

Task: Adding a New User in Linux

Used the command `sudo adduser aditya` to create a new user named aditya.

- Created a new group `aditya`.
- Assigned a unique user ID and group ID.
- Created a home directory `/home/aditya`.
- Then i set the password for the user .
- Updated user information and confirmed details.
- Added the user aditya to the 'users' group successfully.

```
asus@asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR:~$ sudo adduser aditya
[sudo] password for asus:
info: Adding user 'aditya' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group 'aditya' (1002) ...
info: Adding new user 'aditya' (1002) with group 'aditya (1002)' ...
info: Creating home directory '/home/aditya' ...
info: Copying files from '/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for aditya
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n]
info: Adding new user 'aditya' to supplemental / extra groups 'users' ...
info: Adding user 'aditya' to group 'users' ...
asus@asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR:~$ sudo usermod -aG aditya
Usage: usermod [options] LOGIN

Options:
  -a, --append                append the user to the supplemental GROUPS
                              mentioned by the -G option without removing
                              the user from other groups
  -b, --badname               allow bad names
  -c, --comment COMMENT       new value of the GECOS field
  -d, --home HOME_DIR         new home directory for the user account
  -e, --expiredate EXPIRE_DATE set account expiration date to EXPIRE_DATE
  -f, --inactive INACTIVE     set password inactive after expiration
                              to INACTIVE
  -g, --gid GROUP              force use GROUP as new primary group
  -G, --groups GROUPS          new list of supplementary GROUPS
  -h, --help                   display this help message and exit
  -l, --login NEW_LOGIN        new value of the login name
  -L, --lock                   lock the user account
  -m, --move-home              move contents of the home directory to the
                              new location (use only with -d)
  -o, --non-unique             allow using duplicate (non-unique) UID
  -p, --password PASSWORD      use encrypted password for the new password
  -P, --prefix PREFIX_DIR      prefix directory where are located the /etc/* files
  -s, --shell SHELL             new login shell
  -u, --uid UID                new user ID number
  -U, --use-homedir            use the user's home directory
  -z, --zip                     zip the user's home directory
```

Task: Adding User to Sudo Group and Renaming

- Then i did `sudo usermod -aG sudo aditya` to give sudo privileges to it
- Logged in as the newly created user aditya.
- Used the command:

```
sus@asus-ASUS-TUF-Dash-F15-FX516PR:~$ sudo usermod -aG sudo aditya
sus@asus-ASUS-TUF-Dash-F15-FX516PR:~$ ~$
```

Task: Installing and Starting Docker on Ubuntu

- First, updated the system and installed required packages like curl and ca-certificates.
- Added Docker's official GPG key and repository to the system's sources list.

```

1rv24mc006_adityamukherjee@asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR:~$ # Add Docker's official GPG key:
1sudo apt-get update
1sudo apt-get install ca-certificates curl
1sudo install -m 0755 -d /etc/apt/keyrings
1sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o /etc/apt/keyrings/docker.asc
1sudo chmod a+r /etc/apt/keyrings/docker.asc
1
1# Add the repository to Apt sources:
1echo \
1  "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.asc] https://download.docker.com/linux/ubuntu \
1    ($(. /etc/os-release && echo "${UBUNTU_CODENAME} ${VERSION_CODENAME}") stable) | \
1    sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
1
1sudo apt-get update
1[sudo] password for 1rv24mc006_adityamukherjee:
1Get:1 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
1Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
1Get:3 http://security.ubuntu.com/ubuntu noble-security/main i386 Packages [339 kB]
1Get:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
1Get:5 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1,222 kB]
1Get:6 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
1Get:7 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [204 kB]
1Get:8 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.1 kB]
1Get:9 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [8,968 B]
1Get:10 http://security.ubuntu.com/ubuntu noble-security/restricted i386 Packages [20.9 kB]
1Get:11 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [1,978 kB]
1Get:12 http://archive.ubuntu.com/ubuntu noble-updates/main i386 Packages [537 kB]
1Get:13 http://security.ubuntu.com/ubuntu noble-security/restricted Translation-en [450 kB]
1Get:14 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
1Get:15 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 c-n-f Metadata [520 B]
1Get:16 http://security.ubuntu.com/ubuntu noble-security/universe i386 Packages [548 kB]
1Get:17 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [885 kB]
1Get:18 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [197 kB]
1Get:19 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.2 kB]
1Get:20 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [18.2 kB]
1Get:21 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Packages [28.0 kB]
1Get:22 http://security.ubuntu.com/ubuntu noble-security/multiverse i386 Packages [6,072 B]
1Get:23 http://security.ubuntu.com/ubuntu noble-security/multiverse Translation-en [5,844 B]
1Get:24 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
1Get:25 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 c-n-f Metadata [384 B]
1Get:26 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1,498 kB]
1Get:27 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [288 kB]
1Get:28 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
1Get:29 http://archive.ubuntu.com/ubuntu noble-updates/main Icons [48x48] [36.0 kB]
1Get:30 http://archive.ubuntu.com/ubuntu noble-updates/main Icons [64x64] [51.0 kB]
1Get:31 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [15.3 kB]

