

Unprivileged LXC's - Mount CIFS shares

The solution provided by the Proxmox Wiki would require many changes to the PVE host config.

https://pve.proxmox.com/wiki/Unprivileged_LXC_containers#Using_local_directory_bind_mount_points

How does it work?

By default CIFS shares are mounted as user root(uid=0) and group root(gid=0) on the PVE host which makes them inaccessible to other users, groups and LXC's.

This is because UIDs/GIDs on the PVE host and LXC guests are both starting at 0. But a UID/GID=0 in an unprivileged LXC is actually a UID/GID=100000 on the PVE host. See the above Proxmox Wiki link for more information on this.

@[Jason Bayton](#)'s solution was to mount the share on the PVE host with the UID/GID of the LXC-User that is going to access the share. While this is working great for a single user it would not work for different LXC's with different users having different UIDs and GIDs. I mean it would work, but then you would have to create a single mount entry for your CIFS share for each UID/GID.

My solution is doing this slightly different and more effective I think.

You simply mount the CIFS share to the UID that belongs to the unprivileged LXC root user, which by default is always uid=100000.

But instead of also mounting it to the GID of the LXC root user, you are going to create a group in your LXC called `lxc_cifs_shares` with a gid=10000 which refers to gid=110000 on the PVE host.

PVE host (UID=100000/GID=110000) <--> unprivileged LXC (UID=0/GID=10000)

How to configure it

1. In the LXC (run commands as root user)

1. Create the group "lxc_shares" with GID=10000 in the LXC which will match the GID=110000 on the PVE host.

```
groupadd -g 10000 lxc_shares
```

2. Add the user(s) that need access to the CIFS share to the group "lxc_shares".
f.e.: jellyfin, plex, ... (the username depends on the application)

```
usermod -aG lxc_shares USERNAME
```

3. Shutdown the LXC.

2. On the PVE host (run commands as root user)

1. Create the mount point on the PVE host.

```
mkdir -p /mnt/lxc_shares/nas_rwx
```

2. Add NAS CIFS share to `/etc/fstab`.

!!! Adjust `//NAS/nas/` in the middle of the command to match your CIFS hostname (or IP) `//NAS/` and the share name `/nas/`. !!!

!!! Adjust `user=smb_username,pass=smb_password` at the end of the command. !!!

Code:

```
{ echo " ; echo '# Mount CIFS share on demand with rwx permissions for use in LXC's (manually added)' ; echo '//NAS/nas/ /mnt/lxc_shares/nas_rwx cifs _netdev,x-systemd.automount,noatime,uid=100000,gid=110000,dir_mode=0770,file_mode=0770,user=smb_username,pass=smb_password 0 0' ; } | tee -a /etc/fstab
```

3. Mount the share on the PVE host.

```
mount /mnt/lxc_shares/nas_rwx
```

4. Add a bind mount of the share to the LXC config.

!!! Adjust the `LXC_ID` at the end of the command. !!!

Code:

You can mount it in the LXC with read+write+execute (rwx) permissions.

```
{ echo 'mp0: /mnt/lxc_shares/nas_rwx/,mp=/mnt/nas' ; } | tee -a /etc/pve/lxc/LXC_ID.conf
```

You can also mount it in the LXC with read-only (ro) permissions.

```
{ echo 'mp0: /mnt/lxc_shares/nas_rwx/,mp=/mnt/nas,ro=1' ; } | tee -a /etc/pve/lxc/LXC_ID.conf
```

5. Start the LXC.

Revision #2

Created 16 May 2024 17:25:54 by Nicolas

Updated 6 December 2024 01:01:52 by Nicolas