

**Name :Israa Mohamed Gaber**

- ## 1. List the environment variables in 2 ways

```
[igaber@localhost ~]$ printenv
```

```
[igaber@localhost ~]$ env
```

[illegible][illegible]

- ## 2. Print the value of a specific variable

```
[igaber@localhost ~]$ my_variable="Hello, world!"
```

```
[igaber@localhost ~]$ echo $my_variable
```

Hello, world!

```

[igaber@localhost ~]$ my_variable="hello, world!"
[igaber@localhost ~]$ echo $my_variable
hello, world!
[igaber@localhost ~]$

```

3. Display your current shell name

```
[igaber@localhost ~]$ echo $SHELL  
/bin/bash
```

Or

```
[igaber@localhost ~]$ printenv | grep SHELL  
SHELL=/bin/bash
```

```
hello, world!  
[igaber@localhost ~]$ echo $SHELL  
/bin/bash  
[igaber@localhost ~]$
```

4. . State the initialization files of bash. And state the difference

/etc/profile: This file is executed for all users when they log in.

~/bash\_profile: This file is executed for a specific user when they log in.

~/bashrc: This file is executed each time a new shell is started for a specific user.

5. Edit your profile to display the date at login and change your prompt permanently

```
[igaber@localhost ~]$ echo "Login date: $(date)"
```

```
Login date: Wed Nov 20 07:24:46 PM EET 2024
```

```
[igaber@localhost ~]$ export PS1="\u@\h:\w\$ "
```

```
[igaber@localhost ~]$ echo "Login date: $(date)"  
Login date: Wed Nov 20 07:24:46 PM EET 2024  
[igaber@localhost ~]$ export PS1="\u@\h:\w\$ "
```

6. Create a Bash shell alias named ls for the ls -la command

```
igaber@localhost:~$ alias ls='ls -la'
```

```
igaber@localhost:~$ ls -la
```

```
igaber@localhost:~$ alias ls='ls -la'  
igaber@localhost:~$ ls -la  
total 64  
drwxr-xr-x. 17 igaber igaber 4096 Nov 19 13:59 .  
drwxr-xr-x.  8 root   root   97 Nov 18 13:51 ..  
-rw-r--r--.  1 igaber igaber 4755 Nov 19 14:49 .bash_history  
-rw-r--r--.  1 igaber igaber 18 Nov 24 2022 .bash_logout  
-rw-r--r--.  1 igaber igaber 141 Nov 24 2022 .bash_profile  
-rw-r--r--.  1 igaber igaber 492 Nov 24 2022 .bashrc  
drwxr-xr-x. 10 igaber igaber 4096 Nov 11 21:03 .cache  
drwxr-xr-x. 12 igaber igaber 4096 Nov 16 20:26 .config  
drwxr-xr-x.  2 igaber igaber  6 Nov 11 17:09 Desktop  
drwxr-xr-x.  3 igaber igaber 31 Nov 18 09:49 Documents  
drwxr-xr-x.  2 igaber igaber  6 Nov 11 17:09 Downloads  
-rwxrwxrwx.  1 igaber igaber  6 Nov 18 21:51 file  
-rw-r--r--.  1 igaber igaber 11 Nov 16 20:25 fwlog  
drwxr-xr-x.  2 igaber igaber  6 Nov 11 22:53 Israa  
-rw-r--r--.  1 igaber igaber 37 Nov 18 22:48 .lessht  
drwxr-xr-x.  4 igaber igaber 32 Nov 11 17:09 local  
drwxr-xr-x.  4 igaber igaber 39 Nov 11 16:45 mozilla  
drwxr-xr-x.  2 igaber igaber  6 Nov 11 17:09 Music  
-rw-r--r--.  1 igaber igaber 141 Nov 18 11:43 mycv  
-rw-r--r--.  1 igaber igaber 12288 Nov 18 15:05 mycv.swp  
-rw-r--r--.  1 igaber igaber  8 Nov 18 15:44 myfile  
drwxr-xr-x.  2 igaber igaber  6 Nov 11 21:33 myteam  
-rw-r--r--.  1 igaber igaber 1118 Nov 19 13:59 output.txt  
drwxr-xr-x.  2 igaber igaber  6 Nov 11 17:09 Pictures  
drwxr-xr-x.  2 igaber igaber  6 Nov 11 17:09 Public  
drwxr-xr-x.  2 igaber igaber  6 Nov 11 17:09 Templates  
drwxr-xr-x.  2 igaber igaber  6 Nov 18 14:59 testdir  
-rw-r--r--.  1 igaber igaber  6 Nov 18 14:59 testfile  
drwxr-xr-x.  2 igaber igaber  6 Nov 11 17:09 Videos  
-rw-r--r--.  1 igaber igaber 3155 Nov 18 15:05 viminfo  
igaber@localhost:~$
```

