

Oracle 11.2 auf Oracle Linux 5 in Oracle VirtualBox

Einleitung

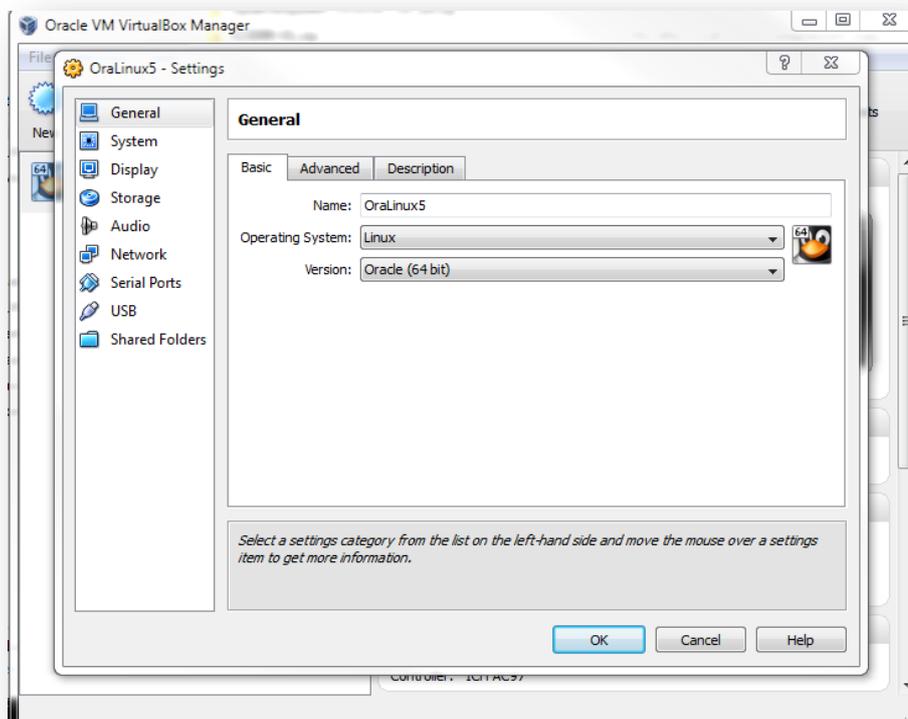
Ich möchte zukünftig Oracle Datenbanken eventuell auf einem Mac nutzen. Nativ funktioniert das mit neuen Oracle Versionen nicht, also muss eine virtuelle Umgebung her.

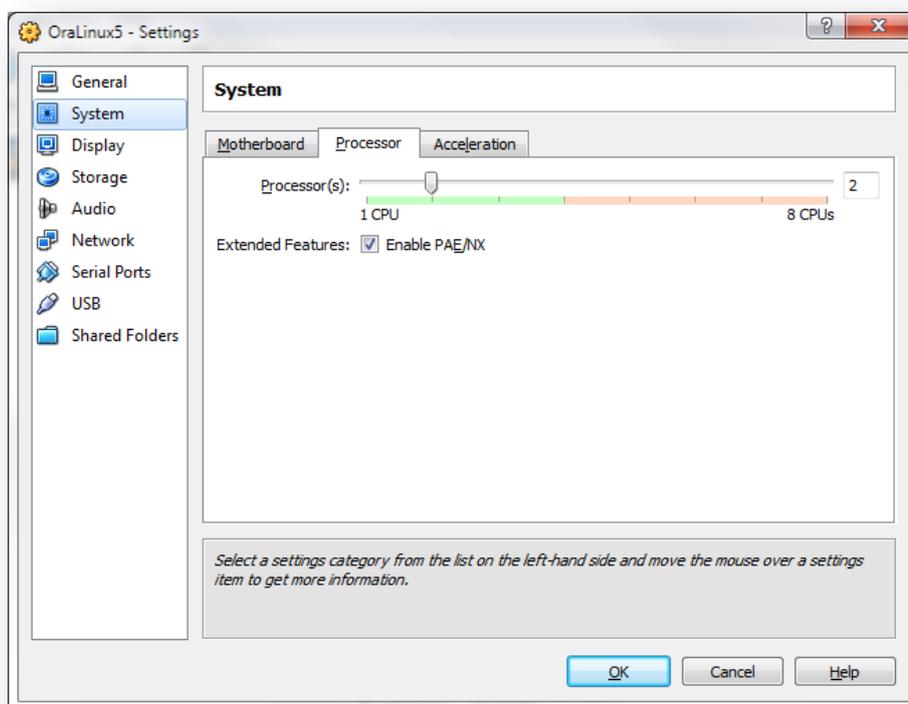
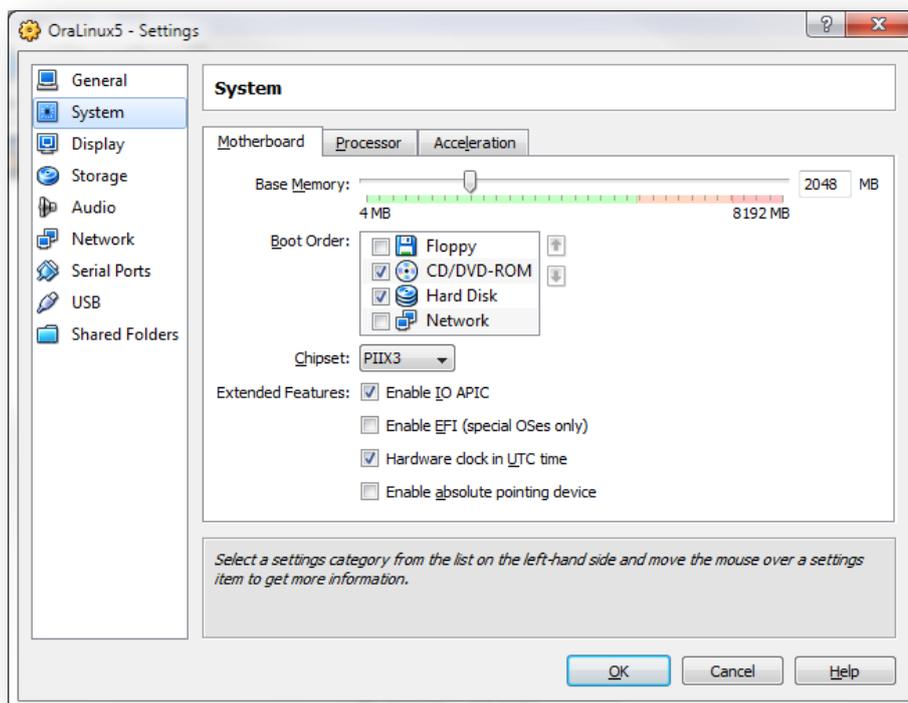
Wenn es schon virtuell wird, dann kann es ja (bei mir) auch mal Linux sein, da steht eine Testumgebung eh schon lange auf der ToDo Liste. Ein Grund für die Linux Variante ist die schnellere Verfügbarkeit von Patchsets, obwohl lt. Oracle die Anzahl der Installationen auf Windows Servern mittlerweile überwiegt.

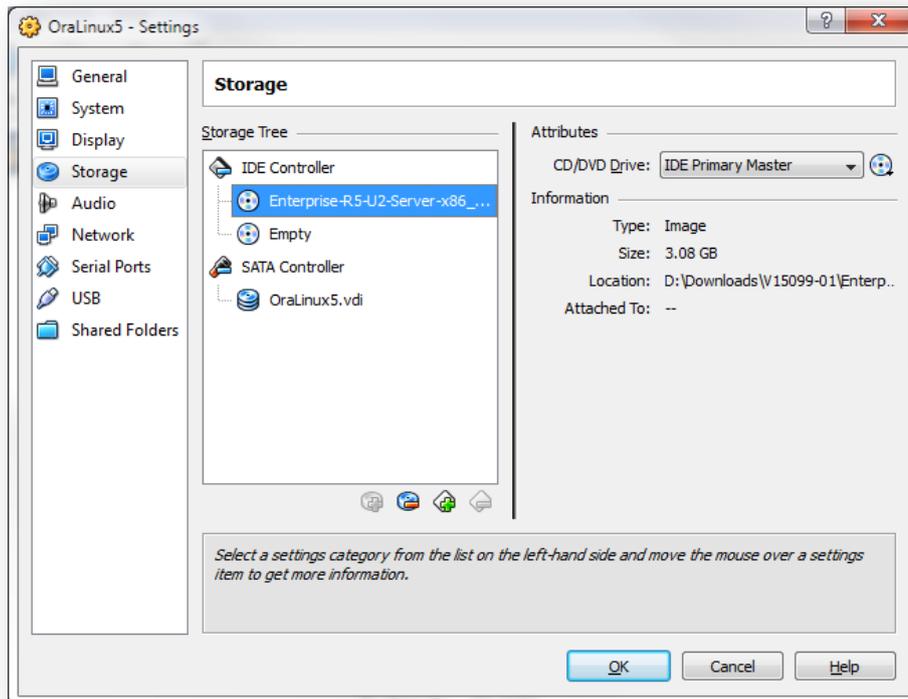
Vorbereitung Oracle VirtualBox

Zuerst wird Virtual Box von Oracle installiert. Es liegt in einer neuen Version vor, ist kostenlos, und auch auf für Mac OS verfügbar. Nach der Installation des Hauptprogramms wird noch das Extension Pack installiert ([Link](#) am Ende des Dokumentes).

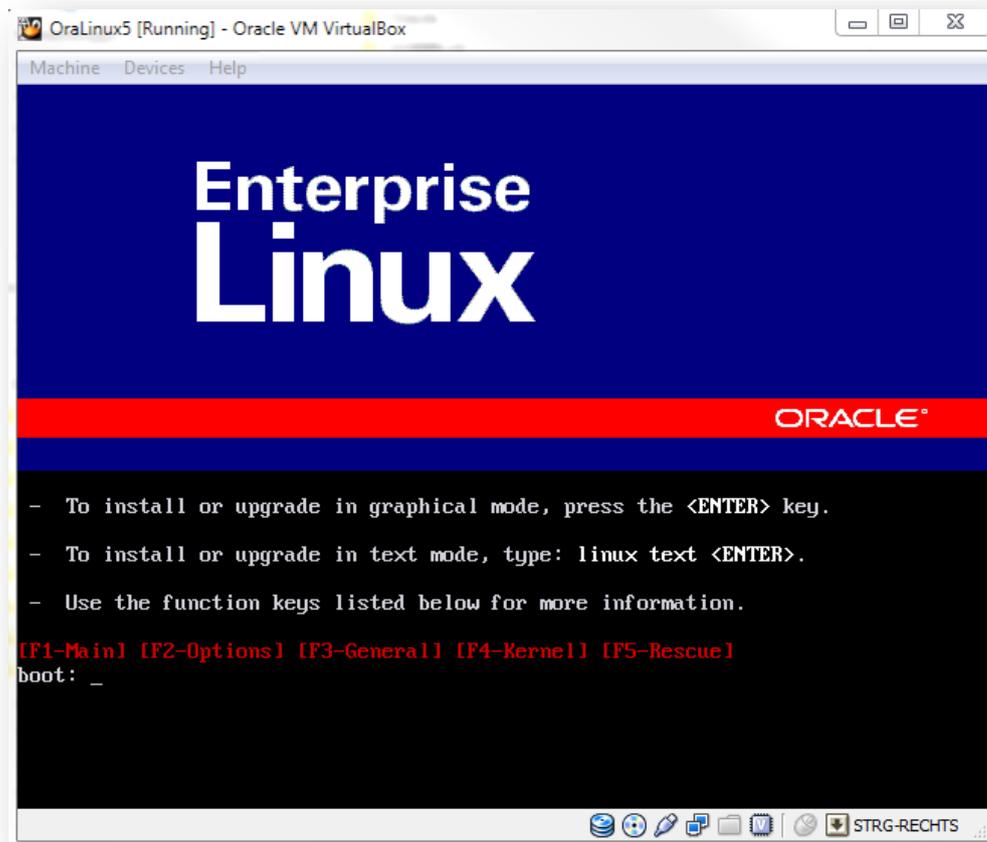
Die folgenden Abbildungen zeigen die Konfiguration der virtuellen Maschine.



