

Tuning Profile

1. Check machine IP-

```
[root@client1 ~]# ifconfig
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 192.168.78.146 netmask 255.255.255.0 broadcast 192.168.78.255
```

2. Install tuned package-

```
[root@client1 ~]#
[root@client1 ~]# yum install tuned -y
```

3. Start & enable tuned service-

```
[root@client1 ~]# systemctl enable --now tuned
[root@client1 ~]#
[root@client1 ~]#
[root@client1 ~]# systemctl status tuned.service
● tuned.service - Dynamic System Tuning Daemon
   Loaded: loaded (/usr/lib/systemd/system/tuned.service; enabled; vendor preset: enabled)
   Active: active (running) since Sun 2022-12-18 12:09:55 IST; 11s ago
```

4. Long list tuned configuration files in etc directory-

```
[root@client1 ~]# ls -ll /etc/tuned/
total 16
-rw-r--r--. 1 root root  14 Dec 18 12:09 active_profile
-rw-r--r--. 1 root root 1111 Feb  9 2022 bootcmdline
-rw-r--r--. 1 root root   0 Dec 18 12:09 post_loaded_profile
-rw-r--r--. 1 root root   5 Dec 18 12:09 profile_mode
drwxr-xr-x. 2 root root   6 Feb  9 2022 recommend.d
-rw-r--r--. 1 root root 1730 Feb  9 2022 tuned-main.conf
[root@client1 ~]#
```

```
[root@client1 ~]# cat /etc/tuned/tuned-main.conf
# Global tuned configuration file.
```

5. List all tuning profiles directory-

```
[root@client1 ~]# ls -ll /usr/lib/tuned/
total 16
drwxr-xr-x. 2 root root    24 Dec 18 12:09 accelerator-performance
drwxr-xr-x. 2 root root    24 Dec 18 12:09 balanced
drwxr-xr-x. 2 root root    24 Dec 18 12:09 desktop
-rw-r--r--. 1 root root 15373 Feb  9 2022 functions
drwxr-xr-x. 2 root root    24 Dec 18 12:09 hpc-compute
drwxr-xr-x. 2 root root    24 Dec 18 12:09 intel-sst
drwxr-xr-x. 2 root root    24 Dec 18 12:09 latency-performance
drwxr-xr-x. 2 root root    24 Dec 18 12:09 network-latency
drwxr-xr-x. 2 root root    24 Dec 18 12:09 network-throughput
drwxr-xr-x. 2 root root    24 Dec 18 12:09 optimize-serial-console
drwxr-xr-x. 2 root root    41 Dec 18 12:09 powersave
drwxr-xr-x. 2 root root    27 Dec 18 12:09 recommend.d
drwxr-xr-x. 2 root root    24 Dec 18 12:09 throughput-performance
drwxr-xr-x. 2 root root    24 Dec 18 12:09 virtual-guest
drwxr-xr-x. 2 root root    24 Dec 18 12:09 virtual-host
[root@client1 ~]#
```

6. To check current active profile-

```
[root@client1 ~]# tuned-adm active
Current active profile: virtual-guest
[root@client1 ~]#
```

7. To check all available profiles-

```
[root@client1 ~]# tuned-adm list
Available profiles:
- accelerator-performance - Throughput performance based tuning with disabled higher latency STOP states
- balanced                - General non-specialized tuned profile
- desktop                 - Optimize for the desktop use-case
- hpc-compute             - Optimize for HPC compute workloads
- intel-sst               - Configure for Intel Speed Select Base Frequency
- latency-performance     - Optimize for deterministic performance at the cost of increased power consumption
- network-latency         - Optimize for deterministic performance at the cost of increased power consumption, focused on low latency network performance
- network-throughput      - Optimize for streaming network throughput, generally only necessary on older CPUs or 40G+ networks
- optimize-serial-console - Optimize for serial console use.
- powersave              - Optimize for low power consumption
- throughput-performance - Broadly applicable tuning that provides excellent performance across a variety of common server workloads
- virtual-guest           - Optimize for running inside a virtual guest
- virtual-host            - Optimize for running KVM guests
Current active profile: virtual-guest
```

8. To set and verify a tuning profile from this list-

```
[root@client1 ~]# tuned-adm profile accelerator-performance
[root@client1 ~]#
[root@client1 ~]#
[root@client1 ~]# tuned-adm active
Current active profile: accelerator-performance
[root@client1 ~]#
```

9. To check recommended tuning profile & apply it-

```
[root@client1 ~]# tuned-adm recommend
virtual-guest
[root@client1 ~]#
[root@client1 ~]#
[root@client1 ~]# tuned-adm profile virtual-guest
[root@client1 ~]#
[root@client1 ~]#
[root@client1 ~]# tuned-adm active
Current active profile: virtual-guest
[root@client1 ~]#
```

10. To turn off tuning profile-

```
[root@client1 ~]# tuned-adm off
[root@client1 ~]#
[root@client1 ~]# tuned-adm active
No current active profile.
[root@client1 ~]#
```

