

Indholdsfortegnelse

Indledning:.....	1
Konklusion:.....	1
Spørgsmål:.....	1
Løsning:.....	2

Indledning:

Der skal i en VM maskine forberedes en OS installation der kommer med flere udviklings programmer. Den vil i teori blive brugt som en standard billede i opstillingen af flere udvikler maskiner.

Konklusion:

Jeg lærte om yderligere Linux kommandoer, der var et par ting jeg kunne ikke finde en løsning for.

Spørgsmål:

Hvad er Linux kernen/er en distribution:

Kernen/Kernel er centret af OS'et der styrer alting i OS'et. Den styrer hardware igennem drivers. Programmer "taler" med hardware igennem Kernen og drivers.

Linux kernen er open source, dvs. koden er tilgængelig. Den er under GPL-2.0 licensen.

Linux desktop miljø:

Det er en grafisk interface ligesom i Windows, dvs. ikoner, vinduer og foldere

CentOS og Ubuntu kilde distributioner:

CentOS er baseret på Red Hat Enterprise Linux (RHEL), Red Hat standsede dens støtte for CentOS i 2021.

Ubuntu er baseret på Debian

Debian: Advanced Packaging Tool "apt", .deb

RHEL: Yellowdog Updater, Modified "yum", .rpm

Anvendelsesområder:

