

# Using Logs to Help You Track Down an Issue in Linux

## 1. Cmd to view log files

```
Activities Terminal Mon May 24, 15:06:39 2.30 84%
srishti@srishti-Inspiron-5559: ~
File Edit View Search Terminal Help
(base) srishti@srishti-Inspiron-5559:~$ ls /var/log
alternatives.log      apport.log.2.gz      bootstrap.log         dpkg.log.3.gz        installer            mysql               syslog.6.gz
alternatives.log.1    apt                  bttmp                dpkg.log.4.gz        journal             speech-dispatcher  syslog.7.gz
alternatives.log.2.gz auth.log             bttmp.1              dpkg.log.5.gz        kern.log            syslog              tallylog
alternatives.log.3.gz auth.log.1           cups                 faillog              kern.log.1          syslog.1            unattended-upgrades
alternatives.log.4.gz auth.log.2.gz        dist-upgrade         fontconfig.log        kern.log.2.gz       syslog.2.gz         wtmp
alternatives.log.5.gz auth.log.3.gz        dpkg.log             gdm3                 kern.log.3.gz       syslog.3.gz         wtmp.1
apport.log            auth.log.4.gz        dpkg.log.1           gpu-manager.log       kern.log.4.gz       syslog.4.gz
apport.log.1         boot.log             dpkg.log.2.gz        hp                    lastlog              syslog.5.gz
```

## 2. Cmd to track down all the issues

```
(base) srishti@srishti-Inspiron-5559:~$ sudo cat /var/log/syslog
[sudo] password for srishti:
May 24 10:09:58 srishti-Inspiron-5559 rsyslogd: [origin software="rsyslogd" swVersion="8.32.0" x-pid="1038" x-info="http://www.rsyslog.com"] rsyslogd was HUPed
May 24 10:10:22 srishti-Inspiron-5559 anacron[19978]: Job `cron.daily' terminated
May 24 10:10:22 srishti-Inspiron-5559 anacron[19978]: Normal exit (1 job run)
May 24 10:13:27 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/101327.048866:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:17:01 srishti-Inspiron-5559 CRON[21926]: (root) CMD ( cd / && run-parts --report /etc/cron.hourly)
May 24 10:18:15 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/101815.775221:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
May 24 10:23:42 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/102342.406754:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:23:42 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/102342.491884:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
May 24 10:27:58 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/102758.615095:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:29:59 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/102959.336873:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:29:59 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/102959.411856:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:32:30 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103230.789158:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:33:18 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103318.362013:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:33:55 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103355.698357:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
May 24 10:34:21 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103421.671529:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
May 24 10:34:21 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103421.750527:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
```

