SAP NetWeaver 7.5 on SUSE Linux Enterprise Server for SAP

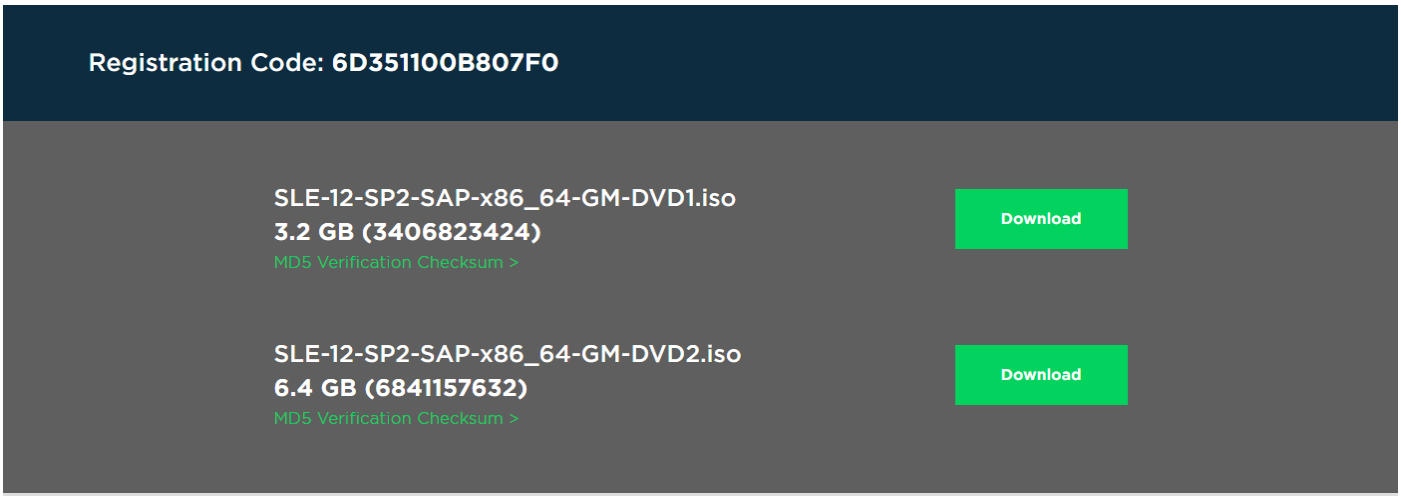
Installation Guide

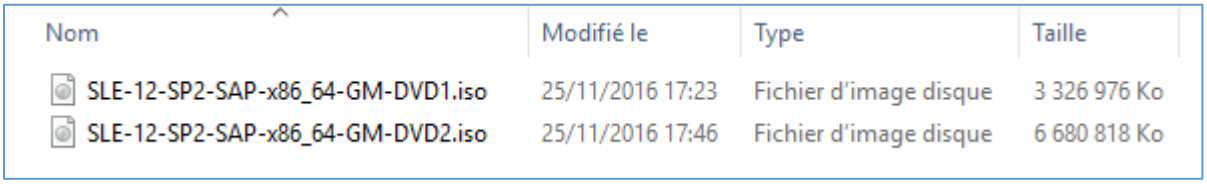
Table des matières

1. Install SUSE Linux Enterprise Server for SAP Applications 12 SP2

1.1. Downloading the Installation Image

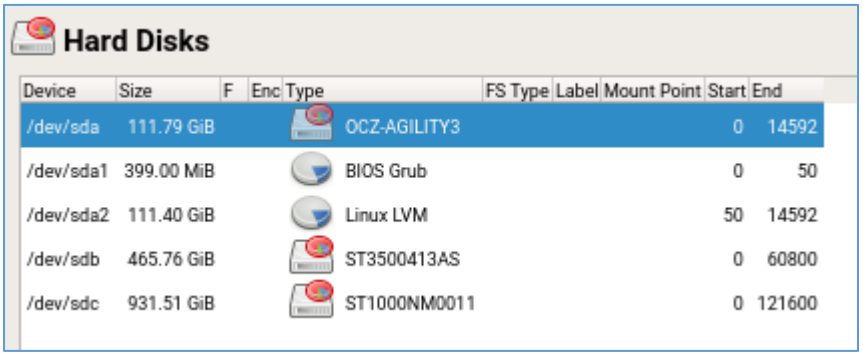
- Download the ISO image of SUSE Linux Enterprise Server for SAP Applications 12 SP2 DVD 1 from https://www.suse.com/fr-fr/products/sles-for-sap/download/
- Burn the image onto a physical DVD and ensure that it is bootable





