Linux Admin 2 - Lab 1

Name: Muhamad Mamoun Elsaid Hassan

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```
  ┌──(mamoun@mamoun-laptop)-[~]
  └─$ mail root
Cc:
Subject: Test Mail
Hello, World!

  ┌──(mamoun@mamoun-laptop)-[~]
  └─$ tail /var/mail/root
tail: cannot open '/var/mail/root' for reading: Permission denied
  ┌──(mamoun@mamoun-laptop)-[~]
  └─$ sudo tail /var/mail/root
[sudo] password for mamoun:
        id D6444BA0284; Tue, 25 Mar 2025 13:29:08 +0200 (EET)
To: root@mamoun-laptop
Subject: Test Mail
User-Agent: mail (GNU Mailutils 3.17)
Date: Tue, 25 Mar 2025 13:29:08 +0200
Message-Id: <20250325112908.D6444BA0284@mamoun-laptop>
From: Mamoun <mamoun@mamoun-laptop>

Hello, World!

  ┌──(mamoun@mamoun-laptop)-[~]
  └─$ _
```

```
┌──(mamoun@mamoun-laptop)-[~]
└─$ systemctl stop postfix.service
┌──(mamoun@mamoun-laptop)-[~]
└─$ mail root
Cc:
Subject: Test Mail Again
Hello, World! v2

┌──(mamoun@mamoun-laptop)-[~]
└─$ sudo tail /var/mail/root
        id D6444BA0284; Tue, 25 Mar 2025 13:29:08 +0200 (EET)
To: root@mamoun-laptop
Subject: Test Mail
User-Agent: mail (GNU Mailutils 3.17)
Date: Tue, 25 Mar 2025 13:29:08 +0200
Message-Id: <20250325112908.D6444BA0284@mamoun-laptop>
From: Mamoun <mamoun@mamoun-laptop>

Hello, World!

┌──(mamoun@mamoun-laptop)-[~]
└─$ _
```

```
┌──(mamoun@mamoun-laptop)-[~]
└─$ systemctl start postfix.service
┌──(mamoun@mamoun-laptop)-[~]
└─$ sudo tail /var/mail/root
        id 52100BA0284; Tue, 25 Mar 2025 13:33:08 +0200 (EET)
To: root@mamoun-laptop
Subject: Test Mail Again
User-Agent: mail (GNU Mailutils 3.17)
Date: Tue, 25 Mar 2025 13:33:08 +0200
Message-Id: <20250325113340.52100BA0284@mamoun-laptop>
From: Mamoun <mamoun@mamoun-laptop>

Hello, World! v2

┌──(mamoun@mamoun-laptop)-[~]
└─$
```
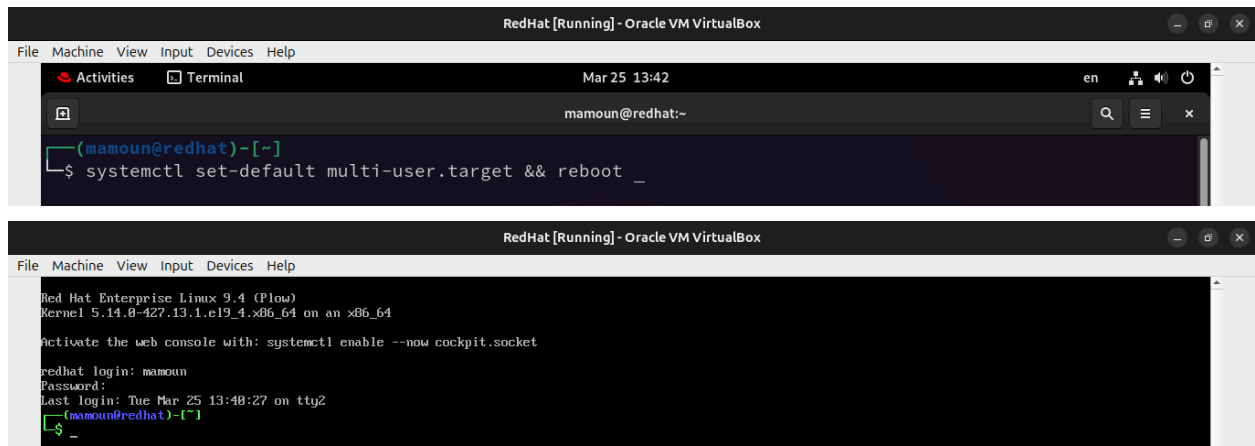
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```
┌──(mamoun@mamoun-laptop)-[~]
└─$ systemctl isolate multi-user.target
```

