

# Scenario 1: Service Not Starting

## Step 1: Check service status

```
ubuntu:/$ sudo apt install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  squashfs-tools
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  nginx-common
Suggested packages:
  fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  nginx nginx-common
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 564 kB of archives.
After this operation, 1596 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
0% [Waiting for headers]
0% [Waiting for headers]
0% [Waiting for headers]

0% [Waiting for headers]
0% [Waiting for headers]
0% [Waiting for headers]

0% [Waiting for headers]
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx-common all 1.24.0-2ubuntu7.5 [43.4 kB]
16% [Waiting for headers]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx amd64 1.24.0-2ubuntu7.5 [520 kB]
16% [2 nginx 756 B/520 kB 0%]

Fetched 564 kB in 15s (37.3 kB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 113825 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2ubuntu7.5_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7.5) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2ubuntu7.5_amd64.deb ...
Unpacking nginx (1.24.0-2ubuntu7.5) ...
Setting up nginx-common (1.24.0-2ubuntu7.5) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /usr/lib/systemd/system/nginx.service.
Setting up nginx (1.24.0-2ubuntu7.5) ...
 * Upgrading binary nginx
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for ufw (0.36.2-6) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.
```

## Step 2: Check recent logs

```
ubuntu:/$ systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
   Active: active (running) since Wed 2026-02-04 16:03:14 UTC; 42s ago
     Docs: man:nginx(8)
   Process: 1807 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
   Process: 1809 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
   Main PID: 1838 (nginx)
    Tasks: 2 (limit: 2237)
   Memory: 1.7M (peak: 3.9M)
      CPU: 22ms
   CGroup: /system.slice/nginx.service
           └─1838 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─1843 "nginx: worker process"

Feb 04 16:03:14 ubuntu systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Feb 04 16:03:14 ubuntu systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
ubuntu:/$ █
```

Step 3: Check if enabled on boot

```
ubuntu:/$ systemctl is-enabled nginx
enabled
ubuntu:/$ █
```

Step 4: List all services

```
ubuntu:/$ systemctl list-units --type=service
UNIT                                LOAD    ACTIVE SUB    DESCRIPTION
apparmor.service                   loaded active exited Load AppArmor profiles
apport.service                     loaded active exited automatic crash report generation
blk-availability.service            loaded active exited Availability of block devices
console-setup.service              loaded active exited Set console font and keymap
containerd.service                 loaded active running containerd container runtime
cron.service                       loaded active running Regular background program processing daemon
dbus.service                       loaded active running D-Bus System Message Bus
docker.service                    loaded active running Docker Application Container Engine
finalrd.service                   loaded active exited Create final runtime dir for shutdown pivot root
fwupd.service                     loaded active running Firmware update daemon
getty@tty1.service                 loaded active running Getty on tty1
keyboard-setup.service             loaded active exited Set the console keyboard layout
kmod-static-nodes.service          loaded active exited Create List of Static Device Nodes
lvm2-monitor.service              loaded active exited Monitoring of LVM2 mirrors, snapshots etc. using dmeventd or progress polling
ModemManager.service              loaded active running Modem Manager
multipathd.service                loaded active running Device-Mapper Multipath Device Controller
nginx.service                      loaded active running A high performance web server and a reverse proxy server
packagekit.service                loaded active running PackageKit Daemon
plymouth-quit-wait.service         loaded active exited Hold until boot process finishes up
plymouth-quit.service             loaded active exited Terminate Plymouth Boot Screen
plymouth-read-write.service        loaded active exited Tell Plymouth To Write Out Runtime Data
podman-restart.service            loaded active exited Podman Start All Containers With Restart Policy Set To Always
polkit.service                    loaded active running Authorization Manager
rsyslog.service                   loaded active running System Logging Service
serial-getty@ttyS0.service         loaded active running Serial Getty on ttyS0
setvtrgb.service                  loaded active exited Set console scheme
ssh.service                       loaded active running OpenBSD Secure Shell server
sysstat.service                   loaded active exited Resets System Activity Logs
systemd-binfmt.service            loaded active exited Set Up Additional Binary Formats
systemd-fsck@dev-disk-by\x2dlabel-BOOT.service loaded active exited File System Check on /dev/disk/by-label/BOOT
systemd-fsck@dev-disk-by\x2dlabel-UEFI.service loaded active exited File System Check on /dev/disk/by-label/UEFI
systemd-journal-flush.service      loaded active exited Flush Journal to Persistent Storage
systemd-journald.service          loaded active running Journal Service
systemd-logind.service            loaded active running User Login Management
systemd-modules-load.service       loaded active exited Load Kernel Modules
systemd-networkd-wait-online.service loaded active exited Wait for Network to be Configured
systemd-networkd.service          loaded active running Network Configuration
systemd-random-seed.service        loaded active exited Load/Save OS Random Seed
systemd-remount-fs.service         loaded active exited Remount Root and Kernel File Systems
systemd-resolved.service          loaded active running Network Name Resolution
systemd-sysctl.service            loaded active exited Apply Kernel Variables
systemd-timesyncd.service          loaded active running Network Time Synchronization
systemd-tmpfiles-setup-dev-early.service loaded active exited Create Static Device Nodes in /dev gracefully
systemd-tmpfiles-setup-dev.service loaded active exited Create Static Device Nodes in /dev
systemd-tmpfiles-setup.service     loaded active exited Create Volatile Files and Directories
systemd-udev-trigger.service       loaded active exited Coldplug All udev Devices
systemd-udevd.service             loaded active running Rule-based Manager for Device Events and Files
```

## Part 2: Scenario-Based Practice

Sorted CPU list

```
ubuntu:/$ ps aux --sort=-%cpu | head -10
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.1  0.6 22520 13544 ?        Ss   15:40   0:03 /sbin/init
root     1259  0.1  0.6 1231188 12600 ?        S<   15:40   0:02 /bin/runtime-info-service
root     1222  0.0  3.3 838088 64704 ?        SNL  15:40   0:01 /opt/theia/node /opt/theia/browser-app/src-gen/backend/main.js /root --hostname=0.0.0.0 --port 40205
root        662  0.0  2.4 1728996 48000 ?        Ssl  15:40   0:01 /usr/bin/containerd
root        856  0.0  3.6 1824352 70368 ?        Ssl  15:40   0:00 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
root     1271  0.0  0.1 10840 2048 ?        Sl   15:40   0:00 /bin/kc-terminal -p 40200 --writable -t disableLeaveAlert true bash
root        721  0.0  1.1 110016 22912 ?        Ssl  15:40   0:00 /usr/bin/python3 /usr/share/unattended-upgrades/unattended-upgrade-shutdown --wait-for-signal
root        306  0.0  0.6 34452 13044 ?        S<   15:40   0:00 /usr/lib/systemd/systemd-journald
root         43  0.0  0.0      0 0 ?        I<   15:40   0:00 [kworker/0:1H-kblockd]
```

## Identify PID

Note the **PID** of the highest CPU process.

## Finding Service Logs (Nginx)

View recent logs

Follow logs live

```
ubuntu:/# journalctl -u nginx
Feb 04 16:03:14 ubuntu systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Feb 04 16:03:14 ubuntu systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
ubuntu:/# journalctl -u nginx -f
Feb 04 16:03:14 ubuntu systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Feb 04 16:03:14 ubuntu systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
^C
ubuntu:/#
```