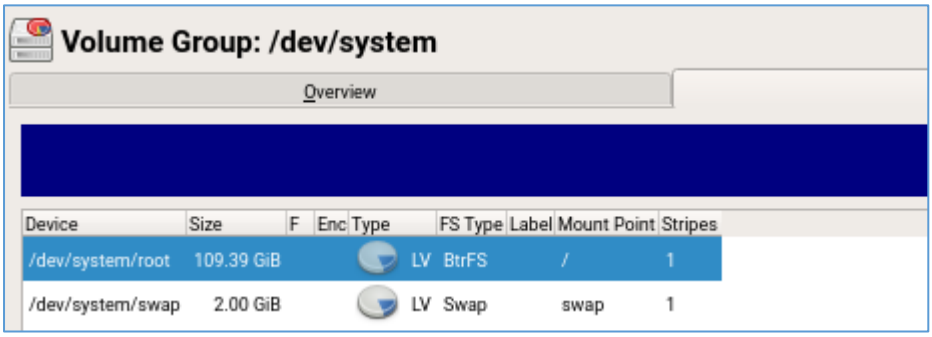
1.1. Partitioning for the Operating System (stage 1)

1.1.1. Hard Disks

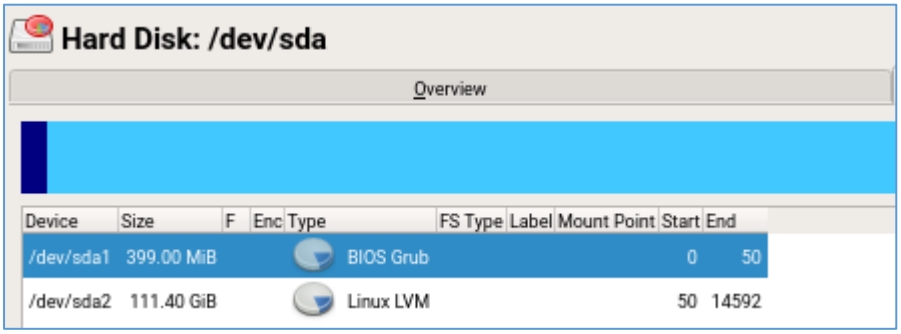


1.1.2. Partitioning

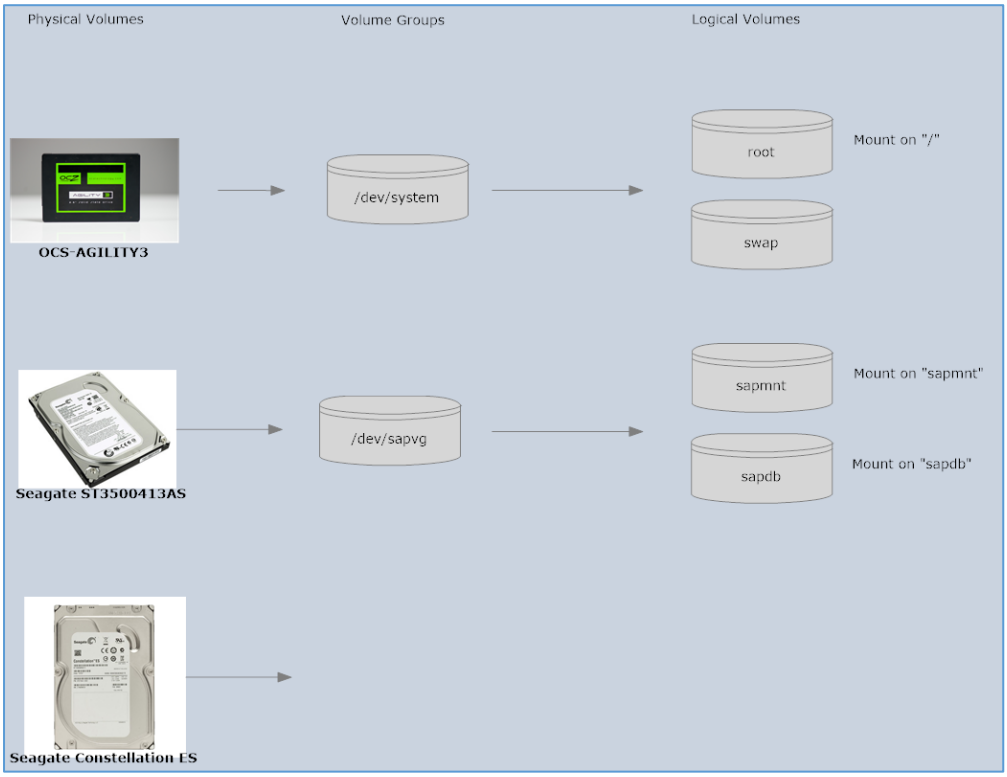
During the installation of the operating system, partitions for the operating system are created.



Additionally, a boot or UEFI partition will be created as necessary.