Server OS

Supercomputere

PC OS

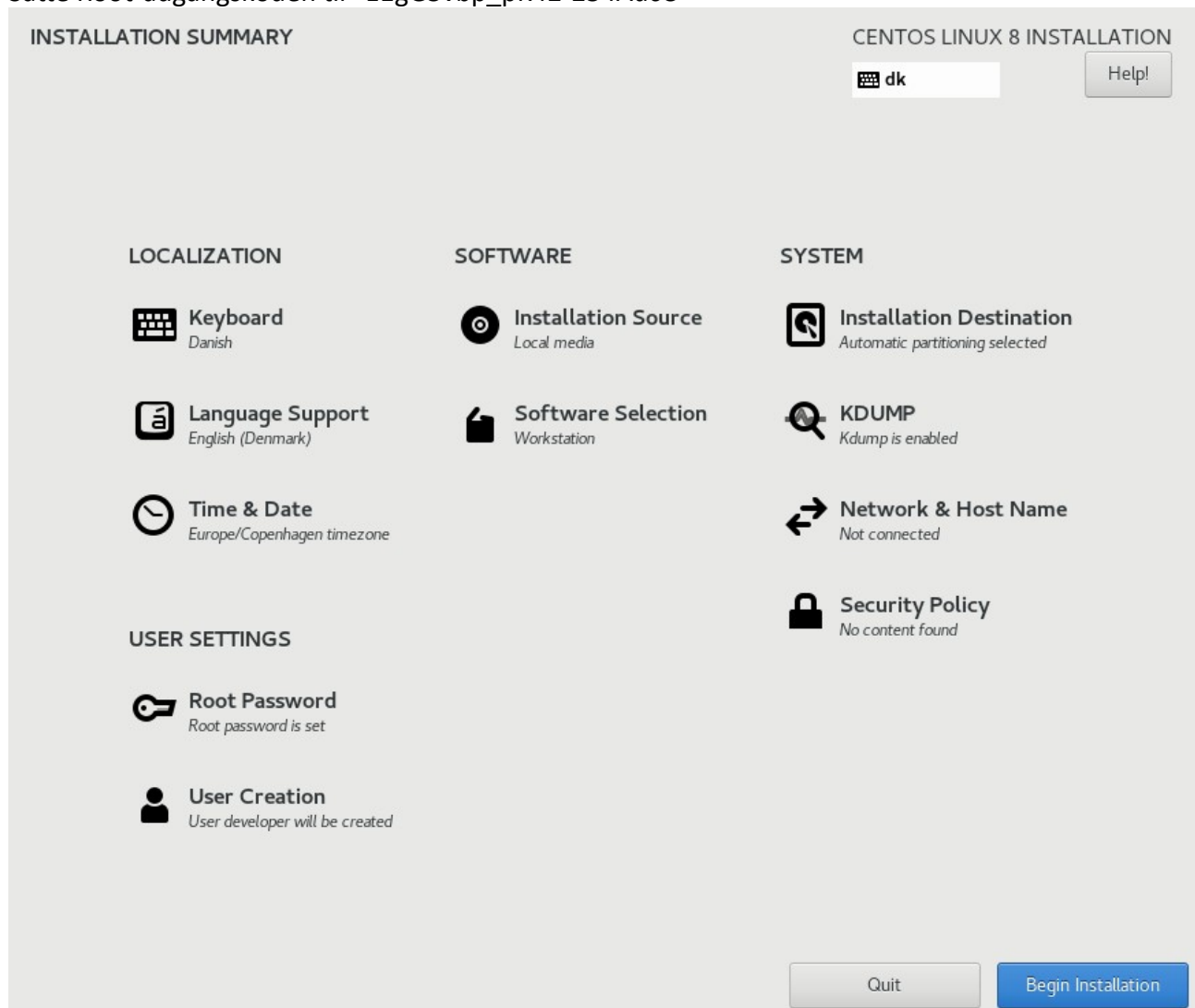
Telefoner

'Genoplivelse' af gamle desktops og bærbare – der er mange minimalistiske Linux distros der vil køre på ældre hardware.

Løsning:

CentOS oprettelse

Kopierede CentOS 8 .iso filen fra fælles drevet.
Skabte virtuel maskine (Generation 2), kaldte den "CentOS8Developer"
Startede VM'et og valgte at installere CentOS.
Valgte dansk tastatur og tidzone.
Valgte dansk og engelsk(dansk) sprog understøttelse
Valgte Workstation
Skabte en bruger "Developer" med adgangskoden "Password", den kan ændres senere.
Satte Root-adgangskoden til "E1gG5vbp_pK42-254AucC"



Åbnede terminalen under activities og loggede in som super user med su – og root adgangskoden

```
[developer@localhost ~]$  
[developer@localhost ~]$ su -  
Password:  
[root@localhost ~]#
```

Tilføjede developer til sudo bruger med "Sudo usermod -aG wheel developer"
Fiksede opdatering oprindelsen:

```
[root@localhost ~]# sed -i 's/mirrorlist/#mirrorlist/g' /etc/yum.repos.d/CentOS-*.repo
[root@localhost ~]# sed -i 's|#baseurl=http://mirror.centos.org|baseurl=http://vault.centos.org|g' /etc/yum.repos.d/CentOS-*.repo
[root@localhost ~]#
```

"sed -i 's/mirrorlist/#mirrorlist/g' /etc/yum.repos.d/CentOS-*.repo"

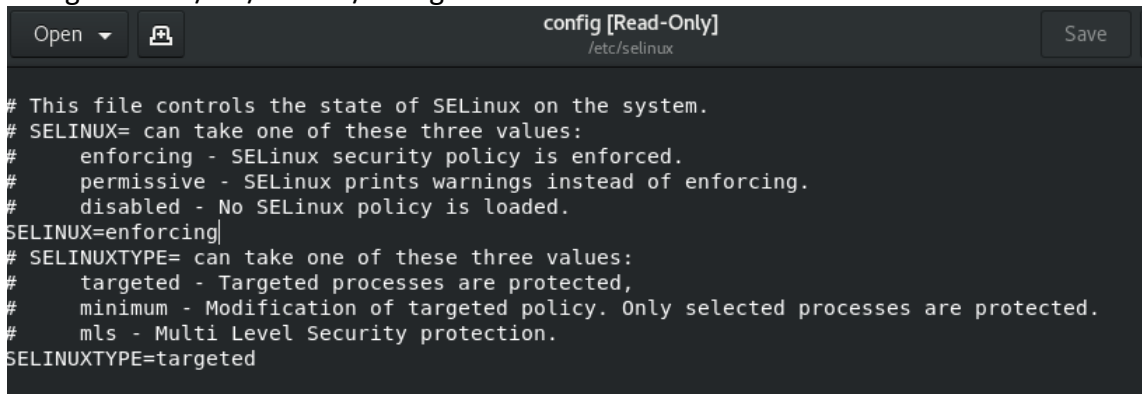
"sed -i 's|#baseurl=http://mirror.centos.org|baseurl=http://vault.centos.org|g' /etc/yum.repos.d/CentOS-*.repo"

