

Mantenimiento de Software



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Indice

Introducción.....	3
Zram.....	4
Preload.....	4
Optimización con herramientas del sistema.....	5
Actualización del software instalado.....	5
Instalar firmware de linux.....	6
Desactivar servicios innecesarios.....	6
Optimizando la frecuencia de la CPU.....	6
Usando OptiSHL.....	6
Conclusión.....	7
Bibliografía.....	8
GNU Free Documentation License.....	10

Introducción

En este trabajo práctico quiero darle al usuario una experiencia inolvidable en la cual podrá mantener su PC libre de virus, errores y demás problemas que puedan defectuar el desempeño de nuestro sistema operativo. En este caso haremos la limpieza a un sistema operativo GNU/Linux Debian 9. Es recomendable hacer este tipo de limpieza aunque sea una vez al mes, ya que esto depende del uso de cada persona, si un usuario es adicto a instalar y desinstalar programas es recomendable que lo haga más a menudo que otro usuario que no lo hace.

ZRam



Es un programa que se ejecuta en segundo plano, su principal tarea a grandes rasgos es evitar la paginación en el disco, por consiguiente hace más uso de la memoria RAM, donde es más rápido leer y escribir.

Previamente abierta la terminal pasaremos a instalarlo agregándolo a los repositorios escribiendo en consola:

```
sudo add-apt-repository ppa:shnatsel/zram
```

El siguiente paso, es actualizar los repositorios en general con el comando:

```
sudo apt-get update
```

Una vez finalizada la actualización procederemos con la instalación:

```
sudo apt-get install zramswap-enabler
```

Para iniciar el programa y que comience a trabajar escribiremos:

```
sudo start zramswap
```

Preload

La instalación del siguiente programa no va a repercutir tan directamente en lo que a

velocidad se refiere ya que esta aplicación sólo nos sirve para acelerar el encendido del equipo analizando las librerías que cargan los programas de inicio, para posteriormente hacer el arranque más rápido evitando tiempos de espera. Esta aplicación para instalarla solamente con el comando:

```
sudo apt-get install preload
```

Optimización con herramientas del sistema

Después de estos programas más dirigidos a la optimización del sistema, vamos a hacer una limpieza completa utilizando las propias herramientas que lleva el sistema, comenzamos por:

```
sudo apt-get autoremove
```

Este comando lo que hace es limpiar las librerías que quedaron huérfanas tras haber utilizado el comando:

```
sudo apt-get remove nombredelpaquete
```

Este comando se utiliza para desinstalar programas que ya no usamos, por lo tanto tras ejecutar un remove de un paquete sería adecuado hacer un autoremove seguidamente, decir que es recomendable utilizar el comando purge en sustitución del remove ya que este elimina los ficheros de configuración del programa. Ahora seguiremos con otro comando que después de ejecutar algunas instalaciones también es recomendable hacer uso de este comando:

```
sudo apt-get clean
```

Este comando limpia la caché de paquetes innecesarios, digamos que borra los .deb por lo que si en algún momento deseas hacer una reinstalación del programa se deberá de descargar otra vez. Por último utilizaremos el comando:

```
sudo apt-get autoclean
```

Este comando nos borra todos los paquetes de instalaciones antiguas, es decir, si tenemos la versión 1.1 de la calculadora, y actualizamos a la 1.2, este comando borra el paquete 1.1 de la calculadora, ya que es la versión antigua.

Actualización del software instalado

Esta es la parte más sencilla, simplemente vamos a actualizar los paquetes de software que tenemos instalados, en este caso ingresaremos como usuario root así que aplicamos

el siguiente comando:

su

Password: «contraseña de root»

apt upgrade

Instalar firmware de linux

Para que el equipo presente menores problemas, y mayor compatibilidad con el sistema operativo recomiendo que instales el firmware, ejecutando el siguiente comando:

apt install firmware-linux

Desactivar servicios innecesarios

Existen servicios innecesarios que harán que tarde en cargar nuestra pc y consumirán memoria, para desactivar estos hacemos clic en el Menú *Escritorio* de Gnome, luego *Administración* y clic en *Servicios*, no saldrá una pantalla con servicios que podemos desactivar si no usamos, en mi caso yo desactivo: lpd (para las impresoras, como no tengo lo quito), ssh (servicio de conexión remota), ppp (conexión dial-up). Puedes buscar en google que es cada servicio y desactivar lo que no quieras.

También existe un programa en consola llamado sysv-rc-conf que te permite desactivar los servicios a diferentes niveles, además aparecen más servicios que no aparecen por Gnome.

Optimizando la frecuencia de la CPU

Por defecto la BIOS y el sistema operativo toman los parámetros de configuración por defecto del procesador, si ajustamos estos parámetros de la manera adecuada podremos notar una gran diferencia en la velocidad de ejecución. El uso de CPU "ondemand" está roto desde su creación y afecta el rendimiento del sistema en general.

Usando OptiSHL

Es un script de código abierto, disponible en github, que se encarga de optimizar tu sistema operativo de manera avanzada, modificando parámetros directos de tu procesador, tus puntos de montaje, parámetros de memoria SWAP y otros componentes. El script esta hecho de tal manera que no cause problemas en tu computadora y que sea 100% funcional. El script puede estar sujeto a fallos, aunque ya ha sido testeado en 4 distribuciones (ArchLinux, Debian, Ubuntu y RedHat) y ha funcionado de manera satisfactoria, por lo que debería funcionar de la misma manera en las demás distribuciones. Este script necesita ser ejecutado con privilegios de usuario ROOT.

Lo obtendremos siguiendo el orden de estos comandos:

git clone <https://github.com/SecHackLabs/optishl.git>

```
cd optishl  
chmod +x optishl  
sudo ./optishl
```

Conclusión

Como conclusión puedo decir que me gustó mucho hacer este trabajo, las ventajas impresionantes que tiene mantener el software actualizado y cuidado al menos 1 vez a la semana es fundamental para el buen uso del sistema.

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