1.1.3. Volume Management



1.2. Required Data for Installing

1.2.1. Network configuration parameters

- Host name : linsrv1.terwal.local
- Domain : terway.local
- IP Address : 192.168.0.40
- Subnet Mask : 255.255.255.0
- Domain searchlist (DNS) : terway.local
- IP for name server : x.x.x.x, y.y.y.y
- IP for Gateway : 192.168.0.1

1.2.2. Administrator (root) password for the SUSE Linux Enterprise Server installation

2. Installing SAP NetWeaver 7.5

2.1. Download the needed SAP Installation Media

https://tools.eu1.hana.ondemand.com/#abap

SAP NetWeaver AS ABAP Developer Edition

To get the necessary ABAP Server for the ABAP Development Tools, you can run the "SAP NetWeaver AS ABAP Developer Editon" on a 64 Bit Linux system.

1. Download and extract the archives linked below.

SAP NetWeaver AS ABAP Developer Edition 1.0.0

File	Size
sap_netweaver_as_abap_750_sp02_ase_dev_edition.part1.rar	4095.0 MB
sap_netweaver_as_abap_750_sp02_ase_dev_edition.part2.rar	4095.0 MB
sap_netweaver_as_abap_750_sp02_ase_dev_edition.part3.rar	3955.1 MB

The download provides the software required to install and run SAP NetWeaver Application Server ABAP 7.50 SP2.

You can explore it and learn how to develop modern ABAP applications with core data services and SAPUI5 or you can get an overview on SAP's client/server technology.
Just like the versions we offer in the Cloud, this developer edition is preconfigured to run to run the Database Feature Gallery and the Enterprise Procurement Model programming examples out of the box.
It contains:

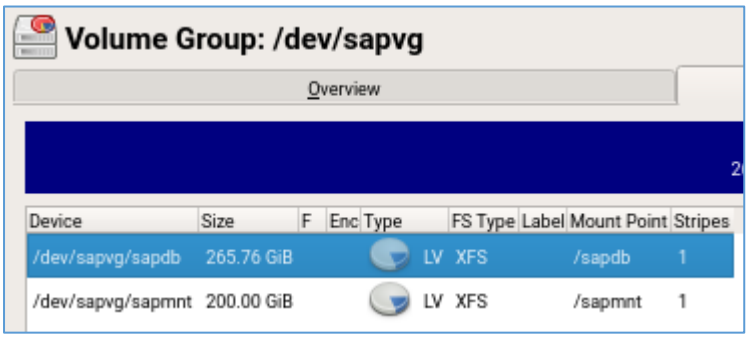
- SAP NetWeaver 7.5 SPS2
- SAP GUI for the Java Environment 7.40 and SAP GUI for Windows 7.40 in recent versions
- SAP Sybase ASE 16.0.1

2.2. Partitioning for the SAP System (stage 2)

Besides the usual OS file systems, SAP and the SAP databases require their own file systems.

- /sapmnt
- /usr/sap/<SAPSID>
- /sapdb

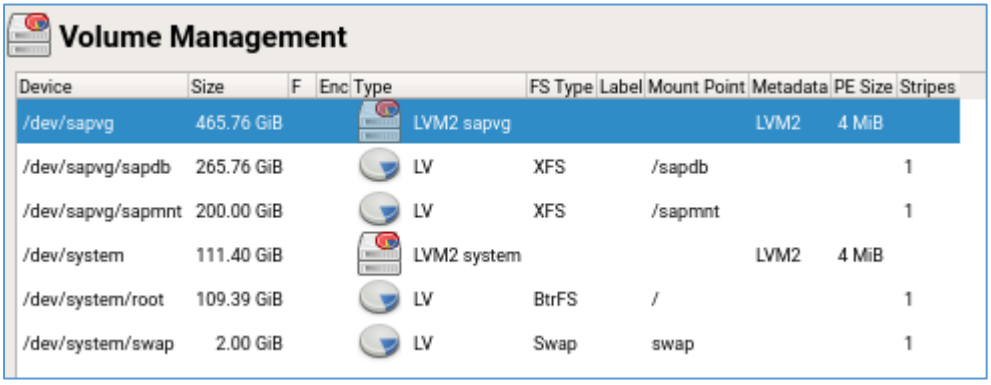
Create volume group /dev/sapvg



Check with pvscan

```
linsrv1:~ # pvscan
  PV /dev/sda2   VG system   lvm2 [111.40 GiB / 8.00 MiB free]
  PV /dev/sdb    VG sapvg    lvm2 [465.76 GiB / 0    free]
  Total: 2 [577.16 GiB] / in use: 2 [577.16 GiB] / in no VG: 0 [0   ]
```

lvcreate -L 100G -n sapdb sapvg
lvcreate -L 10G -n sapmnt sapvg
lvcreate -L 10G -n usrsap sapvg

