU6MkM6OEI6Q0M6M0I6OUM6RUU6RkM6Qzg6QUQ6MTY6REU6NDQ6N zE6NUQ6NkU6NTg6RjliLCJwZWVyTGlua3MiOnsiMCI6IjE5Mi4xNjguMy4xIn0sInJpbmdfYVRkcil6WylxOTluMT Y4LiMuMSJdLCJ0h3RIbSI6ev.lib25maWdfdmVvc2lvbil6liEiLCJpcE92ZXJzaW9ulioiaXB2NC02liwidmVvc2lvbil6li	
	_	Copy Information		
m		Shell		
-		Croate Cluste	ir.	

- 1. Sur le serveur secondaire, cliquez sur « Join Cluster ».
- 2. Collez les informations, saisissez l'adresse IP du nœud principal et le mot de passe root.
- 3. Cliquez sur « Join Cluster ».

Attention : Chaque nœud du cluster doit avoir un nom unique.

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Server View	~ 0	Datacenter			@ Help
Datacenter Detacenter pve1 U0 (Windows)		Q Search	Cluster Information Cesete Cluster Join Information Join Cluster		
local (pve1)		□ Notes	Standalone node - no cluster defined		
Iocal-zfs (pve1)		E Cluster	Cluster Nodes		
		Ceph Ceph	Nodename	ID ↑	Votes
		Storage			
		Backup			
		Replication			
		Permissions			
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Tasks Cluster log					

dalone node - r	o cluster defi	fined				
Cluster Joi	n					Q
Assisted	join: Paste er	ncoded cluster join informa	tion and enter pa	issword.		
Information:	Q6Nz IuMTY Ivbil6I 7ljAi0	zE6NUQ6NkU6NTg6RjliLC Y4LjMuMSJdLCJ0b3RlbSli ljlLCJsaW5rX21vZGUiOJj DnsibGlua251bWJlcil6ljAifX	JwZWVyTGlua31 SeyJjb25maWdfd wYXNzaXZIIiwiY 30sInNIY2F1dGgi	MiOnsiMCl6ljE5 ImVyc2lvbil6ljEil 2x1c3Rlcl9uYW OiJvbiJ9fQ==	Mi4xNjguMy4xIn0sInJpb LCJpcF92ZXJzaW9uljoi 11ljoiQ2x1c3RlckluZnJhl	mdfYWRkcil6WylxOT aXB2NC02liwidmVyc2 wiaW50ZXJmYWNIIjp
Peer Addres	s: 192.1	68.3.1		Password:	••••••	
Fingerprint:	D7:02	2:B0:55:47:52:44:2A:79:BD	:13:48:40:F7:D5:	2C:8B:CC:3B:9	C:EE:FC:C8:AD:16:DE:4	4:71:5D:6E:58:F2
Cluster Netv	/ork: Link:	0 IP resolved by node's	nostname \vee 🛛	oeer's link addre	ss: 192.168.3.1	
😧 Help						Join 'ClusterInfra
Descrip						
Update	package data	abase				

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	3.0.3 Search							
Server View 🗸 🌣	Datacenter							
pret pret pret 100 (Windows) iii localnetwork (pve1) iii localca (pve1) iii local-zfs (pve1) iii pret-zfs (pve1) pre2	Q Search Summary Notes Cluster O Ceph O Options Storage B Backup C Replication P Permissions	Cluster Inform Create Cluster Cluster Name: Cluster Node Nodename pve1 pve2	Adion Join Information ClusterInfra S	Join Cluster	Config Version: 2	ID↑ 1 2	Votes 1 1	Link 0 192.168.3.1 192.168.3.2
		1						

7. Création d'une machine virtuelle

Cliquez sur « Create VM »

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erver View	~ 0	Datacenter													O He
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		Cluster		storage	local (pve2)	6.9 %									
		(1) Ceph		Storage	local-zfs (pve2)	0.0 %			14						
		Options													
		Storage													
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		Permissi	ons –												
		1 Users													
asks Cluster lo	99														
art Time 🧅	End Time	Node	User name	D	escription									Status	
b 10 11-34-26	Feb 10 11-34-25	rwa2	mot@nam	2	art all VMs and Containers									OK	

Choisissez le nœud, l'ID et le nom de la VM.

Orcate. Vi	rtual Machine				\otimes
General	OS System Disks	CPU Memory	Network Con	firm	
Node:	pve1	~	Resource Pool:		~
VM ID:	100	0			
Name:	Windows				
0					
D					

Sélectionnez l'image ISO depuis le stockage.

Sreate: Virtual Ma	achine				
General OS	System Disks Cl	PU Memory	Network	Confirm	
OUse CD/DVD o	lisc image file (iso)		Guest OS:		
Storage:	NFS	\sim	Туре:	Linux	
ISO image:	Windows.iso	\sim	Version:	6.x - 2.6 Kernel	
O Use physical C	D/DVD Drive				
🔿 Do not use any	/ media				

Configurez le disque dur (stockage, taille, etc.).

	Create: Vi	rtual Mach	hine			(
	General	OS S	ystem Disks	CPU Memory Networ	k Confirm	
1	scsi0	Û	Disk Bandwi	dth		
ge I						
ge I			Bus/Device:	SCSI V 0 C	Cache:	Default (No cache) ~
ge l			SCSI Controller:	VirtIO SCSI single	Discard:	
			Storage:	NFS ~	IO thread:	
			Disk size (GiB):	32 🗘		
			Format:	QEMU image format ~		
_						
D						
0						
0	÷ (Add	1			
C						

Définissez le nombre de cœurs CPU et la quantité de RAM.

