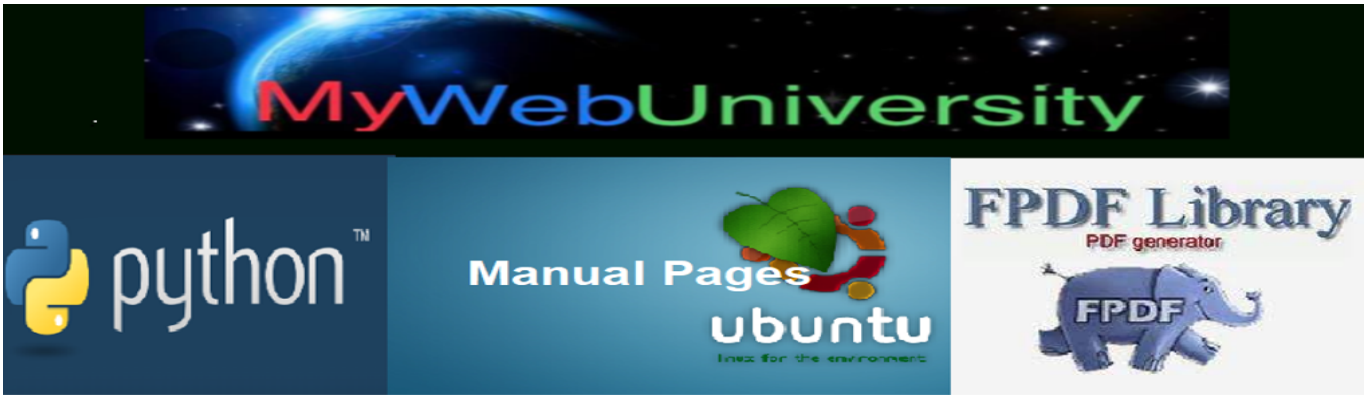

Rocky Enterprise Linux 9.2 Manual Pages on command 'bootctl.1'

$ man bootctl.1

BOOTCTL(1) bootctl BOOTCTL(1)

NAME

bootctl - Control EFI firmware boot settings and manage boot loader

SYNOPSIS

bootctl [OPTIONS...] {COMMAND}

DESCRIPTION

bootctl can check the EFI firmware and boot loader status, list and manage available boot loaders and boot loader entries, and install, update, or remove the systemd-boot(7) boot loader on the current system.

GENERIC EFI FIRMWARE/BOOT LOADER COMMANDS

These commands are available on any EFI system, regardless of the boot loader used.

status

Shows brief information about the system firmware, the boot loader that was used to boot the system, the boot loaders currently available in the ESP, the boot loaders listed in the firmware's list of boot loaders and the current default boot loader entry. If no command is specified, this is the implied default.

reboot-to-firmware [BOOL]

Query or set the "Reboot-Into-Firmware-Setup" flag of the EFI firmware. Takes a boolean argument which controls whether to show the firmware setup on next system reboot. If the argument is omitted shows the current status of the flag, or whether the flag is supported. This controls the same flag as systemctl reboot --firmware-setup, but is more low-level and allows setting the flag independently from actually requesting a reboot.

systemd-efi-options [STRING]

When called without the optional argument, prints the current value of the "SystemdOptions" EFI variable. When called with an argument, sets the variable to that value. See systemd(1) for the meaning of that variable.

BOOT LOADER SPECIFICATION COMMANDS

These commands are available for all boot loaders that implement the Boot Loader Specification[1] and/or the Boot Loader Interface[2], such as systemd-boot.

list

Shows all available boot loader entries implementing the Boot Loader Specification[1], as well as any other entries discovered or automatically generated by a boot loader implementing the Boot Loader Interface[2].

set-default ID, set-oneshot ID

Sets the default boot loader entry. Takes a single boot loader entry ID string as argument. The set-oneshot command will set the default entry only for the next boot, the set-default will set it persistently for all future boots. Optionally, the boot loader entry ID may be specified as one of: @default, @oneshot or @current, which correspond to the current default boot loader entry for all future boots, the current default boot loader entry for the next boot, and the currently booted boot loader entry. These special IDs are resolved to the current values of the EFI variables LoaderEntryDefault, LoaderEntryOneShot and LoaderEntrySelected, see Boot Loader Specification[1] for details. These special IDs are primarily useful as a quick way to persistently make the currently booted boot loader entry the default choice, or to upgrade the default boot loader entry for the next boot to the default boot loader entry for all future boots, but may be used for other operations too. When an empty string ("") is specified as an ID, then the corresponding EFI variable will be unset.