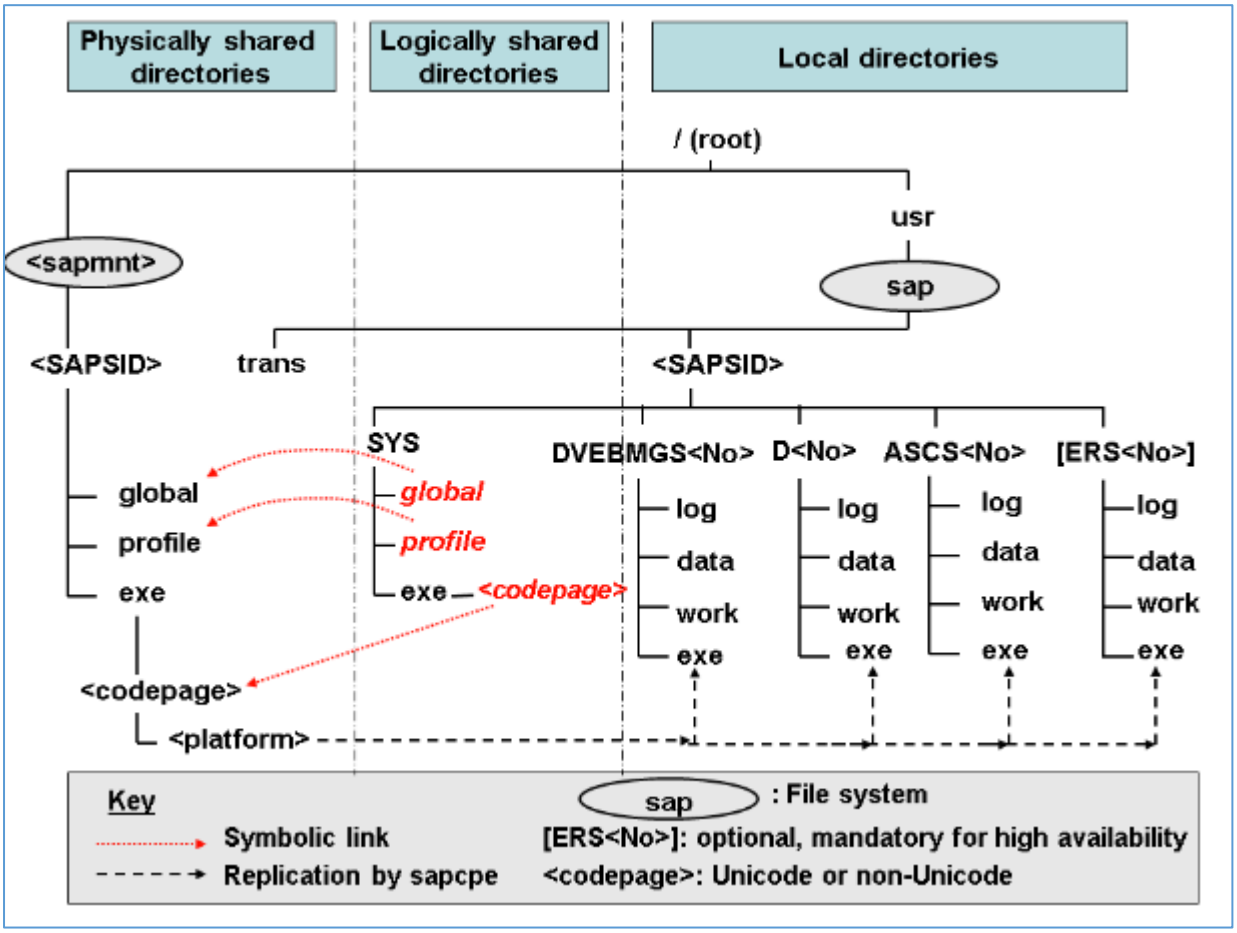


Check with lvscan

```
linsrv1:~ # lvscan
  ACTIVE            '/dev/sapvg/sapmnt' [200.00 GiB] inherit
  ACTIVE            '/dev/sapvg/sapdb' [265.76 GiB] inherit
  ACTIVE            '/dev/system/root' [109.39 GiB] inherit
  ACTIVE            '/dev/system/swap' [2.00 GiB] inherit
```

2.3. Standard System Directories for an SAP ABAP System

SAP ABAP System (Unicode or Non-Unicode) based on SAP NetWeaver 7.1 and higher



SAP SID = SAP System Identification C11, E21, T22

Instance Number = 00-99

DVEBMGS**00** : ABAP central instance

D**01** : ABAP dialog instance

/<sapmnt>/<SAPSID> : Software and data for one SAP system

This directory and its subdirectories need to be physically shared using **Network File System (NFS)** and mounted for all hosts belonging to the same SAP system.

