



# NewBootcamp - Maintaining a Landscape Setup

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# 1 Introduction

TBD



## Note

Currently all virtualized systems of a LandscapeUseCase need to be the same type, so have some amount of RAM, disks and get the same installation. If you need several different systems like for the complete NW-HA-CLU 740 Setup you need to define multiple LandscapeUseCases. In our case we need one for the cluster nodes (ASCS + ERS) and one for the DB plus Application servers.

## 2 Landscape environment and directory structure

- LandscapeMaster: hana-01
- LandscapeHypervisors: hana-01, hana-02
- NFS-Server: hana-01 (shares: TBD)
- NTP: TBD
- SMT: infra (VM at hana-01)
- DHCP: hana-01
- DNS: hana-01

Let us assume our LandscapeRoot is /data/SCT and LandscapeUseCase is nwhaclu740.

### 2.1 Landscape definition files

- /etc/sysconfig/Landscape
  - Defines LandscapeRoot to /data/SCT
  - Loads local Landscape Definition File
- /data/SCT/config/SetupLandscape

- Defines some globals (environment)
- Loads SetupLandscape.\$LandscapeUseCase

## 2.2 KVM Templates

- /data/SCT/LandscapeCore/kvm/

## 2.3 Automation scripts

- /data/SCT/LandscapeCore/automate-VMs - the scripts in this directory are useful to create, install and destroy VMs so they help in the lifecycle of VMs. Typically useful scripts here are:
  - automate-00-createDisks
  - automate-00-createVMs
  - automate-01-install-sles
  - automate-00-destroyVMs
- /data/SCT/LandscapeCore/automate-SAPHanaSR - the scripts in this directory are helpful to setup a SAP HANA Scale-Up System Replication Automation (SAPHanaSR)
- /data/SCT/LandscapeCore/automate-SAPHanaSR-scaleOut - the scripts in this directory are helpful to setup a SAP HANA Scale-Out System Replication Automation (SAPHanaSR-scaleOut)
- /data/SCT/LandscapeCore/automate-simple-stack - to be used for the simple stack hands-on scenario
- /data/SCT/LandscapeCore/automate-enqueue-repl - this /would/ be the place to have scripts for our new hands-on - unfortunately currently we do not have ready-to-use automation scripts.

## 2.4 Installation Media

- /data/SCT/media/ - main directory

- SAP-MEDIA - contains SAP installation media (nw70, nw74, several SAP HANA)
- SUSE-MEDIA - contains SUSE DVDs
- rpm - contains additional rpms

### 3 Adding a new LandscapeUseCase

- Set the environment to an unused LandscapeUseCase name like **nwhaclu740**

```
export LandscapeUseCase=nwhaclu740
```



#### Note

We need two LandscapeUseCases here nwhaclu740 and nwhaclu740db The folling steps needs first to be done with the first, then with the second LandscapeUseCase.

- Copy a best matching LandscapeSetup to as new LandscapeSetup file

```
[subs="attributes"]
cp SetupLandscape.NW740Cert SetupLandscape.{LandscapeUseCase}
cp SetupLandscape.NW740Cert SetupLandscape.{LandscapeUseCasePlus}
```

- Typical changes in those files are the ay and kvm template, the system base definition and the disk sizing.

```
LandscapeAYInFile="nwhaclu740-template-ay.xml"
LandscapeKVMInFile="nwhaclu740-template-kvm.xml"
LandscapeSystems_nwhaclu740=(...)
LandscapeDisks_nwhaclu740=(...)
```

- The SetupLandscape.XXX file defines, which Autoyast (ay), KVM (kvm) definitions are used during creation and installation of the virtual systems.
- In addition the SetupLandscape.XXX file defines SAP versions (or better media), and much more
- If we need new ay and kvm definitions we need to define a tempolate

```
cd /data/SCT/LandscapeCore/ay
```

```
cp XXX-template.ay nwhaclu740-template-ay.xml
vi nwhaclu740-template-ay.xml
ln -s ln -s $PWD/nwhaclu740-template-ay.xml /data/SCT/ay/
```

```
cd /data/SCT/LandscapeCore/kvm
cp XXX-template.kvm nwhaclu740-template-kvm.xml
vi nwhaclu740-template-kvm.xml
ln -s ln -s $PWD/nwhaclu740-template-kvm.xml /data/SCT/kvm/
```

## 4 Maintaining VMs of a LandscapeUseCase

### 4.1 Creating and Installing the VMs

- Create the kvm, ay files and disks. As templates the files referenced by \$LandscapeAYInFile and \$LandscapeKVMInFile are used.

```
cd /data/SCT/LandscapeCore/automate-VMs
./automate-00-createVMs --group=1
./automate-00-createDisks --group=1
```

