

Getting Root Privileges

This lesson will cover the command to get administrator privileges to do certain tasks that are not allowed for a normal user to perform.

Linux has a robust permission system. It is quite brilliant, in the sense that it offers a clear distinction among ordinary users and a super user. However, to perform certain tasks, especially the ones that affect the files on your system, you might require administrator privileges. It is recommended to handle root tasks with extreme care in order to prevent any accidental damage to your system.

`sudo` lets you run commands with root access in your own user account.

sudo

Definition:

`sudo` is the short for “superuser do”. It allows the user with proper permissions to execute a command as a superuser or another user.

Syntax:

```
sudo -V | -h | -l | -L | -v | -k | -K | -s | [ -H ] [ -P ] [ -S ] [ -b ] |  
[ -p prompt ] [ -c class|- ] [ -a auth_type ] [ -r role ] [ -t type ]  
[ -u username|#uid ] command
```

Options:

| Option | Meaning |
|--------|---|
| -H | The -H (HOME) option sets the HOME environment variable to the home directory of the target user (root by default) as specified in |

`passwd` . By default, **sudo** does not modify HOME.

-P The **-P** (preserve group vector) option causes sudo to preserve the current user's group vector unaltered. By default, sudo will initialize the group vector to the list of groups of the target user. The real and effective group IDs, however, are still set to match the target user.

-S The **-S** (stdin) option causes sudo to read the password from standard input instead of the terminal.

-b The **-b** (background) option tells sudo to run the given command in the background.

-h The **-h** (help) option causes sudo to print a usage message and exit.

-l The **-l** (list) option will print out the commands allowed (and forbidden) the user on the current host.

-v The **-v** (validate) option will update the user's timestamp, prompting for the user's password if necessary.

-k The **-k** (kill) option to sudo

| | |
|-----------|--|
| <p>-s</p> | <p>invalidates the user's timestamp by setting the time on it to the epoch.</p> <p>The next time sudo is run a password will be required. This option does not require a password and was added to allow a user to revoke sudo permissions from a .logout file.</p> <p>The -s (shell) option runs the shell specified by the <code>SHELL</code> environment variable if it is set or the shell as specified in the file <code>passwd</code>.</p> |
|-----------|--|

Example:

Get a file listing of an unreadable directory:

```
sudo ls /usr/local/protected
```

To restart the system, execute **shutdown** command as root:

```
sudo shutdown -r now
```

The following command will “kill” sudo authentication for the current user. The next sudo command will require a password.

```
sudo -k
```

List the contents of `/home/someotheruser/Projs` as the user: **runner**.

```
sudo -u runner ls /home/someotheruser/Projs
```