2.4. Directory setup

Create a shared folder /mnt/sapcds All users read permission

mkdir /mnt/sapcds

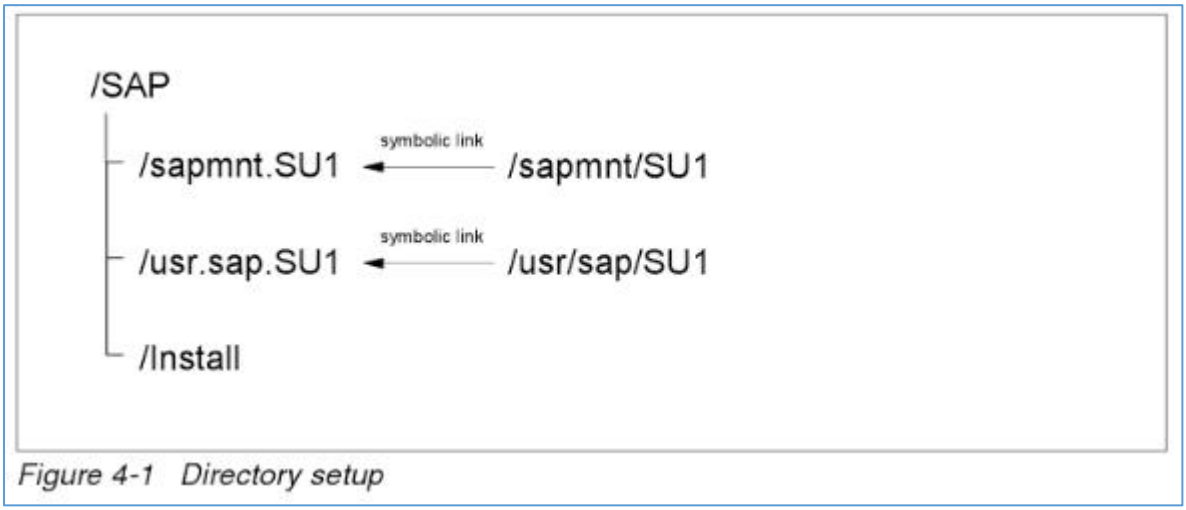


Figure 4-1 Directory setup

3. ABAP Application Server Details

Name	Value	Description
SID	NPL	System ID of the SAP system
CI Instance Number	00	The instance number of the central instance (CI)
CS Instance Number	01	The instance number of the central services (CS) instance.
Password	<master password>	The password set during instance creation.
Username	DDIC SAP* DEVELOPER BWDEVELOPER	These are the standard users which you can use to access the ABAP server.
Clients	000 001	These are the standard clients available in a newly installed SAP system.

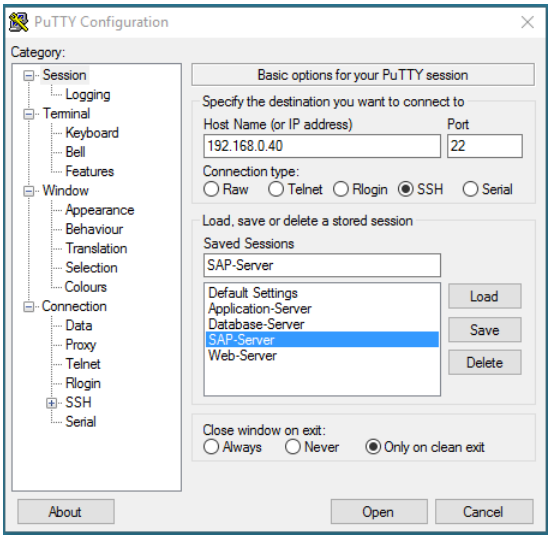
4. Database Server Details

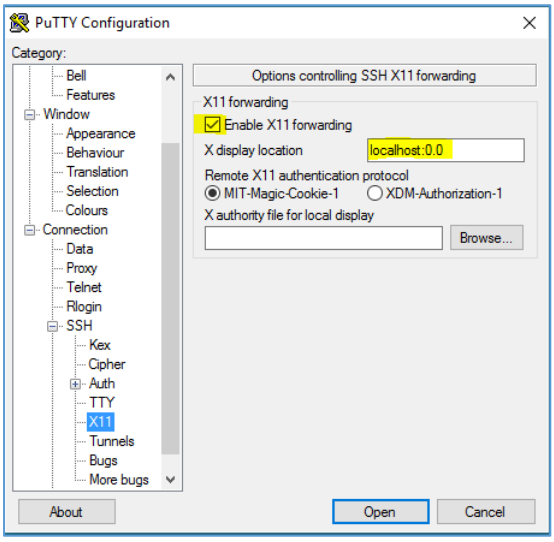
Name	Value	Description
SID	NPL	System ID of the SAP system
DB SID	NPL	System ID of the database of the SAP system
DB Type	SYB	Type of the database

5. Tools

1.1. Using PuTTY

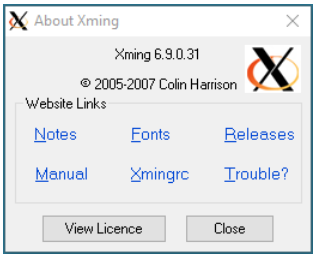
1.1.1. Configuration






```
linsrv1:~ # echo $DISPLAY
localhost:11.0
```

