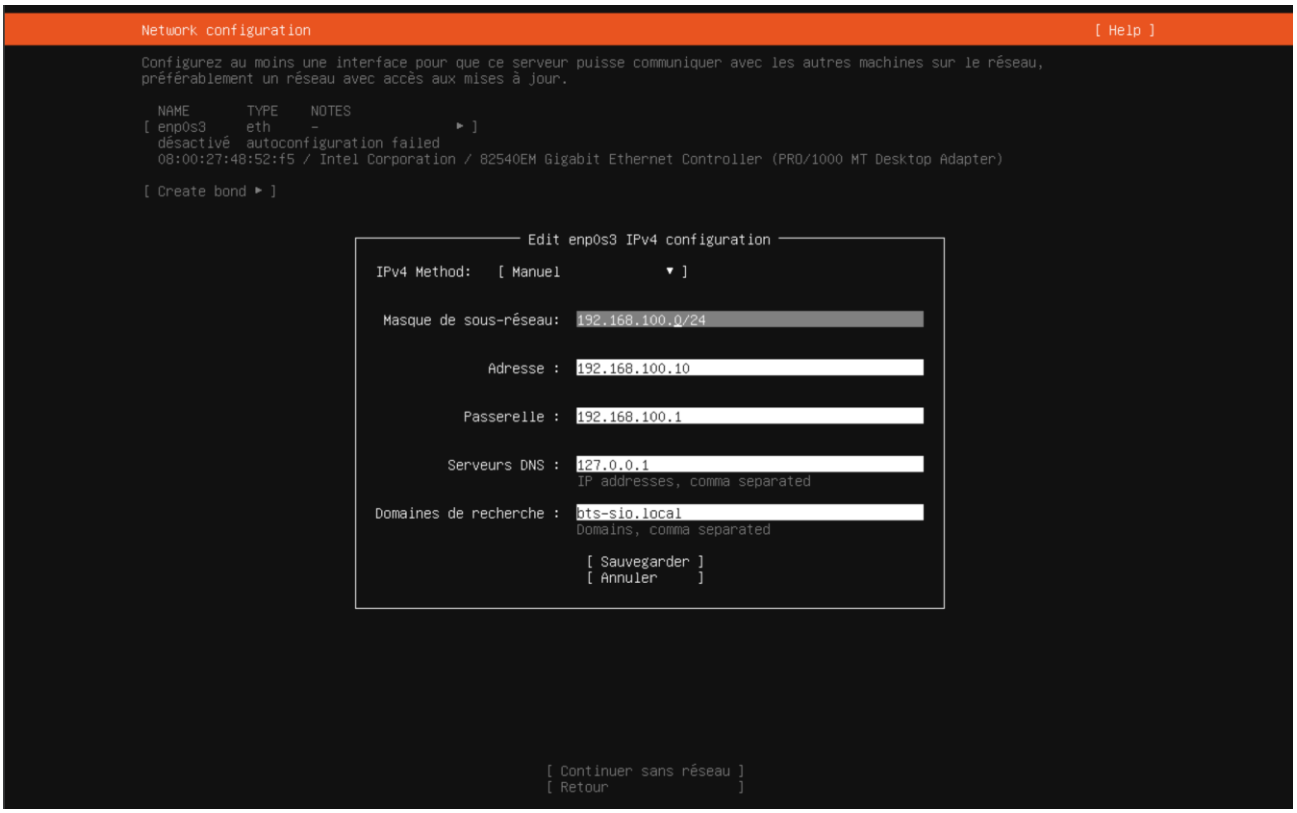
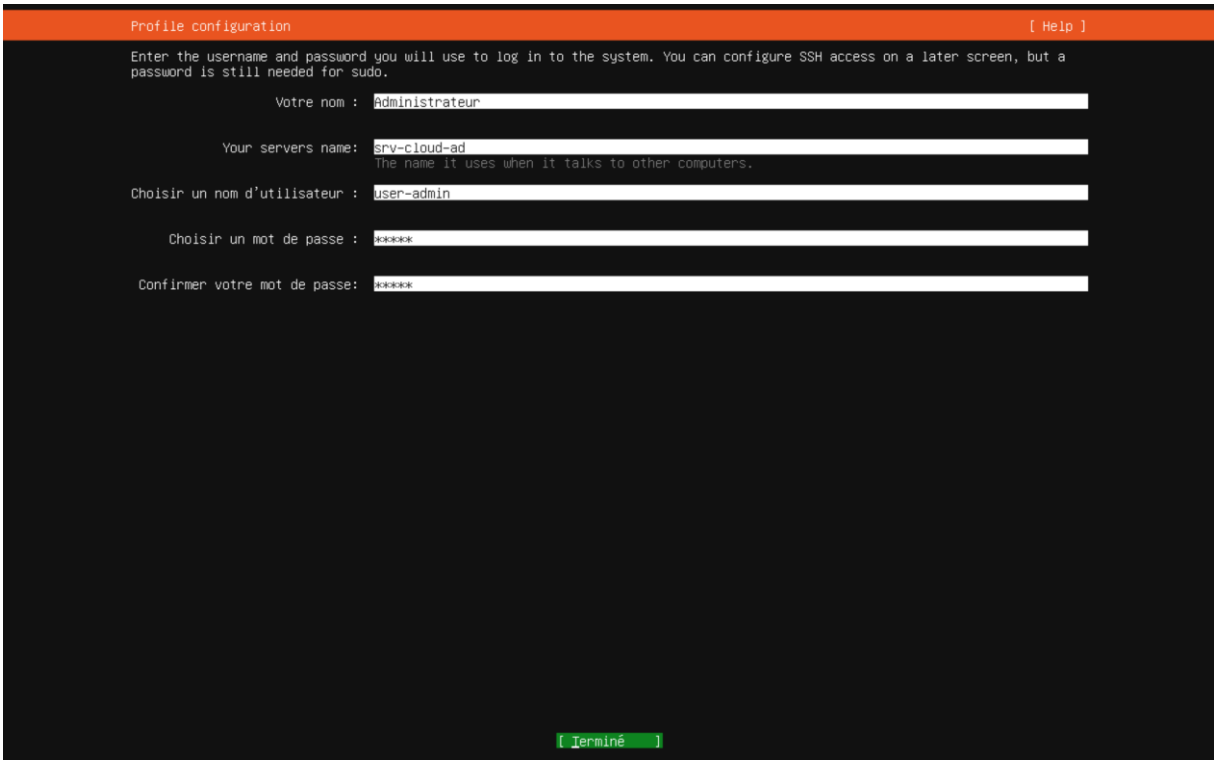
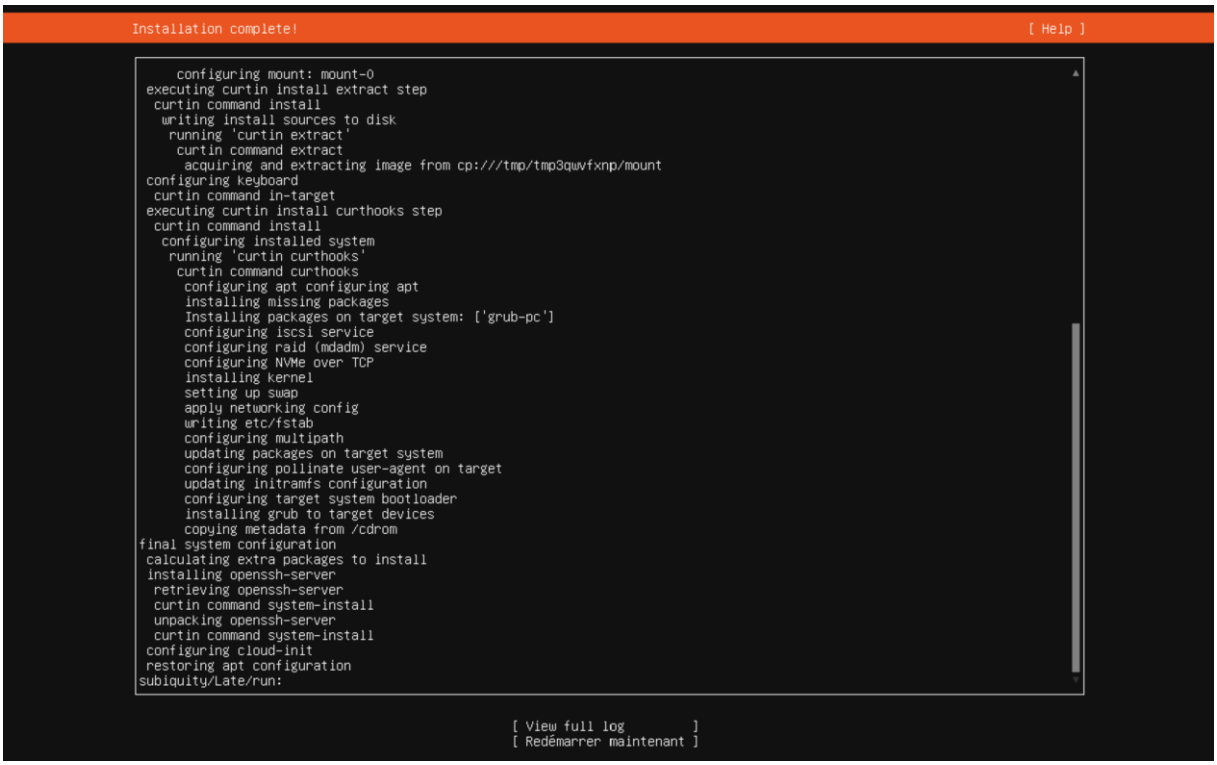
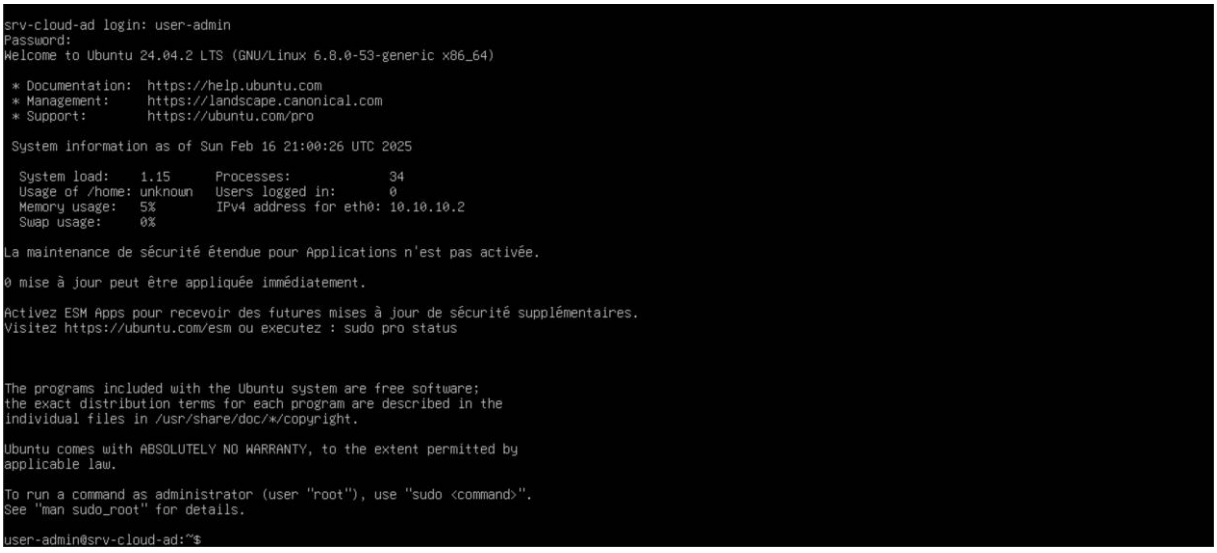
Cloud privé avec Nextcloud : Infrastructure sécurisée : LDAP Samba, Netdata, sauvegarde rsync