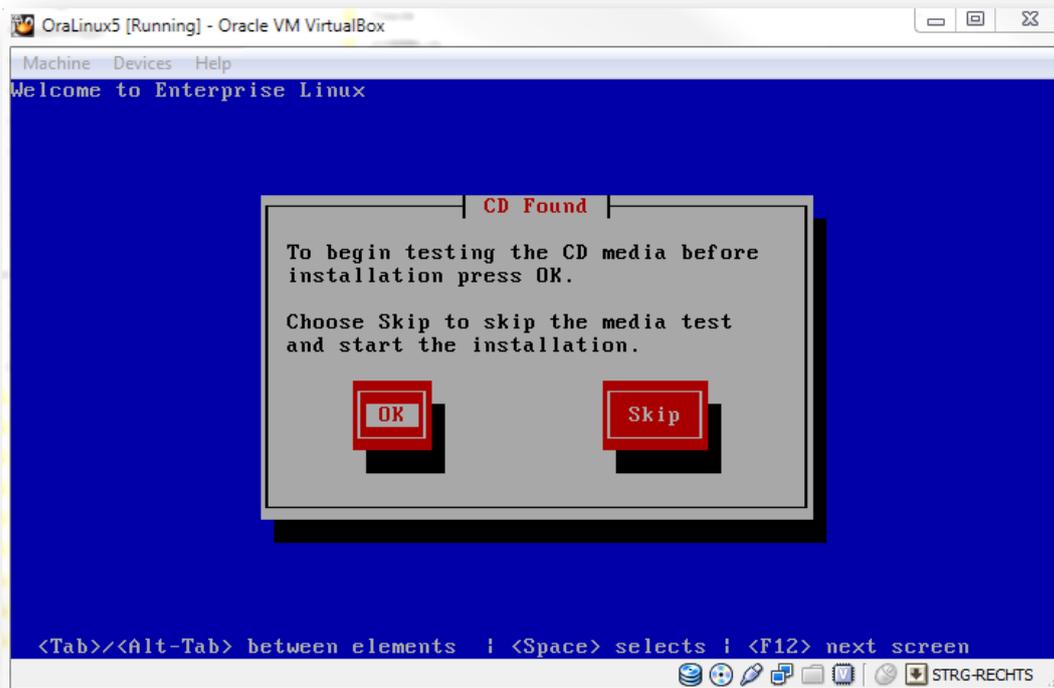




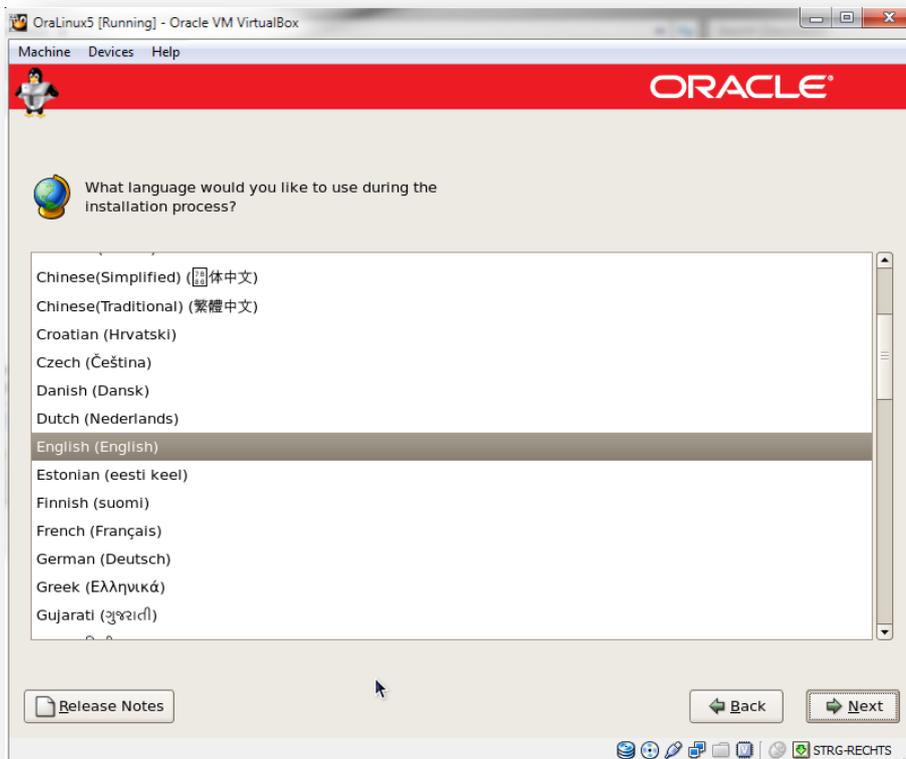
Installation Linux

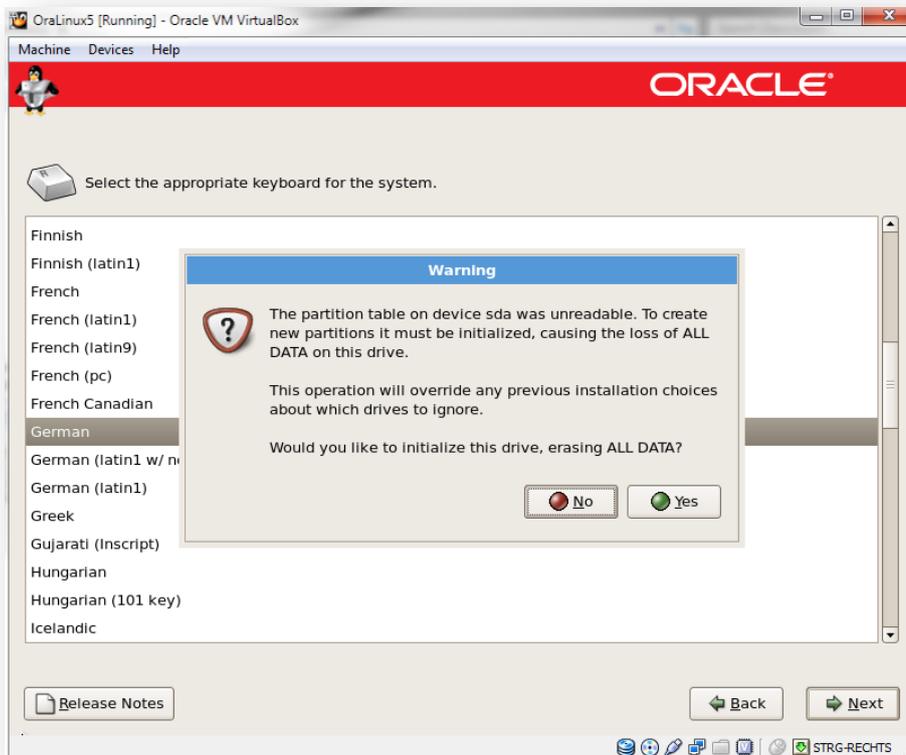
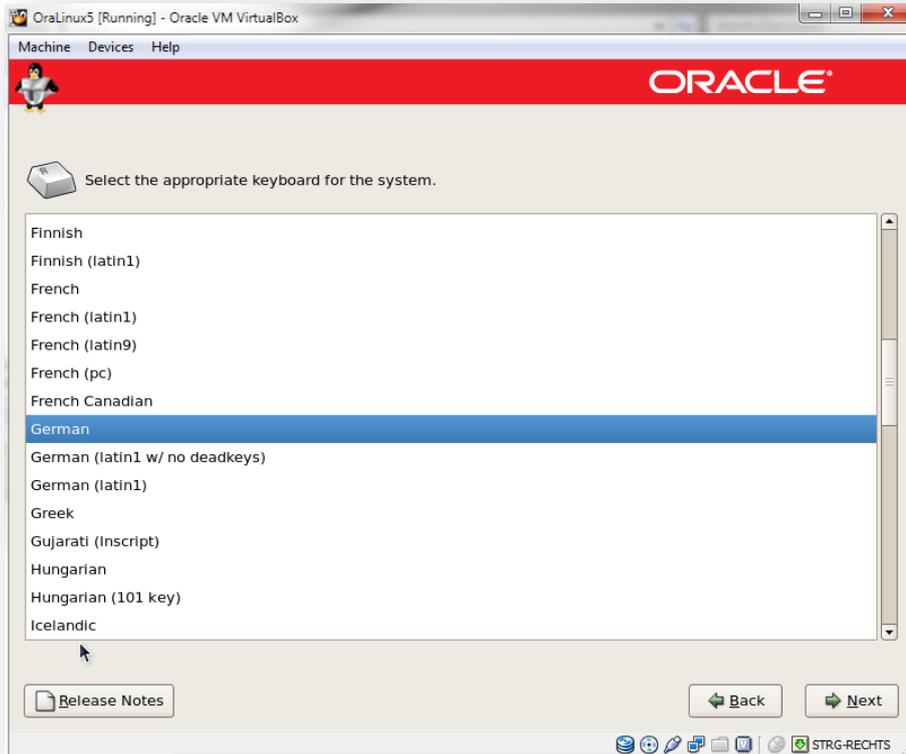


→ ENTER

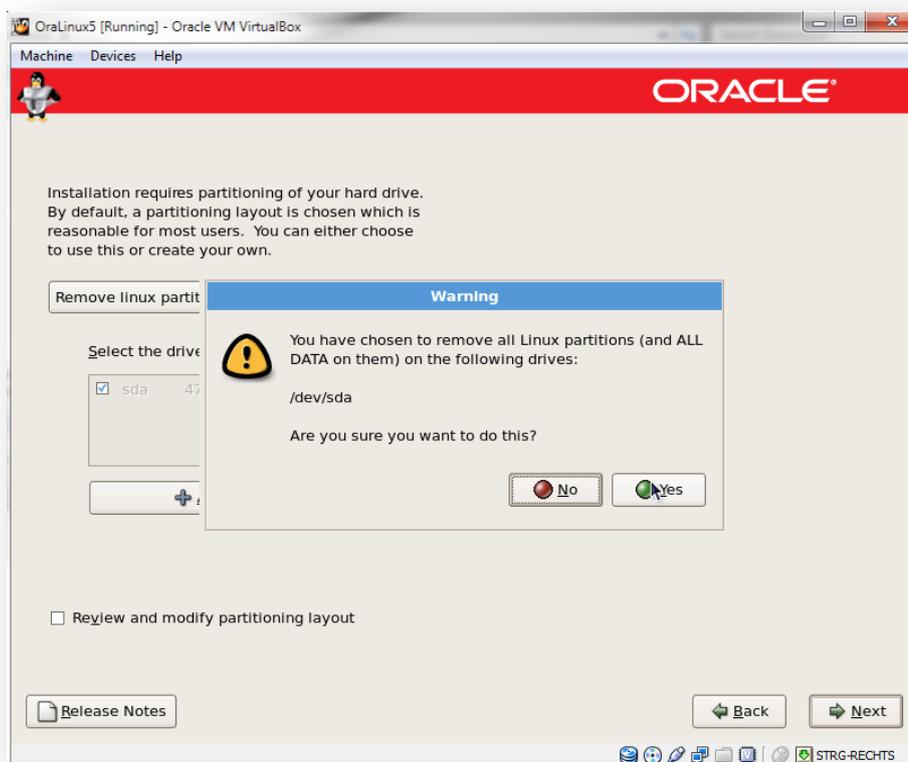
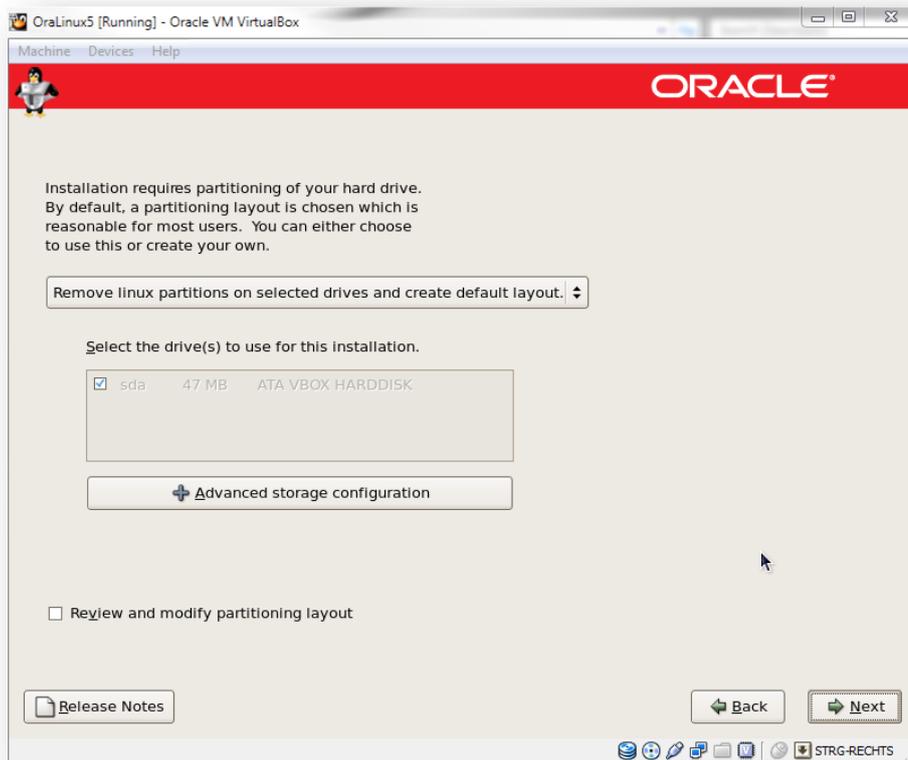


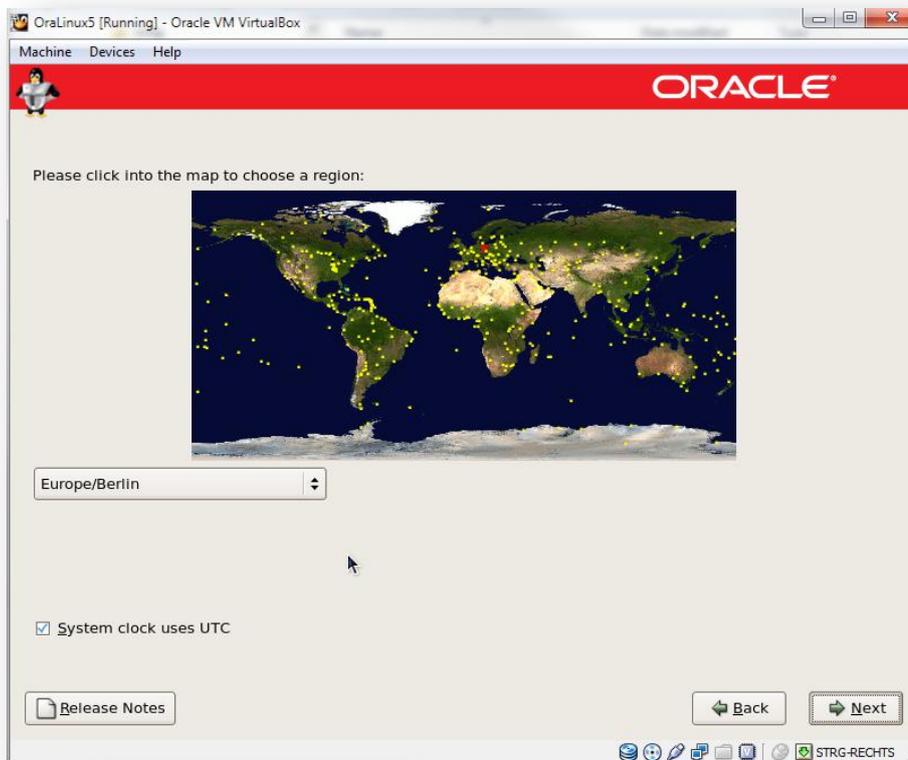
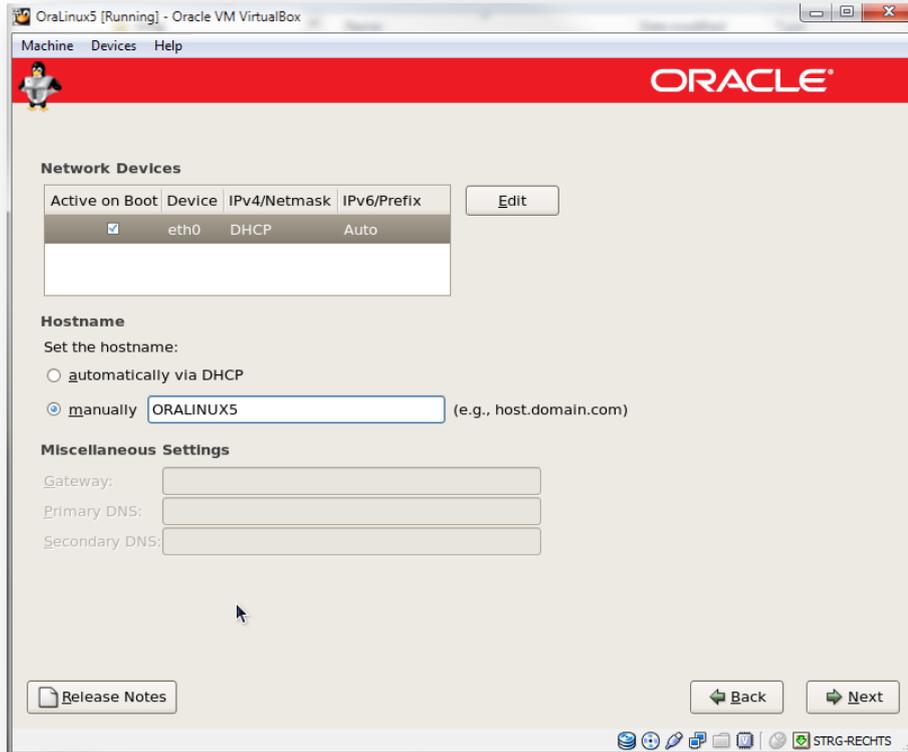
SKIP