7. [igaber@localhost ~]\$ unalias ls

```
[igaber@localhost ~]$ unalias ls  
[igaber@localhost ~]$
```

8. Make the umask 0000 permanent

```
[igaber@localhost ~]$ umask 0000
```

- **Owner:** Read, write, and execute permissions (7)
- **Group:** Read, write, and execute permissions (7)
- **Others:** Read, write, and execute permissions (7)

In octal notation, this is represented as 777.

```
igaber@localhost:~$ umask 0000  
igaber@localhost:~$
```

9. Display the last 5 lines of the log file that logs cron jobs

```
[igaber@localhost ~]$ sudo tail -n 5 /var/log/cron
```

```

[igaber@localhost ~]$ sudo tail -n 5 /var/log/cron
[sudo] password for igaber:
Nov 20 19:14:11 localhost cron[1207]: (CRON) INFO (Shutting down)
Nov 20 19:15:36 localhost cron[1058]: (CRON) STARTUP (1.5.7)
Nov 20 19:15:36 localhost cron[1058]: (CRON) INFO (Syslog will be used instead of sendmail.)
Nov 20 19:15:36 localhost cron[1058]: (CRON) INFO (random._urandom will be seeded with factor 438. If used.)
Nov 20 19:15:36 localhost cron[1058]: (CRON) INFO (running with notify support)
[igaber@localhost ~]$

```

10. Send a log message using "logger" and where can you find that message written?

```
[igaber@localhost ~]$ logger "This is a test message"
```

```
[igaber@localhost ~]$ sudo tail -n 10 /var/log/messages
```

```

[igaber@localhost ~]$ logger "This is a test message"
[igaber@localhost ~]$ sudo tail -n 10 /var/log/messages
Nov 20 19:43:34 localhost chromd[793]: Selected source 102.64.112.164 (2.centos.pool.ntp.org)
Nov 20 19:43:39 localhost systemd[1]: fprintd.service: deactivated successfully.
Nov 20 19:45:26 localhost systemd[1]: Starting PackageKit Daemon...
Nov 20 19:45:26 localhost packagekitd[2836]: g_path_get_basename: assertion 'file_name != NULL' failed
Nov 20 19:45:27 localhost packagekitd[2836]: skipping refresh of media: Cannot update read-only repo
Nov 20 19:45:26 localhost systemd[1]: Started PackageKit Daemon.
Nov 20 19:45:34 localhost igaber[2580]: This is a test message
Nov 20 19:45:48 localhost rsyslogd[1807]: imjournal: journal files changed, reloading... [v8.2310.0-4.el9 try https://www.rsyslog.com/e/0 ]
Nov 20 19:46:41 localhost igaber[2682]: This is a test message
[igaber@localhost ~]$

```

11. Generate SSH key

```
[igaber@localhost ~]$ ssh-keygen -t rsa
```

Generating public/private rsa key pair.

