



Rocky Enterprise Linux 9.2 Manual Pages on command 'systemd-fstab-generator.8'

\$ man systemd-fstab-generator.8

SYSTEMD-FSTAB-GENERATOR(8) systemd-fstab-generator SYSTEMD-FSTAB-GENERATOR(8)

NAME

systemd-fstab-generator - Unit generator for /etc/fstab

SYNOPSIS

/usr/lib/systemd/system-generators/systemd-fstab-generator

DESCRIPTION

systemd-fstab-generator is a generator that translates /etc/fstab (see fstab(5) for details) into native systemd units early at boot and when configuration of the system manager is reloaded. This will instantiate mount and swap units as necessary.

The passno field is treated like a simple boolean, and the ordering information is discarded. However, if the root file system is checked, it is checked before all the other file systems.

See systemd.mount(5) and systemd.swap(5) for more information about special /etc/fstab mount options this generator understands.

One special topic is handling of symbolic links. Historical init implementations supported symlinks in /etc/fstab. Because mount units will refuse mounts where the target is a symbolic link, this generator

will resolve any symlinks as far as possible when processing `/etc/fstab` in order to enhance backwards compatibility. If a symlink target does not exist at the time that this generator runs, it is assumed that the symlink target is the final target of the mount.

`systemd-fstab-generator` implements `systemd.generator(7)`.

KERNEL COMMAND LINE

`systemd-fstab-generator` understands the following kernel command line parameters:

`fstab=`, `rd.fstab=`

Takes a boolean argument. Defaults to "yes". If "no", causes the generator to ignore any mounts or swap devices configured in `/etc/fstab`. `rd.fstab=` is honored only in the `initrd`, while `fstab=` is honored by both the main system and the `initrd`.

`root=`

Configures the operating system's root filesystem to mount when running in the `initrd`. This accepts a device node path (usually `/dev/disk/by-uuid/...` or `/dev/disk/by-label/...` or similar), or the special values "gpt-auto" and "tmpfs".

Use "gpt-auto" to explicitly request automatic root file system discovery via `systemd-gpt-auto-generator(8)`.

Use "tmpfs" in order to mount a `tmpfs(5)` file system as root file system of the OS. This is useful in combination with `mount.usr=` (see below) in order to combine a volatile root file system with a separate, immutable `/usr/` file system. Also see `systemd.volatile=` below.

`rootfstype=`

Takes the root filesystem type that will be passed to the mount command. `rootfstype=` is honored by the `initrd`.

`rootflags=`

Takes the root filesystem mount options to use. `rootflags=` is honored by the `initrd`.

Note that unlike most kernel command line options this setting does not override settings made in configuration files (specifically:

the mount option string in /etc/fstab). See systemd-remount-fs.service(8).

mount.usr=

Takes the /usr/ filesystem to be mounted by the initrd. If mount.usrfstype= or mount.usrflags= is set, then mount.usr= will default to the value set in root=. Otherwise, this parameter defaults to the /usr/ entry found in /etc/fstab on the root filesystem. mount.usr= is honored by the initrd.

mount.usrfstype=

Takes the /usr/ filesystem type that will be passed to the mount command. If mount.usr= or mount.usrflags= is set, then mount.usrfstype= will default to the value set in rootfstype=. Otherwise, this value will be read from the /usr/ entry in /etc/fstab on the root filesystem. mount.usrfstype= is honored by the initrd.

mount.usrflags=

Takes the /usr/ filesystem mount options to use. If mount.usr= or mount.usrfstype= is set, then mount.usrflags= will default to the value set in rootflags=. Otherwise, this value will be read from the /usr/ entry in /etc/fstab on the root filesystem. mount.usrflags= is honored by the initrd.

roothash=, ushash=

These options are primarily read by systemd-veritysetup-generator(8). When set this indicates that the root file system (or /usr/) shall be mounted from Verity volumes with the specified hashes. If these kernel command line options are set the root (or /usr/) file system is thus mounted from a device mapper volume /dev/mapper/root (or /dev/mapper/usr).

systemd.volatile=

Controls whether the system shall boot up in volatile mode. Takes a boolean argument or the special value state.

If false (the default), this generator makes no changes to the mount tree and the system is booted up in normal mode.

If true the generator ensures `systemd-volatile-root.service(8)` is run in the `initrd`. This service changes the mount table before transitioning to the host system, so that a volatile memory file system ("`tmpfs`") is used as root directory, with only `/usr/` mounted into it from the configured root file system, in read-only mode.

This way the system operates in fully stateless mode, with all configuration and state reset at boot and lost at shutdown, as `/etc/` and `/var/` will be served from the (initially unpopulated) volatile memory file system.

If set to state the generator will leave the root directory mount point unaltered, however will mount a "`tmpfs`" file system to `/var/`.

In this mode the normal system configuration (i.e. the contents of `/etc/`) is in effect (and may be modified during system runtime), however the system state (i.e. the contents of `/var/`) is reset at boot and lost at shutdown.

If this setting is set to "`overlay`" the root file system is set up as "`overlayfs`" mount combining the read-only root directory with a writable "`tmpfs`", so that no modifications are made to disk, but the file system may be modified nonetheless with all changes being lost at reboot.

Note that in none of these modes the root directory, `/etc/`, `/var/` or any other resources stored in the root file system are physically removed. It's thus safe to boot a system that is normally operated in non-volatile mode temporarily into volatile mode, without losing data.

Note that with the exception of "`overlay`" mode, enabling this setting will only work correctly on operating systems that can boot up with only `/usr/` mounted, and are able to automatically populate `/etc/`, and also `/var/` in case of "`systemd.volatile=yes`".

Also see `root=tmpfs` above, for a method to combine a "`tmpfs`" file system with a regular `/usr/` file system (as configured via

mount.usr=). The main distinction between systemd.volatile=yes, and root=tmpfs in combination mount.usr= is that the former operates on top of a regular root file system and temporarily obstructs the files and directories above its /usr/ subdirectory, while the latter does not hide any files, but simply mounts a unpopulated tmpfs as root file system and combines it with a user picked /usr/ file system.

systemd.swap

Takes a boolean argument or enables the option if specified without an argument. If disabled, causes the generator to ignore any swap devices configured in /etc/fstab. Defaults to enabled.

SEE ALSO

systemd(1), fstab(5), systemd.mount(5), systemd.swap(5), systemd-cryptsetup-generator(8), systemd-gpt-auto-generator(8), kernel-command-line(7), Known Environment Variables[1]

NOTES

1. Known Environment Variables

<https://systemd.io/ENVIRONMENT/>

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