Kørte "sudo yum -y update"

SELinux

```
[developer@localhost ~]$ sestatus
SELinux status:                enabled
SELinuxfs mount:              /sys/fs/selinux
SELinux root directory:      /etc/selinux
Loaded policy name:           targeted
Current mode:                 permissive
Mode from config file:       enforcing
Policy MLS status:           enabled
Policy deny_unknown status:   allowed
Memory protection checking:   actual (secure)
Max kernel policy version:    33
[developer@localhost ~]$ sudo setenforce 0
```

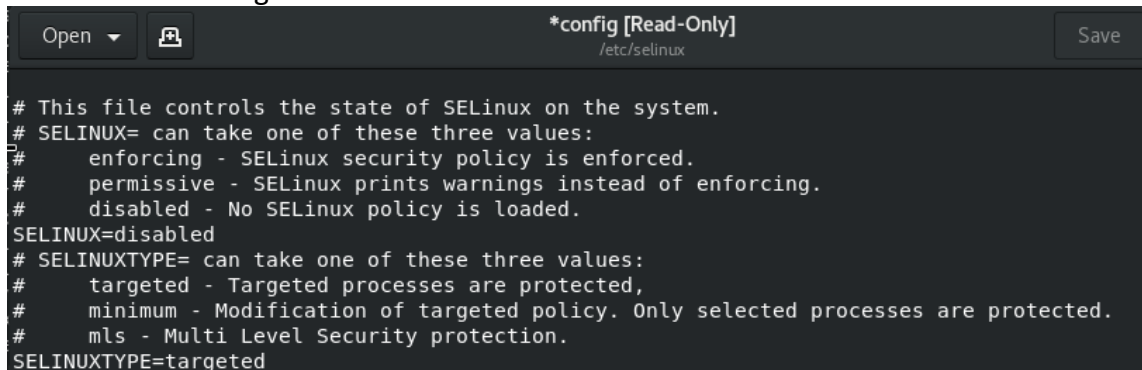
Navigerede til /etc/Selinux/config



```
Open  config [Read-Only] /etc/selinux Save

# This file controls the state of SELinux on the system.
# SELINUX= can take one of these three values:
#   enforcing - SELinux security policy is enforced.
#   permissive - SELinux prints warnings instead of enforcing.
#   disabled - No SELinux policy is loaded.
SELINUX=enforcing
# SELINUXTYPE= can take one of these three values:
#   targeted - Targeted processes are protected,
#   minimum - Modification of targeted policy. Only selected processes are protected.
#   mls - Multi Level Security protection.
SELINUXTYPE=targeted
```

Ændrede "enforcing" til "disabled"



```
Open  *config [Read-Only] /etc/selinux Save

# This file controls the state of SELinux on the system.
# SELINUX= can take one of these three values:
#   enforcing - SELinux security policy is enforced.
#   permissive - SELinux prints warnings instead of enforcing.
#   disabled - No SELinux policy is loaded.
SELINUX=disabled
# SELINUXTYPE= can take one of these three values:
#   targeted - Targeted processes are protected,
#   minimum - Modification of targeted policy. Only selected processes are protected.
#   mls - Multi Level Security protection.
SELINUXTYPE=targeted
```

Men denne fil var read only, derfor kørte jeg "sudo chown -R developer:developer /etc/selinux/"

Det er altså sudo chown -R brugernavn:gruppenavn filstien
Brugernavn findes med "whoami" og gruppenavn findes med "groups brugernavn" i min tilfælde "groups developer", resultatet jeg fik var "developer : developer wheel". Den første del efter : gælder.