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```
┌──(mamoun@mamoun-laptop)-[~]
└─$ systemctl get-default
graphical.target
┌──(mamoun@mamoun-laptop)-[~]
└─$ _
```
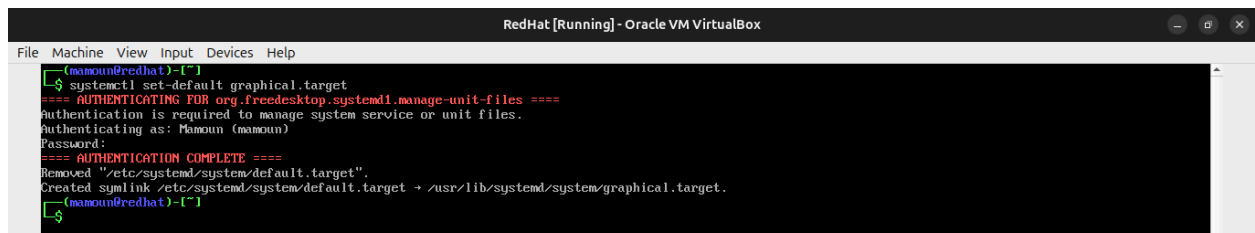
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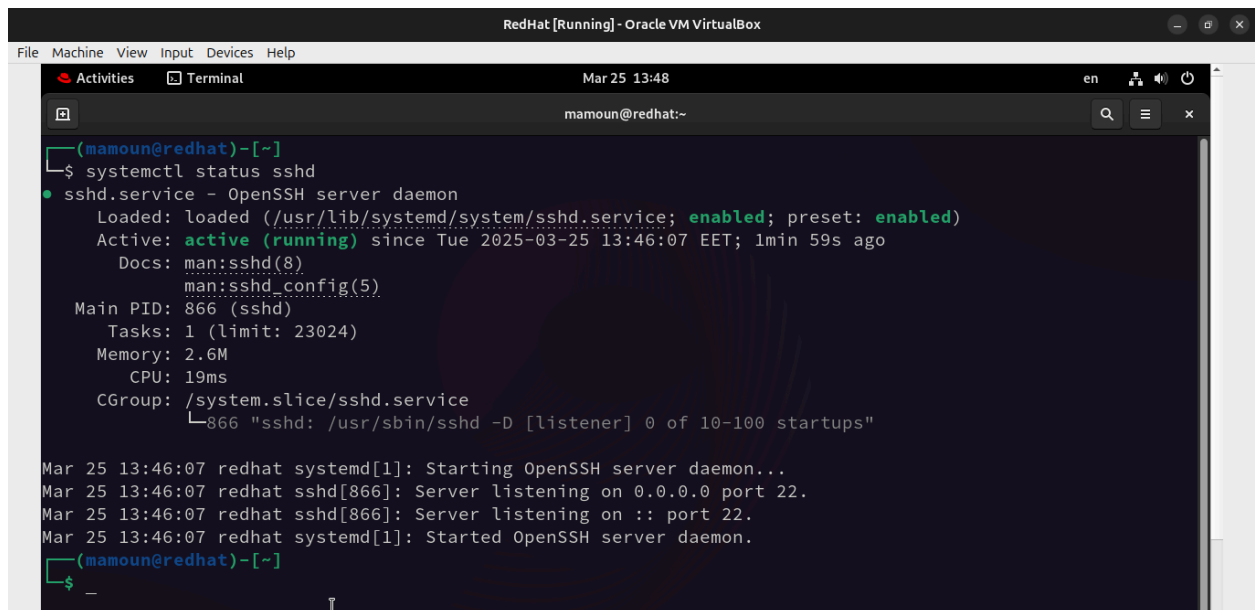RedHat [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities   Terminal   Mar 25 13:42   en

mamoun@redhat:~

┌──(mamoun@redhat)-[~]
└─$ systemctl set-default multi-user.target && reboot _

RedHat [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Red Hat Enterprise Linux 9.4 (Plow)
Kernel 5.14.0-427.13.1.el9_4.x86_64 on an x86_64

Activate the web console with: systemctl enable --now cockpit.socket

redhat login: mamoun
Password:
Last login: Tue Mar 25 13:40:27 on tty2
┌──(mamoun@redhat)-[~]
└─$ _

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RedHat [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

┌──(mamoun@redhat)-[~]
└─$ systemctl set-default graphical.target
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-unit-files ====
Authentication is required to manage system service or unit files.
Authenticating as: Mamoun (mamoun)
Password:
==== AUTHENTICATION COMPLETE ====
Removed "/etc/systemd/system/default.target".
Created symlink /etc/systemd/system/default.target → /usr/lib/systemd/system/graphical.target.