## 3. Cmd which helps to track down errors

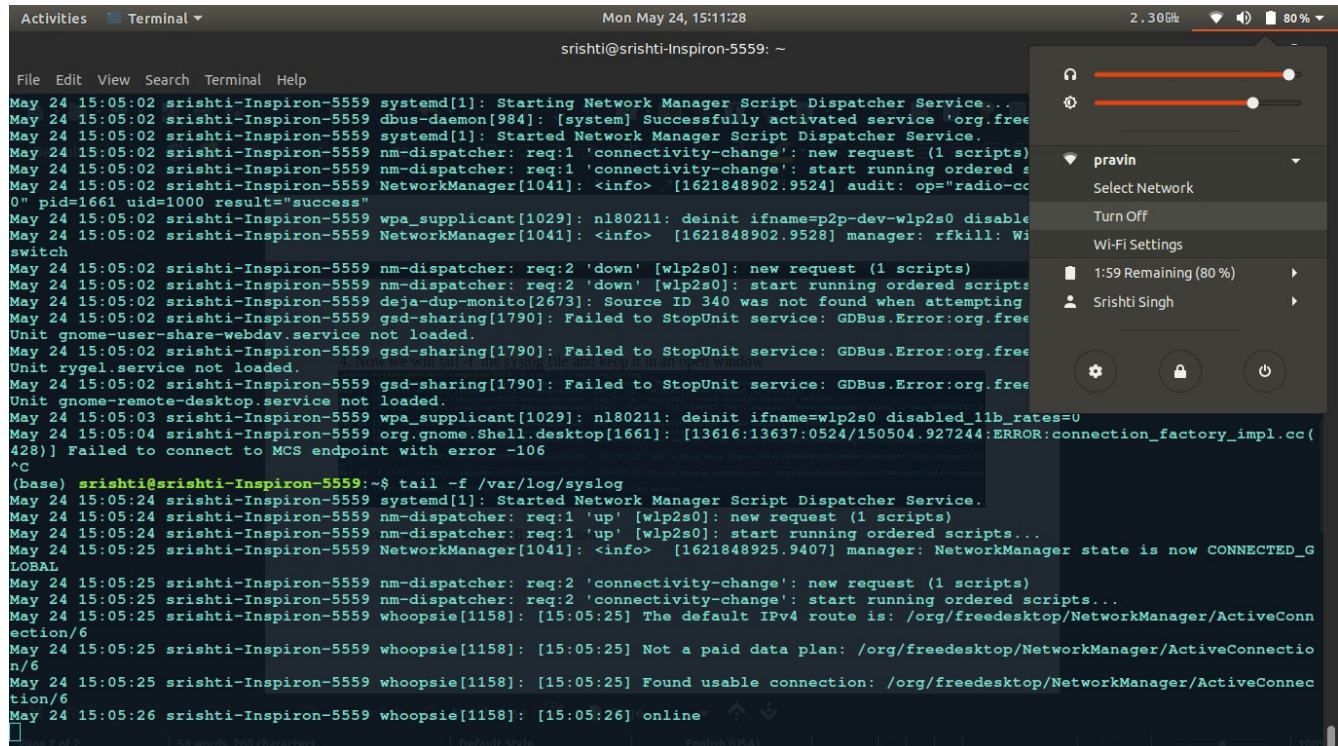
```
(base) srishti@srishti-Inspiron-5559:~$ less /var/log/syslog | grep error
May 24 10:13:27 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/101327.048866:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:18:15 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/101815.775221:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
May 24 10:23:42 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/102342.406754:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:23:42 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/102342.491884:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
May 24 10:27:58 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/102758.615095:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:29:59 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/102959.336873:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:29:59 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/102959.411856:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:32:30 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103230.789158:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:33:18 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103318.362013:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
May 24 10:33:55 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103355.698357:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
May 24 10:34:21 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103421.671529:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
May 24 10:34:21 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103421.750527:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -100
May 24 10:35:19 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13654:13661:0524/103519.856838:ERROR:ssl_client_socket_impl.cc(960)] handshake failed; returned -1, SSL error code 1, net_error -101
```



#### 4. Now we will tail -f the syslog file and keep it in an open window

```
(base) srishti@srishti-Inspiron-5559:~$ tail -f /var/log/syslog
May 24 15:05:24 srishti-Inspiron-5559 systemd[1]: Started Network Manager Script Dispatcher Service.
May 24 15:05:24 srishti-Inspiron-5559 nm-dispatcher: req:1 'up' [wlp2s0]: new request (1 scripts)
May 24 15:05:24 srishti-Inspiron-5559 nm-dispatcher: req:1 'up' [wlp2s0]: start running ordered scripts...
May 24 15:05:25 srishti-Inspiron-5559 NetworkManager[1041]: <info> [1621848925.9407] manager: NetworkManager state is now CONNECTED_G
LOBAL
May 24 15:05:25 srishti-Inspiron-5559 nm-dispatcher: req:2 'connectivity-change': new request (1 scripts)
May 24 15:05:25 srishti-Inspiron-5559 nm-dispatcher: req:2 'connectivity-change': start running ordered scripts...
May 24 15:05:25 srishti-Inspiron-5559 whoopsie[1158]: [15:05:25] The default IPv4 route is: /org/freedesktop/NetworkManager/ActiveConn
ection/6
May 24 15:05:25 srishti-Inspiron-5559 whoopsie[1158]: [15:05:25] Not a paid data plan: /org/freedesktop/NetworkManager/ActiveConnectio
n/6
May 24 15:05:25 srishti-Inspiron-5559 whoopsie[1158]: [15:05:25] Found usable connection: /org/freedesktop/NetworkManager/ActiveConnec
tion/6
May 24 15:05:26 srishti-Inspiron-5559 whoopsie[1158]: [15:05:26] online
```