1.1.2. Xming configuration



Check X0.hosts in C:\Program Files (x86)\Xming

X0.hosts

```
1  localhost
2  192.168.0.40
3  192.168.0.41
4  192.168.0.42
```

Warning: Missing charset in String to FontSet conversion
export LC_ALL=C

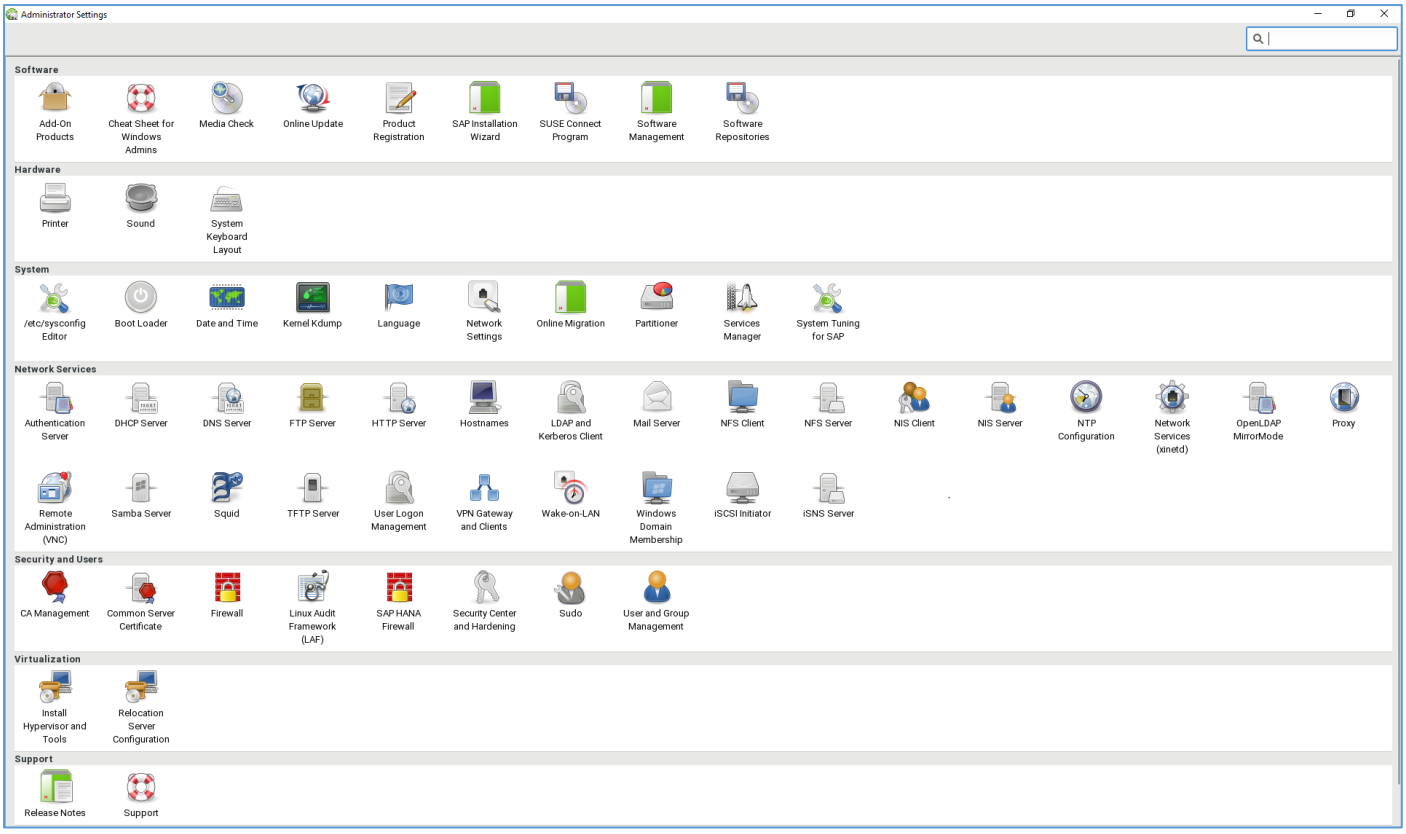
To make this setting permanent for user, add it to the .bash_profile /home/user/.bash_profile
LC-ALL=C
Export LC_ALL

#export LC_ALL=C

```
linsrv1:~ # locale
LANG=POSIX
LC_CTYPE=en_US.UTF-8
LC_NUMERIC="POSIX"
LC_TIME="POSIX"
LC_COLLATE="POSIX"
LC_MONETARY="POSIX"
LC_MESSAGES="POSIX"
LC_PAPER="POSIX"
LC_NAME="POSIX"
LC_ADDRESS="POSIX"
LC_TELEPHONE="POSIX"
LC_MEASUREMENT="POSIX"
LC_IDENTIFICATION="POSIX"
LC_ALL=
linsrv1:~ # export LC_ALL=C
```

```
linsrv1:~ # xclock &
[1] 8598
```

```
linsrv1:~ # yast2  &
[1] 8614
```