Nu var jeg i stand til at gemme config filen.

Jeg rebootede systemet og SELinux er nu disabled

```
[developer@localhost ~]$ sestatus  
SELinux status: disabled  
[developer@localhost ~]$
```

Opdaterede Linux

"sudo dnf update -y"

"dnf install -y https://www.elrepo.org/elrepo-release-8.el8.elrepo.noarch.rpm"

"rpm --import https://www.elrepo.org/RPM-GPG-KEY-elrepo.org"

"dnf makecache"

"dnf --disablerepo="*" --enablerepo="elrepo-kernel" list available | grep kernel"

"dnf --enablerepo="elrepo-kernel" install -y kernel-ml"

"systemctl reboot"

Ændrede swappiness til 10

```
[developer@localhost ~]$ cat /proc/sys/vm/swappiness  
30  
[developer@localhost ~]$ sudo sysctl -w vm.swappiness=10  
vm.swappiness = 10  
[developer@localhost ~]$ cat /proc/sys/vm/swappiness  
10
```

Gnome Tweaks

Installerede gnome tweaks med "sudo dnf install gnome-tweaks"

Ændrede themes til dwaita-dark i Appearances panelen

Aktiverede desktop icons, tændte applications menu og places status indicator i Extensions panelet

Tændte minimiser og maksimer knapper i Windows panelet

Tilføjede Tweaks til favoritter

EPEL

Installerede EPEL med "sudo yum -y install epel-release"

```
Samlet
Kører transaktionskontrol
Transaktionstest afsluttet uden fejl.
Kører transaktionstest
Transaktionstest afsluttet uden fejl.
Kører transaktion
  Forbereder      :
  Installerer     : epel-release-8-11.el8.noarch
  Kører scriptlet: epel-release-8-11.el8.noarch
  Bekræfter      : epel-release-8-11.el8.noarch
Installed products updated.

Installeret:
  epel-release-8-11.el8.noarch
```

Terminator

"sudo yum install terminator"

```
Installed:
  terminator-1.92-2.el8.noarch

Complete!
[developer@localhost ~]$
```

Google chrome

Hentede den med "wget https://dl.google.com/linux/direct/google-chrome-stable_current_x86_64.rpm"

```
--2023-03-13 14:12:25-- https://dl.google.com/linux/direct/google-chrome-stable_current_x86_64.rpm
Løser dl.google.com (dl.google.com)... 216.58.211.14, 2a00:1450:400f:80d::200e
Tilslutter dl.google.com (dl.google.com)|216.58.211.14|:443... forbundet.
HTTP forespørgsel sendt, afventer svar... 200 OK
Længde: 100079584 (95M) [application/x-rpm]
Gemmer til: 'google-chrome-stable_current_x86_64.rpm'

google-chrome-stable_curren 100%[=====>] 95,44M 79,0MB/s in 1,2s
2023-03-13 14:12:26 (79,0 MB/s) - 'google-chrome-stable_current_x86_64.rpm' gemt [100079584/100079584]
```

Installerede den med "sudo yum localinstall google-chrome-stable_current_x86_64.rpm" og opdaterede med "sudo yum upgrade google-chrome-stable"

Samba

"sudo dnf install samba samba-common samba-client"

Apache

"sudo dnf install httpd", eller "sudo yum install httpd"