Installation complete!
[Help]
configuring mount: mount-0
executing curtin install extract step
curtin command install
writing install sources to disk
running 'curtin extract'
curtin command extract
acquiring and extracting image from cp:///tmp/tmp3qwvfxnp/mount
configuring keyboard
curtin command in-target
executing curtin install curthooks step
curtin command install
configuring installed system
running 'curtin curthooks'
curtin command curthooks
configuring apt configuring apt
installing missing packages
Installing packages on target system: ['grub-pc']
configuring iscsi service
configuring raid (mdadm) service
configuring NVMe over TCP
installing kernel
setting up swap
apply networking config
writing etc/fstab
configuring multipath
updating packages on target system
configuring pollinate user-agent on target
updating initramfs configuration
configuring target system bootloader
installing grub to target devices
copying metadata from /cdrom
final system configuration
calculating extra packages to install
installing openssh-server
retrieving openssh-server
curtin command system-install
unpacking openssh-server
curtin command system-install
configuring cloud-init
restoring apt configuration
subiquity/Late/run:
[View full log]
[Redémarrer maintenant]


srv-cloud-ad login: user-admin
Password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-53-generic x86_64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/pro
System information as of Sun Feb 16 21:00:26 UTC 2025
System load: 1.15 Processes: 34
Usage of /home: unknown Users logged in: 0
Memory usage: 5% IPv4 address for eth0: 10.10.10.2
Swap usage: 0%
La maintenance de sécurité étendue pour Applications n'est pas activée.
0 mise à jour peut être appliquée immédiatement.
Activez ESM Apps pour recevoir des futures mises à jour de sécurité supplémentaires.
Visitez https://ubuntu.com/esm ou executez : sudo pro status
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
user-admin@srv-cloud-ad:~$

```
 GNU nano 7.2                                /etc/netplan/80-installer-config.yaml
network:
  version: 2
  renderer: networkd
  ethernets:
    enp0s3:
      addresses:
        - 192.168.100.10/24
      nameservers:
         addresses: [127.0.0.1]
```

```
user-admin@srv-cloud-ad:~$ sudo chmod 600 /etc/netplan/80-installer-config.yaml
user-admin@srv-cloud-ad:~$ sudo netplan apply
user-admin@srv-cloud-ad:~$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:48:52:f5 brd ff:ff:ff:ff:ff:ff
    inet 192.168.100.10/24 brd 192.168.100.255 scope global enp0s3
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe48:52f5/64 scope link
       valid_lft forever preferred_lft forever
user-admin@srv-cloud-ad:~$
```


```
ser-admin@srv-cloud-ad:~$ ping -c 3 8.8.8.8
ING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
4 bytes from 8.8.8.8: icmp_seq=1 ttl=115 time=17.2 ms
4 bytes from 8.8.8.8: icmp_seq=2 ttl=115 time=18.9 ms
4 bytes from 8.8.8.8: icmp_seq=3 ttl=115 time=64.3 ms

-- 8.8.8.8 ping statistics ---
 packets transmitted, 3 received, 0% packet loss, time 2003ms
tt min/avg/max/mdev = 17.184/33.472/64.285/21.799 ms
ser-admin@srv-cloud-ad:~$
```

update

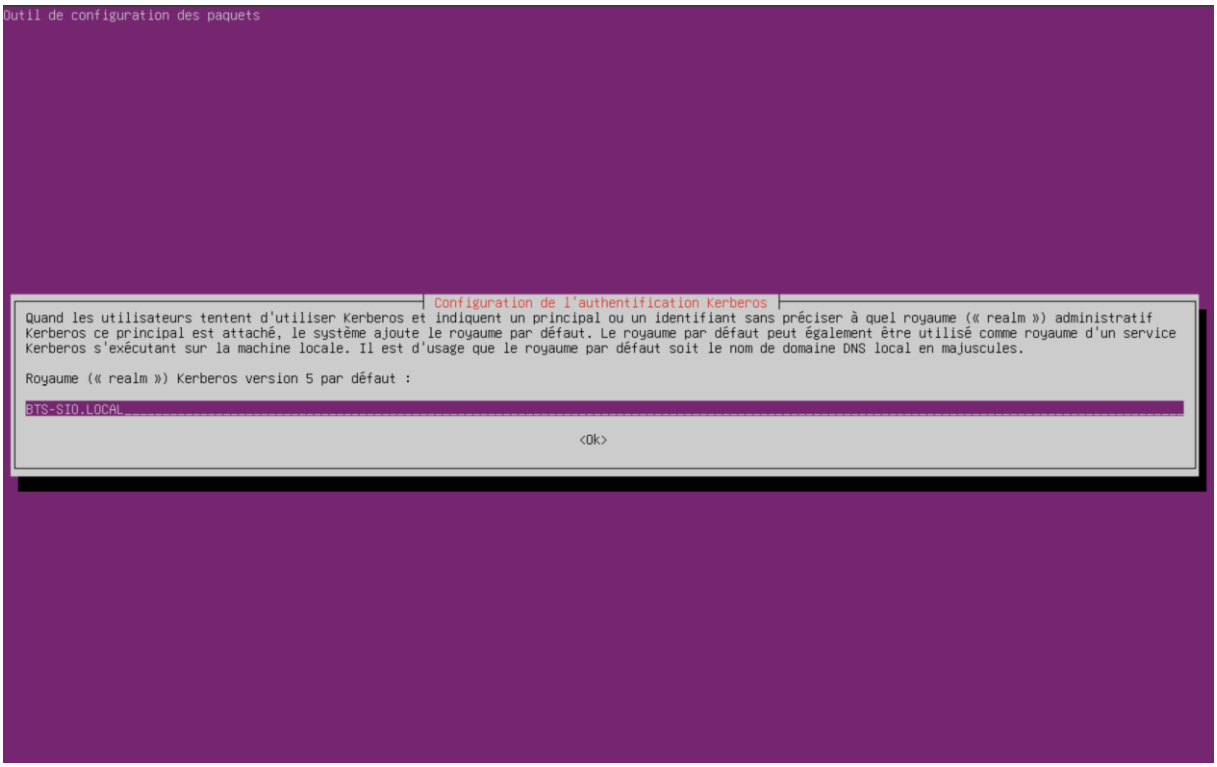
```
user-admin@srv-cloud-ad:~$ sudo apt upgarde
E: L'opération upgarde n'est pas valable
user-admin@srv-cloud-ad:~$ sudo apt upgrade
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances... Fait
Lecture des informations d'état... Fait
Calcul de la mise à jour... Fait
0 mis à jour, 0 nouvellement installés, 0 à enlever et 0 non mis à jour.
user-admin@srv-cloud-ad:~$ sudo apt upgrade
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances... Fait
Lecture des informations d'état... Fait
Calcul de la mise à jour... Fait
0 mis à jour, 0 nouvellement installés, 0 à enlever et 0 non mis à jour.
user-admin@srv-cloud-ad:~$ _
```