Administrator Settings
Software
Add-On Products
Cheat Sheet for Windows Admins
Media Check
Online Update
Product Registration
SAP Installation Wizard
SUSE Connect Program
Software Management
Software Repositories
Hardware
Printer
Sound
System Keyboard Layout
System
/etc/sysconfig Editor
Boot Loader
Date and Time
Kernel Kdump
Language
Network Settings
Online Migration
Partitioner
Services Manager
System Tuning for SAP
Network Services
Authentication Server
DHCP Server
DNS Server
FTP Server
HTTP Server
Hostnames
LDAP and Kerberos Client
Mail Server
NFS Client
NFS Server
NIS Client
NIS Server
NTP Configuration
Network Services (xinetd)
OpenLDAP MirrorMode
Proxy
Remote Administration (VNC)
Samba Server
Squid
TFTP Server
User Logon Management
VPN Gateway and Clients
Wake-on-LAN
Windows Domain Membership
iSCSI Initiator
iSNS Server
Security and Users
CA Management
Common Server Certificate
Firewall
Linux Audit Framework (LAF)
SAP HANA Firewall
Security Center and Hardening
Sudo
User and Group Management
Virtualization
Install Hypervisor and Tools
Relocation Server Configuration
Support
Release Notes
Support

1.2. Using SMB

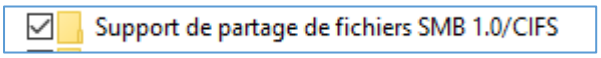
1.2.1. On the Windows Workstation

SMB

SMB stands for “Server Message Block.” It’s a file sharing protocol that was invented by IBM and has been around since the mid-eighties. It was designed to allow computers to read and write files to a remote host over a local area network (LAN). The directories on the remote hosts made available via SMB are called “shares.”

CIFS

CIFS stands for “Common Internet File System.” CIFS is a dialect of SMB. That is, CIFS is a particular implementation of the Server Message Block protocol, created by Microsoft.

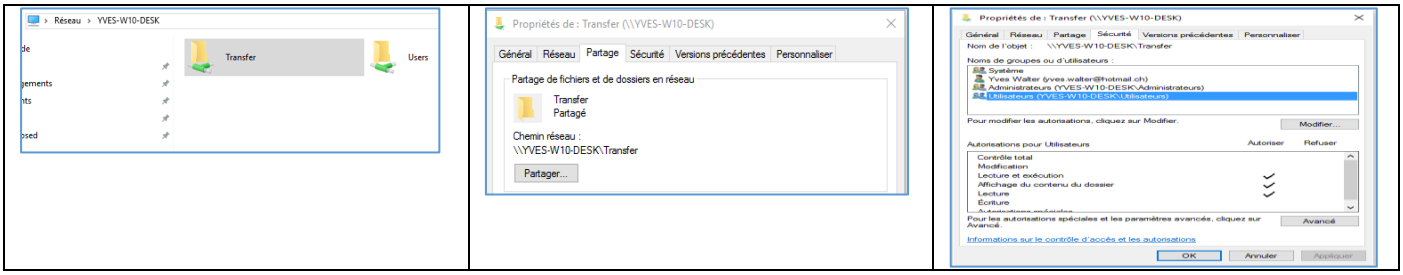


SAMBA

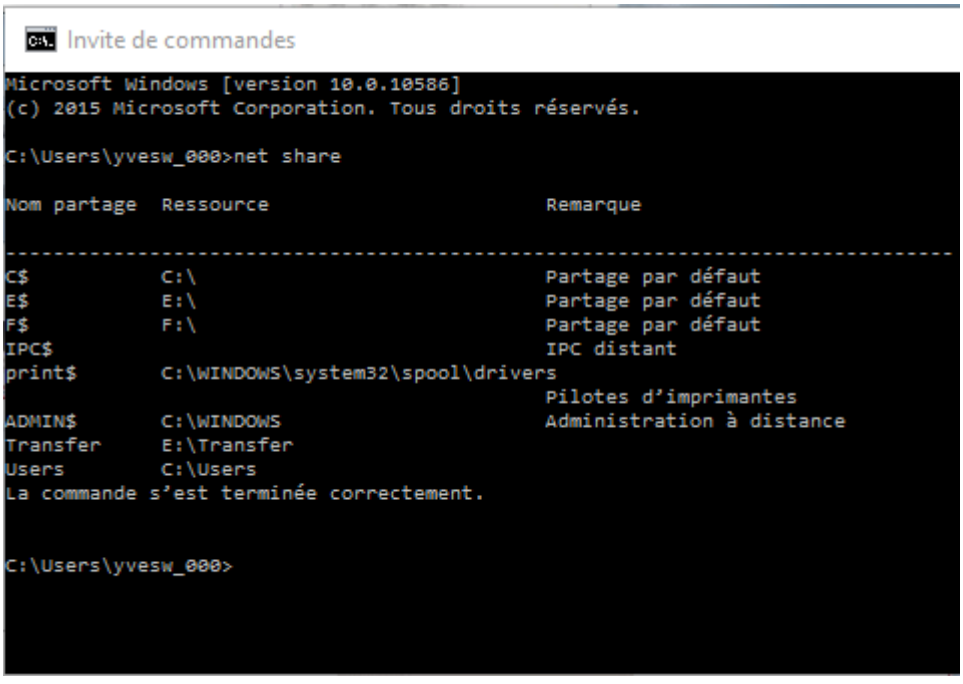
Samba is an implementation of SMB written for UNIX by a fellow named Andrew Tridgell. Samba was designed to allow Windows clients to access UNIX directories and files via the SMB protocol, just as if they were talking to a Windows server. Samba now runs on multiple platforms and is a mainstay on most Linux distros.