┌──(mamoun@redhat)-[~]
└─$
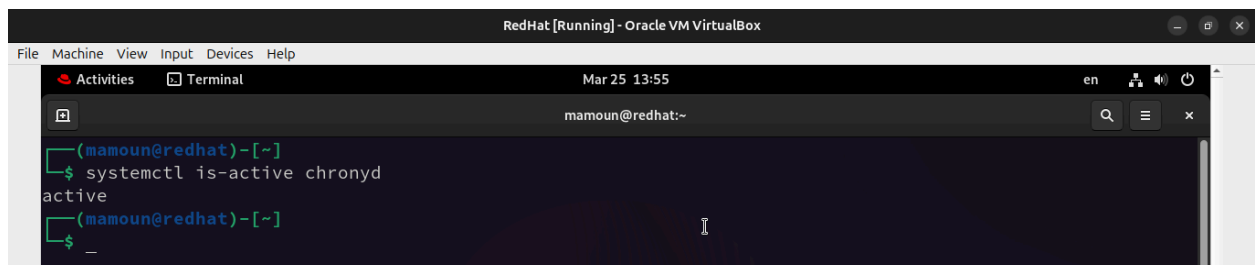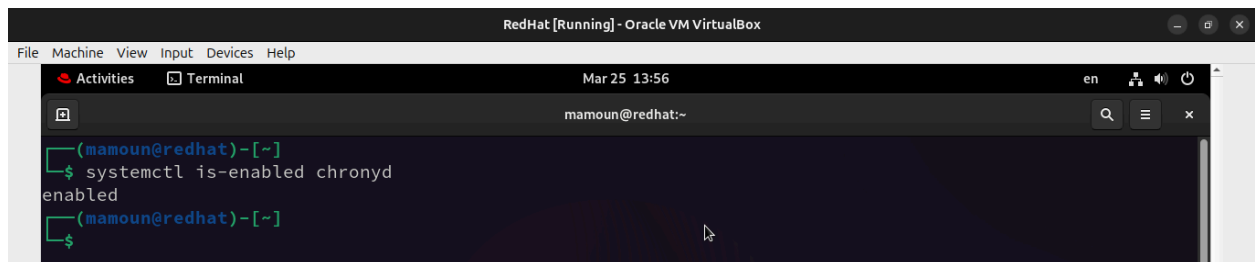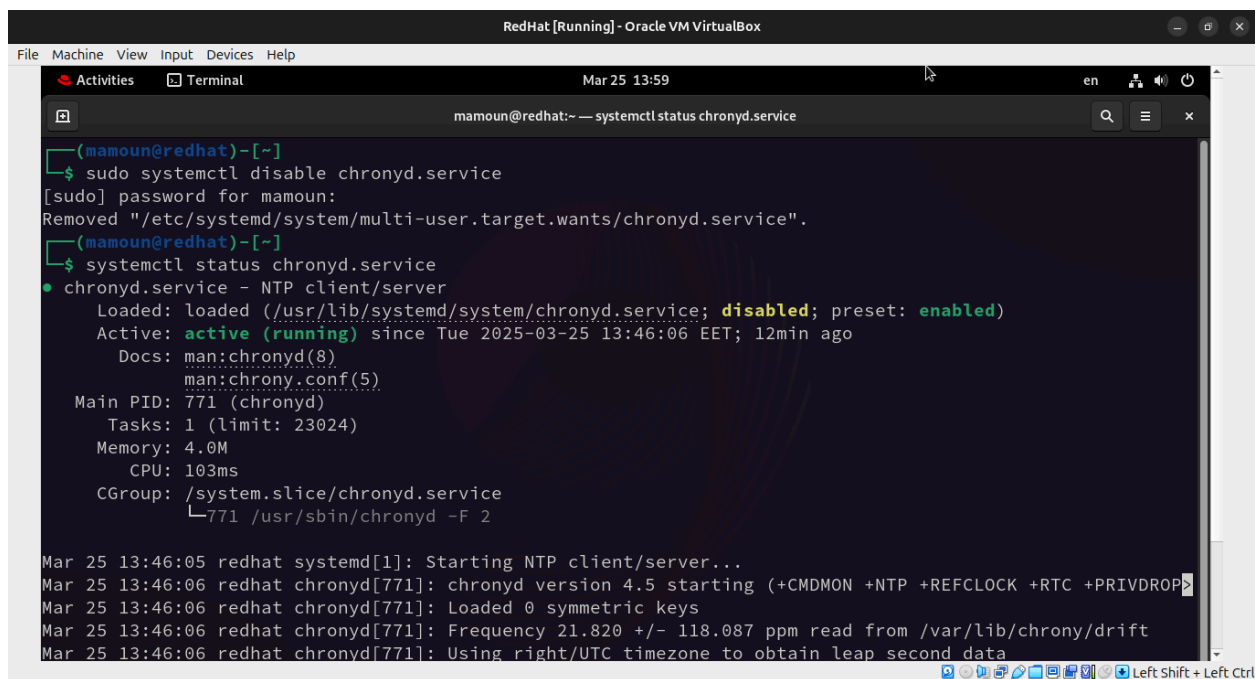
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RedHat [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities   Terminal   Mar 25 13:48   en

mamoun@redhat:~

┌──(mamoun@redhat)-[~]
└─$ systemctl status sshd
● sshd.service - OpenSSH server daemon
     Loaded: loaded (/usr/lib/systemd/system/sshd.service; enabled; preset: enabled)
     Active: active (running) since Tue 2025-03-25 13:46:07 EET; 1min 59s ago
       Docs: man:sshd(8)
             man:sshd_config(5)
   Main PID: 866 (sshd)
      Tasks: 1 (limit: 23024)
     Memory: 2.6M
        CPU: 19ms
     CGroup: /system.slice/sshd.service
             └─866 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Mar 25 13:46:07 redhat systemd[1]: Starting OpenSSH server daemon...
Mar 25 13:46:07 redhat sshd[866]: Server listening on 0.0.0.0 port 22.
Mar 25 13:46:07 redhat sshd[866]: Server listening on :: port 22.
Mar 25 13:46:07 redhat systemd[1]: Started OpenSSH server daemon.
┌──(mamoun@redhat)-[~]
└─$ _

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```
┌──(mamoun@redhat)-[~]
└─$ systemctl is-active chronyd
active
┌──(mamoun@redhat)-[~]
└─$ _
```