#### 5. Now if we turn of the wi-fi connection



The screenshot shows a terminal window with the following content:

```
Activities Terminal Mon May 24, 15:11:28 2.30% 80%
srishti@srishti-Inspiron-5559: ~
File Edit View Search Terminal Help
May 24 15:05:02 srishti-Inspiron-5559 systemd[1]: Starting Network Manager Script Dispatcher Service...
May 24 15:05:02 srishti-Inspiron-5559 dbus-daemon[984]: [system] Successfully activated service 'org.freedesktop.NM
May 24 15:05:02 srishti-Inspiron-5559 systemd[1]: Started Network Manager Script Dispatcher Service.
May 24 15:05:02 srishti-Inspiron-5559 nm-dispatcher: req:1 'connectivity-change': new request (1 scripts)
May 24 15:05:02 srishti-Inspiron-5559 nm-dispatcher: req:1 'connectivity-change': start running ordered s
May 24 15:05:02 srishti-Inspiron-5559 NetworkManager[1041]: <info> [1621848902.9524] audit: op="radio-cc
0" pid=1661 uid=1000 result="success"
May 24 15:05:02 srishti-Inspiron-5559 wpa_supplicant[1029]: nl80211: deinit ifname=wlp2s0 disabled_11b_rates=U
May 24 15:05:02 srishti-Inspiron-5559 NetworkManager[1041]: <info> [1621848902.9528] manager: rfkill: Wi
switch
May 24 15:05:02 srishti-Inspiron-5559 nm-dispatcher: req:2 'down' [wlp2s0]: new request (1 scripts)
May 24 15:05:02 srishti-Inspiron-5559 nm-dispatcher: req:2 'down' [wlp2s0]: start running ordered scripts
May 24 15:05:02 srishti-Inspiron-5559 deja-dup-monito[2673]: Source ID 340 was not found when attempting
May 24 15:05:02 srishti-Inspiron-5559 gsd-sharing[1790]: Failed to StopUnit service: GDBus.Error:org.freed
Unit gnome-user-share-webdav.service not loaded.
May 24 15:05:02 srishti-Inspiron-5559 gsd-sharing[1790]: Failed to StopUnit service: GDBus.Error:org.freed
Unit rygel.service not loaded.
May 24 15:05:02 srishti-Inspiron-5559 gsd-sharing[1790]: Failed to StopUnit service: GDBus.Error:org.freed
Unit gnome-remote-desktop.service not loaded.
May 24 15:05:03 srishti-Inspiron-5559 wpa_supplicant[1029]: nl80211: deinit ifname=wlp2s0 disabled_11b_rates=U
May 24 15:05:04 srishti-Inspiron-5559 org.gnome.Shell.desktop[1661]: [13616:13637:0524/150504.927244:ERROR:connection_factory_impl.cc(
428)] Failed to connect to MCS endpoint with error -106
^C
(base) srishti@srishti-Inspiron-5559:~$ tail -f /var/log/syslog
May 24 15:05:24 srishti-Inspiron-5559 systemd[1]: Started Network Manager Script Dispatcher Service.
May 24 15:05:24 srishti-Inspiron-5559 nm-dispatcher: req:1 'up' [wlp2s0]: new request (1 scripts)
May 24 15:05:24 srishti-Inspiron-5559 nm-dispatcher: req:1 'up' [wlp2s0]: start running ordered scripts...
May 24 15:05:25 srishti-Inspiron-5559 NetworkManager[1041]: <info> [1621848925.9407] manager: NetworkManager state is now CONNECTED_G
LOBAL
May 24 15:05:25 srishti-Inspiron-5559 nm-dispatcher: req:2 'connectivity-change': new request (1 scripts)
May 24 15:05:25 srishti-Inspiron-5559 nm-dispatcher: req:2 'connectivity-change': start running ordered scripts...
May 24 15:05:25 srishti-Inspiron-5559 whoopsie[1158]: [15:05:25] The default IPv4 route is: /org/freedesktop/NetworkManager/ActiveConn
ection/6
May 24 15:05:25 srishti-Inspiron-5559 whoopsie[1158]: [15:05:25] Not a paid data plan: /org/freedesktop/NetworkManager/ActiveConnectio
n/6
May 24 15:05:25 srishti-Inspiron-5559 whoopsie[1158]: [15:05:25] Found usable connection: /org/freedesktop/NetworkManager/ActiveConnec
tion/6
May 24 15:05:26 srishti-Inspiron-5559 whoopsie[1158]: [15:05:26] online
```

On the right side of the terminal, a Wi-Fi settings overlay is visible. It shows the network name 'pravin' selected, with options to 'Select Network', 'Turn Off', and 'Wi-Fi Settings'. The battery level is 80% and the time remaining is 1:59. The user's name 'Srishti Singh' is also visible.

