

How to Create a Swap File in the btrfs filesystem?

written by sysadmin | 21 April 2025

[The previous article](#) explained how to create a swap file on the Linux server. But the steps in the article can only run if you use the xfs or ext4 filesystem. If you use btrfs in your filesystem, then the article will not be able to run.

Problem

How to create a swap file in the btrfs filesystem?

Solution

I have an openSUSE server and use the btrfs filesystem as shown in the image below:

```
sysadmin@OpenSUSE15:~> df -T
```

Filesystem	Type	1K-blocks	Used	Available	Use%	Mounted on
/dev/sda2	btrfs	10476524	2737128	6767656	29%	/
devtmpfs	devtmpfs	4096	0	4096	0%	/dev
tmpfs	tmpfs	494808	0	494808	0%	/dev/shm
tmpfs	tmpfs	197924	6636	191288	4%	/run
/dev/sda2	btrfs	10476524	2737128	6767656	29%	/boot/grub2/i386-pc
/dev/sda2	btrfs	10476524	2737128	6767656	29%	/boot/grub2/x86_64-efi
/dev/sda2	btrfs	10476524	2737128	6767656	29%	/opt
/dev/sda2	btrfs	10476524	2737128	6767656	29%	/home
/dev/sda2	btrfs	10476524	2737128	6767656	29%	/root
/dev/sda2	btrfs	10476524	2737128	6767656	29%	/srv
/dev/sda2	btrfs	10476524	2737128	6767656	29%	/tmp
/dev/sda2	btrfs	10476524	2737128	6767656	29%	/usr/local
/dev/sda2	btrfs	10476524	2737128	6767656	29%	/var
tmpfs	tmpfs	98960	8	98952	1%	/run/user/1000

```
sysadmin@OpenSUSE15:~>
```

Check the filesystem

And my server does not have a swap space:

```
sysadmin@OpenSUSE15:~> cat /proc/swaps
```

Filename	Type	Size	Used	Priority
sysadmin@OpenSUSE15:~>				

Check the swap

Therefore, so that my server can have a 2GB swap space, I have to create a swap file by running the commands below:

```
sudo truncate -s 0 /swapfile
sudo chattr +C /swapfile
sudo fallocate -l 2G /swapfile
sudo chmod 0600 /swapfile
sudo mkswap /swapfile
sudo swapon /swapfile
cat /proc/swaps
```

```
sysadmin@OpenSUSE15:~> sudo truncate -s 0 /swapfile
sysadmin@OpenSUSE15:~> sudo chattr +C /swapfile
sysadmin@OpenSUSE15:~> sudo fallocate -l 2G /swapfile
sysadmin@OpenSUSE15:~> sudo chmod 0600 /swapfile
sysadmin@OpenSUSE15:~> sudo mkswap /swapfile
Setting up swapspace version 1, size = 2 GiB (2147479552 bytes)
no label, UUID=583b3db8-e506-4045-b7c2-b671110f2e58
sysadmin@OpenSUSE15:~> sudo swapon /swapfile
sysadmin@OpenSUSE15:~> cat /proc/swaps
```

Filename	Type	Size	Used	Priority
/swapfile	file	2097148	0	-2



Process to create a swap file in btrfs filesystem

From the picture above, you can see that the server has a swap space. After that, you have to add the below script to **/etc/fstab** so that the swap space remains when you reboot the server by running the script below:

```
echo '/swapfile none swap sw 0 0' | sudo tee -a /etc/fstab
```

```

sysadmin@OpenSUSE15:~> cat /etc/fstab
UUID=c092525b-6e27-436c-a0eb-6d214415f87a / btrfs defaults 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /var btrfs subvol=/@/var 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /usr/local btrfs subvol=/@/usr/local 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /tmp btrfs subvol=/@/tmp 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /srv btrfs subvol=/@/srv 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /root btrfs subvol=/@/root 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /opt btrfs subvol=/@/opt 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /home btrfs subvol=/@/home 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /boot/grub2/x86_64-efi btrfs subvol=/@/boot/grub2/x86_64-efi 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /boot/grub2/i386-pc btrfs subvol=/@/boot/grub2/i386-pc 0 0
sysadmin@OpenSUSE15:~>
sysadmin@OpenSUSE15:~> echo '/swapfile none swap sw 0 0' | sudo tee -a /etc/fstab
/swapfile none swap sw 0 0
sysadmin@OpenSUSE15:~>
sysadmin@OpenSUSE15:~> cat /etc/fstab
UUID=c092525b-6e27-436c-a0eb-6d214415f87a / btrfs defaults 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /var btrfs subvol=/@/var 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /usr/local btrfs subvol=/@/usr/local 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /tmp btrfs subvol=/@/tmp 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /srv btrfs subvol=/@/srv 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /root btrfs subvol=/@/root 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /opt btrfs subvol=/@/opt 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /home btrfs subvol=/@/home 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /boot/grub2/x86_64-efi btrfs subvol=/@/boot/grub2/x86_64-efi 0 0
UUID=c092525b-6e27-436c-a0eb-6d214415f87a /boot/grub2/i386-pc btrfs subvol=/@/boot/grub2/i386-pc 0 0
/swapfile none swap sw 0 0
sysadmin@OpenSUSE15:~>

```

Add the swap in the fstab file

Note

Swap files in btrfs are supported with the following limitations:

- A swap file can't be on a snapshotted subvolume. Instead, we recommend that you create a subvolume on which to place the swap file.
- Btrfs doesn't support swap files on file systems that span several devices.

References

btrfs.readthedocs.io
forum.endeavourous.com
docs.oracle.com
askubuntu.com