sudo apt install samba krb5-user krb5-config winbind smbclient -y

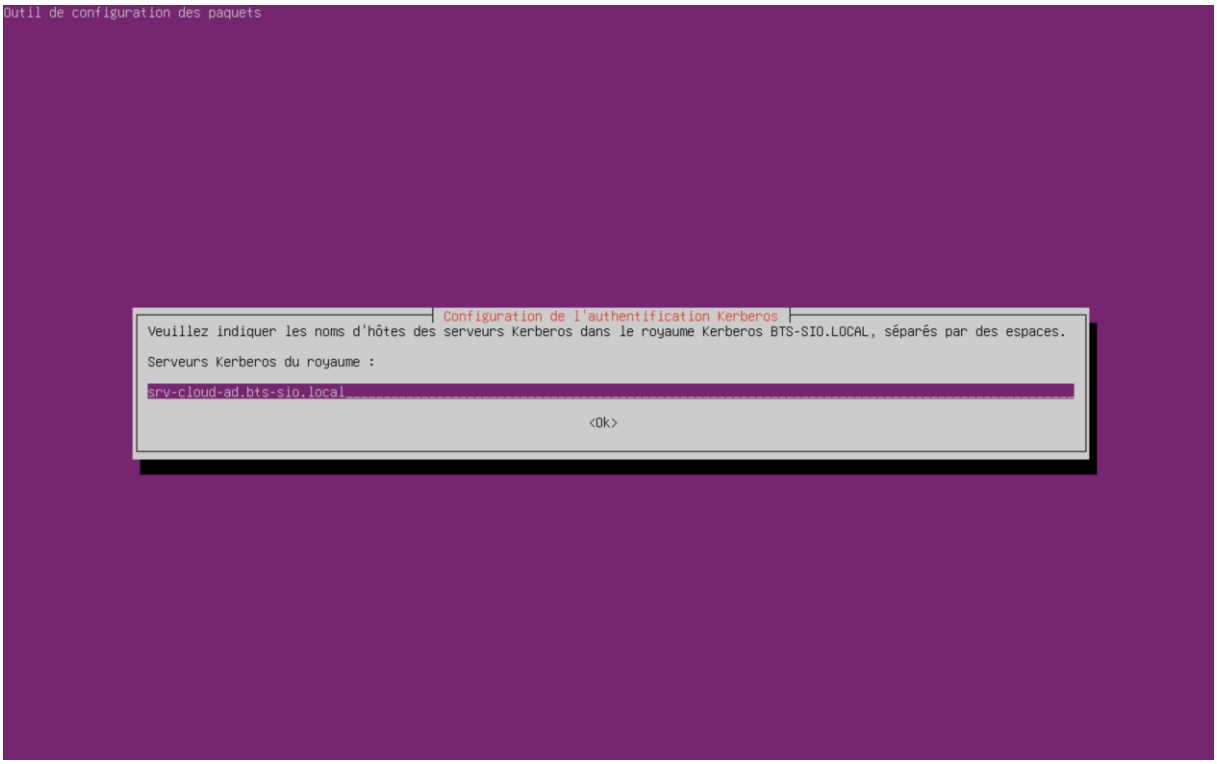
sudo apt update

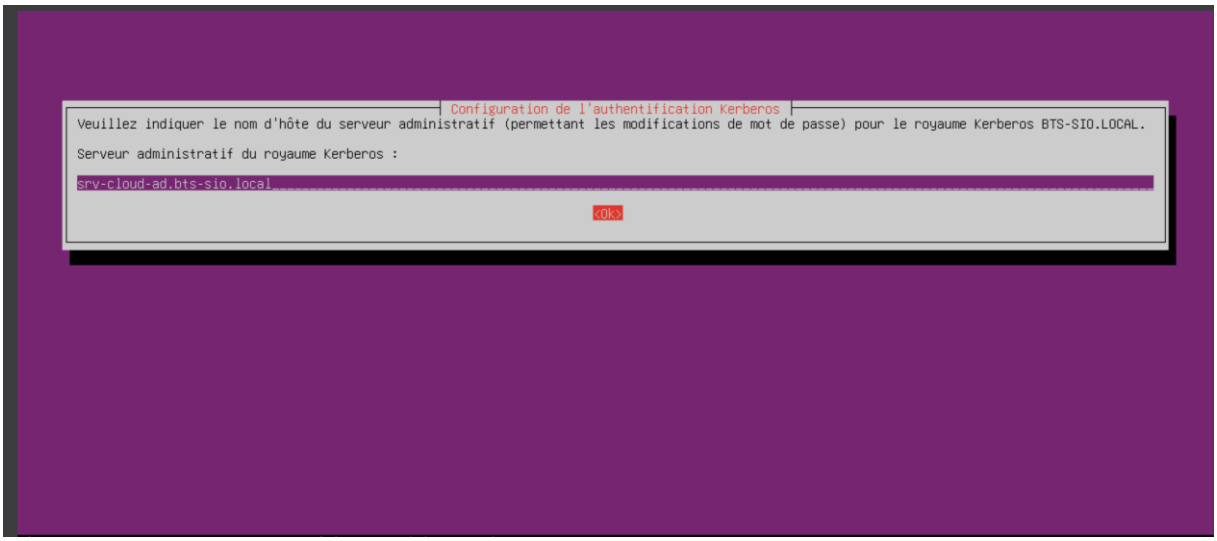
sudo apt upgrade -y

sudo apt install samba krb5-user krb5-config winbind smbclient -y



Tu indiques le nom d'hôte complet (FQDN) de ton serveur Kerberos (celui que tu es en train de configurer actuellement).