Jeg bruge locate kommandoen, "locate httpd.conf" for at finde configuration filen

```
[developer@localhost ~]$ locate httpd.conf
/etc/httpd/conf/httpd.conf
/usr/lib/tmpfiles.d/httpd.conf
/usr/share/man/man5/httpd.conf.5.gz
[developer@localhost ~]$
```

"cd /etc/httpd/conf/"

"nano httpd.conf"

Ændrede porten:

```
#Listen 12.34.56.78
Listen 80
```

Til 8090, kunne ikke gemme

```
#Listen 12.34.56.78:80
Listen 8090

#
# Dynamic Shared Object (DSO) Support
#
[ Error writing httpd.conf: Permission denied ]
```

Jeg åbnede en anden kommandolinje vindue og skrevde "sudo chown -R developer:developer /etc/httpd/conf/httpd.conf."

Jeg gemte ændringen i httpd.conf

Gav apache ejerskab af /var/www/html, "sudo chgrp apache /var/www/html"

Gav folderen rettighederne 755, "chmod 755 /var/www/html"

Tilføjede developer til apache gruppen, "sudo usermod -aG apache developer"

MySQL

"curl -sLO https://dev.mysql.com/get/mysql80-community-release-el8-4.noarch.rpm"

"md5sum mysql80-community-release-el8-4.noarch.rpm"

"sudo rpm -ivh mysql80-community-release-el8-4.noarch.rpm"

"sudo yum install mysql-server"

"sudo systemctl start mysqld"

```
[developer@localhost ~]$ sudo systemctl status mysqld
● mysqld.service - MySQL 8.0 database server
   Loaded: loaded (/usr/lib/systemd/system/mysqld.service; disabled; vendor pre>
   Active: active (running) since Tue 2023-03-14 13:12:38 CET; 22s ago
   Process: 8813 ExecStartPost=/usr/libexec/mysql-check-upgrade (code=exited, st>
   Process: 8686 ExecStartPre=/usr/libexec/mysql-prepare-db-dir mysqld.service (>
   Process: 8661 ExecStartPre=/usr/libexec/mysql-check-socket (code=exited, stat>
  Main PID: 8768 (mysqld)
    Status: "Server is operational"
     Tasks: 38 (limit: 49359)
    Memory: 456.5M
    CGroup: /system.slice/mysqld.service
            └─8768 /usr/libexec/mysqld --basedir=/usr

Mar 14 13:12:32 localhost.localdomain systemd[1]: Starting MySQL 8.0 database s>
Mar 14 13:12:32 localhost.localdomain mysql-prepare-db-dir[8686]: Initializing >
Mar 14 13:12:38 localhost.localdomain systemd[1]: Started MySQL 8.0 database se>
lines 1-16/16 (END)
```

"sudo mysql_secure_installation"

```
[developer@localhost ~]$ sudo mysql_secure_installation
[sudo] password for developer:

Securing the MySQL server deployment.

Connecting to MySQL using a blank password.

VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the users to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?

Press y|Y for Yes, any other key for No: █
```

Jeg satte password for user root til "Password" or ikke andet, alting kan jo alligevel ændres senere.
En test: "mysqladmin -u root -p version"

```
[developer@localhost ~]$ mysqladmin -u root -p version
Enter password:
mysqladmin Ver 8.0.26 for Linux on x86_64 (Source distribution)
Copyright (c) 2000, 2021, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Server version          8.0.26
Protocol version        10
Connection              Localhost via UNIX socket
UNIX socket             /var/lib/mysql/mysql.sock
Uptime:                 14 min 25 sec

Threads: 2  Questions: 7  Slow queries: 0  Opens: 133  Flush tables: 3  Open tab
les: 49  Queries per second avg: 0.008
[developer@localhost ~]$ █
```

PHP

```
"sudo yum install php"
```

```
"sudo chown -R developer:developer /var/www/html"
```

```
"sudo cat > phpinfo.php", "<?php phpinfo() ?>" eller "nano phpinfo.php", "<?php phpinfo() ?>"
```