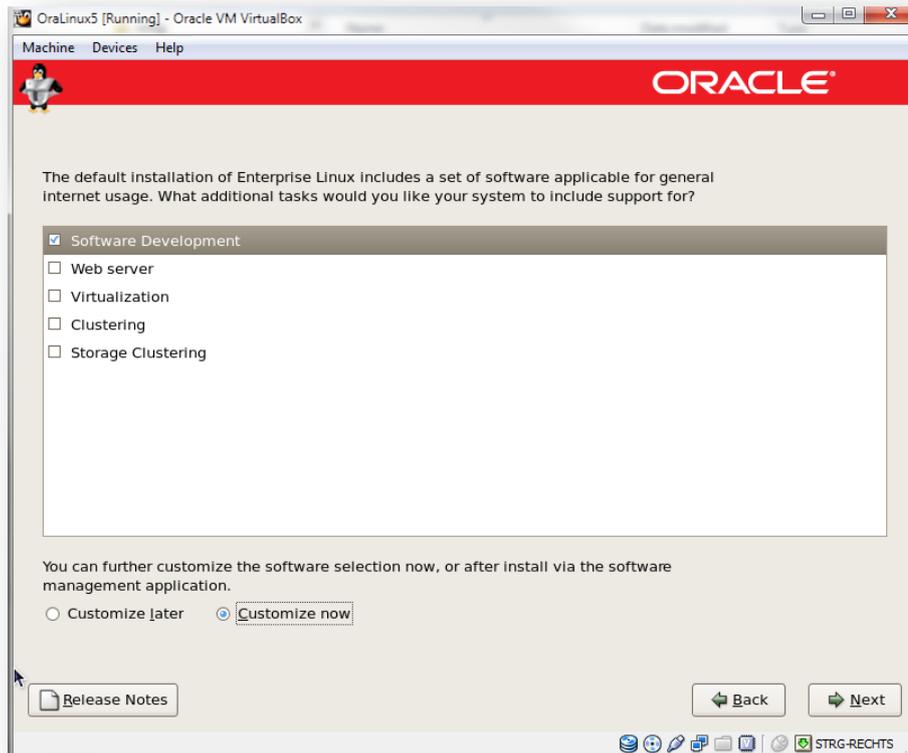


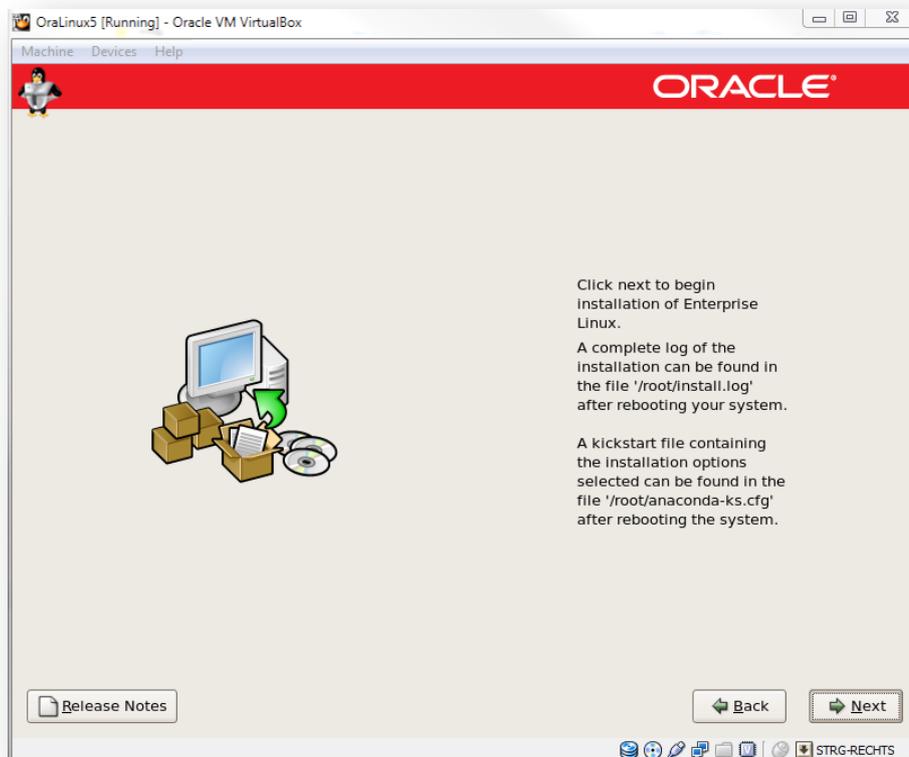
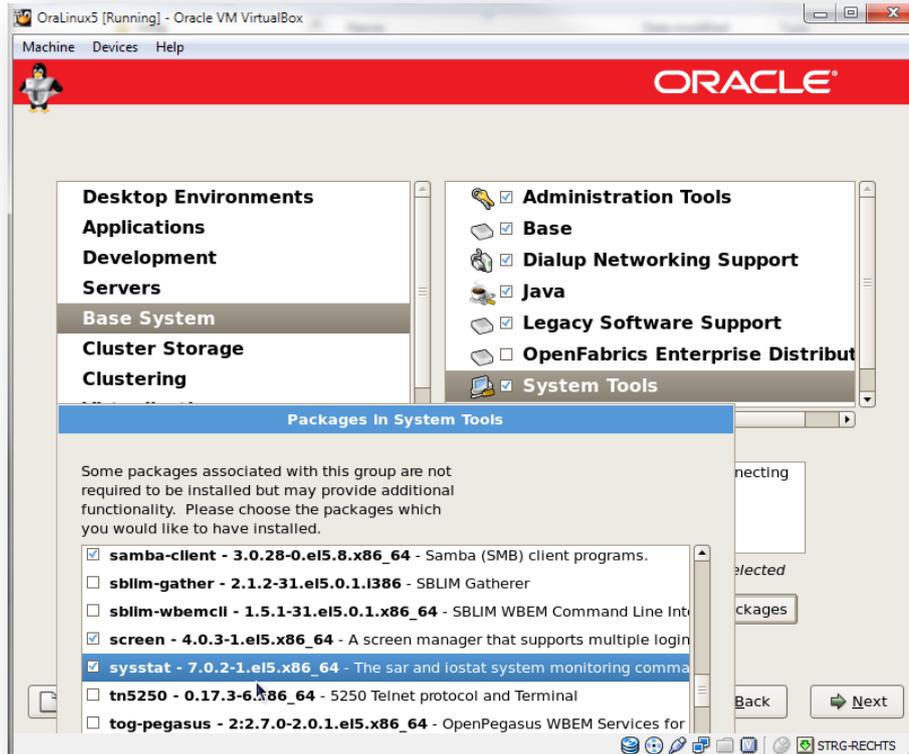


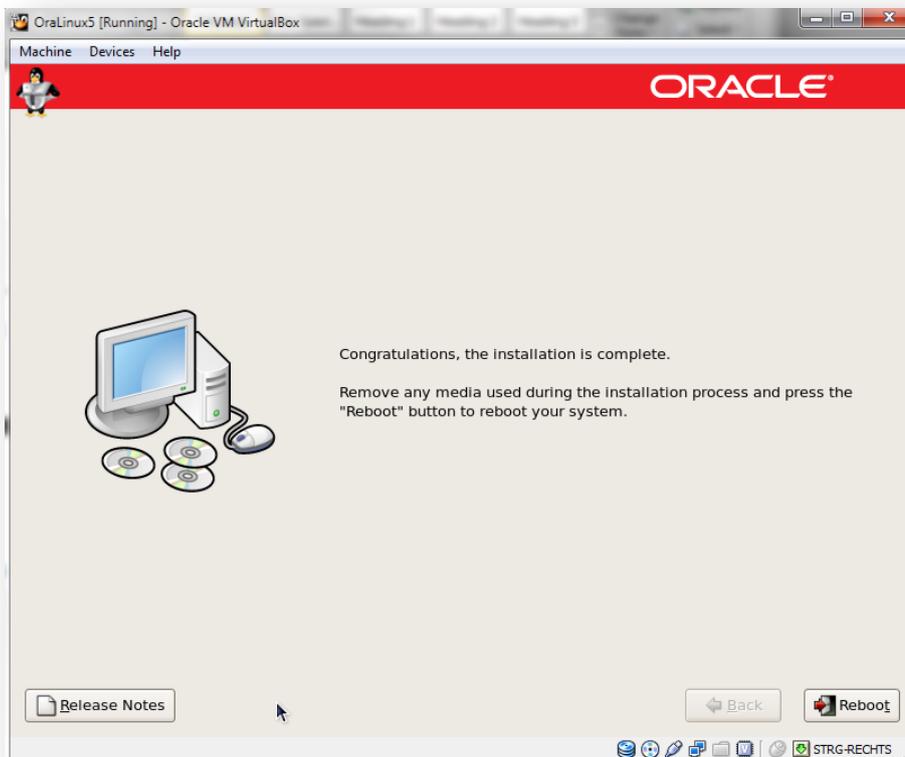
YES





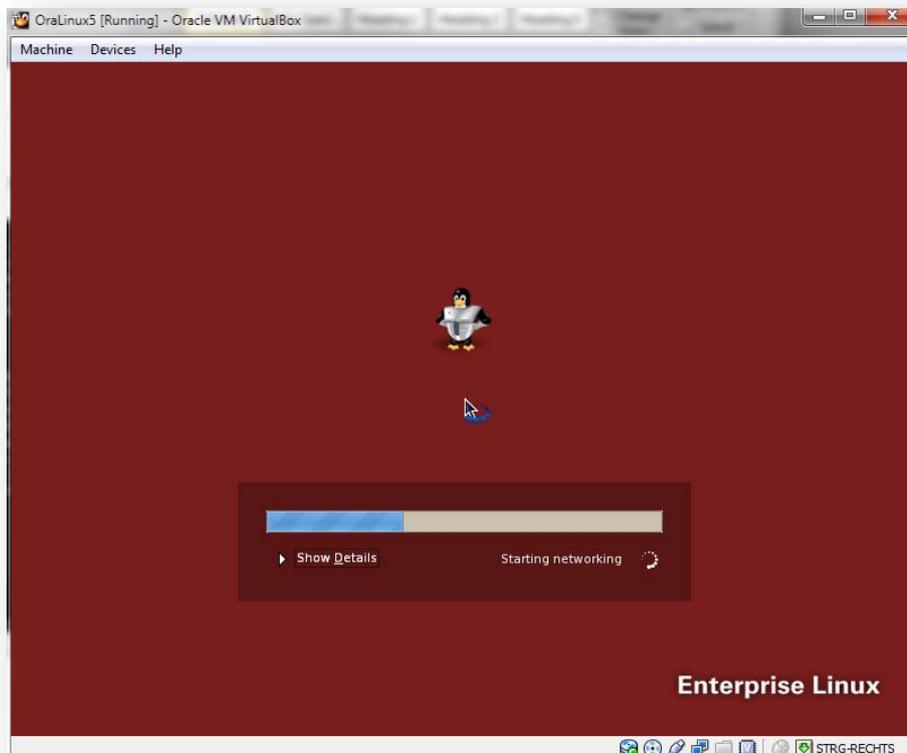
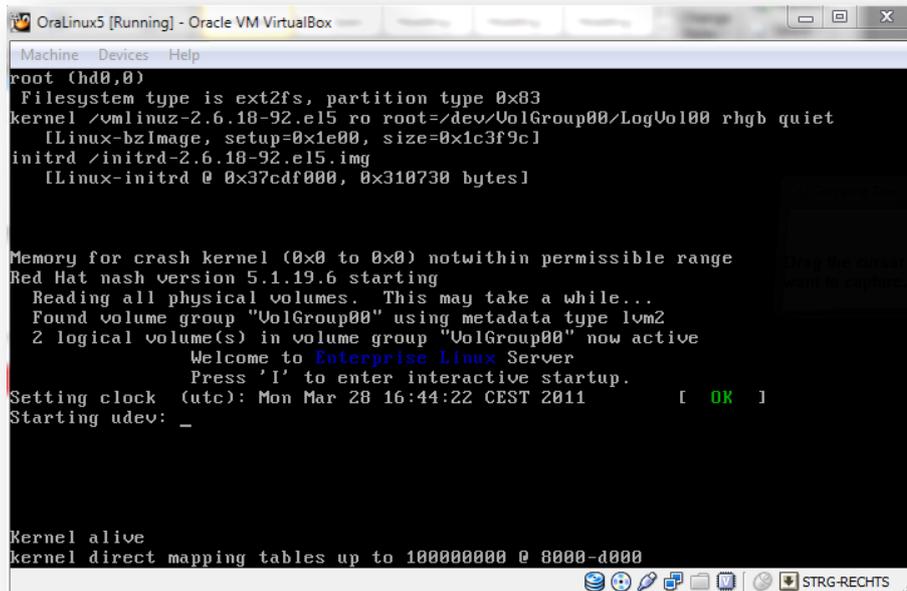