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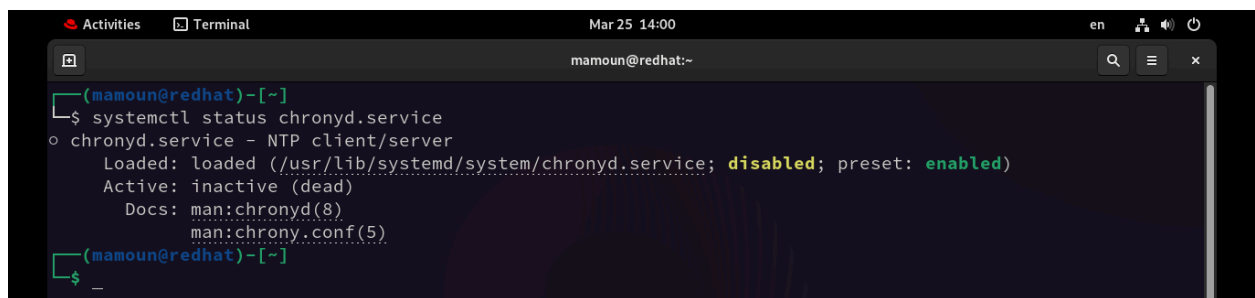

```
┌──(mamoun@redhat)-[~]
└─$ systemctl is-enabled chronyd
enabled
┌──(mamoun@redhat)-[~]
└─$
```