## 6. We can view the network logging data in real time

```
(base) srishti@srishti-Inspiron-5559:~$ tail -f /var/log/syslog
May 24 14:53:52 srishti-Inspiron-5559 wpa_supplicant[1029]: wlp2s0: Associated with c8:3a:35:43:4e:30
May 24 14:53:52 srishti-Inspiron-5559 wpa_supplicant[1029]: wlp2s0: CTRL-EVENT-SUBNET-STATUS-UPDATE status=0
May 24 14:53:52 srishti-Inspiron-5559 kernel: [22376.798510] wlp2s0: associated
May 24 14:53:52 srishti-Inspiron-5559 NetworkManager[1041]: <info> [1621848232.4489] device (wlp2s0): supplicant interface state: associating -> associated
May 24 14:53:52 srishti-Inspiron-5559 NetworkManager[1041]: <info> [1621848232.4547] device (wlp2s0): supplicant interface state: associated -> 4-way handshake
May 24 14:53:52 srishti-Inspiron-5559 NetworkManager[1041]: <info> [1621848232.4695] device (wlp2s0): supplicant interface state: 4-way handshake -> group handshake
May 24 14:53:52 srishti-Inspiron-5559 wpa_supplicant[1029]: wlp2s0: WPA: Key negotiation completed with c8:3a:35:43:4e:30 [PTK=CCMP GTK=CCMP]
May 24 14:53:52 srishti-Inspiron-5559 wpa_supplicant[1029]: wlp2s0: CTRL-EVENT-CONNECTED - Connection to c8:3a:35:43:4e:30 completed [id=0 id_str=]
May 24 14:53:52 srishti-Inspiron-5559 NetworkManager[1041]: <info> [1621848232.4909] device (wlp2s0): supplicant interface state: group handshake -> completed
May 24 14:53:52 srishti-Inspiron-5559 wpa_supplicant[1029]: wlp2s0: CTRL-EVENT-SIGNAL-CHANGE above=1 signal=-48 noise=9999 txrate=150000
May 24 15:05:02 srishti-Inspiron-5559 kernel: [23047.183963] wlp2s0: deauthenticating from c8:3a:35:43:4e:30 by local choice (Reason: 3=DEAUTH_LEAVING)
May 24 15:05:02 srishti-Inspiron-5559 wpa_supplicant[1029]: wlp2s0: CTRL-EVENT-DISCONNECTED bssid=c8:3a:35:43:4e:30 reason=3 locally_generated=1
May 24 15:05:02 srishti-Inspiron-5559 whoopsie[1158]: [15:05:02] Cannot reach: https://daisy.ubuntu.com
May 24 15:05:02 srishti-Inspiron-5559 whoopsie[1158]: [15:05:02] offline
May 24 15:05:02 srishti-Inspiron-5559 NetworkManager[1041]: <info> [1621848902.8545] manager: rfkill: WiFi hardware radio set disabled
May 24 15:05:02 srishti-Inspiron-5559 avahi-daemon[967]: Interface wlp2s0.IPv6 no longer relevant for mDNS.
May 24 15:05:02 srishti-Inspiron-5559 NetworkManager[1041]: <info> [1621848902.8545] device (wlp2s0): state change: activated -> unavailable (reason 'none', sys-iface-state: 'managed')
May 24 15:05:02 srishti-Inspiron-5559 avahi-daemon[967]: Leaving mDNS multicast group on interface wlp2s0.IPv6 with address fe80::4efd:aeeb:5b98:1898.
May 24 15:05:02 srishti-Inspiron-5559 systemd[1]: Starting Load/Save RF Kill Switch Status...
May 24 15:05:02 srishti-Inspiron-5559 avahi-daemon[967]: Interface wlp2s0.IPv4 no longer relevant for mDNS.
May 24 15:05:02 srishti-Inspiron-5559 systemd[1]: Started Load/Save RF Kill Switch Status.
May 24 15:05:02 srishti-Inspiron-5559 avahi-daemon[967]: Leaving mDNS multicast group on interface wlp2s0.IPv4 with address 192.168.0.112.
May 24 15:05:02 srishti-Inspiron-5559 avahi-daemon[967]: Withdrawing address record for fe80::4efd:aeeb:5b98:1898 on wlp2s0.
May 24 15:05:02 srishti-Inspiron-5559 avahi-daemon[967]: Withdrawing address record for 192.168.0.112 on wlp2s0.
May 24 15:05:02 srishti-Inspiron-5559 wpa_supplicant[1029]: rfkill: WLAN soft blocked
```