```

STEP 2

- Updated the package list again to fetch Docker's latest packages.
- Installed Docker components using:
`sudo apt-get install docker-ce docker-ce-cli containerd.io
docker-buildx-plugin docker-compose-plugin`

```

reducing package lists... Done
1rv24mc006_adityamukherjee@asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR:~$ sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libllvm17t64 nvidia-firmware-535-535.183.01 python3-netifaces
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  docker-ce-rootless-extras git git-man liberror-perl libslirp0 pigz slirp4netns
Suggested packages:
  cgroupfs-mount | cgroup-lite docker-model-plugin git-daemon-run | git-daemon-sysvinit git-doc git-email git-gui gitk gitweb git-cvs git-mediawiki git-svn
The following NEW packages will be installed:
  containerd.io docker-buildx-plugin docker-ce docker-ce-cli docker-ce-rootless-extras docker-compose-plugin git git-man liberror-perl libslirp0 pigz slirp4netns
0 upgraded, 12 newly installed, 0 to remove and 189 not upgraded.
Need to get 110 MB of archives.
After this operation, 461 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 https://download.docker.com/linux/ubuntu noble/stable amd64 containerd.io amd64 1.7.28-1-ubuntu.24.04-noble [31.9 MB]
Get:2 https://archive.ubuntu.com/ubuntu noble/universe amd64 pigz amd64 2.8-1 [65.6 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 liberror-perl all 0.17029-2 [25.6 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 git-man all 1:2.43.0-1ubuntu7.3 [1,100 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 git amd64 1:2.43.0-1ubuntu7.3 [3,680 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble/main amd64 libslirp0 amd64 4.7.0-1ubuntu3 [63.8 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble/universe amd64 slirp4netns amd64 1.2.1-1build2 [34.9 kB]
Get:8 https://download.docker.com/linux/ubuntu noble/stable amd64 docker-ce-cli amd64 5:28.5.1-1-ubuntu.24.04-noble [16.5 MB]
Get:9 https://download.docker.com/linux/ubuntu noble/stable amd64 docker-ce amd64 5:28.5.1-1-ubuntu.24.04-noble [19.7 MB]
Get:10 https://download.docker.com/linux/ubuntu noble/stable amd64 docker-buildx-plugin amd64 0.29.1-1-ubuntu.24.04-noble [15.9 MB]
Get:11 https://download.docker.com/linux/ubuntu noble/stable amd64 docker-ce-rootless-extras amd64 5:28.5.1-1-ubuntu.24.04-noble [6,481 kB]
Get:12 https://download.docker.com/linux/ubuntu noble/stable amd64 docker-compose-plugin amd64 2.40.0-1-ubuntu.24.04-noble [14.2 MB]
Fetched 110 MB in 14s (7,960 kB/s)
Selecting previously unselected package containerd.io.
(Reading database ... 212020 files and directories currently installed.)
Preparing to unpack .../00-containerd.io_1.7.28-1-ubuntu.24.04-noble_amd64.deb ...
Unpacking containerd.io (1.7.28-1-ubuntu.24.04-noble) ...
Selecting previously unselected package docker-ce-cli.
Preparing to unpack .../01-docker-ce-cli_5%3a28.5.1-1-ubuntu.24.04-noble_amd64.deb ...
Unpacking docker-ce-cli (5:28.5.1-1-ubuntu.24.04-noble) ...
Selecting previously unselected package docker-ce.
Preparing to unpack .../02-docker-ce_5%3a28.5.1-1-ubuntu.24.04-noble_amd64.deb ...
Unpacking docker-ce (5:28.5.1-1-ubuntu.24.04-noble) ...
Selecting previously unselected package pigz.
Preparing to unpack .../03-pigz_2.8-1_amd64.deb ...
Unpacking pigz (2.8-1) ...
Selecting previously unselected package docker-buildx-plugin.
Preparing to unpack .../04-docker-buildx-plugin_0.29.1-1-ubuntu.24.04-noble_amd64.deb ...