Enter file in which to save the key (/home/igaber/.ssh/id\_rsa): israa

```

[igaber@localhost ~]$ ssh-keygen -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/home/igaber/.ssh/id_rsa): israa
israa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Passphrases do not match. Try again.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Saving key "israa" failed: Is a directory
[igaber@localhost ~]$

```

12. Display only error logs of the system

```
[igaber@localhost ~]$ sudo grep -i "error" /var/log/messages
```

Or

```
[igaber@localhost ~]$ journalctl -p err
```

```

[igaber@localhost ~]$ journalctl -p err
[igaber@localhost ~]$ sudo grep -i "error" /var/log/messages
[igaber@localhost ~]$ sudo grep -i "error" /var/log/messages
[sudo] password for igaber:
Nov 11 17:08:21 localhost alsactl[1420]: alsactl main.c:1560(snd_use_case_mgr_open) error: failed to import hw0 use case configuration -2
Nov 11 17:08:31 localhost udiskd[807]: Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to '/dev/sr0': ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-error-quark, 0)
Nov 11 17:08:31 localhost udiskd[807]: Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to '/dev/sr1': ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-error-quark, 0)
Nov 11 17:08:40 localhost wireplumber[1214]: GetManagedObjects() failed: org.freedesktop.DBus.Error.NameHasNoOwner
Nov 11 17:08:41 localhost gsd-sharing[1224]: Failed to stopunit service: GDBus.Error:org.freedesktop.DBus.Error.Spawn.ChildExited: Process org.freedesktop.systemd1 exited with status 1
Nov 11 17:08:41 localhost gsd-sharing[1224]: Failed to stopunit service: GDBus.Error:org.freedesktop.DBus.Error.Spawn.ChildExited: Process org.freedesktop.systemd1 exited with status 1
Nov 11 17:08:41 localhost gsd-sharing[1224]: Failed to stopunit service: GDBus.Error:org.freedesktop.DBus.Error.Spawn.ChildExited: Process org.freedesktop.systemd1 exited with status 1
Nov 11 17:08:41 localhost /usr/sbin/irqbalance[778]: Cannot change IRQ 8 affinity: Input/output error
Nov 11 17:08:42 localhost gnome-shell[1129]: Error looking up permission: GDBus.Error:org.freedesktop.portal.Error.NotFound: No entry for geolocation
Nov 11 17:08:44 localhost org.gnome.Shell.desktop[1443]: Errors from xkbcomp are not fatal to the X server
Nov 11 17:09:17 localhost wireplumber[1733]: GetManagedObjects() failed: org.freedesktop.DBus.Error.NameHasNoOwner
Nov 11 17:09:21 localhost gnome-session[1608]: gnome-session-binary[1608]: GnomeDesktop-WARNING: Could not create transient scope for PID 1846: GDBus.Error:org.freedesktop.DBus.Error.UnixProcessIdUnknown: Process with ID 1846 does not exist.
Nov 11 17:09:21 localhost gnome-session-binary[1608]: GnomeDesktop-WARNING: Could not create transient scope for PID 1846: GDBus.Error:org.freedesktop.DBus.Error.UnixProcessIdUnknown: Process with ID 1846 does not exist.
Nov 11 17:09:21 localhost gnome-session-binary[1608]: GnomeDesktop-WARNING: Could not create transient scope for PID 1912: GDBus.Error:org.freedesktop.DBus.Error.UnixProcessIdUnknown: Process with ID 1912 does not exist.
Nov 11 17:09:21 localhost gnome-session-binary[1608]: GnomeDesktop-WARNING: Could not create transient scope for PID 1912: GDBus.Error:org.freedesktop.DBus.Error.UnixProcessIdUnknown: Process with ID 1912 does not exist.
Nov 11 17:09:22 localhost gnome-shell[1633]: Error looking up permission: GDBus.Error:org.freedesktop.portal.Error.NotFound: No entry for geolocation
Nov 11 17:09:22 localhost gsd-usb-protection[1884]: Failed to fetch USBGuard parameters: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name is not activatable
Nov 11 17:09:50 localhost gsd-media-keys[1855]: Failed to create proxy for screencast: Error calling StartServiceByName for org.gnome.Shell.Screencast: Timeout was reached
Nov 11 17:10:06 localhost gnome-shell[1224]: Errors from xkbcomp are not fatal to the X server
Nov 11 17:10:16 localhost gnome-shell[1633]: libinput error: event2 - VirtualPS/2 VMware VMHouse: client bug: event processing lagging behind by 53ms, your system is too slow
Nov 11 17:10:52 localhost gnome-shell[1633]: libinput error: event2 - VirtualPS/2 VMware VMHouse: client bug: event processing lagging behind by 14ms, your system is too slow
Nov 11 17:11:06 localhost gnome-shell[1633]: libinput error: event1 - AT Translated Set 2 keyboard: client bug: event processing lagging behind by 33ms, your system is too slow
Nov 11 17:11:27 localhost gnome-shell[1633]: libinput error: event1 - AT Translated Set 2 keyboard: client bug: event processing lagging behind by 67ms, your system is too slow
Nov 11 17:11:39 localhost gnome-shell[1633]: libinput error: event1 - AT Translated Set 2 keyboard: client bug: event processing lagging behind by 17ms, your system is too slow
Nov 11 17:11:41 localhost gnome-shell[1633]: libinput error: event2 - VirtualPS/2 VMware VMHouse: client bug: event processing lagging behind by 27ms, your system is too slow
Nov 11 17:11:41 localhost gnome-shell[1633]: libinput error: event2 - VirtualPS/2 VMware VMHouse: client bug: event processing lagging behind by 23ms, your system is too slow
Nov 11 17:11:44 localhost gnome-shell[1633]: libinput error: event2 - VirtualPS/2 VMware VMHouse: client bug: event processing lagging behind by 94ms, your system is too slow
Nov 11 17:11:44 localhost gnome-shell[1633]: libinput error: event2 - VirtualPS/2 VMware VMHouse: WARNING: log rate limit exceeded (5 msgs per 60ms). Discarding future messages.
Nov 11 17:12:07 localhost evolution-alarm[1876]: Error reading events from /display: Broken pipe
Nov 11 17:16:01 localhost alsactl[784]: alsactl main.c:1560(snd_use_case_mgr_open) error: failed to import hw0 use case configuration -2
Nov 11 17:16:02 localhost udiskd[807]: Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to '/dev/sr0': ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-error-quark, 0)
Nov 11 17:16:02 localhost udiskd[807]: Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to '/dev/sr1': ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-error-quark, 0)