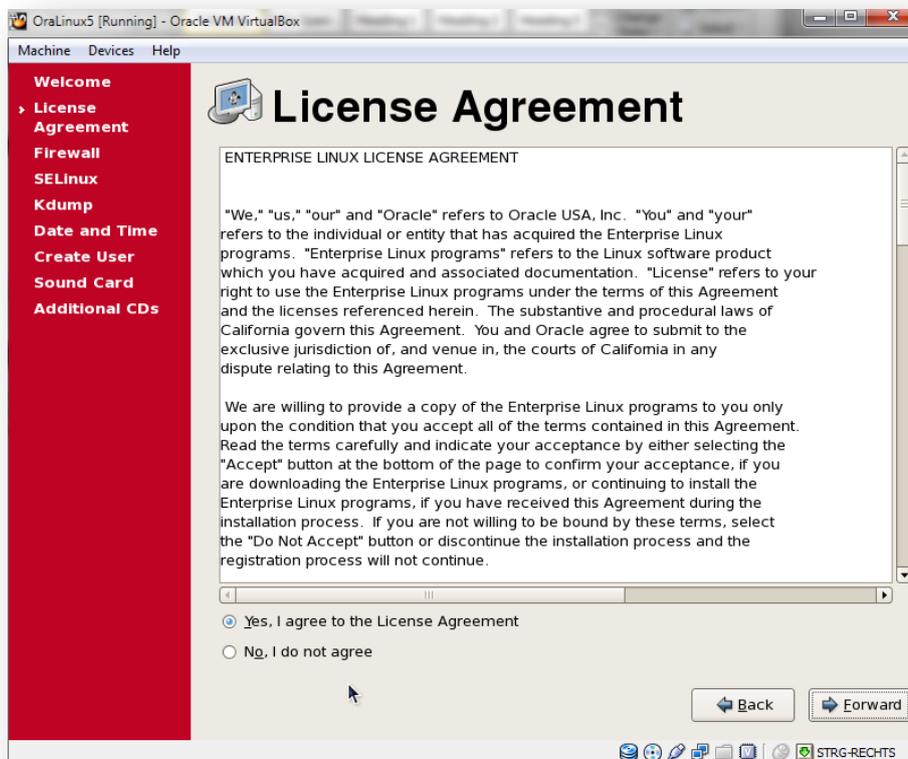


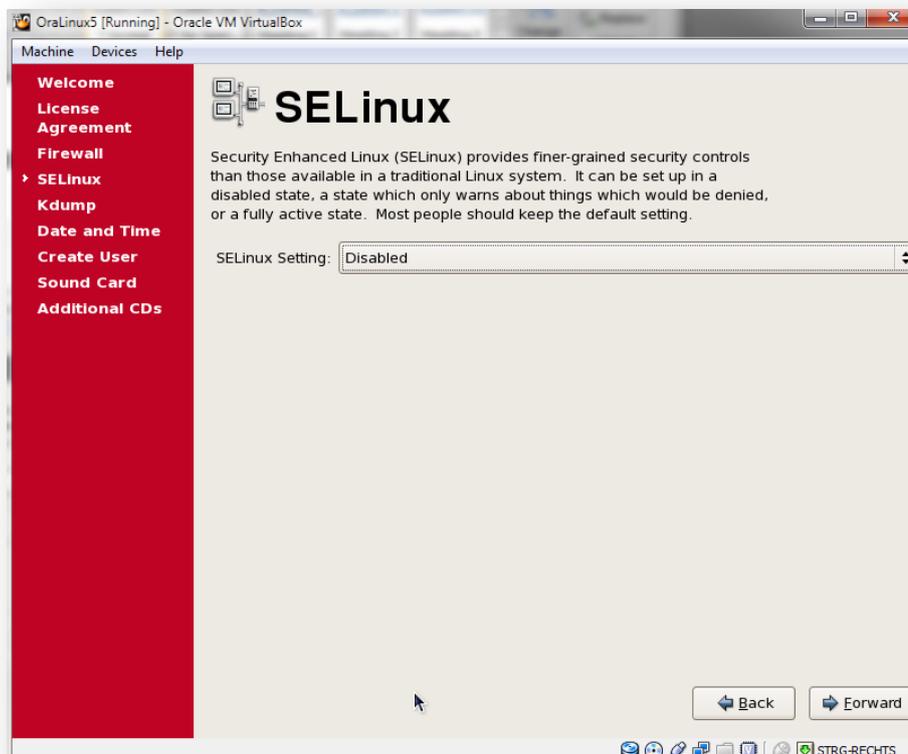
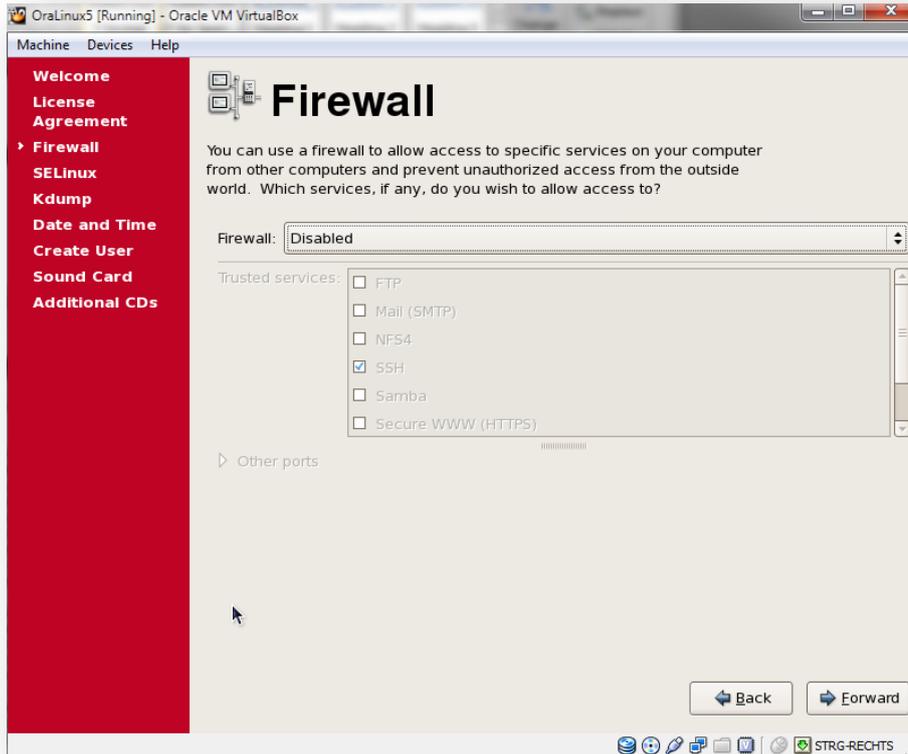