NFS

NFS stands for “Networked File System.” It was developed by Sun Microsystems and serves essentially the same purpose as SMB (i.e., to access files systems over a network as if they were local), but is an entirely different protocol. This means that NFS clients can’t speak directly to SMB servers.



Net share



1.2.2. On the Linux Server

Linux machines can also browse and mount SMB shares.
An SMB client program for Linux machines is included with the Samba distribution.

smbtree

```
linsrv1:~ # smbtree -S
Enter root's password:
WORKGROUP
        \\NUMERICABLE DLNA              Numericable DLNA
        \\LG-NAS                        LG-NAS server
TERWAYWRKGRP
        \\YVES-W10-DESK                 Yves's principal Workstation
        \\LINSRV1                       Samba 4.4.2-29.4-3709-SUSE-SLE_12-x86_64
```

smbclient

```
linsrv1:~ # smbclient --help
Usage: smbclient service <password>
  -R, --name-resolve=NAME-RESOLVE-ORDER     Use these name resolution services only
  -M, --message=HOST                        Send message
  -I, --ip-address=IP                       Use this IP to connect to
  -E, --stderr                              Write messages to stderr instead of stdout
  -L, --list=HOST                           Get a list of shares available on a host
  -m, --max-protocol=LEVEL                  Set the max protocol level
  -T, --tar=<c|x>IXFqgbNan                  Command line tar
  -D, --directory=DIR                       Start from directory
  -c, --command=STRING                      Execute semicolon separated commands
  -b, --send-buffer=BYTES                   Changes the transmit/send buffer
  -t, --timeout=SECONDS                     Changes the per-operation timeout
  -p, --port=PORT                           Port to connect to
  -g, --grepable                            Produce grepable output
  -B, --browse                              Browse SMB servers using DNS

Help options:
  -?, --help                                Show this help message
      --usage                               Display brief usage message

Common samba options:
  -d, --debuglevel=DEBUGLEVEL               Set debug level
  -s, --configfile=CONFIGFILE               Use alternate configuration file
  -l, --log-basename=LOGFILEBASE            Base name for log files
  -V, --version                             Print version
      --option=name=value                   Set smb.conf option from command line

Connection options:
  -O, --socket-options=SOCKETOPTIONS        socket options to use
  -n, --netbiosname=NETBIOSNAME             Primary netbios name
  -W, --workgroup=WORKGROUP                 Set the workgroup name
  -i, --scope=SCOPE                         Use this Netbios scope

Authentication options:
  -U, --user=USERNAME                       Set the network username
  -N, --no-pass                             Don't ask for a password
  -k, --kerberos                            Use kerberos (active directory) authentication
  -A, --authentication-file=FILE            Get the credentials from a file
  -S, --signing=on|off|required             Set the client signing state
  -P, --machine-pass                        Use stored machine account password
  -e, --encrypt                             Encrypt SMB transport
  -C, --use-ccache                          Use the winbind ccache for authentication
      --pw-nt-hash                          The supplied password is the NT hash
```

linsrv1:~ # /usr/bin/smbclient -d3 -L //192.168.0.20/Root -n YVES-W10-DESK -W TERWAYWRKGRP -U Visiteur

linsrv1:~ # /usr/bin/smbclient -L //192.168.0.20/Root -n YVES-W10-DESK -W TERWAYWRKGRP -U Visiteur

linsrv1:~ # /usr/bin/smbclient -L //YVES-W10-DESK -mSMB3 -U Visiteur

```
linsrv1:~ # /usr/bin/smbclient -L //192.168.0.20/Root -n YVES-W10-DESK -W TERWAYWRKGRP -U Visiteur
WARNING: The "idmap gid" option is deprecated
WARNING: The "idmap uid" option is deprecated
Enter Visiteur's password:
Domain=[YVES-W10-DESK] OS=[Windows 10 Pro 10586] Server=[Windows 10 Pro 6.3]

        Sharename       Type      Comment
        ---------       ----      -------
        ADMIN$          Disk      Administration à distance
        C$              Disk      Partage par défaut
        E$              Disk      Partage par défaut
        F$              Disk      Partage par défaut
        IPC$            IPC       IPC distant
        print$          Disk      Pilotes d'imprimantes
        Transfer        Disk
        Users           Disk
Connection to 192.168.0.20 failed (Error NT_STATUS_RESOURCE_NAME_NOT_FOUND)
NetBIOS over TCP disabled -- no workgroup available
```

On the Linux Server