```

OR

```
[igaber@localhost ~]$ journalctl -e -x
```

```

  2 Activities | Terminal | Nov 20 19:57 | igaber@localhost:~
  3
  4 Nov 20 19:39:36 localhost gsd-usb-protection[2249]: Failed to fetch USBGuard parameters: GDBus.Error:freedesktop.org.DBus.Error.ServiceUnknown: The name is not activatable
  5 Nov 20 19:39:48 localhost gnome-shell[2534]: Errors from kbbcomp are not fatal to the x server
  6
  7 igaber@localhost ~$ journalctl -u x
  8
  9 The job identifier is 490.
 10 Defined-By: system
 11 Support: https://access.redhat.com/support
 12
 13 A start job for unit UNIT has finished successfully.
 14
 15 The job identifier is 490.
 16 Nov 20 19:51:24 localhost.localdomain gnome-shell[2014]: meta_window_set_stack_position_no_sync: assertion 'window->stack_position >= 0' failed
 17 Nov 20 19:51:27 localhost.localdomain system[1033]: dbus-1.2-0.org.gnome.gedit01.service: Consumed 1.076s CPU time.
 18 Subject: Resource consumed by unit runtime
 19 Defined-By: system
 20 Support: https://access.redhat.com/support
 21
 22 The unit UNIT completed and consumed the indicated resources.
 23 Nov 20 19:51:42 localhost.localdomain system[1]: system-hostnamed.service: Deactivated successfully.
 24 Subject: Unit has succeeded
 25 Defined-By: system
 26 Support: https://access.redhat.com/support
 27
 28 The unit system-hostnamed.service has successfully entered the 'dead' state.
 29 Nov 20 19:51:45 localhost.localdomain gnome-shell[2014]: Source ID 1778 was not found when attempting to remove it
 30 Nov 20 19:53:58 localhost.localdomain system[1]: Starting Fingerprint Authentication Daemon...
 31 Subject: A start job for unit fprind.service has begun execution
 32 Defined-By: system
 33 Support: https://access.redhat.com/support
 34
 35 A start job for unit fprind.service has begun execution.
 36
 37 The job identifier is 1809.
 38 Nov 20 19:53:58 localhost.localdomain system[1]: Started Fingerprint Authentication Daemon.
 39 Subject: A start job for unit fprind.service has finished successfully
 40 Defined-By: system
 41 Support: https://access.redhat.com/support
 42
 43 A start job for unit fprind.service has finished successfully.
 44
 45 The job identifier is 1809.
 46 Nov 20 19:54:00 localhost.localdomain sudo[3045]: igaber : TTYpts/0 : PWD=/home/igaber : USER=root : COMMAND=/bin/grep -s error /var/log/messages
 47 Nov 20 19:54:00 localhost.localdomain sudo[3045]: igaber : TTYpts/0 : PWD=/home/igaber : USER=root : COMMAND=/bin/grep -s error /var/log/messages
 48
 49
```