création de ton AD

sudo mv /etc/samba/smb.conf /etc/samba/smb.conf.old

sudo samba-tool domain provision --use-rfc2307 --interactive

Realm **BTS-SIO.LOCAL**

Domain **BTS-SIO**

Server Role **dc**

DNS backend **SAMBA_INTERNAL**

```
user-admin@srv-cloud-ad:~$ sudo mv /etc/samba/smb.conf /etc/samba/smb.conf.old
[sudo] password for user-admin:
user-admin@srv-cloud-ad:~$ sudo samba-tool domain provision --use-rfc2307 --interactive
Realm:  BTS-SIO.LOCAL
Domain [BTS-SIO]:  BTS-SIO
Server Role (dc, member, standalone) [dc]:  dc
DNS backend (SAMBA_INTERNAL, BIND9_FLATFILE, BIND9_DLZ, NONE) [SAMBA_INTERNAL]:  SAMBA_INTERNAL
DNS forwarder IP address (write 'none' to disable forwarding) [127.0.0.53]:  8.8.8.8
Administrator password:
Administrator password does not meet the default minimum password length requirement (7 characters).
Administrator password:
Retype password:
INFO 2025-03-21 13:45:59,111 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #2128: Looking up IPv4 addresses
WARNING 2025-03-21 13:45:59,132 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #2133: More than one IPv4 address found. Using 192.168.100.1
0
INFO 2025-03-21 13:45:59,133 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #2145: Looking up IPv6 addresses
WARNING 2025-03-21 13:45:59,169 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #2152: No IPv6 address will be assigned
INFO 2025-03-21 13:45:59,538 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #2318: Setting up share.ldb
INFO 2025-03-21 13:45:59,681 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #2322: Setting up secrets.ldb
INFO 2025-03-21 13:45:59,780 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #2327: Setting up the registry
INFO 2025-03-21 13:46:00,178 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #2330: Setting up the privileges database
INFO 2025-03-21 13:46:00,382 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #2333: Setting up idmap db
INFO 2025-03-21 13:46:00,523 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #2340: Setting up SAM db
INFO 2025-03-21 13:46:00,578 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #886: Setting up sam.ldb partitions and settings
INFO 2025-03-21 13:46:00,579 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #898: Setting up sam.ldb rootDSE
INFO 2025-03-21 13:46:00,639 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #1320: Pre-loading the Samba 4 and AD schema
Unable to determine the DomainSID, can not enforce uniqueness constraint on local domainSIDs

INFO 2025-03-21 13:46:00,739 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #1399: Adding DomainDN: DC=bts-sio,DC=local
INFO 2025-03-21 13:46:00,794 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #1431: Adding configuration container
INFO 2025-03-21 13:46:00,855 pid:3004 /usr/lib/python3/dist-packages/samba/provision/__init__.py #1446: Setting up sam.ldb schema
```

active définitivement Samba AD

sudo systemctl disable smbd nmbd winbind --now

sudo systemctl unmask samba-ad-dc

sudo systemctl enable samba-ad-dc

sudo systemctl restart samba-ad-dc

```
user-admin@srv-cloud-ad:~$ sudo systemctl disable smbd nmbd winbind --now
Synchronizing state of smbd.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install disable smbd
Synchronizing state of nmbd.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install disable nmbd
Synchronizing state of winbind.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install disable winbind
Removed "/etc/systemd/system/multi-user.target.wants/winbind.service".
Removed "/etc/systemd/system/multi-user.target.wants/smbd.service".
Removed "/etc/systemd/system/multi-user.target.wants/nmbd.service".
Removed "/etc/systemd/system/smb.service".
Removed "/etc/systemd/system/nmb.service".
```

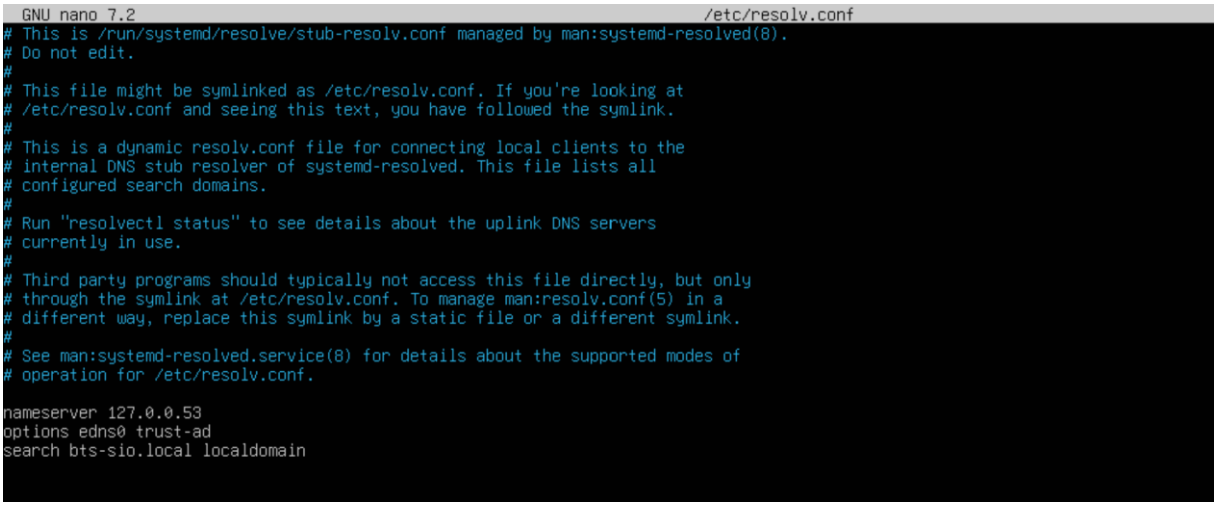
Vérification du server actif

```
● samba-ad-dc.service - Samba AD Daemon
     Loaded: loaded (/usr/lib/systemd/system/samba-ad-dc.service; enabled; preset: enabled)
     Active: active (running) since Fri 2025-03-21 13:55:36 UTC; 15s ago
       Docs: man:samba(8)
             man:samba(7)
             man:smb.conf(5)
    Process: 3667 ExecCondition=/usr/share/samba/is-configured samba (code=exited, status=0/SUCCESS)
   Main PID: 3670 (samba)
     Status: "samba: ready to serve connections..."
      Tasks: 62 (limit: 11810)
     Memory: 197.7M (peak: 270.9M)
        CPU: 9.275s
     CGroup: /system.slice/samba-ad-dc.service
             ├─3670 "samba: root process"
             ├─3671 "samba: tfork waiter process(3672)"
             ├─3672 "samba: task[s3fs] pre-fork master"
             ├─3673 "samba: tfork waiter process(3678)"
             ├─3674 "samba: tfork waiter process(3675)"
             ├─3675 "samba: task[rpc] pre-fork master"
             ├─3676 "samba: tfork waiter process(3677)"
             ├─3677 "samba: task[nbt] pre-fork master"
             ├─3678 /usr/sbin/smbd -D "--option=server role check:inhibit=yes" --foreground
             ├─3679 "samba: tfork waiter process(3681)"
             ├─3680 "samba: tfork waiter process(3683)"
             ├─3681 "samba: task[rpc] pre-forked worker(0)"
             ├─3682 "samba: tfork waiter process(3685)"
             ├─3683 "samba: task[wrepl] pre-fork master"
             ├─3684 "samba: tfork waiter process(3687)"
             ├─3685 "samba: task[rpc] pre-forked worker(1)"
             ├─3686 "samba: tfork waiter process(3690)"
             ├─3687 "samba: task[ldap] pre-fork master"
             ├─3688 "samba: tfork waiter process(3689)"
             ├─3689 "samba: task[cldap] pre-fork master"
             ├─3690 "samba: task[rpc] pre-forked worker(2)"
             ├─3691 "samba: tfork waiter process(3692)"
             ├─3692 "samba: task[kdc] pre-fork master"
             ├─3693 "samba: tfork waiter process(3694)"
             ├─3694 "samba: task[rpc] pre-forked worker(3)"
             ├─3695 "samba: tfork waiter process(3699)"
             ├─3696 "samba: tfork waiter process(3697)"
             ├─3697 "samba: task[kdc] pre-forked worker(0)"
             ├─3698 "samba: tfork waiter process(3701)"
             ├─3699 "samba: task[drepl] pre-fork master"
             ├─3700 "samba: tfork waiter process(3703)"
             ├─3701 "samba: task[kdc] pre-forked worker(1)"
             ├─3703 "samba: task[winbindd] pre-fork master"
             ├─3704 "samba: tfork waiter process(3708)"
             ├─3705 "samba: tfork waiter process(3707)"
             ├─3706 "samba: tfork waiter process(3709)"
lines 1-49
```

Étapes suivantes immédiates pour vérifier le bon fonctionnement : nameserver 127.0.0.1

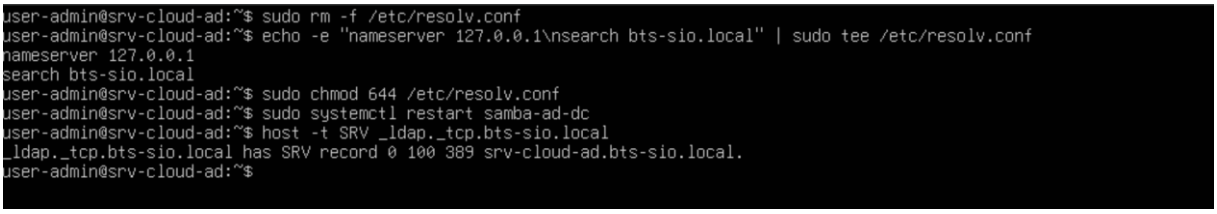
search bts-sio.local

sudo nano /etc/resolv.conf



host -t SRV _ldap._tcp.bts-sio.local

sinon



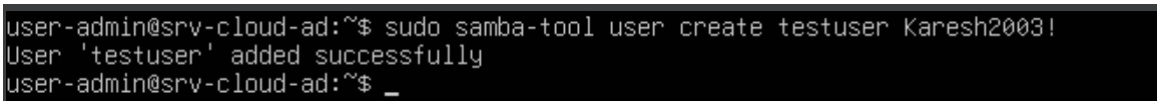
Puis sudo systemctl restart samba-ad-dc

host -t SRV _ldap._tcp.bts-sio.local

serveur Active Directory sous Linux (Samba AD) est maintenant officiellement opérationnel !