Kan ikke finde ud af hvordan den fil kan køres i localhost

PHPMyadmin

```
"sudo yum install phpmyadmin" fungerer ikke.
```

```
"wget https://files.phpmyadmin.net/phpMyAdmin/5.2.1/phpMyAdmin-5.2.1-all-languages.zip"
```

```
"
```

Python

```
"sudo dnf install python3"
```

Angular

installeret nodeJS med "sudo dnf install nodejs -y", installeret angular med "sudo npm install -g @angular/cli"

React

```
"sudo npm install -g create-react-app"
```

Anaconda

```
"cd /tmp"
```

```
"curl -O https://repo.anaconda.com/archive/Anaconda3-2022.10-Linux-x86_64.sh"
```

```
"sha256sum Anaconda3-2022.10-Linux-x86_64.sh"
```

```
"sudo bash Anaconda3-2022.10-Linux-x86_64.sh"
```

Enter, "yes", "yes"

Wine

```
"yum groupinstall 'Development Tools'"
```

```
"Sudo yum install libX11-devel freetype-devel zlib-devel libxcb-devel libxslt-devel libgcrypt-devel libxml2-devel gnutls-devel libpng-devel libjpeg-turbo-devel libtiff-devel dbus-devel fontconfig-devel"
```

```
"wget https://dl.winehq.org/wine/source/8.0/wine-8.0.tar.xz"
```

```
"tar -Jxf wine-8.0.tar.xz -C /tmp"
```

```
"cd /tmp/wine-8.0"
```

```
"./configure --enable-win64"
```

```
"sudo make install"
```

```
"wine64 --version"
```



```

File Edit View Search Terminal Help
maker/winemaker.man.in >tools/winemaker/winemaker.man || (rm -f tools/winemaker/
winemaker.man && false)
tools/install-sh -m 644 tools/winemaker/winemaker.de.UTF-8.man /usr/local/share
/man/de.UTF-8/man1/winemaker.1
tools/install-sh -m 644 tools/winemaker/winemaker.fr.UTF-8.man /usr/local/share
/man/fr.UTF-8/man1/winemaker.1
tools/install-sh -m 644 tools/winemaker/winemaker.man /usr/local/share/man/man1
/winemaker.1
tools/install-sh tools/winemaker/winemaker /usr/local/bin/winemaker
LC_ALL=C sed -e 's,@bindir@,/usr/local/bin,g' -e 's,@dllldir@,/usr/local/lib/wine
,g' -e 's,@PACKAGE_STRING@,Wine 8.0,g' -e 's,@PACKAGE_VERSION@,8.0,g' tools/wmc/
wmc.man.in >tools/wmc/wmc.man || (rm -f tools/wmc/wmc.man && false)
tools/install-sh -m 644 tools/wmc/wmc.man /usr/local/share/man/man1/wmc.1
STRIPprog="strip" tools/install-sh tools/wmc/wmc /usr/local/bin/wmc
LC_ALL=C sed -e 's,@bindir@,/usr/local/bin,g' -e 's,@dllldir@,/usr/local/lib/wine
,g' -e 's,@PACKAGE_STRING@,Wine 8.0,g' -e 's,@PACKAGE_VERSION@,8.0,g' tools/wrc/
wrc.man.in >tools/wrc/wrc.man || (rm -f tools/wrc/wrc.man && false)
tools/install-sh -m 644 tools/wrc/wrc.man /usr/local/share/man/man1/wrc.1
STRIPprog="strip" tools/install-sh tools/wrc/wrc /usr/local/bin/wrc
[developer@localhost wine-8.0]$ Wine64 --version
bash: Wine64: command not found...
[developer@localhost wine-8.0]$ wine64 --version
wine-8.0
[developer@localhost wine-8.0]$ █

```

VMWare Workstation Pro og Open VM Tools

Skal jeg installere trial udgaven?