Create: V	irtual N	1achine					
General	OS	System	Disks Cl	PU Memory	Network	Confirm	
Sockets:		1		\Diamond	Туре:	x86-64-v2-AES	×
Cores:		1		\bigcirc	Total cores:	1	
)							
3							
A Holn						Advanced Ba	Nov

	Create: Virtual Mach	ine	\otimes
	General OS S	stem Disks CPU Memory Network Co	nfirm
	Memory (MiB):	2048	
	1		
	1		
	1		
	C		
0	S		

Sélectionnez la carte réseau et le mode de connexion.

General	OS	System	Disks	CPU	Memory	Network	Con	firm		
No netwo	ork dev	/ice								
Bridge:		vmbr0			\sim	Model:	[VirtIO (paravirtualiz	ed)	~
VLAN Tag:		no VLAN			$\hat{}$	MAC addres	s:	auto		
Firewall:		\checkmark								

Vérifiez la configuration puis cliquez sur « Finish ».

General OS	System Disks CPU Memory Network Confirm	
Key ↑	Value	
cores	1	
сри	x86-64-v2-AES	
ide2	NFS:iso/Windows.iso,media=cdrom	
memory	2048	
name	Windows	
net0	virtio,bridge=vmbr0,firewall=1	
nodename	pve1	
numa	0	
ostype	126	
scsi0	NFS:32,format=qcow2,iothread=on	
scsihw	virtio-scsi-single	
sockets	1	
vmid	100	
Start after created	1	

Lancez la VM via l'onglet Console. Si elle démarre, l'icône passera au vert.



8. Migration d'une VM

Pour migrer une machine virtuelle vers un autre nœud du cluster :

Faites un clic droit sur la VM et sélectionnez « Migrate ».

← C (2 №	on sécurisé https://192	2.168.3.2:8006/#	v1:0:=qemu%2F100:4::=	contentiso:::8::2				A* 12	Ф 🕼	¢۲ 🖗	🧑
× PRO×MO	Xirtual Environment 8	3.0.3 Search					@ Document	ation 🖵 Cre	ale VM 🛛 😭 C	reate CT	root@pam ~
Server View	~ 0	Virtual Machine	a 100 (Windows) on node	pvel No Tags 🖋		▶ Start	🖒 Shutdown 🗸	🕼 Migrate	>_ Console	~ More	Help
El Datacetter (Cluster De pro1 Dealettorno	S) (Yu 100 (III Pause ▲ Hibernate et) © Shutdown ■ Step ■ Step ■ Step ■ Step ■ Step ■ Cone © Cone Conesele	Summary Console Gammary Console Hardware Cloud-Init Options Task Histor Monitor Backup Gammary Snapshots	• •								
Tasks Cluster log											
Start Time \downarrow	End Time	Node	User name	Description					Status		
Feb 16 19:15:30	P	pve2	root@pam	VM/CT 100 - Console							-
Feb 12 17:29:29	-	pve1	root@pam	Shell						0	0
Feb 16 19:15:24	Feb 16 19:15:26	pve1	root@pam	VM 100 - Start					ок		
Eab 16 19:06:27	Eab 16 19:06:29	munt	root@nam	VM 100 Start					OK		

Dans la fenêtre qui s'ouvre, cliquez de nouveau sur « Migrate ».

Migrate VM 1	00			
Source node:	pve1	Target node:	pve2	~
Mode:	Online			
Help				Migrat

Une fois le processus terminé, le message « Task OK » s'affiche.

Task viewer: VM 100 - Migrate (pve1> pve2)	\otimes
Output Status	
Stop	🛓 Download
2025-02-16 19:16:38 starting migration of VM 100 to node 'pve2' (192.168.3.2) 2025-02-16 19:16:38 starting VM 100 on remote node 'pve2' 2025-02-16 19:16:43 starting online/live migration on unix:/run/qemu-server/100.migrate 2025-02-16 19:16:43 starting online/live migration on unix:/run/qemu-server/100.migrate 2025-02-16 19:16:43 starting online/live migration on unix:/run/qemu-server/100.migrate 2025-02-16 19:16:43 migration capabilities 2025-02-16 19:16:43 migration cachesize: 256.0 MiB 2025-02-16 19:16:43 start migrate command to unix:/run/qemu-server/100.migrate 2025-02-16 19:16:43 start migrate command to unix:/run/qemu-server/100.migrate 2025-02-16 19:16:45 migration active, transferred 155.3 MiB of 2.0 GiB VM-state, 197.2 MiB/s 2025-02-16 19:16:46 migration active, transferred 33.6 MiB of 2.0 GiB VM-state, 197.2 MiB/s 2025-02-16 19:16:47 migration active, transferred 33.6 MiB of 2.0 GiB VM-state, 295.3 MiB/s 2025-02-16 19:16:47 migration active, transferred 519.9 MiB of 2.0 GiB VM-state, 295.3 MiB/s 2025-02-16 19:16:49 migration status: completed 2025-02-16 19:16:49 migration finished successfully (duration 00:00:16) TASK OK	

La VM est désormais hébergée sur le nouveau nœud.

★ Astuce : Pour garantir la migration, assurez-vous que les fichiers ISO soient disponibles sur un stockage partagé entre les nœuds.