### 13. Display system logs since last week

```
[igaber@localhost ~]$ journalctl --since "1 week ago"
```

```
Nov 20 19:15:174 localhost.localdomain systemd[193]: Started dbus-1.12.0-gnome.gedit@l.service.  
Nov 20 19:15:18 localhost.localdomain kernel: [ 0.000000] Linux version 5.4-527.el9.x86_64 (mockslil@x86-95.stream.rdu2.redhat.com) (gcc (GCC) 11.5.0 20240719 (Red Hat 11.5.0-2), GNU ld version 2.35.2-54.el9) #1 SMP PREEMPT_DYNAMIC Nov 20 19:15:36  
Nov 20 19:15:36 localhost.localdomain kernel: The List of certified hardware and cloud instances for Red Hat Enterprise Linux 9 can be viewed at the Red Hat Ecosystem Catalog, https://catalog.redhat.com.  
Nov 20 19:15:36 localhost.localdomain kernel: [ 0.000000] mdsos: /vmlinuz-5.4.0-527.el9.x86_64 root=/dev/mapper/cs-root ro resume=/dev/mapper/cs-swap rd.lvm.lvcs/root rd.lvm.lvcs/swap rhgb quiet crashkernel=auto  
Nov 20 19:15:36 localhost.localdomain kernel: Disabled fast string operations  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-provided physical RAM map:  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-e820: [mem 0x0000000000000000-0x00000000000000bfff] usable  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-e820: [mem 0x00000000000000c000-0x00000000000000ffff] reserved  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-e820: [mem 0x00000000000000f0000e-0x00000000000000ffffff] usable  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-e820: [mem 0x0000000000fee0000-0x0000000000feeffff] ACPI data  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-e820: [mem 0x00000000003ffef000-0x00000000003fffff] ACPI NVS  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-e820: [mem 0x0000000000f0000e-0x0000000000ffffff] usable  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-e820: [mem 0x0000000000f000000-0x0000000000ffffffff] reserved  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-e820: [mem 0x000000000fc00000-0x000000000fcffffff] reserved  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-e820: [mem 0x000000000fe00000-0x000000000feffffff] reserved  
Nov 20 19:15:36 localhost.localdomain kernel: BIOS-e820: [mem 0x000000000ffe00000-0x000000000fffffff] reserved  
Nov 20 19:15:36 localhost.localdomain kernel: NX (Execute Disable) protection: active  
Nov 20 19:15:36 localhost.localdomain kernel: APIC: Static calls initialized  
Nov 20 19:15:36 localhost.localdomain kernel: SMBIOS 2.7 present.  
Nov 20 19:15:36 localhost.localdomain kernel: DMI: VMware, Inc. VMware Virtual Platform/4408 Desktop Reference Platform, BIOS 6.00 67/22/028  
Nov 20 19:15:36 localhost.localdomain kernel: vmware: hypercall mode: 0x0  
Nov 20 19:15:36 localhost.localdomain kernel: Hypervisor detected: VMware  
Nov 20 19:15:36 localhost.localdomain kernel: vmware: TSC freq read from hypervisor : 1992.061 Mhz  
Nov 20 19:15:36 localhost.localdomain kernel: vmware: Host has clock speed read from hypervisor : 660000000 KHz  
Nov 20 19:15:36 localhost.localdomain kernel: vmware: using clock offset of 3952534315 ns  
Nov 20 19:15:36 localhost.localdomain kernel: tsc: Detected 1992.061 Mhz processor  
Nov 20 19:15:36 localhost.localdomain kernel: e820: update [mem 0x00000000-0x000000fff] usable => reserved  
Nov 20 19:15:36 localhost.localdomain kernel: e820: remove [mem 0x00000000-0x000000fff] usable  
Nov 20 19:15:36 localhost.localdomain kernel: last-pfn = 0x000000 max_arch_pfn = 0x00000000  
Nov 20 19:15:36 localhost.localdomain kernel: total RAM covered: 3072M  
Nov 20 19:15:36 localhost.localdomain kernel: Found optimal setting for trimd clean up  
Nov 20 19:15:36 localhost.localdomain kernel: grain_size: 64K chunk_size: 64K num_regs: 2 lose cover RAM: 0G  
Nov 20 19:15:36 localhost.localdomain kernel: MSR: max: 6 entries (5 fixed + 1 variable; max 21), built from 6 variable MSRs  
Nov 20 19:15:36 localhost.localdomain kernel: x86/PAT: Configuration (0-7): MB UC -UC -UC -UC -UC -UC -UT  
Nov 20 19:15:36 localhost.localdomain kernel: found SMP MP-table at [mem 0xb000fa70-0xb000ffa7]  
Nov 20 19:15:36 localhost.localdomain kernel: Using 6B pages for direct mapping  
Nov 20 19:15:36 localhost.localdomain kernel: RAMDISK: [mem 0x1347000-0x134900fff]  
Nov 20 19:15:36 localhost.localdomain kernel: ACPI: Early table checksum verification disabled  
Nov 20 19:15:36 localhost.localdomain kernel: smp: smpboot: processsing some smpboot
```