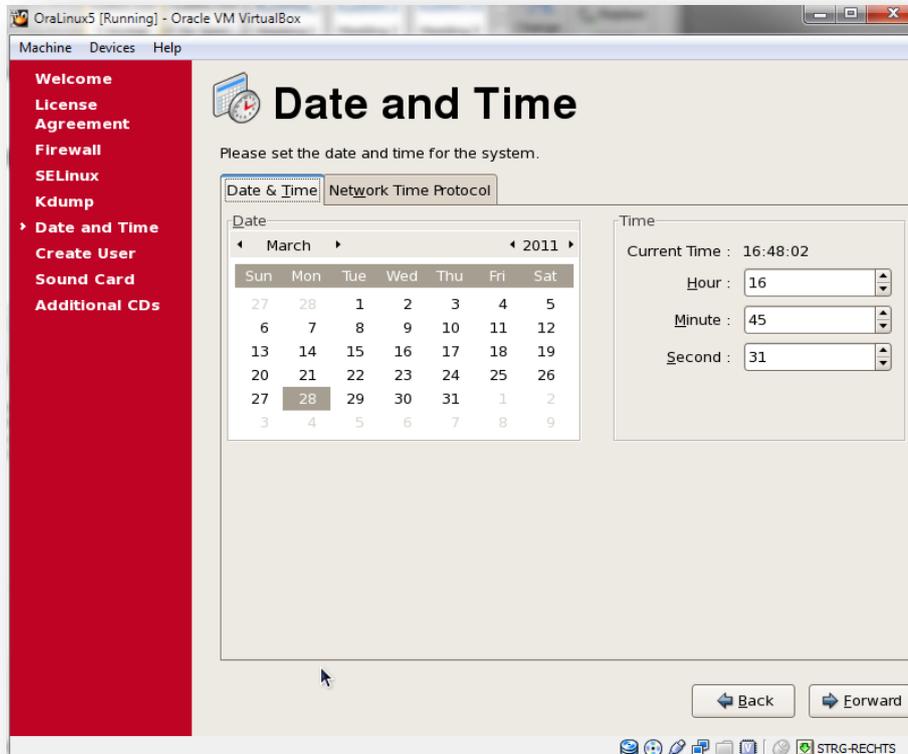
Reboot

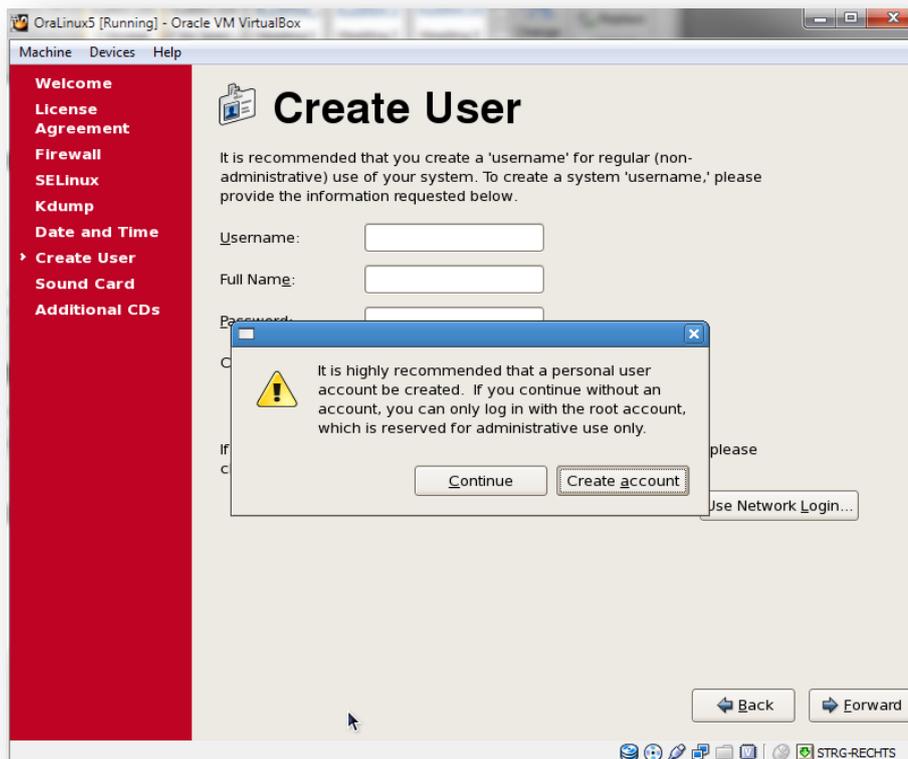
Konfiguration von Linux



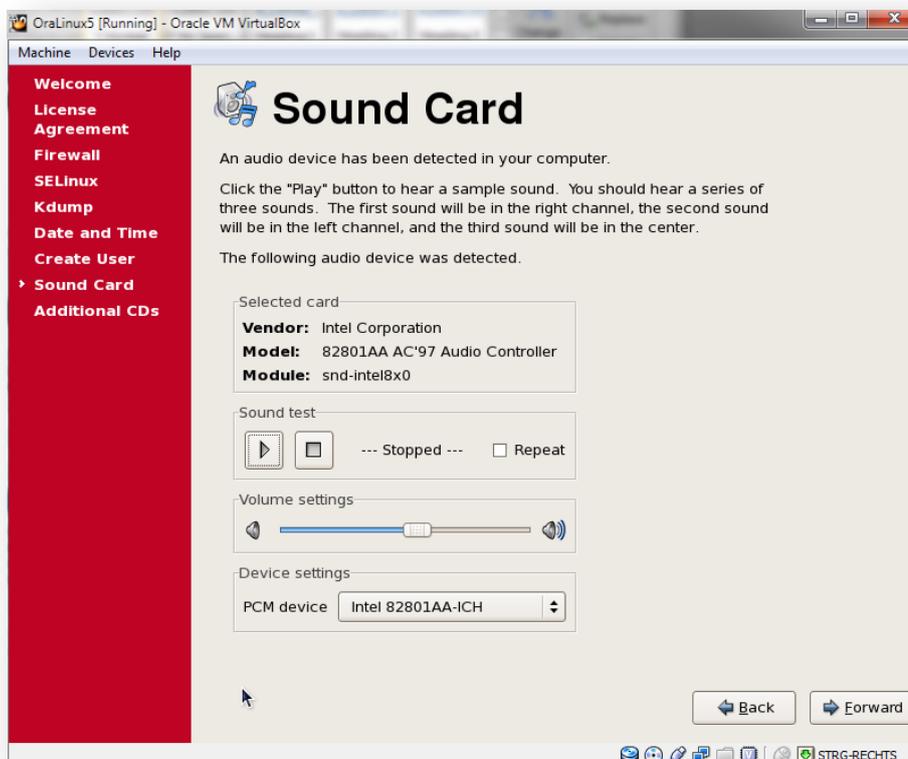


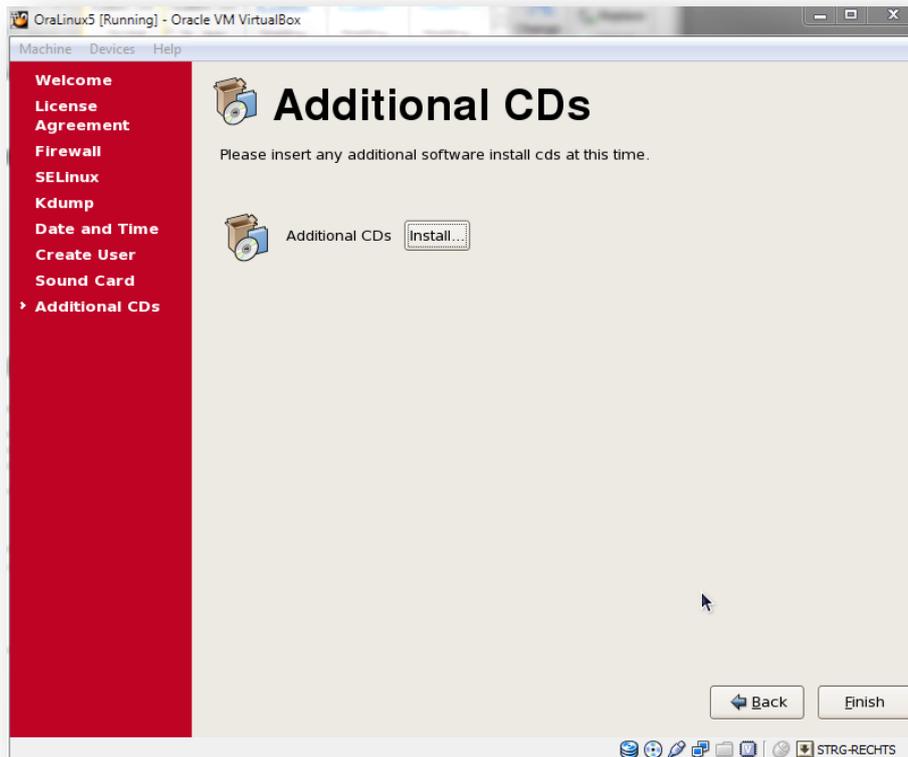




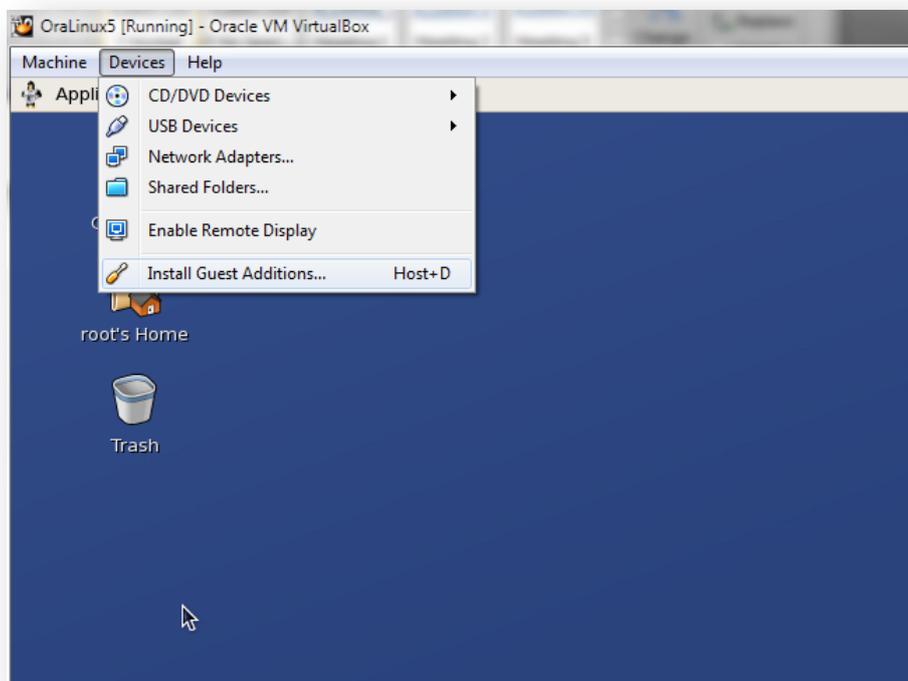


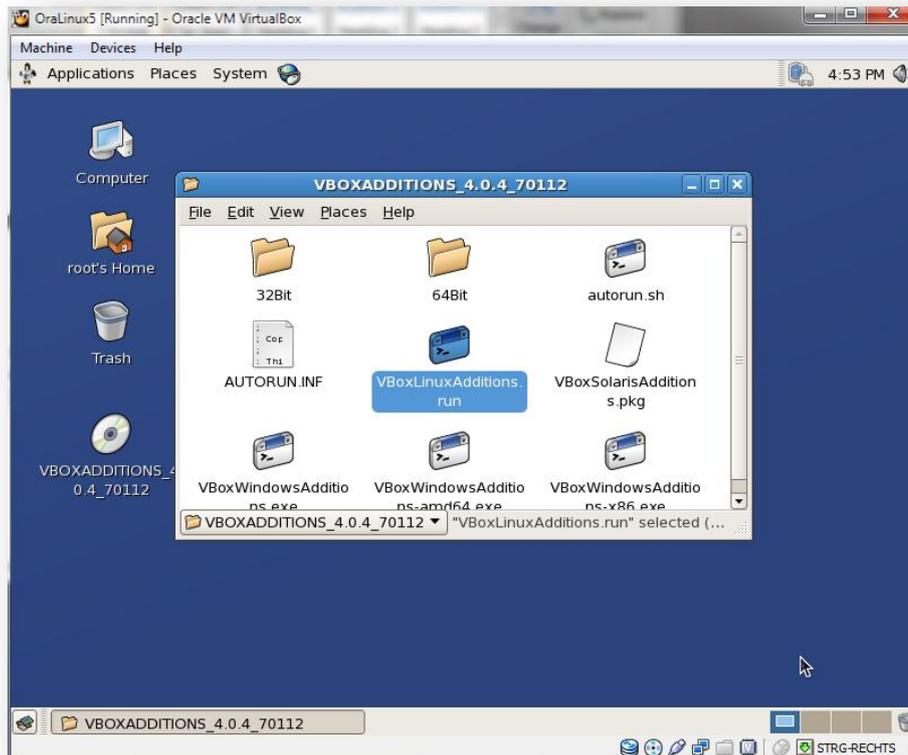
Continue



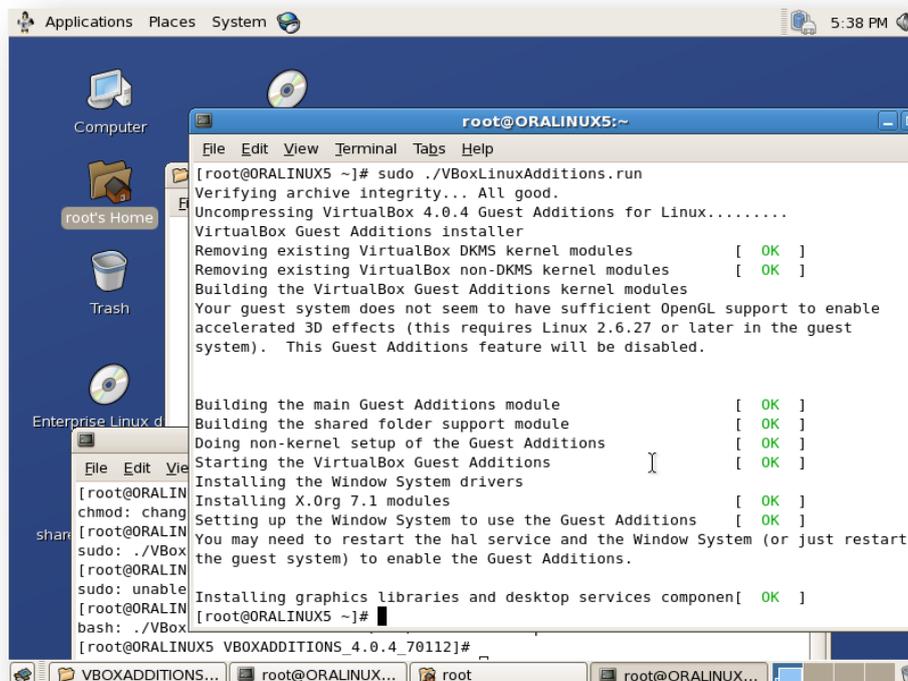


Finish -> Reboot

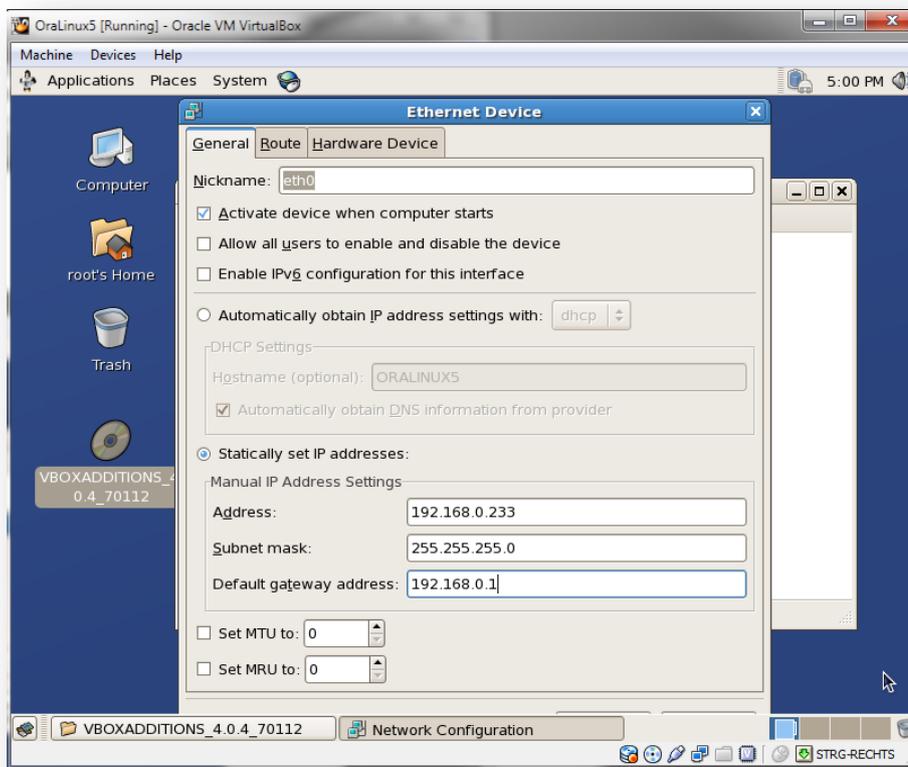


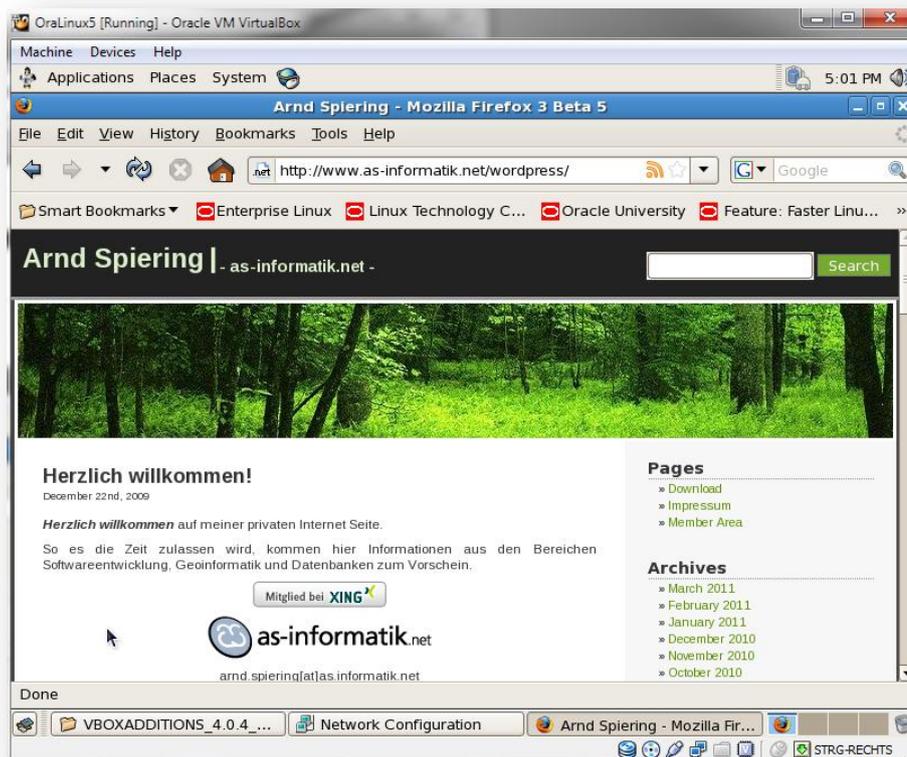


Die Datei VBoxLinuxAdditions.run wird in das Home des Root Users kopiert und dann mit `sudo ./VBoxLinuxAdditions.run` ausgeführt.