SYSTEMD-BOOT COMMANDS

These commands manage the systemd-boot EFI boot loader, and do not work in conjunction with other boot loaders.

install

Installs systemd-boot into the EFI system partition. A copy of systemd-boot will be stored as the EFI default/fallback loader at ESP/EFI/BOOT/BOOT*.EFI. The boot loader is then added to the top of the firmware's boot loader list.

update

Updates all installed versions of systemd-boot(7), if the available version is newer than the version installed in the EFI system partition. This also includes the EFI default/fallback loader at ESP/EFI/BOOT/BOOT*.EFI. The boot loader is then added to end of the firmware's boot loader list if missing.

remove

Removes all installed versions of systemd-boot from the EFI system partition and the firmware's boot loader list.

is-installed

Checks whether systemd-boot is installed in the ESP. Note that a single ESP might host multiple boot loaders; this hence checks whether systemd-boot is one (of possibly many) installed boot loaders ? and neither whether it is the default nor whether it is registered in any EFI variables.

random-seed

Generates a random seed and stores it in the EFI System Partition, for use by the systemd-boot boot loader. Also, generates a random 'system token' and stores it persistently as an EFI variable, if one has not been set before. If the boot loader finds the random seed in the ESP and the system token in the EFI variable it will derive a random seed to pass to the OS and a new seed to store in the ESP from the combination of both. The random seed passed to the OS is credited to the kernel's entropy pool by the system manager during early boot, and permits userspace to boot up with an entropy pool fully initialized very early on. Also see systemd-boot-system-token.service(8).

See Random Seeds[3] for further information.

OPTIONS

The following options are understood:

--esp-path=

Path to the EFI System Partition (ESP). If not specified, /efi/, /boot/, and /boot/efi/ are checked in turn. It is recommended to mount the ESP to /efi/, if possible.

--boot-path=

Path to the Extended Boot Loader partition, as defined in the Boot Loader Specification[1]. If not specified, /boot/ is checked. It is recommended to mount the Extended Boot Loader partition to /boot/, if possible.

-p, --print-esp-path

This option modifies the behaviour of status. Only prints the path to the EFI System Partition (ESP) to standard output and exits.

-x, --print-boot-path

This option modifies the behaviour of status. Only prints the path to the Extended Boot Loader partition if it exists, and the path to the ESP otherwise to standard output and exit. This command is useful to determine where to place boot loader entries, as they are preferably placed in the Extended Boot Loader partition if it exists and in the ESP otherwise.

Boot Loader Specification Type #1 entries should generally be placed in the directory "$(bootctl -x)/loader/entries/". Existence of that directory may also be used as indication that boot loader entry support is available on the system. Similarly, Boot Loader Specification Type #2 entries should be placed in the directory "$(bootctl -x)/EFI/Linux/".

Note that this option (similar to the --print-booth-path option mentioned above), is available independently from the boot loader used, i.e. also without systemd-boot being installed.

--no-variables

Do not touch the firmware's boot loader list stored in EFI variables.

--graceful

Ignore failure when the EFI System Partition cannot be found, or when EFI variables cannot be written. Currently only applies to random seed operations.

--make-machine-id-directory=yes|no|auto

Control creation and deletion of the top-level machine ID directory on the file system containing boot loader entries (i.e. beneath the file system returned by the --print-boot-path option, see above) during install and remove, respectively. "auto" is equivalent to "yes" if /etc/machine-id resides on a filesystem other than tmpfs and "no" otherwise (in the latter case the machine ID is likely transient and hence should not be used persistently in the ESP). Defaults to "auto". See machine-id(5) for details about the machine ID concept and file.

Overriding this may be desirable to hide the machine ID from the (unencrypted) ESP, configure a kernel-install(8) script, or, conversely, commit a transient machine ID.

The top-level machine ID directory is useful to allow smooth multi-boot installations:

each installed OS instance will have a different machine ID and thus a separate directory to place its boot-time resources in. If this feature is turned off with this option, care needs to be taken that multiple OS instances do not place conflicting files on the shared ESP and Extended Boot Loader Partitions, or that multiple OS instances are not possible.

--no-pager

Do not pipe output into a pager.

-h, --help

Print a short help text and exit.

--version

Print a short version string and exit.

EXIT STATUS

On success, 0 is returned, a non-zero failure code otherwise.

ENVIRONMENT

If $SYSTEMD_RELAX_ESP_CHECKS=1 is set the validation checks for the ESP are relaxed, and the path specified with --esp-path= may refer to any kind of file system on any kind of partition.

Similarly, $SYSTEMD_RELAX_XBOOTLDR_CHECKS=1 turns off some validation checks for the Extended Boot Loader partition.

SEE ALSO

systemd-boot(7), Boot Loader Specification[1], Boot Loader Interface[2], systemd-boot-system-token.service(8)

NOTES

1. Boot Loader Specification

   https://systemd.io/BOOT_LOADER_SPECIFICATION

2. Boot Loader Interface

   https://systemd.io/BOOT_LOADER_INTERFACE

3. Random Seeds

   https://systemd.io/RANDOM_SEEDS