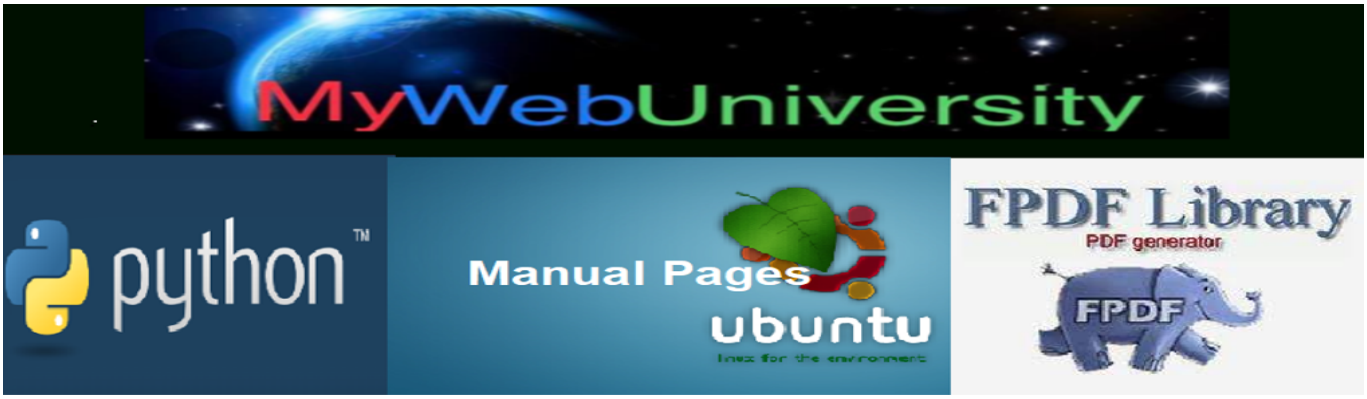

Rocky Enterprise Linux 9.2 Manual Pages on command 'fuse-overlayfs.1'

$ man fuse-overlayfs.1

fuse-overlayfs(1) General Commands Manual fuse-overlayfs(1)

NAME

fuse-overlayfs - overlayfs FUSE implementation

SYNOPSIS

mounting

fuse-overlayfs [-f] [--debug] [-o OPTS] MOUNT_TARGET

unmounting

fusermount -u mountpoint

DESCRIPTION

fuse-overlayfs provides an overlayfs FUSE implementation so that it can be used since Linux 4.18 by unprivileged users in an user namespace.

OPTIONS

--debug Enable debugging mode, can be very noisy.

-o lowerdir=low1[:low2...] A list of directories separated by :. Their content is merged.

-o upperdir=upperdir A directory merged on top of all the lowerdirs where all the changes done to the file system will be written.

-o workdir=workdir A directory used internally by fuse-overlays, must be on the same file system as the upper dir.

-o uidmapping=UID:MAPPED-UID:LEN[,UID2:MAPPED-UID2:LEN2] -o gidmap?ping=GID:MAPPED-GID:LEN[,GID2:MAPPED-GID2:LEN2] Specifies the dynamic UID/GID mapping used by fuse-overlayfs when reading/writing files to the system.

The fuse-overlayfs dynamic mapping is an alternative and cheaper way to chown'ing the

files on the host to accommodate the user namespace settings.

It is useful to share the same storage among different user namespaces and counter effect the mapping done by the user namespace itself, and without requiring to chown the files.

For example, given on the host two files like:

$ stat -c %u:%g lower/a lower/b 0:0 1:1

When we run in a user namespace with the following configuration: $ cat /proc/self/uid_map

```
0       1000          1
1     110000       65536
```

We would see:

$ stat -c %u:%g merged/a merged/b 65534:65534 65534:65534

65534 is the overflow id used when the UID/GID is not known inside the user namespace.

This happens because both users 0:0 and 1:1 are not mapped.

In the above example, if we mount the fuse-overlayfs file system using: -ouidmap? ping=0:1000:1:1:110000:65536,gidmapping=0:1000:1:1:110000:65536, which is the namespace configuration specified on a single line, we'd see from the same user namespace:

$ stat -c %u:%g merged/a merged/b 0:0 1:1

Those are the same IDs visible from outside the user namespace.

-o squash_to_root Every file and directory is owned by the root user (0:0).

-o squash_to_uid=uid -o squash_to_gid=gid Every file and directory is owned by the speci? fied uid or gid.

It has higher precedence over squash_to_root.

-o static_nlink Set st_nlink to the static value 1 for all directories.

This can be useful for higher latency file systems such as NFS, where counting the number of hard links for a directory with many files can be a slow operation. With this option enabled, the number of hard links reported when running stat for any directory is 1.

SEE ALSO

fuse(8), mount(8), user_namespaces(7)

AVAILABILITY

The fuse-overlayfs command is available from https://github.com/containers/fuse-overlayfs under GNU GENERAL PUBLIC LICENSE Version 3 or later.