#### 14. Change your system's time zone to Africa/Kampala:

```
[igaber@localhost ~]$ timedatectl list-timezones
```

```
[igaber@localhost ~]$ timedatectl set-timezone Africa/Kampala
```

```
[igaber@localhost ~]$ timedatectl set-timezone Africa/Kampala
```

```
[igaber@localhost ~]$ timedatectl
```

**Local time: Wed 2024-11-20 21:08:11 EAT**

**Universal time: Wed 2024-11-20 18:08:11 UTC**

**RTC time: Wed 2024-11-20 18:08:11**

**Time zone: Africa/Kampala (EAT, +0300)**

**System clock synchronized: yes**

**NTP service: active**

**RTC in local TZ: no**

**[igaber@localhost ~]\$**

```
igaber@localhost ~$ timedatectl list-timezones
Africa/Abidjan
Africa/Accra
Africa/Addis_Ababa
Africa/Algiers
Africa/Asmara
Africa/Asmera
Africa/Bamako
Africa/Bangui
Africa/Banjul
Africa/Bissau
Africa/Blantyre
Africa/Brazzaville
Africa/Bujumbura
Africa/Cairo
Africa/Casablanca
Africa/Ceuta
Africa/Conakry
Africa/Dakar
Africa/Dar_es_Salaam
Africa/Djibouti
Africa/Douala
Africa/El_Aaiun
Africa/Freetown
Africa/Gaborone
Africa/Harare
Africa/Johannesburg
Africa/Juba
Africa/Kampala
Africa/Khartoum
Africa/Kigali
Africa/Kinshasa
```

```
igaber@localhost ~$ timedatectl set-timezone Africa/Kampala
igaber@localhost ~$ timedatectl set-timezone Africa/Kampala
igaber@localhost ~$ timedatectl
          Local time: Wed 2024-11-20 21:08:11 EAT
          Universal time: Wed 2024-11-20 18:08:11 UTC
          RTC time: Wed 2024-11-20 18:08:11
          Time zone: Africa/Kampala (EAT, +0300)
System clock synchronized: yes
NTP service: active
RTC in local TZ: no
igaber@localhost ~$
```