Créer ton premier utilisateur test dans l'AD

sudo samba-tool user create testuser Motdepasse123!



```
user-admin@srv-cloud-ad:~$ sudo samba-tool user create testuser Karesh2003!
User 'testuser' added successfully
user-admin@srv-cloud-ad:~$ sudo samba-tool user list
Guest
testuser
Administrator
krbtgt
user-admin@srv-cloud-ad:~$
```

Prochaine grande étape

📝 Résumé clair de ta configuration actuelle (à conserver précieusement pour ton projet) :

VM	Ubuntu Server (24.04 LTS)
Adresse IP (Interne)	`192.168.100.10`
Nom de domaine (AD)	`BTS-SIO.LOCAL`
Nom hôte complet	`srv-cloud-ad.bts-sio.local`
DNS local	`127.0.0.1`
Forward DNS	`8.8.8.8`
Utilisateur test AD	`testuser` (Motdepasse123!)
Interface NAT Internet	activée (IP dynamique : 10.0.3.15)

Tu vas installer et configurer ta VM Nextcloud pour ensuite :

- **L'intégrer précisément à ton Active Directory.**
- **Ajouter un système LDAP à Nextcloud.**
- **Ajouter une supervision avec Zabbix (monitoring).**

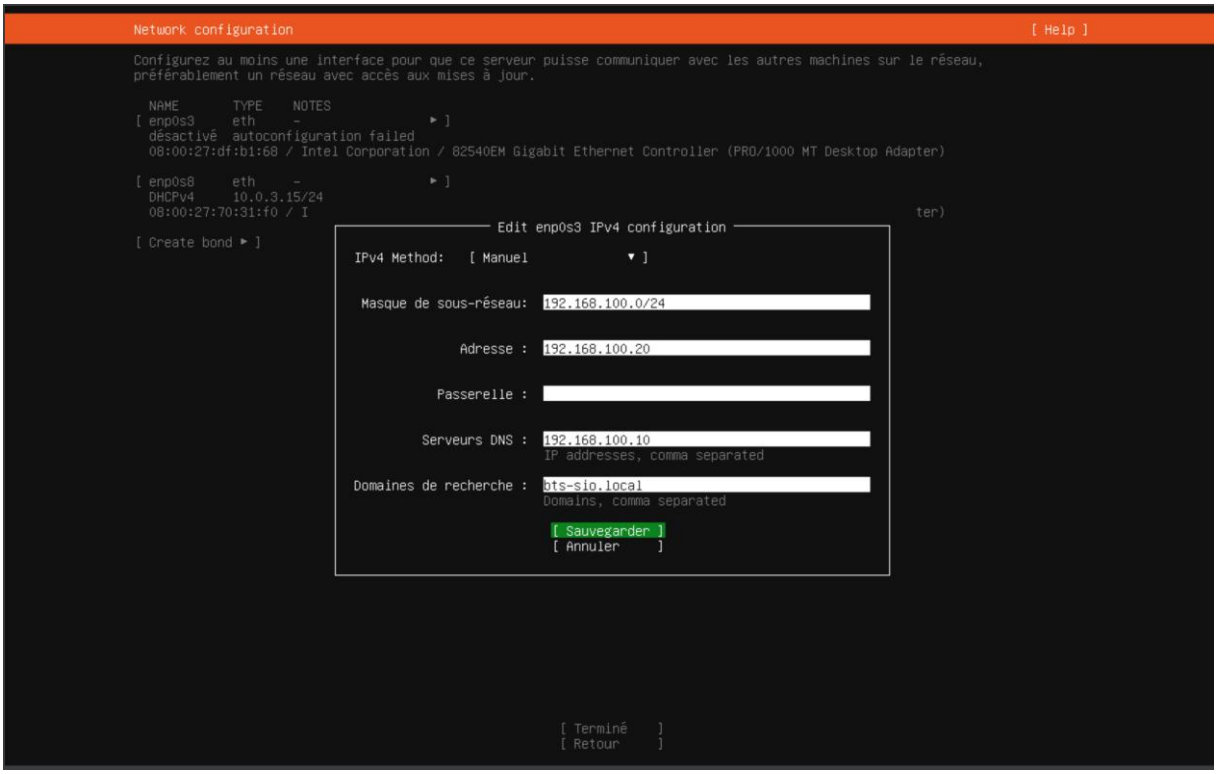
🖥️ Étape 1 : Configuration de la nouvelle VM (Nextcloud)

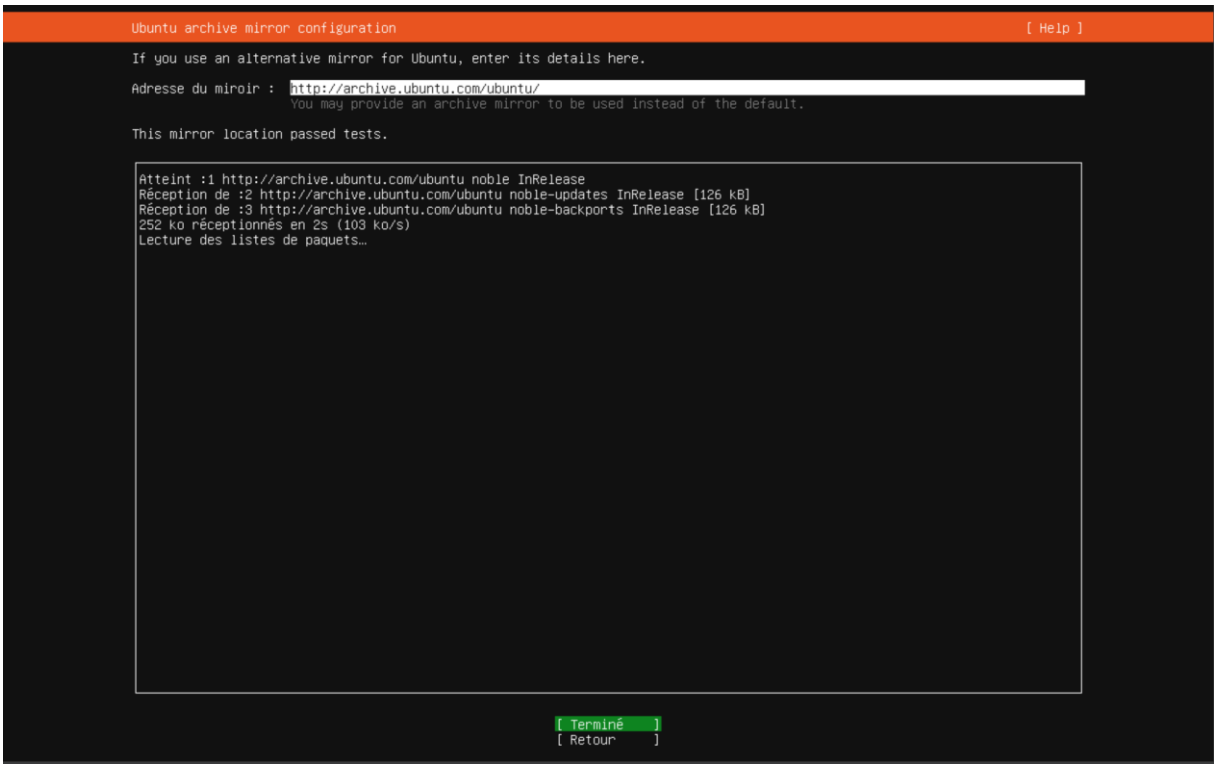
Crée immédiatement une nouvelle VM sur VirtualBox avec les paramètres précis suivants :

