installing HANA

Here is what i'm going to use:
- name of the virtual maschine   : hanaVm
- password for all acounts   : Penguin#7
- hostname   : penguin11
- SID   : HAN
- instanceNr   : 13
- installation softare directory   : /i

the hana installation is done as user root.

VirtualBox 4.2.16
- Linux openSUSE (64 bit)
- 2 CPU (PAX/NX aktiviert)
- 12 GB memory
- 128 GB Disk
- networkbridge - PCNet Fast III
- SLES 11 sp 2
- HANA Platform Edition 10 SP05

you need the CMPXCHG16B cpu instraction set
before you start your VirtualBox the first time set
- VBoxManage setextradata hanaVm VBoxInternal/CPUM/CMPXCHG16B 1

start your virtual mascjine
VBoxManage startvm hanaVm

- install SLES 11 sp 2 with 42 GB swap
- install additional software
- zypper install java-1_6_0-ibm gcc kernel-default-devel
- install the Guest addition
- Devices -> install guest additions
- VBoxLinuxAdditions.run (if it does not start automatically)

check for CMPXCHG16B support
- grep cx16 /proc/cpuinfo

get the software from the marketplace
- extract the software to /i

- cd /i
- unrar x /i/51046016_part1.exe

next you have to define the filesystem layout
/tmp/setuphana.slmodel

```xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<DeclarativeModuleSerialization>
...<ManagedObject class="com.sap.lm.hana.hana.HANAPlatformProduct" id="0">
......<Child class="com.sap.lm.hana.hana.HANAPlatformSystem" id="4" name="hanaSystem">
.........<StringParameter name="dataPath" value="/hana/shared/data"/>
.........<StringParameter name="logPath" value="/hana/shared/log"/>
.........<StringParameter name="sapmntPath" value="/hana/shared"/>
.........<StringParameter name="instanceNumber" value="13"/>
.........<StringParameter name="sid" value="HAN"/>
.........<StringParameter name="hdbHost" value="penguin11"/>
.........<StringParameter name="timezone" value="UTC"/>
.........<Child class="com.sap.lm.decl.hana.DistributedHDBServer" id="5" name="hdbserver">
............<Child class="com.sap.lm.decl.hana.AdditionalHosts" id="6" name="additionalHostsContainer">
............</Child>
.........</Child>
......</Child>
......<Reference name="centralComputerSystem" refid="1"/>
...</ManagedObject>
...<ManagedObject class="com.sap.lm.decl.os.ComputerSystem" id="1"/>
</DeclarativeModuleSerialization>
```

create the directories (mount points)
- mkdir -p /sapinst /hana/shared/{log,data}

make sure that it will pass the hardware test.
to prevent a division by zero error change
/i/51046016/DATA_UNITS/HDB_SERVER_LINUX_X86_64/server/HanaHwCheck.py
- replace: self.HWInfo['CPU Sockets']=len(lines)-1
- with   : self.HWInfo['CPU Sockets']=2 (or your number of cpus)

the other HW tests we can skip with setting an environment variable
- export IDSPISPOPD=1
now start the installation and wait until it aborts. (***if you have more than 24 GB it will not abort.***)
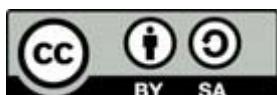/i/51046016/DATA_UNITS/HANA_IM_LINUX__X86_64/setup.sh /sapinst/hanainst
/tmp/setuphana.slmodel
if it is aborting with language problems set LC_ALL and start again
- export LC_ALL=en_US.UTF-8

when it is aborting with "[36% completed] Working on: 'SAP HANA DB
(penguin11.admin.org)' ... --> ERROR"
you find in the error log a memory problem.

from now we continue manually

server software

- /i/51046016/DATA_UNITS/HDB_SERVER_LINUX_X86_64/hdbinst -s HAN -n 13 -H penguin11 --datapath=/hana/shared/data --logpath=/hana/shared/log --sapmnt=/hana/shared --ignore=check_min_mem

enter password for hanadm and SYSTEM and accept for the rest default values.
(if it looks that it hangs in the set importing delivery units - press enter every 10 minutes until the prompt returns. happens sometimes)

install the hdbstudio

- export TEMP=/usr/sap/HAN/setup/logs_$(date +%Y%m%d%H%M%S)
- mkdir $TEMP /hana/shared/HAN/hdbstudio_update
- /i/51046016/DATA_UNITS/HDB_STUDIO_LINUX_X86_64/hdbinst -a studio --copy_repository=/hana/shared/HAN/hdbstudio_update
- /i/51046016/DATA_UNITS/HDB_STUDIO_LINUX_X86_64/hdbinst -a studio --batch --path=/hana/shared/HAN/hdbstudio --vm=/usr/lib64/jvm/java-1_6_0-ibm-1.6.0/jre/bin/java

let's do a backup as <sid>adm

- hdbsql -n penguin11 -i 13 -u SYSTEM -p Penguin7 BACKUP DATA USING "FILE('BACKUP_AFTER_INSTALL')"

start hdbstudio

- /hana/shared/HAN/hdbstudio/hdbstudio

add some additional packages.

- Help -> Install New Software
  - Add -> Local... -> /hana/shared/HAN/hdbstudio_update/repository -> OK -> OK
    - X Show only Software aoolicable to target environment
    - X Hide items that are already installed
    - Select All -> Next -> Finish

some additional hana commands you find in my sap pocket card:
http://oelkers.de/tips/pocketCardSAP.pdf