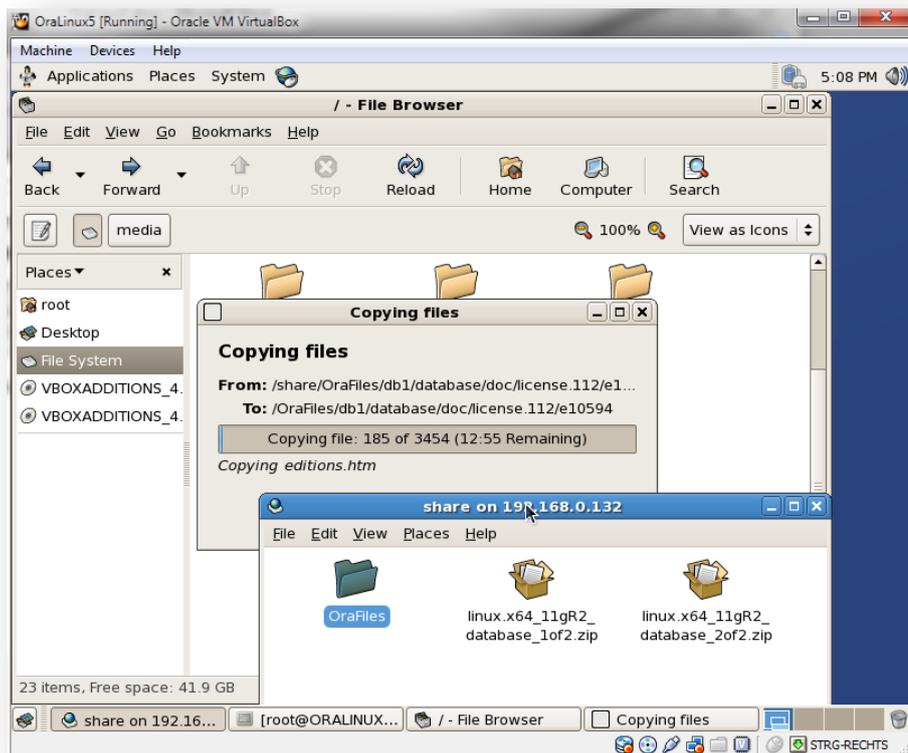
System → Shot down → Reboot

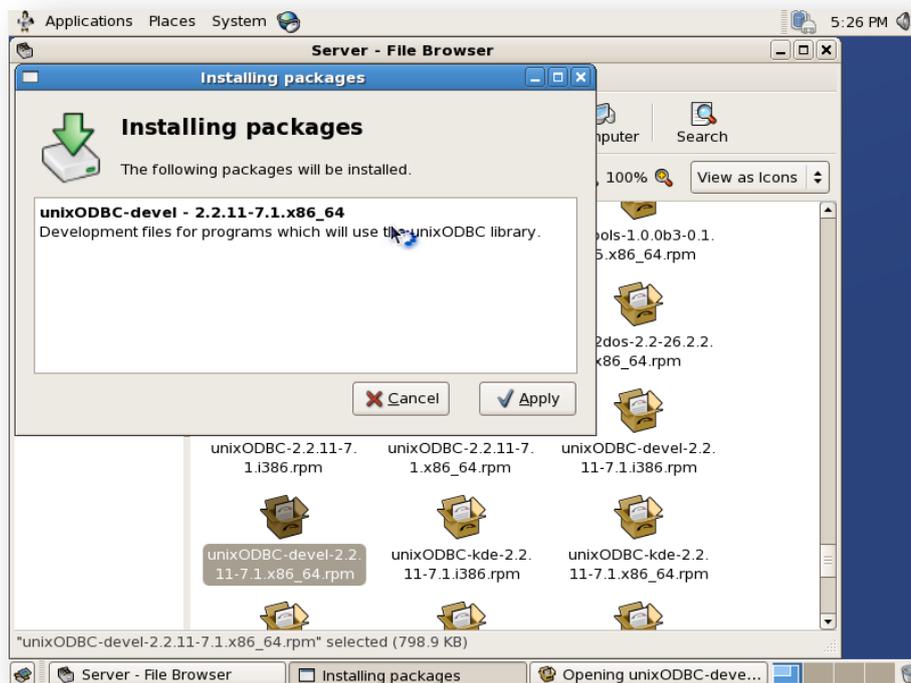




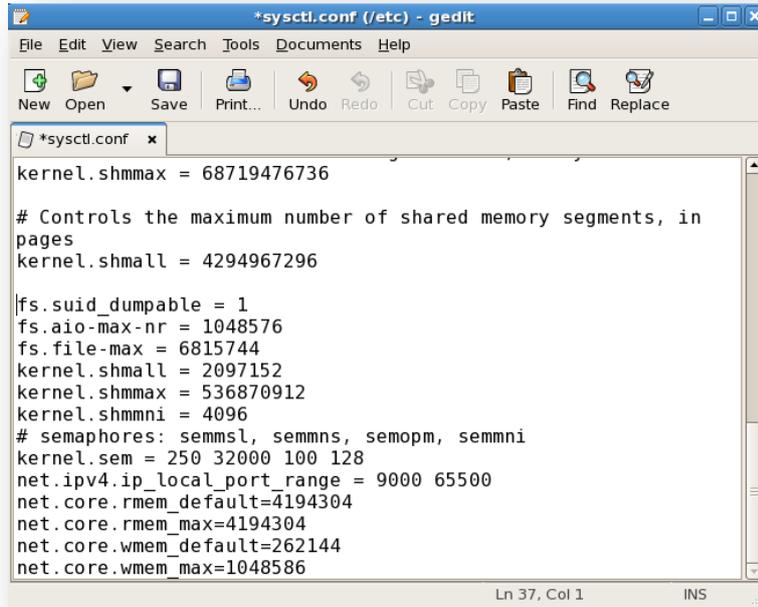
Netzwerkzugriff kann jetzt erfolgen

Verbinden mit dem Share auf dem Host System, um die Installationsdateien zu kopieren





Folgende zeilen in der Datei etc/sysctl.conf hinzufügen:



```
*syscti.conf (/etc) - gedit
File Edit View Search Tools Documents Help
New Open Save Print... Undo Redo Cut Copy Paste Find Replace
*syscti.conf x
kernel.shmmax = 68719476736
# Controls the maximum number of shared memory segments, in
pages
kernel.shmall = 4294967296
fs.suid_dumpable = 1
fs.aio-max-nr = 1048576
fs.file-max = 6815744
kernel.shmall = 2097152
kernel.shmmax = 536870912
kernel.shmmni = 4096
# semaphores: semmsl, semmns, semopm, semmni
kernel.sem = 250 32000 100 128
net.ipv4.ip_local_port_range = 9000 65500
net.core.rmem_default=4194304
net.core.rmem_max=4194304
net.core.wmem_default=262144
net.core.wmem_max=1048586
Ln 37, Col 1 INS
```

fs.suid_dumpable = 1

fs.aio-max-nr = 1048576

fs.file-max = 6815744

kernel.shmall = 2097152

kernel.shmmax = 536870912

kernel.shmmni = 4096

semaphores: semmsl, semmns, semopm, semmni

kernel.sem = 250 32000 100 128

net.ipv4.ip_local_port_range = 9000 65500

net.core.rmem_default=4194304

net.core.rmem_max=4194304

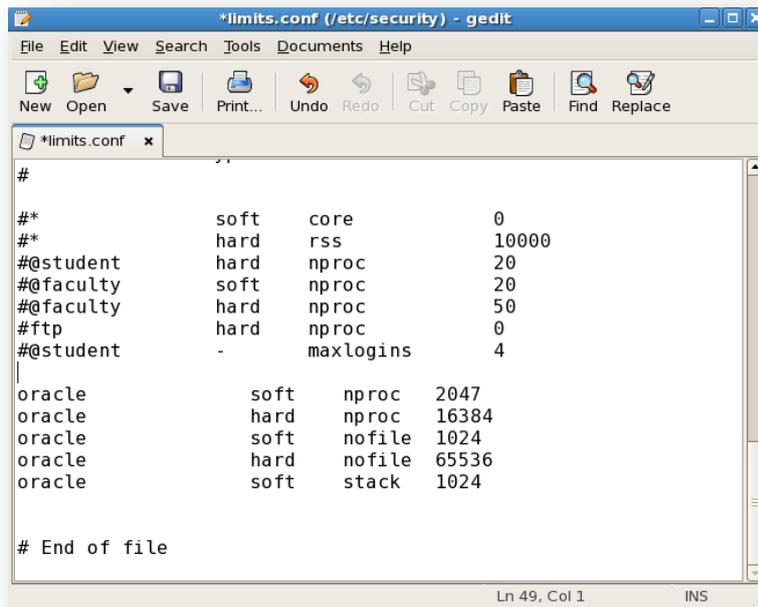
net.core.wmem_default=262144

net.core.wmem_max=1048586

```
[root@ORALINUX5 ~]# sysctl -p
net.ipv4.ip_forward = 0
net.ipv4.conf.default.rp_filter = 1
net.ipv4.conf.default.accept_source_route = 0
kernel.sysrq = 0
kernel.core_uses_pid = 1
net.ipv4.tcp_syncookies = 1
kernel.msgmnb = 65536
kernel.msgmax = 65536
kernel.shmmax = 68719476736
kernel.shmall = 4294967296
fs.suid_dumpable = 1
fs.aio-max-nr = 1048576
fs.file-max = 6815744
kernel.shmall = 2097152
kernel.shmmax = 536870912
kernel.shmmni = 4096
kernel.sem = 250 32000 100 128
net.ipv4.ip_local_port_range = 9000 65500
net.core.rmem_default = 4194304
net.core.rmem_max = 4194304
net.core.wmem_default = 262144
net.core.wmem_max = 1048586
[root@ORALINUX5 ~]#
```

In der Datei /etc/security/limits.conf folgende Zeilen hinzufügen:

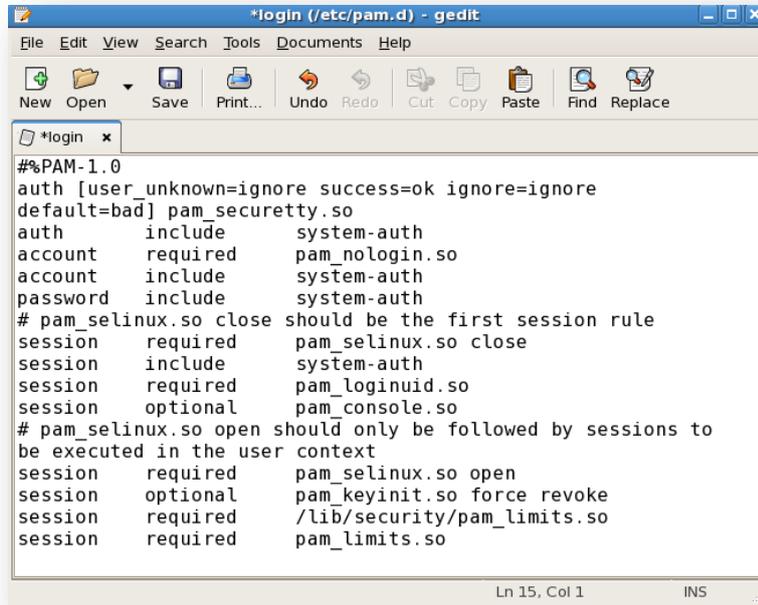
oracle	soft	nproc	2047
oracle	hard	nproc	16384
oracle	soft	nofile	1024
oracle	hard	nofile	65536



```
*limits.conf (/etc/security) - gedit
File Edit View Search Tools Documents Help
New Open Save Print... Undo Redo Cut Copy Paste Find Replace
*limits.conf x
#
#*          soft   core    0
#*          hard   rss     10000
#@student   hard   nproc   20
#@faculty   soft   nproc   20
#@faculty   hard   nproc   50
#ftp        hard   nproc   0
#@student   -      maxlogins 4
oracle     soft   nproc   2047
oracle     hard   nproc   16384
oracle     soft   nofile  1024
oracle     hard   nofile  65536
oracle     soft   stack   1024
# End of file
Ln 49, Col 1  INS
```

In der Datei /etc/pam.d/login folgende Zeilen hinzufügen:

```
session    required    /lib/security/pam_limits.so
session    required    pam_limits.so
```



The screenshot shows a gedit editor window titled '*login (/etc/pam.d) - gedit'. The window contains the following text:

```
##PAM-1.0
auth [user_unknown=ignore success=ok ignore=ignore
default=bad] pam_securetty.so
auth    include    system-auth
account required    pam_nologin.so
account include    system-auth
password include    system-auth
# pam_selinux.so close should be the first session rule
session required    pam_selinux.so close
session include    system-auth
session required    pam_loginuid.so
session optional    pam_console.so
# pam_selinux.so open should only be followed by sessions to
be executed in the user context
session required    pam_selinux.so open
session optional    pam_keyinit.so force revoke
session required    /lib/security/pam_limits.so
session required    pam_limits.so
```

The status bar at the bottom of the window indicates 'Ln 15, Col 1' and 'INS'.