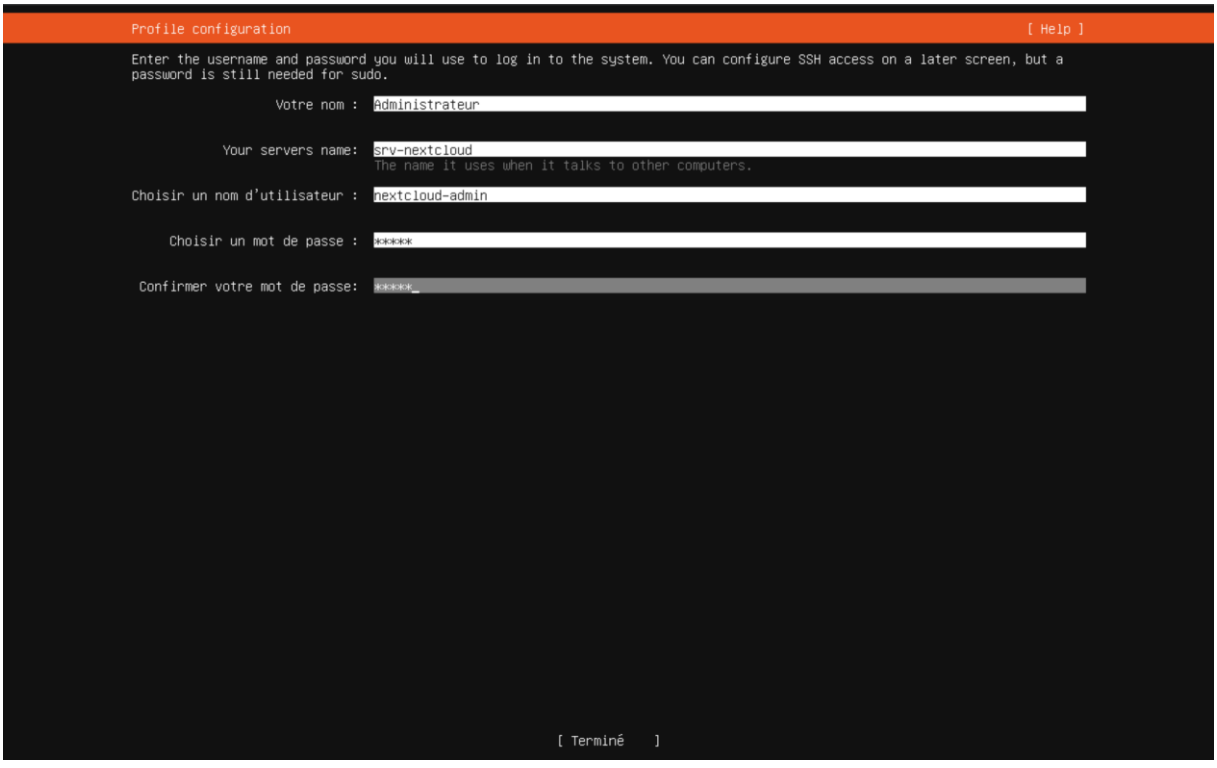
Paramètres	Valeurs recommandées
Nom VM	`srv-nextcloud`
OS	Ubuntu Server 24.04 LTS (idem AD)
RAM	4096 Mo (idéal pour Nextcloud)
CPU	2 vCPU (ou +)
Disque	30 Go minimum
Carte Réseau	2 cartes : - Réseau Interne (`intnet` , statique) - NAT (internet)

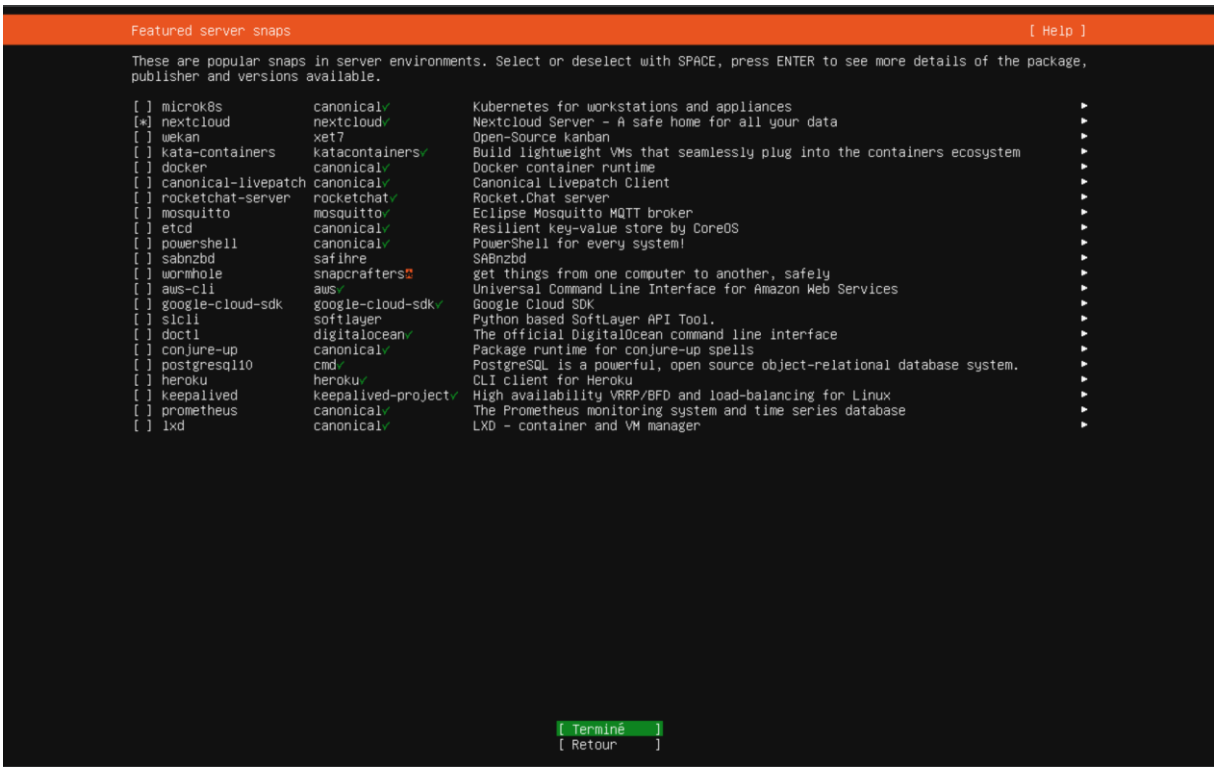
Configure immédiatement l'adressage réseau suivant pour ta VM Nextcloud durant l'installation :

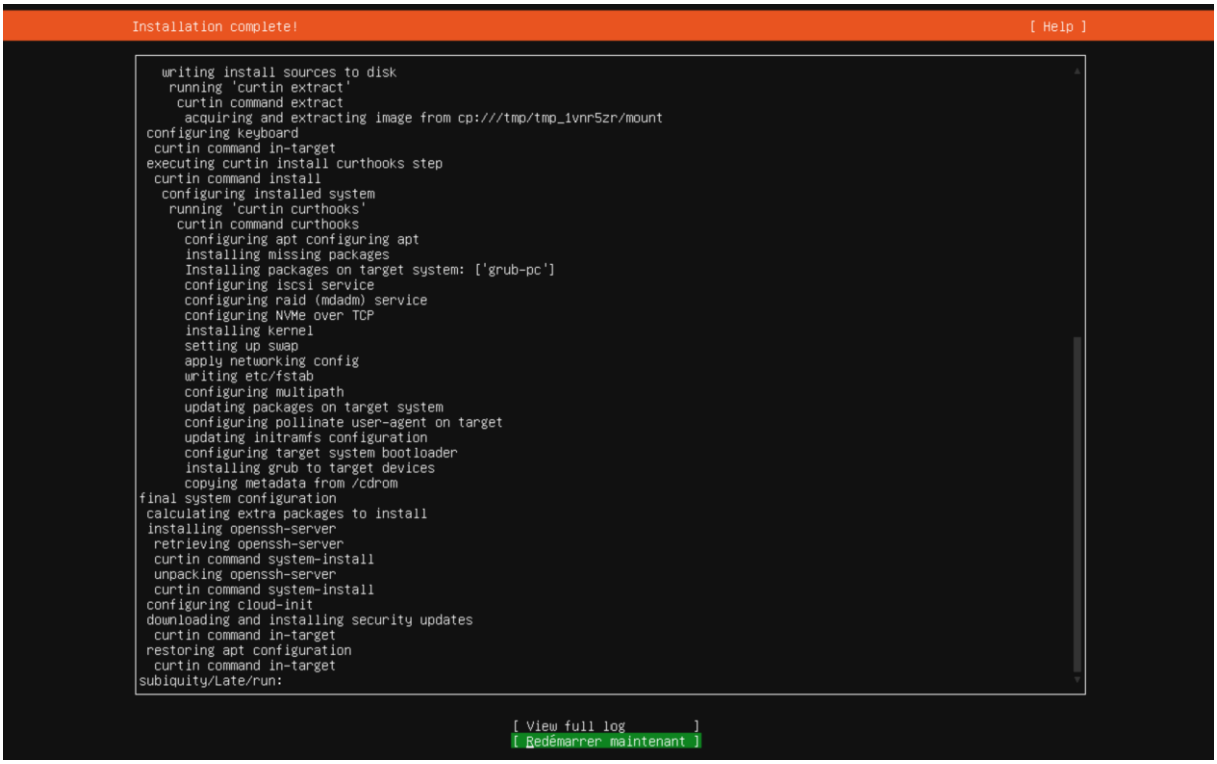
Carte Réseau	Paramètres IP précis
Interne (`intnet`)	IP : `192.168.100.20/24` Passerelle : laisse vide DNS : `192.168.100.10` (ton serveur AD)
NAT	DHCP (automatique, pas de config manuelle)