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```
┌──(mamoun@redhat)-[~]
└─$ sudo systemctl disable chronyd.service
[sudo] password for mamoun:
Removed "/etc/systemd/system/multi-user.target.wants/chronyd.service".
┌──(mamoun@redhat)-[~]
└─$ systemctl status chronyd.service
● chronyd.service - NTP client/server
     Loaded: loaded (/usr/lib/systemd/system/chronyd.service; disabled; preset: enabled)
     Active: active (running) since Tue 2025-03-25 13:46:06 EET; 12min ago
       Docs: man:chronyd(8)
             man:chrony.conf(5)
   Main PID: 771 (chronyd)
      Tasks: 1 (limit: 23024)
     Memory: 4.0M
        CPU: 103ms
     CGroup: /system.slice/chronyd.service
             └─771 /usr/sbin/chronyd -F 2

Mar 25 13:46:05 redhat systemd[1]: Starting NTP client/server...
Mar 25 13:46:06 redhat chronyd[771]: chronyd version 4.5 starting (+CMDMON +NTP +REFCLOCK +RTC +PRIVDROP>
Mar 25 13:46:06 redhat chronyd[771]: Loaded 0 symmetric keys
Mar 25 13:46:06 redhat chronyd[771]: Frequency 21.820 +/- 118.087 ppm read from /var/lib/chrony/drift
Mar 25 13:46:06 redhat chronyd[771]: Using right/UTC timezone to obtain leap second data
```

```
┌──(mamoun@redhat)-[~]
└─$ systemctl status chronyd.service
○ chronyd.service - NTP client/server
     Loaded: loaded (/usr/lib/systemd/system/chronyd.service; disabled; preset: enabled)
     Active: inactive (dead)
       Docs: man:chronyd(8)
             man:chrony.conf(5)
┌──(mamoun@redhat)-[~]
└─$ _
```

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15- Enable: make the service runs automatically at the startup

Disable: remove the service from the startup apps

Mask: make the service can't be started or enabled

Static: used with the helper service that will be started by another service

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```
(mamoun@redhat)-[~]
$ journalctl -u sshd.service
Mar 25 13:59:37 redhat systemd[1]: Starting OpenSSH server daemon...
Mar 25 13:59:37 redhat sshd[863]: Server listening on 0.0.0.0 port 22.
Mar 25 13:59:37 redhat sshd[863]: Server listening on :: port 22.
Mar 25 13:59:37 redhat systemd[1]: Started OpenSSH server daemon.
(mamoun@redhat)-[~]
$
```