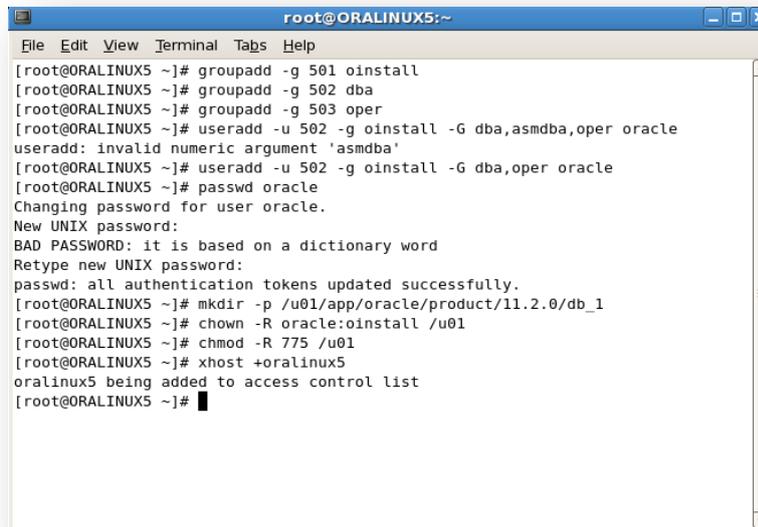
Anlegen des Oracle Benutzers:

```
groupadd -g 501 oinstall
groupadd -g 502 dba
groupadd -g 503 oper

useradd -u 502 -g oinstall -G dba,oper oracle
passwd oracle
```

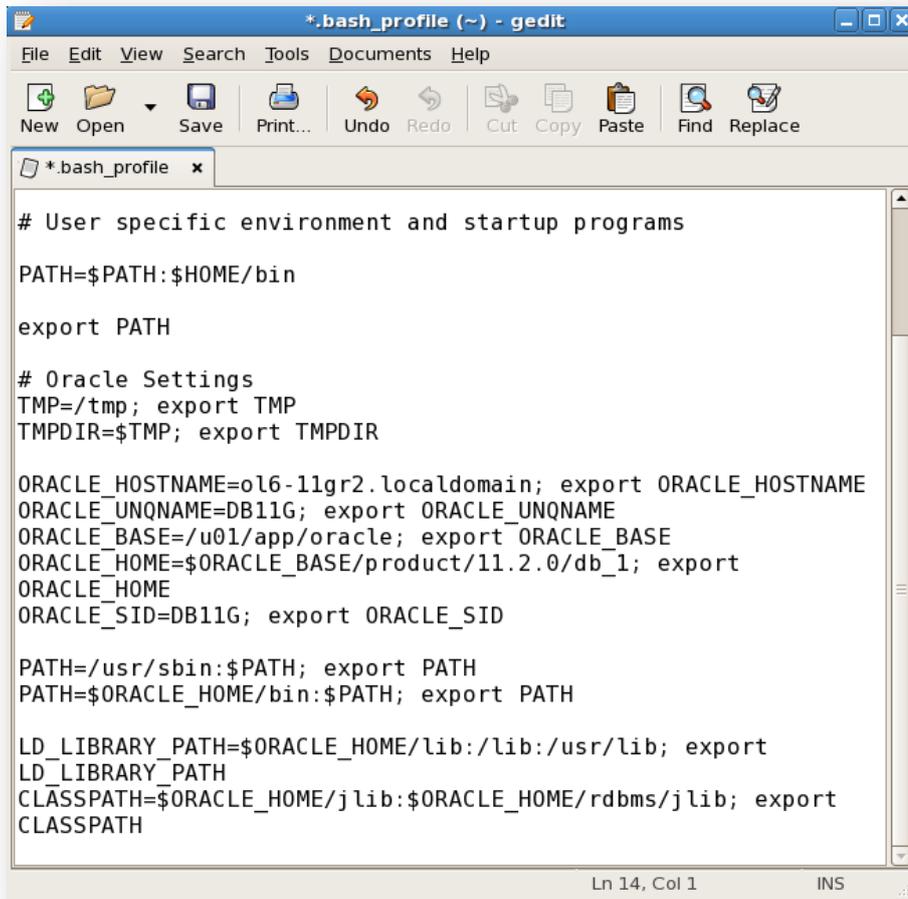
Anlegen des Installationsverzeichnis

```
mkdir -p /u01/app/oracle/product/11.2.0/db_1
chown -R oracle:oinstall /u01
chmod -R 775 /u01
```



```
root@ORALINUX5:~
File Edit View Terminal Tabs Help
[root@ORALINUX5 ~]# groupadd -g 501 oinstall
[root@ORALINUX5 ~]# groupadd -g 502 dba
[root@ORALINUX5 ~]# groupadd -g 503 oper
[root@ORALINUX5 ~]# useradd -u 502 -g oinstall -G dba,asmdba,oper oracle
useradd: invalid numeric argument 'asmdba'
[root@ORALINUX5 ~]# useradd -u 502 -g oinstall -G dba,oper oracle
[root@ORALINUX5 ~]# passwd oracle
Changing password for user oracle.
New UNIX password:
BAD PASSWORD: it is based on a dictionary word
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
[root@ORALINUX5 ~]# mkdir -p /u01/app/oracle/product/11.2.0/db_1
[root@ORALINUX5 ~]# chown -R oracle:oinstall /u01
[root@ORALINUX5 ~]# chmod -R 775 /u01
[root@ORALINUX5 ~]# xhost +oralinux5
oralinux5 being added to access control list
[root@ORALINUX5 ~]#
```

Als oracle Benutzer anmelden und folgende Zeilen an die .bash_profile Datei hinzufügen.



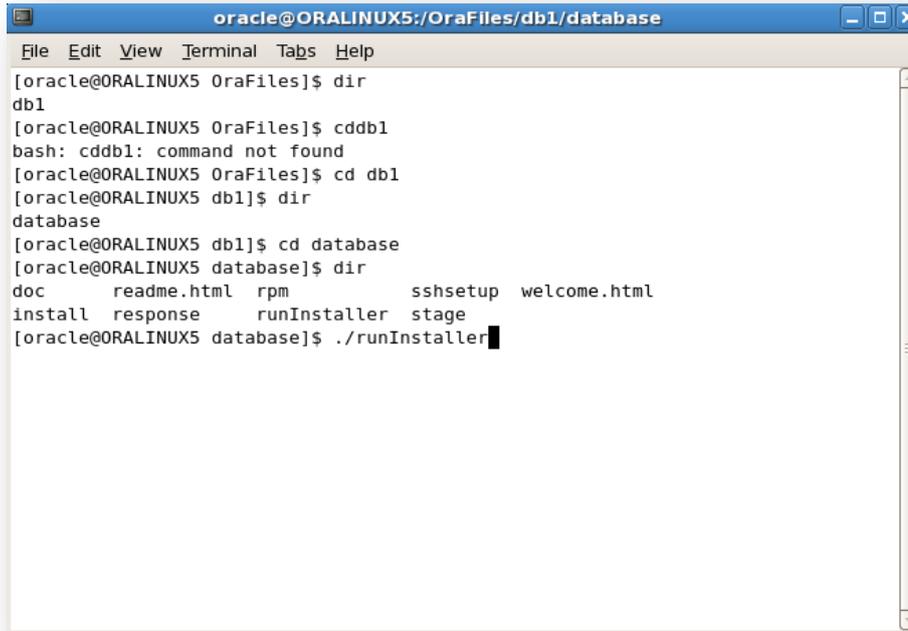
```
*.bash_profile (~) - gedit
File Edit View Search Tools Documents Help
New Open Save Print... Undo Redo Cut Copy Paste Find Replace
*.bash_profile x
# User specific environment and startup programs
PATH=$PATH:$HOME/bin
export PATH
# Oracle Settings
TMP=/tmp; export TMP
TMPDIR=$TMP; export TMPDIR
ORACLE_HOSTNAME=ol6-11gr2.localdomain; export ORACLE_HOSTNAME
ORACLE_UNQNAME=DB11G; export ORACLE_UNQNAME
ORACLE_BASE=/u01/app/oracle; export ORACLE_BASE
ORACLE_HOME=$ORACLE_BASE/product/11.2.0/db_1; export
ORACLE_HOME
ORACLE_SID=DB11G; export ORACLE_SID
PATH=/usr/sbin:$PATH; export PATH
PATH=$ORACLE_HOME/bin:$PATH; export PATH
LD_LIBRARY_PATH=$ORACLE_HOME/lib:/lib:/usr/lib; export
LD_LIBRARY_PATH
CLASSPATH=$ORACLE_HOME/jlib:$ORACLE_HOME/rdbms/jlib; export
CLASSPATH
Ln 14, Col 1 INS
```

```
# Oracle Settings
TMP=/tmp; export TMP
TMPDIR=$TMP; export TMPDIR

ORACLE_HOSTNAME=ol6-11gr2.localdomain; export ORACLE_HOSTNAME
ORACLE_UNQNAME=DB11G; export ORACLE_UNQNAME
ORACLE_BASE=/u01/app/oracle; export ORACLE_BASE
ORACLE_HOME=$ORACLE_BASE/product/11.2.0/db_1; export ORACLE_HOME
ORACLE_SID=DB11G; export ORACLE_SID

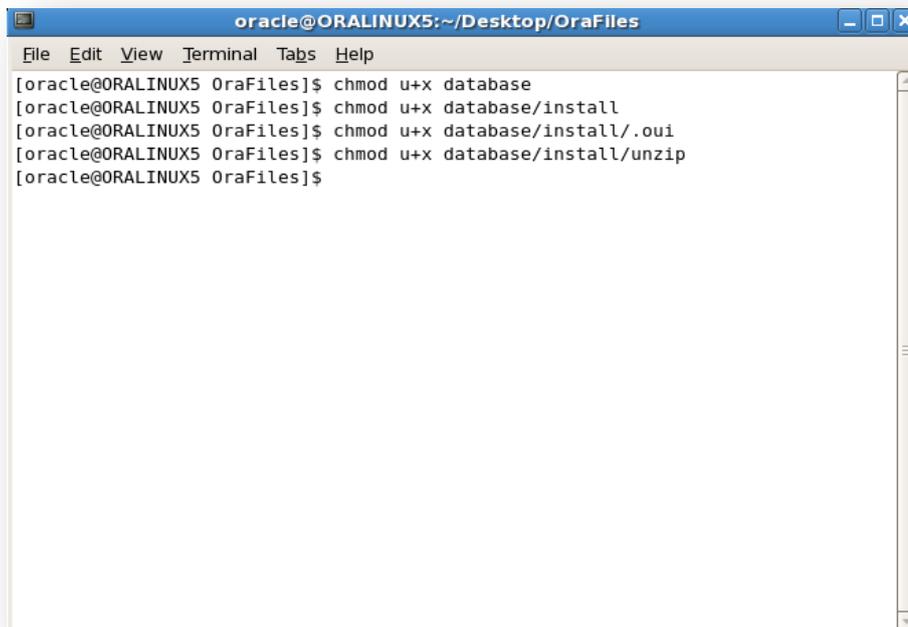
PATH=/usr/sbin:$PATH; export PATH
PATH=$ORACLE_HOME/bin:$PATH; export PATH

LD_LIBRARY_PATH=$ORACLE_HOME/lib:/lib:/usr/lib; export LD_LIBRARY_PATH
CLASSPATH=$ORACLE_HOME/jlib:$ORACLE_HOME/rdbms/jlib; export CLASSPATH
```



```
oracle@ORALINUX5:/OraFiles/db1/database
File Edit View Terminal Tabs Help
[oracle@ORALINUX5 OraFiles]$ dir
db1
[oracle@ORALINUX5 OraFiles]$ cddb1
bash: cddb1: command not found
[oracle@ORALINUX5 OraFiles]$ cd db1
[oracle@ORALINUX5 db1]$ dir
database
[oracle@ORALINUX5 db1]$ cd database
[oracle@ORALINUX5 database]$ dir
doc      readme.html  rpm          sshsetup    welcome.html
install  response    runInstaller stage
[oracle@ORALINUX5 database]$ ./runInstaller
```

Als oracle Benutzer die entsprechenden Berechtigungen vergeben:



```
oracle@ORALINUX5:~/Desktop/OraFiles
File Edit View Terminal Tabs Help
[oracle@ORALINUX5 OraFiles]$ chmod u+x database
[oracle@ORALINUX5 OraFiles]$ chmod u+x database/install
[oracle@ORALINUX5 OraFiles]$ chmod u+x database/install/.oui
[oracle@ORALINUX5 OraFiles]$ chmod u+x database/install/unzip
[oracle@ORALINUX5 OraFiles]$
```