Ubuntu archive mirror configuration
[Help]
If you use an alternative mirror for Ubuntu, enter its details here.
Adresse du miroir : http://archive.ubuntu.com/ubuntu/
You may provide an archive mirror to be used instead of the default.
This mirror location passed tests.
Atteint :1 http://archive.ubuntu.com/ubuntu noble InRelease
Réception de :2 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Réception de :3 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
252 ko réceptionnés en 2s (103 ko/s)
Lecture des listes de paquets…
[Terminé]
[Retour]


Profile configuration
[Help]
Enter the username and password you will use to log in to the system. You can configure SSH access on a later screen, but a password is still needed for sudo.
Votre nom : Administrateur
Your servers name: srv-nextcloud
The name it uses when it talks to other computers.
Choisir un nom d'utilisateur : nextcloud-admin
Choisir un mot de passe : *****
Confirmer votre mot de passe: *****_
[Terminé]





Vérifier que Nextcloud est bien installé

Snap list

```
nextcloud-admin@srv-nextcloud:~$ snap list
Name    Version   Rev    Tracking       Publisher   Notes
core18  20250123  2855   latest/stable  canonical✓  base
snapd   2.67.1    23771  latest/stable  canonical✓  snapd
nextcloud-admin@srv-nextcloud:~$
```

2. Configurer Nextcloud

sudo nextcloud.manual-install admin password

Ensuite, active Nextcloud via : sudo nextcloud.occ maintenance:mode –off

Puis : Configurer l'accès web avec ip a

```
nextcloud-admin@srv-nextcloud:~$ sudo nextcloud.occ config:system:set trusted_domain 1 --value="192.168.100.10"
System config value trusted_domain => 1 set to string 192.168.100.10
nextcloud-admin@srv-nextcloud:~$ _
```

Access par pont

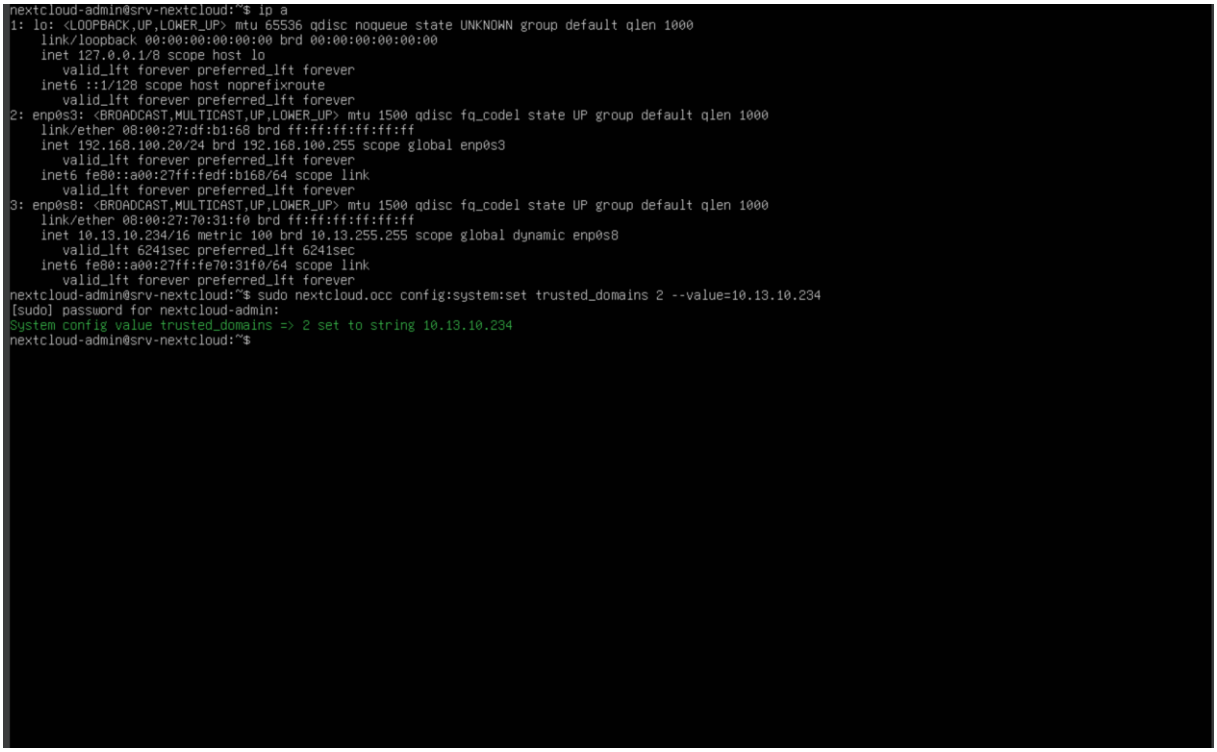
```
nextcloud-admin@srv-nextcloud:~$ sudo systemctl status snap.nextcloud.apache
[sudo] password for nextcloud-admin:
● snap.nextcloud.apache.service - Service for snap application nextcloud.apache
     Loaded: loaded (/etc/systemd/system/snap.nextcloud.apache.service; enabled; preset: enabled)
     Active: active (running) since Fri 2025-03-21 15:47:12 UTC; 2min 21s ago
   Main PID: 719 (run-httpd)
      Tasks: 84 (limit: 11914)
     Memory: 26.6M (peak: 56.7M)
        CPU: 10.194s
     CGroup: /system.slice/snap.nextcloud.apache.service
             ├─ 719 /bin/sh /snap/nextcloud/46218/bin/run-httpd -k start -DFOREGROUND
             ├─2342 /bin/sh /snap/nextcloud/46218/bin/httpd-wrapper -k start -DFOREGROUND
             ├─2391 httpd -d /snap/nextcloud/46218 -k start -DFOREGROUND
             ├─2392 httpd -d /snap/nextcloud/46218 -k start -DFOREGROUND
             ├─2393 httpd -d /snap/nextcloud/46218 -k start -DFOREGROUND
             └─2394 httpd -d /snap/nextcloud/46218 -k start -DFOREGROUND

mars 21 15:47:27 srv-nextcloud nextcloud.apache[2070]: System config value memcache.locking set to string \OC\Memcache\Redis
mars 21 15:47:28 srv-nextcloud nextcloud.apache[2138]: System config value memcache.local set to string \OC\Memcache\Redis
mars 21 15:47:30 srv-nextcloud nextcloud.apache[2202]: No such app enabled: updatenotification
mars 21 15:47:31 srv-nextcloud nextcloud.apache[1060]: Making sure nextcloud is fully upgraded...
mars 21 15:47:32 srv-nextcloud nextcloud.apache[2337]: Nextcloud is already latest version
mars 21 15:47:32 srv-nextcloud nextcloud.apache[719]: All set! Running httpd...
mars 21 15:47:32 srv-nextcloud nextcloud.apache[2342]: No certificates are active: using HTTP only
mars 21 15:47:32 srv-nextcloud nextcloud.apache[2342]: HTTP compression is disabled
mars 21 15:47:32 srv-nextcloud nextcloud.apache[2342]: notify_push reverse proxy is disabled
mars 21 15:47:32 srv-nextcloud nextcloud.apache[2391]: AH00558: httpd: Could not reliably determine the server's fully qualified domain name, using 127.0.1.1.

nextcloud-admin@srv-nextcloud:~$ sudo _
```