```

STEP 3

- At last i checked the status using this command:
Sudo systemctl status docker

```

1rv24mc006_adityamukherjee@asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: enabled)
   Active: active (running) since Fri 2025-10-17 09:38:01 IST; 43s ago
   TriggeredBy: ● docker.socket
     Docs: https://docs.docker.com
    Main PID: 18211 (dockerd)
      Tasks: 14
     Memory: 22.4M (peak: 24.0M)
        CPU: 173ms
     CGroup: /system.slice/docker.service
             └─18211 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.485924247+05:30" level=info msg="detected 127.0.0.53 nameserver, assuming systemd-reso
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.425465168+05:30" level=info msg="Creating a containerd client" address=/run/containerd
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.444944981+05:30" level=info msg="Loading containers: start."
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.669875589+05:30" level=info msg="Loading containers: done."
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.678567659+05:30" level=info msg="Docker daemon" commit=f8215cc containerd-snapshotter=
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.678623993+05:30" level=info msg="Initializing buildkit"
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.691584571+05:30" level=info msg="Completed buildkit initialization"
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.694523278+05:30" level=info msg="Daemon has completed initialization"
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.694552121+05:30" level=info msg="API listen on /run/docker.sock"
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR systemd[1]: Started docker.service - Docker Application Container Engine.
...skipping...
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: enabled)
   Active: active (running) since Fri 2025-10-17 09:38:01 IST; 43s ago
   TriggeredBy: ● docker.socket
     Docs: https://docs.docker.com
    Main PID: 18211 (dockerd)
      Tasks: 14
     Memory: 22.4M (peak: 24.0M)
        CPU: 173ms
     CGroup: /system.slice/docker.service
             └─18211 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.485924247+05:30" level=info msg="detected 127.0.0.53 nameserver, assuming systemd-reso
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.425465168+05:30" level=info msg="Creating a containerd client" address=/run/containerd
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.444944981+05:30" level=info msg="Loading containers: start."
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.669875589+05:30" level=info msg="Loading containers: done."
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.678567659+05:30" level=info msg="Docker daemon" commit=f8215cc containerd-snapshotter=
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.678623993+05:30" level=info msg="Initializing buildkit"
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.691584571+05:30" level=info msg="Completed buildkit initialization"
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.694523278+05:30" level=info msg="Daemon has completed initialization"
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR dockerd[18211]: time="2025-10-17T09:38:01.694552121+05:30" level=info msg="API listen on /run/docker.sock"
Oct 17 09:38:01 asus-ASUS-TUF-Dash-F15-FX516PR-FX516PR systemd[1]: Started docker.service - Docker Application Container Engine.

```