Oracle Installation

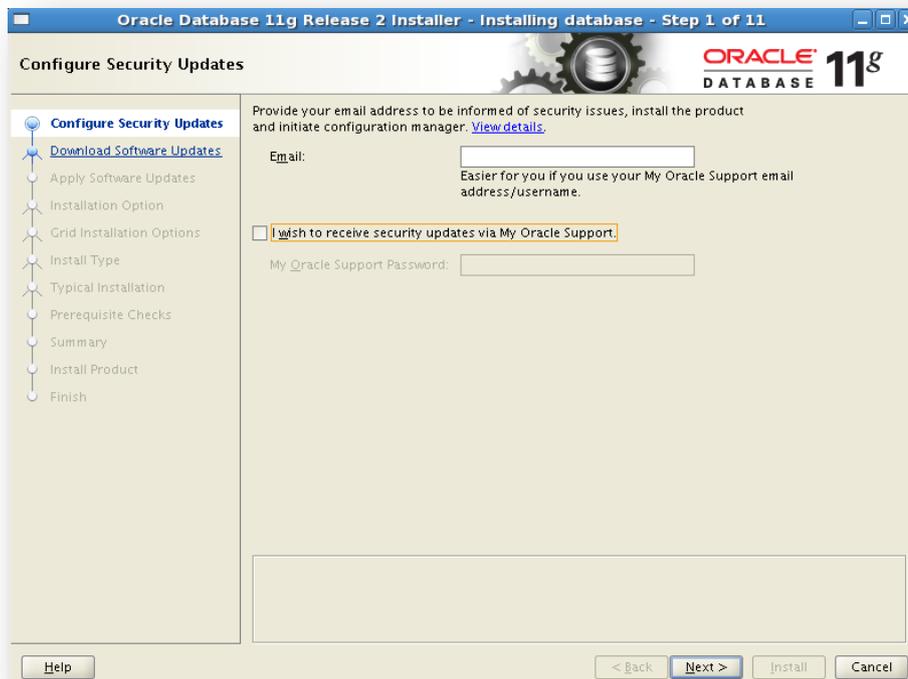
Installer starten

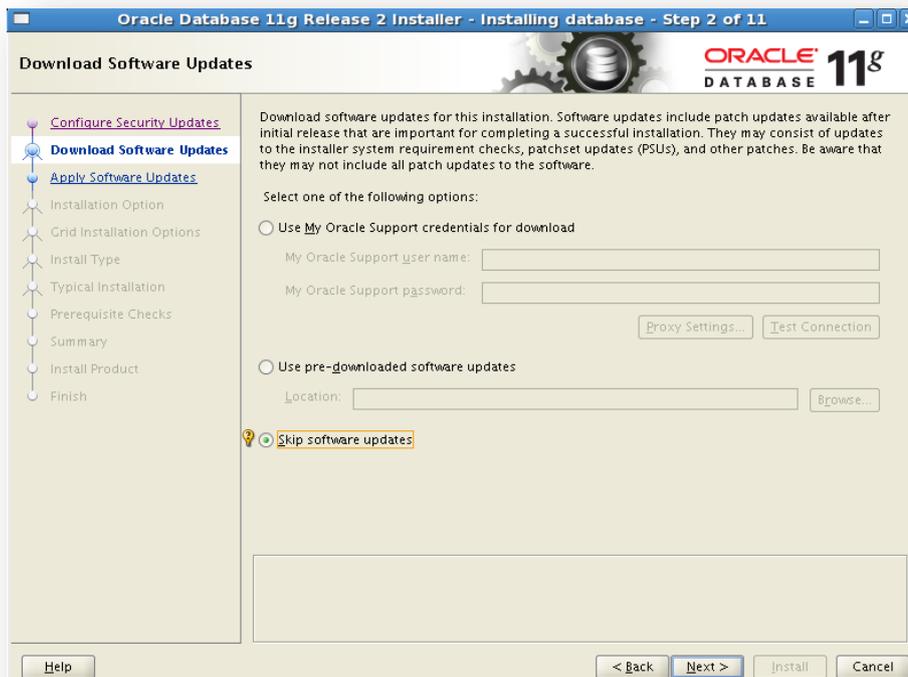
```

oracle@ORALINUX5:~/Desktop/OraFiles
File Edit View Terminal Tabs Help
[oracle@ORALINUX5 OraFiles]$ chmod u+x database
[oracle@ORALINUX5 OraFiles]$ chmod u+x database/install
[oracle@ORALINUX5 OraFiles]$ chmod u+x database/install/.oui
[oracle@ORALINUX5 OraFiles]$ chmod u+x database/install/unzip
[oracle@ORALINUX5 OraFiles]$ database/runInstaller
Starting Oracle Universal Installer...

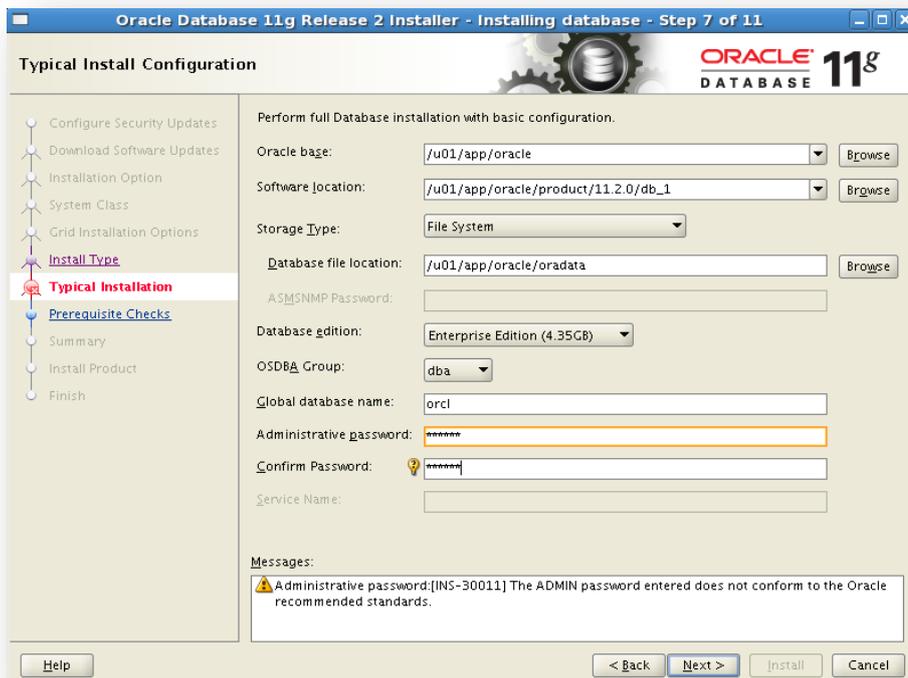
Checking Temp space: must be greater than 120 MB.   Actual 38055 MB   Passed
Checking swap space: must be greater than 150 MB.   Actual 1983 MB   Passed
Checking monitor: must be configured to display at least 256 colors.   Actual 1
6777216   Passed
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2011-03-28_06
-30-51PM. Please wait ...[oracle@ORALINUX5 OraFiles]$

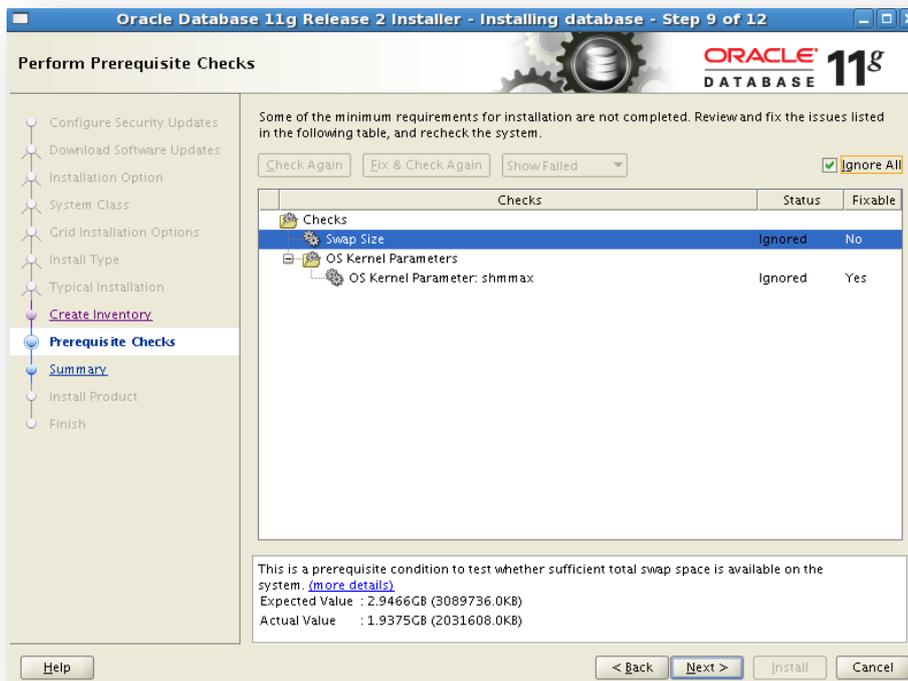
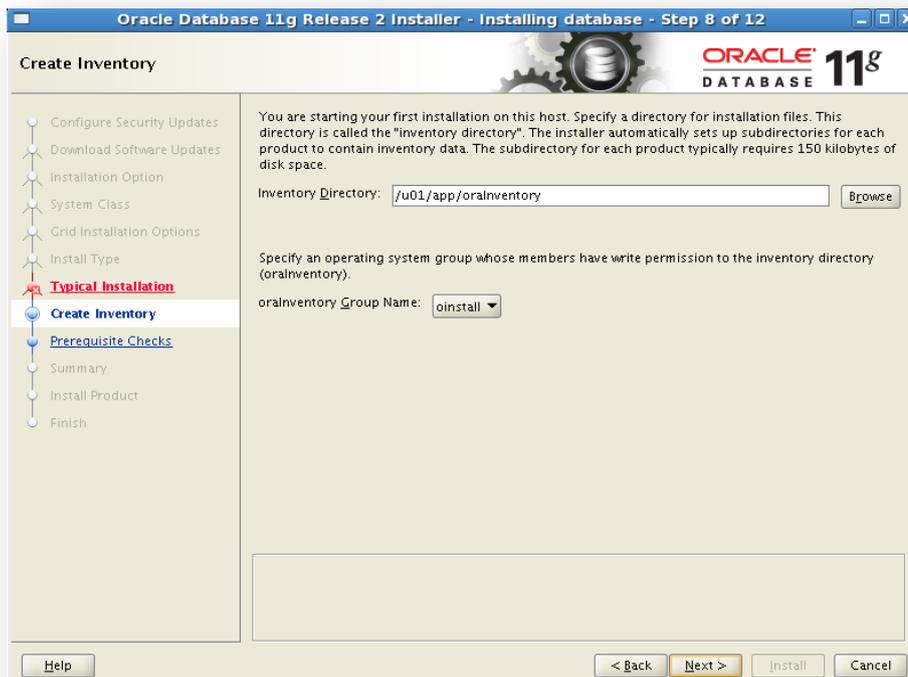
```



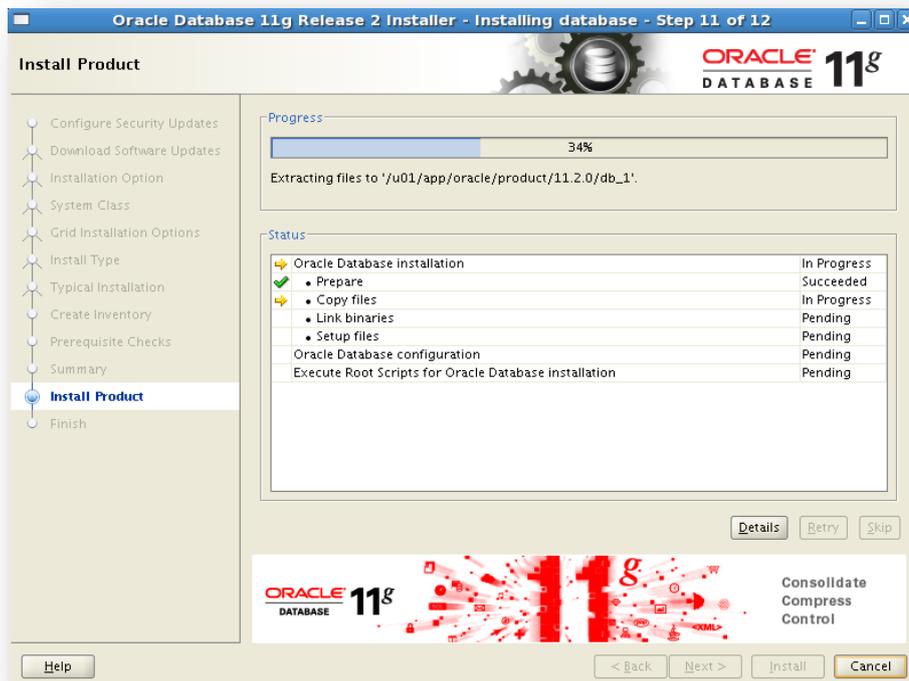
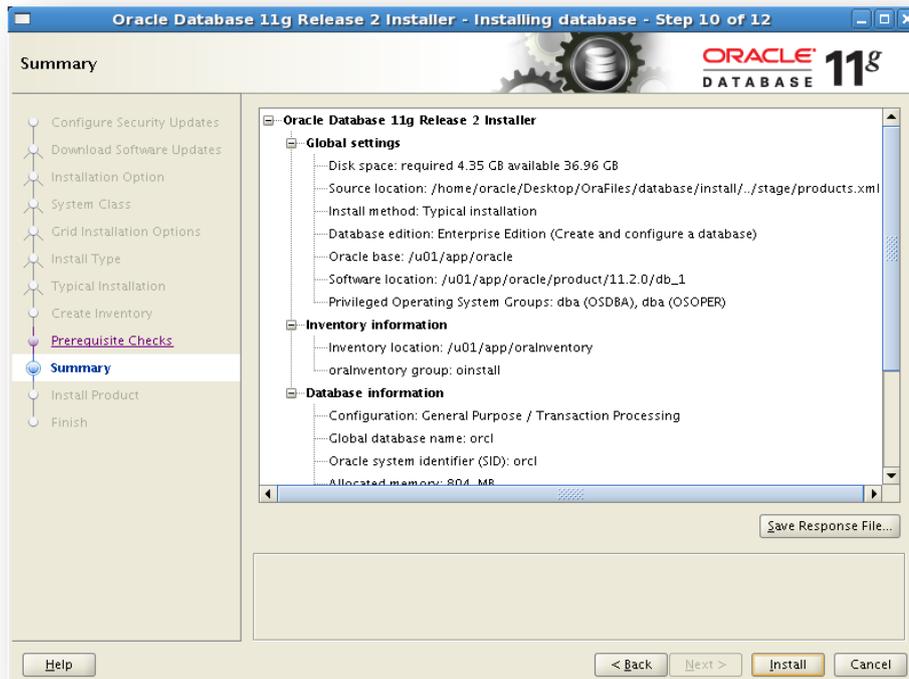


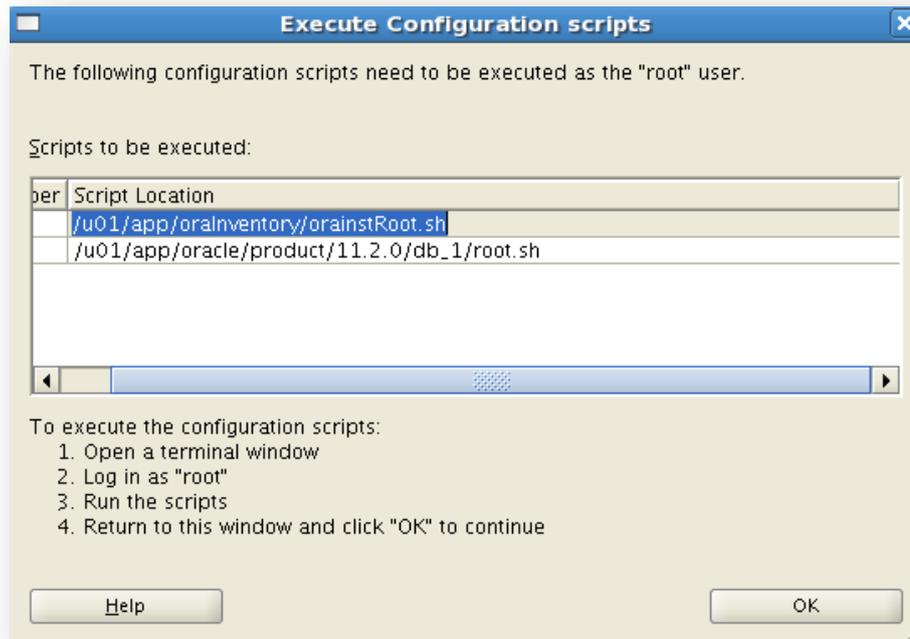






Die Parameter habe ich ignoriert.





Links

Oracle 11.2 Database

<http://www.oracle.com/technetwork/database/enterprise-edition/downloads/112010-linx8664soft-100572.html>

Oracle Virtual Box

<http://www.virtualbox.org/>

Oracle Linux

<http://www.oracle.com/technetwork/topics/linux/downloads/index.html>

Meine Seite

<http://www.as-informatik.net>

Xing Profil

https://www.xing.com/profile/Arnd_Spierung