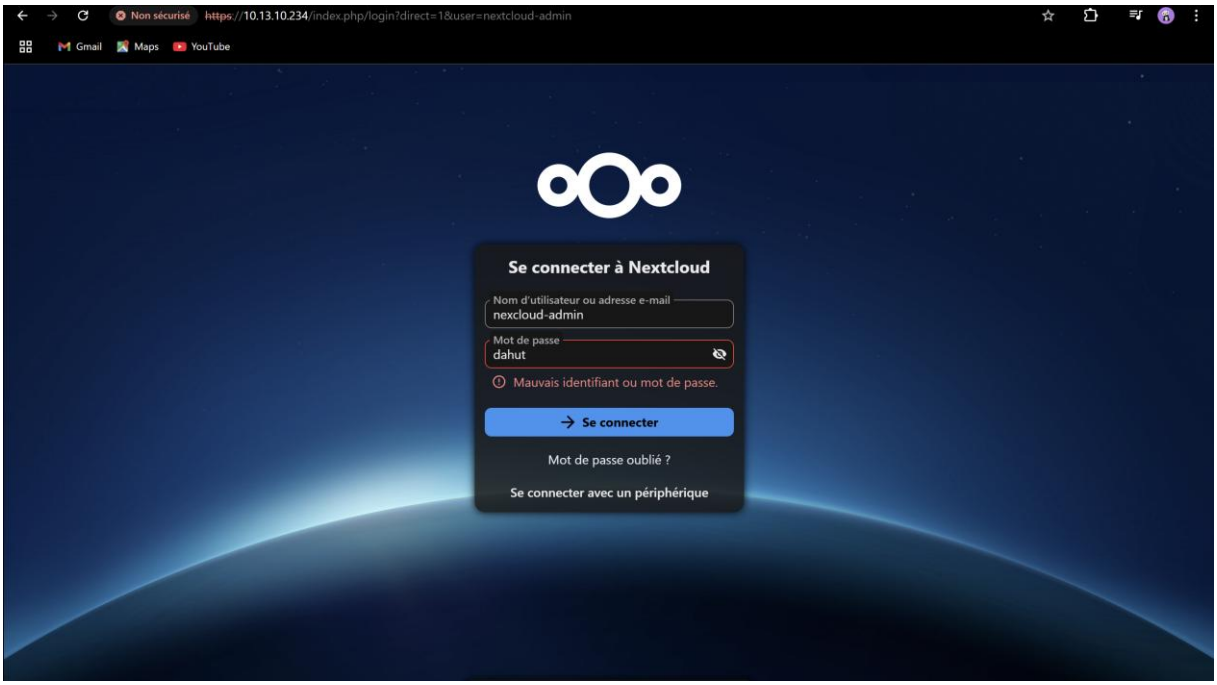
```
nextcloud-admin@srv-nextcloud:~$ dpkg -l | grep apache2
nextcloud-admin@srv-nextcloud:~$ snap service nextcloud
error: unknown command "service", see 'snap help'.
nextcloud-admin@srv-nextcloud:~$ snap services nextcloud
Service                    Startup  Current   Notes
nextcloud.apache           enabled  active    -
nextcloud.logrotate        enabled  inactive  timer-activated
nextcloud.mysql            enabled  active    -
nextcloud.nextcloud-cron   enabled  active    -
nextcloud.nextcloud-fixer  enabled  inactive  -
nextcloud.php-fpm          enabled  active    -
nextcloud.redis-server     enabled  active    -
nextcloud.renew-certs      enabled  active    -
nextcloud-admin@srv-nextcloud:~$ sudo nextcloud.occ config:system:get trusted_domains
localhost
nextcloud-admin@srv-nextcloud:~$ sudo nextcloud.occ config:system:set trusted_domains 1 --value="192.168.100.20"
System config value trusted_domains => 1 set to string 192.168.100.20
nextcloud-admin@srv-nextcloud:~$ _
```

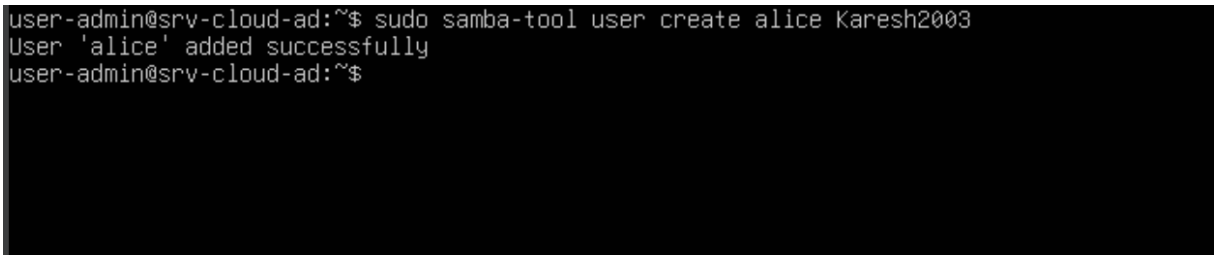
```
nextcloud-admin@srv-nextcloud:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:df:b1:68 brd ff:ff:ff:ff:ff:ff
    inet 192.168.100.20/24 brd 192.168.100.255 scope global enp0s3
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fedf:b168/64 scope link
       valid_lft forever preferred_lft forever
3: enp0s8: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:70:31:f0 brd ff:ff:ff:ff:ff:ff
    inet 10.13.10.234/16 metric 100 brd 10.13.255.255 scope global dynamic enp0s8
       valid_lft 6241sec preferred_lft 6241sec
    inet6 fe80::a00:27ff:fe70:31f0/64 scope link
       valid_lft forever preferred_lft forever
nextcloud-admin@srv-nextcloud:~$ sudo nextclou_
```

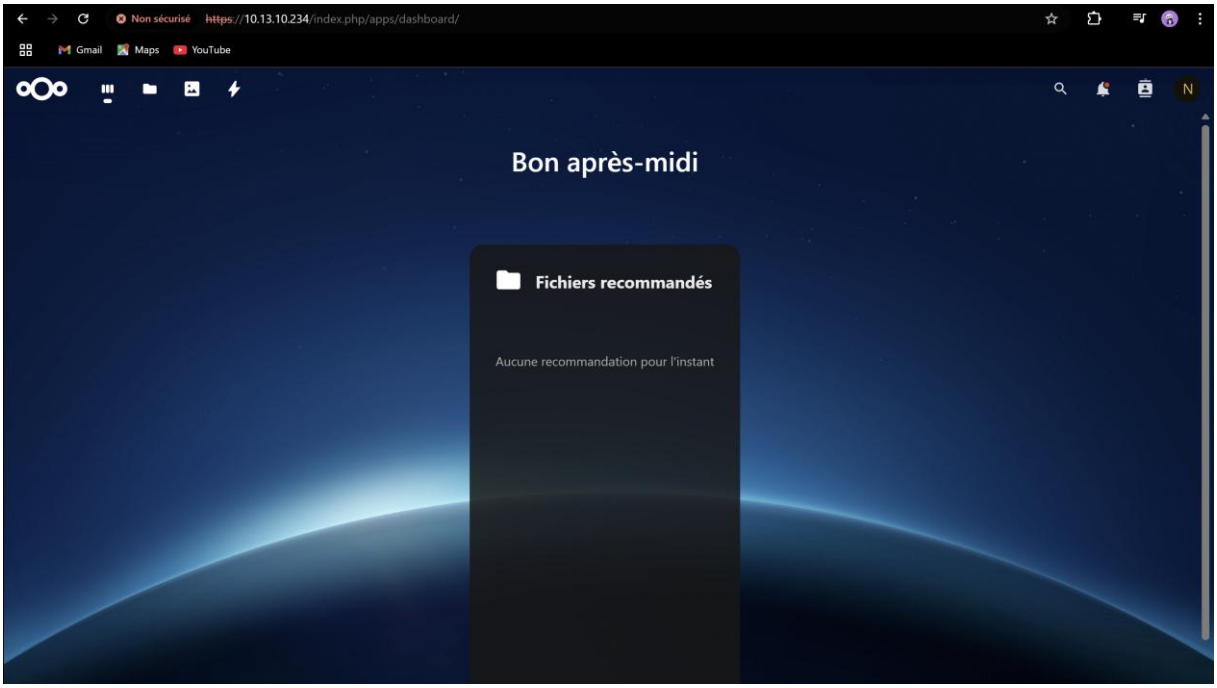


Puis, sudo systemctl restart snap.nextcloud.apache

Recharger la page







✅ Étapes pour activer LDAP dans Nextcloud (version Snap) :

1.

sudo nextcloud.occ app:enable user_ldap

```
nextcloud-admin@srv-nextcloud:~$ sudo nextcloud.occ app:enable user_ldap
user_ldap 1.21.0 enabled
nextcloud-admin@srv-nextcloud:~$ _
```

```
nextcloud-admin@srv-nextcloud:~$ sudo nextcloud.occ app:list | grep ldap
  - user_ldap: 1.21.0
nextcloud-admin@srv-nextcloud:~$
```

```
nextcloud-admin@srv-nextcloud:~$ sudo nextcloud.occ user:add Alice
Enter password:
Confirm password:
The account "Alice" was created successfully
nextcloud-admin@srv-nextcloud:~$
```