- Install SLES on those systems. You could either install single groups or complete landscapes.

```
cd /data/SCT/LandscapeCore/automate-VMs
./automate-01-install-sles --group=1
```

### 4.2 Destroying already configured VMs

If you need to reset the VM installations of a complete Landscape or a Landscape group you could use automate-00-destroy and automate-00-createVMs

```
cd /data/SCT/LandscapeCore/automate-VMs
./automate-00-destroy --group=1
./automate-00-createVMs --group=1
```

If you really need also to reset the entire disks of a Landscape or Landscape-Group you can call automate-00-createDisks with a --force flag.



## Warning

You should really be sure to reset the correct Landscape or Landscape Group otherwise you could force yourself or others to repeat a lot of work ;-) This also means: Do not use the `--force` flag by default.

# 5 Setup systems for the enq-repl hands-on

This procedure assumes that the Landscape Preparation like above has already been taken place.

## 5.1 Preparation

- Login as root on Landscape Master (hana-01)
- If the VMs are not already been defined or VM disks are missing we first create the VM definitions and disks. The scripts are creating the VMs and disks already on the *correct* hypervisor. The used hypervisors are defined in the Landscape variable `LandscapeSystem-s_nwhaclu740` (first column for each VM).

```
# first use case
#
cd /data/SCT/LandscapeCore/automate-VMs
export LandscapeUseCase=nwhaclu740
./automate-00-createVMs
./automate-00-createDisks
#
# second use case (db + dialog instances)
#
export LandscapeUseCase=nwhaclu740db
./automate-00-createVMs
./automate-00-createDisks
```

- Optionally **prepare access to the virt-manager**. Because of network latencies and network access stability we should use vnc. If you did not already start a vnc server session you could do that now. For the bootcamp leaders we use display numbers 40-49, the bootcamp attendees will use 51-54.

```
# on hana-01 (either root or better own user)
vncserver :42 # (where 42 is the display number which needs to be 'free').
```

```
#
# now on your laptop or workstation
#
vncviewer hana-01:42 # The password for the vnv session is
                     # SuSE1234 for user root.
```

## 5.2 SLES Installation

- To install SLES in the entire LandscapeUseCases (both)...

```
# first use case
#
cd /data/SCT/LandscapeCore/automate-VMs
export LandscapeUseCase=nwhaclu740
./automate-01-install-sles --group=1
...
#
# second use case (db + dialog instances)
#
export LandscapeUseCase=nwhaclu740db
./automate-01-install-sles --group=1
...
```

## 5.3 Post actions

- Login at the VMs (e.g. se01group1 and se02group1) as user root and password SuSE1234. If the login via ssh directly from hana-01 to the VM is not possible, use your vnc session to access the virt-manager on hana-01 or hana-02.
- Check the install / post install actions - login to the VM. One of The last actions during the autoinstallation is that the VM should load some additional helpful files from the Landscape NFS share, registering to the SMT server and to install all already existing updates inside the VM.

```
[subs="attributes"]
ssh root@{vm01}
cat go4nwhaclu740.nnnn.err
```

- Repair failed post actions. In 50% the timing between the NFS mount and the system startup seems to fail. This also causes the post install script to fail, but we can restart this quite easy. And yes - we need to fix that timing issue once we find the root cause ;-).

```
[subs="attributes"]
mount -a
awk -F+ '/^+ / { print $2 }' go4nwhaclu740.7804.err > go4nwhaclu740.sh
bash go4nwhaclu740.sh
```

## 5.4 And now?



### Note

As currently we do not have further automation scripts for the NW-HA-CLU-7.40 setup we need to continue with manual installation and setup following the Setup-Guide.

## 5.5 Groups, VMs and hands-on parameters

```
group1:
SID: SL1
192.168.201.111 se01group1
192.168.201.112 se02group1
192.168.201.113 se03group1
192.168.201.114 freegroup1
192.168.201.115 sapsl1as
192.168.201.116 sapsl1er
192.168.201.117 sapsl1db
192.168.201.118 sapsl1d1
192.168.201.119 sapsl1d2
```

```
group2:
SID: SL2
192.168.201.121 se01group2
192.168.201.122 se02group2
192.168.201.123 se03group2
192.168.201.124 freegroup2
192.168.201.125 sapsl2as
192.168.201.126 sapsl2er
192.168.201.127 sapsl2db
192.168.201.128 sapsl2d1
192.168.201.129 sapsl2d2
```

And so on :)