

The reason and how to edit sudoers file in Linux

In a Linux or macOS system, there is a file called 'sudoers' that controls the deepest levels of your system permissions. It allows or denies a user to gain superuser access and holds some special options for sudo.

What is file sudoers?

The sudoers file is a text file located in '/ etc / sudoers' and controls how sudo works on the machine. You're probably familiar with sudo's primary role of elevating the current account's privileges to root, superuser privileges on all Unix-based systems. This allows users to execute commands that are currently prohibited.

When to edit sudoers file?

When you install Linux (or macOS) for the first time, the first and default users are automatically added to the sudoers file so that the file can run administrative tasks using the sudo command. However, if you create a new user account, it will not have superuser rights by default. If you need to grant it superuser permissions, you'll need to edit the sudoers file and add this user account to it.

How do I edit sudoers file?

Never edit a sudoers file in a regular text editor. This can lead to concurrent editing and corrupted files, potentially denying any admin access. Sudoers have to be edited by running visudo in Terminal, like so:

```
sudo visudo
```

Note that you need to use sudo to run visudo. This will open the sudoers file using the default text editor in Terminal (Nano by default).

```
# Sample /etc/sudoers file.
#
# This file MUST be edited with the 'visudo' command as root.
#
# See the sudoers man page for the details on how to write a sudoers file.

##
# Override built-in defaults
##
Defaults      env_reset
Defaults      env_keep += "BLOCKSIZE"
Defaults      env_keep += "COLORFGBG COLORTERM"
Defaults      env_keep += "_CF_USER_TEXT_ENCODING"
Defaults      env_keep += "CHARSET LANG LANGUAGE LC_ALL LC_COLLATE LC_CTYPE"
Defaults      env_keep += "LC_MESSAGES LC_MONETARY LC_NUMERIC LC_TIME"
Defaults      env_keep += "LINES COLUMNS"
Defaults      env_keep += "LSCOLORS"
Defaults      env_keep += "SSH_AUTH_SOCK"
Defaults      env_keep += "TZ"
Defaults      env_keep += "DISPLAY XAUTHORIZATION XAUTHORITY"
Defaults      env_keep += "EDITOR VISUAL"
Defaults      env_keep += "HOME MAIL"
```

What does changing file sudoers do?

The main job of the sudoers file is to determine which users can use sudo for what. It also has some simple options that you can adjust first to get a feel for how visudo works.

Change timeout sudo

By default, entering the sudo password will elevate your permissions until you close the shell or exit. This can be insecure, and some people prefer entering a password every time they use sudo.

Step 1. Run sudo visudo as mentioned above.

Step 2. Press Alt + / to navigate to the end of the document. If you are using Vi or Vim, press Shift + G .

```
# Host alias specification
##
# Host_Alias   CUNETS = 128.138.0.0/255.255.0.0
# Host_Alias   CSNETS = 128.138.243.0, 128.138.204.0/24, 128.138.242.0
# Host_Alias   SERVERS = master, mail, www, ns
# Host_Alias   CDROM = orion, perseus, hercules

##
# Cmnd alias specification
##
# Cmnd_Alias   PAGERS = /usr/bin/more, /usr/bin/pg, /usr/bin/less

##
# User specification
##
# root and users in group wheel can run anything on any machine as any user
root          ALL = (ALL) ALL
%admin        ALL = (ALL) ALL

## Read drop-in files from /private/etc/sudoers.d
## (the '#' here does not indicate a comment)
#include_dir /private/etc/sudoers.d
```

Step 3. Create a new line at the end of document and add the following line:

```
Defaults timestamp_timeout=0
```

```
##
# Host_Alias CUNETS = 128.138.0.0/255.255.0.0
# Host_Alias CSNETS = 128.138.243.0, 128.138.204.0/24, 128.138.242.0
# Host_Alias SERVERS = master, mail, www, ns
# Host_Alias CDROM = orion, perseus, hercules

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# Cmnd alias specification
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# Cmnd_Alias PAGERS = /usr/bin/more, /usr/bin/pg, /usr/bin/less

##
# User specification
##
# root and users in group wheel can run anything on any machine as any user
root ALL = (ALL) ALL
%admin ALL = (ALL) ALL

## Read drop-in files from /private/etc/sudoers.d
## (the '#' here does not indicate a comment)
#include_dir /private/etc/sudoers.d
Defaults timestamp_timeout=0
-- INSERT --
```

This will set the sudo timeout to 0 seconds, so you will have sudo privileges for 0 seconds after you execute the first command. If you prefer a different time period, enter that value in seconds.

You can also set the timeout to '-1', which gives you an infinite grace period. But don't do that! That might accidentally crash the system one day.

Step 4. Press Ctrl + O to save and Ctrl + X to exit.

Restrict who can use sudo and what

The main purpose of the sudoers file is to control which users can run sudo. Without sudo, users cannot elevate their permissions. If you have multiple users accessing the same system through the shell, you can control their access by setting the values in sudo.

Every sudoers file will have the following line:

```
root ALL=(ALL) ALL
```

This allows the root user on all hosts to use all users to execute all commands. ALL is a special value in the sudoers file, meaning 'no limit'. The syntax is as follows:

```
username hostlist = (userlist) commandlist
```

If you want to add another user as root, just copy the root line and change the user like this:

```
alexander ALL=(ALL) ALL
```

For more control you can add a line like this, which will only allow 'alexander' users to run apt-get update .

```
alexander ALL=(ALL) /usr/bin/apt-get update
```

Put '%' in front of the user and it will define a group. The line below will allow all users in the "admin" group to have root privileges. This will be the group defined by the operating system permissions groups.

```
%admin ALL=(ALL) ALL
```

Change the visudo editor

Depending on the version of Linux you are running, there are two main ways to change the editor.

For Ubuntu, you will want to run the Terminal command below:

```
sudo update-alternatives --config editor
```

You should see something like this:

```
There are 4 choices for the alternative editor (providing /usr/bin/editor). Selection
```

If you want to choose Vim as a visudo editor from the Nano default option, you'll need to tap on option 3 and press Enter.

For other Linux versions you will want to add a new line to your '~/. / Bashrc' file like below:

```
export EDITOR="vim"
```

Then save the file. The visudo editor will change to Vim.

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