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```
(mamoun@redhat)-[~]
$ journalctl -u sshd.service -f
Mar 25 13:59:37 redhat systemd[1]: Starting OpenSSH server daemon...
Mar 25 13:59:37 redhat sshd[863]: Server listening on 0.0.0.0 port 22.
Mar 25 13:59:37 redhat sshd[863]: Server listening on :: port 22.
Mar 25 13:59:37 redhat systemd[1]: Started OpenSSH server daemon.
```

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```
(mamoun@redhat)-[~]
$ journalctl -u sshd --since "30 minutes ago"
Mar 25 13:59:37 redhat systemd[1]: Starting OpenSSH server daemon...
Mar 25 13:59:37 redhat sshd[863]: Server listening on 0.0.0.0 port 22.
Mar 25 13:59:37 redhat sshd[863]: Server listening on :: port 22.
Mar 25 13:59:37 redhat systemd[1]: Started OpenSSH server daemon.
(mamoun@redhat)-[~]
$
```

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```
(mamoun@redhat)-[~]
$ systemctl list-units --state running --type service
UNIT                      LOAD    ACTIVE SUB     DESCRIPTION
accounts-daemon.service   loaded active running Accounts Service
alsa-state.service        loaded active running Manage Sound Card State (restore and store)
atd.service               loaded active running Deferred execution scheduler
auditd.service            loaded active running Security Auditing Service
avahi-daemon.service      loaded active running Avahi mDNS/DNS-SD Stack
colord.service            loaded active running Manage, Install and Generate Color Profiles
crond.service             loaded active running Command Scheduler
```

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```bash
#! /bin/bash

touch /home/mamoun/logs.txt

declare -i counter=0

while true
do
        counter=$((counter+1))
        echo "$counter- Hello from my-service.sh" >> /home/mamoun/logs.txt
        sleep 5
done
~
```



```
[Unit]
Description=My first custom service

[Service]
ExecStart=/home/mamoun/my-service.sh
User=mamoun

[Install]
WantedBy=multi-user.target
~
```



```
┌──(mamoun@redhat)-[~]
└─$ sudo vim /etc/systemd/system/my-service.service
[sudo] password for mamoun:
┌──(mamoun@redhat)-[~]
└─$ systemctl daemon-reload
┌──(mamoun@redhat)-[~]
└─$
```

```
┌──(mamoun@mamoun-laptop)-[~]
└─$ sudo vim /etc/systemd/system/my-service.service
[sudo] password for mamoun:
┌──(mamoun@mamoun-laptop)-[~]
└─$ systemctl daemon-reload
┌──(mamoun@mamoun-laptop)-[~]
└─$ systemctl start my-service.service
┌──(mamoun@mamoun-laptop)-[~]
└─$ systemctl status my-service.service
● my-service.service - My Custom Service
     Loaded: loaded (/etc/systemd/system/my-service.service; disabled; preset: enabled)
     Active: active (running) since Tue 2025-03-25 15:32:48 EET; 5s ago
   Main PID: 26744 (my-service.sh)
      Tasks: 2 (limit: 13951)
     Memory: 556.0K (peak: 996.0K)
        CPU: 9ms
     CGroup: /system.slice/my-service.service
             ├─26744 /bin/bash /home/mamoun/my-service.sh
             └─26766 sleep 4

Mar 25 15:32:48 mamoun-laptop systemd[1]: Started my-service.service - My Custom Service.
┌──(mamoun@mamoun-laptop)-[~]
└─$ tail -f logs.txt
2- Hello from my-service.sh
3- Hello from my-service.sh
4- Hello from my-service.sh
5- Hello from my-service.sh
6- Hello from my-service.sh
7- Hello from my-service.sh
8- Hello from my-service.sh
9- Hello from my-service.sh
```