15. Create a connection with the given configuration

**[igaber@localhost ~]\$ nmcli connection add type ethernet con-name con1  
ifname eth0 ip4 192.168.1.24/24 gw4 192.168.1.1 ipv4.dns 8.8.8.8**

```
igaber@localhost ~$ nmcli connection add type ethernet con-name con1 ifname eth0 ip4 192.168.1.24/24 gw4 192.168.1.1 ipv4.dns 8.8.8.8
Connection 'con1' (c82a558-2914-4134-a329-56ad44d7ae5e) successfully added.
igaber@localhost ~$
```

16. Display the info of a connection on your system

**[igaber@localhost ~]\$ nmcli connection show con1**

```
igaber@localhost:~$ nmcli connection show con1
connection.id: con1
connection.uuid: c82aa558-2914-4134-a329-56ad44d7ae5e
connection.stable-id: --
connection.type: 802-3-ethernet
connection.interface-name: eth0
connection.autoconnect: yes
connection.autoconnect-priority: 0
connection.autoconnect-retries: -1 (default)
connection.multi-connect: 0 (default)
connection.auth-retries: -1 (default)
connection.timestamp: 0
connection.permissions: --
connection.zone: --
connection.controller: --
connection.master: --
connection.slave-type: --
connection.port-type: --
connection.autoconnect-slaves: -1 (default)
connection.autoconnect-ports: -1 (default)
connection.down-on-poweroff: -1 (default)
connection.secondaries: --
connection.gateway-ping-timeout: 0
connection.metered: unknown
connection.lldp: default
connection.edns: -1 (default)
connection.llmnr: -1 (default)
connection.dns-over-tls: -1 (default)
connection.mtup-flags: 0x0 (default)
connection.wait-device-timeout: -1
connection.wait-activation-delay: -1
802-3-ethernet.port: --
802-3-ethernet.speed: 0
802-3-ethernet.duplex: --
802-3-ethernet.auto-negotiate: no
802-3-ethernet.mac-address: --
802-3-ethernet.cloned-mac-address: --
802-3-ethernet.generate-mac-address-mask: --
802-3-ethernet.mac-address-denylist: --
```

## 17. Reload the configuration of a connection

[igaber@localhost ~]\$ sudo nmcli connection reload

```
igaber@localhost ~$ sudo nmcli connection reload
Error: Failed to reload connections: Access denied.
```

## 18. Check the SSHD configuration

[igaber@localhost ~]\$ sudo cat /etc/ssh/sshd\_config

```
# $OpenBSD: sshd_config,v 1.104 2021/07/02 05:11:21 dtucker Exp $

# This is the sshd server system-wide configuration file. See
# sshd_config(5) for more information.

# This sshd was compiled with PATH=/usr/local/bin:/usr/bin:/usr/sbin:/usr/sbin

# The strategy used for options in the default sshd_config shipped with
# OpenSSH is to specify options with their default value where
# possible, but leave them commented. Uncommented options override the
# default value.

# To modify the system-wide sshd configuration, create a *.conf file under
# /etc/ssh/sshd_config.d/ which will be automatically included below
Include /etc/ssh/sshd_config.d/*.conf

# If you want to change the port on a SELinux system, you have to tell
# SELinux about this change.
# semanage port -a -t ssh_port_t -p tcp #PORTNUMBER
#
#Port 22
#AddressFamily any
#ListenAddress 0.0.0.0
#ListenAddress ::

#HostKey /etc/ssh/ssh_host_rsa_key
#HostKey /etc/ssh/ssh_host_ecdsa_key
#HostKey /etc/ssh/ssh_host_ed25519_key

# Ciphers and keying
#RekeyInterval default none

# Logging
#SyslogFacility AUTH
#LogLevel INFO

# Authentication:
```

## 19. Change the SSH port to 8001

[igaber@localhost ~]\$ Port 8001

[igaber@localhost ~]\$ systemctl restart sshd

## 20. Get the IP of the Linux server

[igaber@localhost ~]\$ ip addr show

```
igaber@localhost ~$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:36:c3:dd brd ff:ff:ff:ff:ff:ff
    altname ens2s1
    inet 192.168.6.131/24 brd 192.168.6.255 scope global dynamic noprefixroute ens33
        valid_lft 144sec preferred_lft 144sec
    inet6 fe80::20c:29ff:fe56:c3dd/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
igaber@localhost ~$
```