11. To create a custom tuning profile, we can create it in any directory, but in this case, we are creating in default directory-

```
[root@client1 ~]# cd /usr/lib/tuned/
[root@client1 tuned]#
[root@client1 tuned]# ls -ll
total 16
drwxr-xr-x. 2 root root    24 Dec 18 12:09 accelerator-performance
drwxr-xr-x. 2 root root    24 Dec 18 12:09 balanced
drwxr-xr-x. 2 root root    24 Dec 18 12:09 desktop
-rw-r--r--. 1 root root 15373 Feb  9 2022 functions
drwxr-xr-x. 2 root root    24 Dec 18 12:09 hpc-compute
drwxr-xr-x. 2 root root    24 Dec 18 12:09 intel-sst
drwxr-xr-x. 2 root root    24 Dec 18 12:09 latency-performance
drwxr-xr-x. 2 root root    24 Dec 18 12:09 network-latency
drwxr-xr-x. 2 root root    24 Dec 18 12:09 network-throughput
drwxr-xr-x. 2 root root    24 Dec 18 12:09 optimize-serial-console
drwxr-xr-x. 2 root root    41 Dec 18 12:09 powersave
drwxr-xr-x. 2 root root    27 Dec 18 12:09 recommend.d
drwxr-xr-x. 2 root root    24 Dec 18 12:09 throughput-performance
drwxr-xr-x. 2 root root    24 Dec 18 12:09 virtual-guest
drwxr-xr-x. 2 root root    24 Dec 18 12:09 virtual-host
[root@client1 tuned]#
```

12. Create a directory & `tuned.conf` file in it-

```
[root@client1 tuned]# mkdir abhay-performance
[root@client1 tuned]# vim abhay-performance/tuned.conf
```

13. Add below lines in this [tuned.conf](#) file-

```
[main]
include=latency-performance
summary=This profile is created for Abhay user for latency-performance tuning profile.
```

14. Now, check all available tuning profiles-

```
[root@client1 tuned]# tuned-adm profile
Available profiles:
- abhay-performance      - This profile is created for Abhay user for latency-performance tuning profile.
- accelerator-performance - Throughput performance based tuning with disabled higher latency STOP states
- balanced               - General non-specialized tuned profile
- desktop               - Optimize for the desktop use-case
- hpc-compute           - Optimize for HPC compute workloads
- intel-sst             - Configure for Intel Speed Select Base Frequency
- latency-performance   - Optimize for deterministic performance at the cost of increased power consumption
- network-latency       - Optimize for deterministic performance at the cost of increased power consumption, focused on low latency network performance
- network-throughput    - Optimize for streaming network throughput, generally only necessary on older CPUs or 40G+ networks
- optimize-serial-console - Optimize for serial console use.
- powersave            - Optimize for low power consumption
- throughput-performance - Broadly applicable tuning that provides excellent performance across a variety of common server workloads
- virtual-guest         - Optimize for running inside a virtual guest
- virtual-host          - Optimize for running KVM guests
No current active profile.
[root@client1 tuned]#
```

Here, we have our newly created tuning profile.

15. To set & verify this newly created tuning profile as the default one-

```
[root@client1 tuned]# tuned-adm profile abhay-performance
[root@client1 tuned]#
[root@client1 tuned]# tuned-adm active
Current active profile: abhay-performance
[root@client1 tuned]#
```

16. Now, we will create another custom tuning profile & this time in different location-

```
[root@client1 tuned]# mkdir /etc/tuned/cricbuzz
[root@client1 tuned]#
[root@client1 tuned]# vim /etc/tuned/cricbuzz/tuned.conf
```

17. Edit the `tuned.conf` file with following lines-

```
[main]
summary=This is test tuned profile for cricbuzz domain pc.

[cpu]
force_latency=1

[vm]
transparent_hugepages=never

[sysctl]
kernel.sysrq=1
vm.nr_hugepages=4100
kernel.numa_balancing=0

[script]
script=/etc/tuned/cricbuzz/test.sh
```

18. Make it executable as we are using script-

```
[root@client1 tuned]# chmod +x /etc/tuned/cricbuzz/tuned.conf
[root@client1 tuned]#
```

19. Now, check all available tuning profiles-

```
[root@client1 tuned]# tuned-adm list
Available profiles:
- abhay-performance      - This profile is created for Abhay user for latency-performance tuning profile.
- accelerator-performance - Throughput performance based tuning with disabled higher latency STOP states
- balanced               - General non-specialized tuned profile
- cricbuzz               - This is test tuned profile for cricbuzz domain pc.
- desktop                - Optimize for the desktop use-case
- hpc-compute            - Optimize for HPC compute workloads
- intel-sst              - Configure for Intel Speed Select Base Frequency
- latency-performance    - Optimize for deterministic performance at the cost of increased power consumption
- network-latency        - Optimize for deterministic performance at the cost of increased power consumption, focused on low latency network performance
- network-throughput     - Optimize for streaming network throughput, generally only necessary on older CPUs or 40G+ networks
- optimize-serial-console - Optimize for serial console use.
- powersave             - Optimize for low power consumption
- throughput-performance - Broadly applicable tuning that provides excellent performance across a variety of common server workloads
- virtual-guest          - Optimize for running inside a virtual guest
- virtual-host           - Optimize for running KVM guests
Current active profile: abhay-performance
[root@client1 tuned]#
```

20. To set & verify this newly created tuning profile as the default one-

```
[root@client1 tuned]# tuned-adm profile cricbuzz
[root@client1 tuned]#
[root@client1 tuned]# tuned-adm active
Current active profile: cricbuzz
[root@client1 tuned]#
```

21. To check whether it is working or not-

```
[root@client1 tuned]# cat /sys/kernel/mm/transparent_hugepage/enabled
always madvise [never]
[root@client1 tuned]#
```

Here it is showing `transparent_hugepage` as `never`, which we have defined in its `tuned.conf` file.

So, it is working perfectly fine!!!!!!