Installing Linux On IBM z Into An LPAR Examples

Following are examples of all three distributions and the parameters you can use to install Linux into an LPAR on IBM z. Change the parameters as appropriate for your environment. Some of the examples show ftp or nfs or http protocols for the second stage of the installations. These are just examples and you can use which ever protocol you prefer.

For more information, contact Andy Hartman, andy.hartman@mainline.com or Mainline.

Note: These examples are provided on an "as-is" basis and without any warranty, expressed or implied.

UBUNTU 18.04 Parameters

From the Load from Removable Media or Server Screen on the HMC

Select FTP Server

Fill in the fields as follows for a manual installation using the Ubuntu ftp site:

Host Name : us.ports.ubuntu.com

User Name : anonymous

Password   : 'can be anything'

Protocol   : FTP

File Path   : ubuntu-ports/dists/bionic/main/installer-s390x/current/images/generic

Fill in the fields as follows for a manual/semi-automated or automated installation using your ftp site:

Host Name : zz.z.z.zzz – your ftp server's ip address

User Name : anonymous – or your ftp servers userid

Password   : 'can be anything' - or your ftp server's password

Protocol   : FTP

File Path   : /UBUNTU1804 – your ftp server directory containing the UBUNTU code

On your ftp server in the directory you have your Ubuntu code in the boot directory there is a file named parmfile.ubuntu. This will control the installation. Leave this file unchanged if you wish to do a manual install. I've listed an example of a parmfile for a semi-automated installation as well as a fulling automated installation. Both

examples are one continuous line, with no line feeds, parameters are separated by spaces. I found this to work best and eliminate the possibility of extraneous characters.

Semi-Automated Ubuntu Installation ubuntu.parmfile

ro locale=en_US cio_ignore=all,!condev,!0100-0102,!b502 s390-netdevice/choose_networktype=qeth s390-dasd/auto_format=true s390-netdevice/qeth/layer2=false s390-netdevice/qeth/port=0 s390-netdevice/qeth/choose=0.0.0100-0.0.0101-0.0.0102 netcfg/get_ipaddress=xx.x.xx.xxx netcfg/get_netmask=255.255.255.0 netcfg/get_gateway=yy.y.yy.y netcfg/get_nameservers="8.8.8.8 8.8.4.4" netdevice/qeth/layer2=false netcfg/confirm_static=true auto=false netcfg/use_autoconfig=1 netcfg/disable_dhcp=true priority=critical hostname=ahups184lpar domain=s390.mainline.com network-console/start=note network-console/password=password network-console/password-again=password

Fully Automated Ubuntu Installation ubuntu.parmfile

ro locale=en_US cio_ignore=all,!condev,!0100-0102,!b502 s390-netdevice/choose_networktype=qeth s390-dasd/auto_format=true s390-netdevice/qeth/layer2=false s390-netdevice/qeth/port=0 s390-netdevice/qeth/choose=0.0.0100-0.0.0101-0.0.0102 netcfg/get_ipaddress=xx.x.xx.xxx netcfg/get_netmask=255.255.255.0 netcfg/get_gateway=yy.y.yy.y netcfg/get_nameservers="8.8.8.8 8.8.4.4" netdevice/qeth/layer2=false netcfg/confirm_static=true auto=true netcfg/use_autoconfig=1 netcfg/disable_dhcp=true priority=critical hostname=ahups184lpar domain=s390.mainline.com network-console/start=note network-console/password=password network-console/password-again=password url=ftp://anonymous:andy@zz.z.zz.zzz/UBUNTU1804/ahups184lpar.preseed.conf

xx.x.xx.xxx – your new Ubuntu server's IP address

yy.y.y.y – your gateway address

zz.z.zz.zzz – your ftp server address

Ubuntu Preseed File

This file is used for the fully automated installation process and needs to be located on an accessible ftp/HTTP/nfs server. I put mine in the directory where I keep the Ubuntu installation code.

You will have to make changes as appropriate for your environment.

#

Canonical, Ltd.

Frank Heimes

ftp://server/preseed/preseed.cfg

#

d-i debconf/priority string critical

d-i auto-install/enable boolean true

use -proposed udebs

d-i apt-setup/proposed boolean true

```
d-i pkgsel/update-policy select none

#

# Localization

#

d-i debian-installer/language string en

d-i debian-installer/country string US

d-i debian-installer/locale string en_US.UTF-8

# Mirror preseed file for the Debian Installer

d-i mirror/country string manual

d-i mirror/protocol string http

# d-i mirror/http/hostname string 91.189.91.11

d-i mirror/http/hostname string us.ports.ubuntu.com

d-i mirror/http/directory string /

# activate qeth

d-i s390-netdevice/choose_networktype string qeth

d-i s390-netdevice/qeth/choose string 0.0.0100-0.0.0101-0.0.0102

d-i s390-netdevice/qeth/layer2 boolean false

d-i s390-netdevice/qeth/port string 0

# use static network configuration

d-i netcfg/choose_interface select auto

d-i netcfg/disable_autoconfig boolean true

d-i netcfg/get_ipaddress string xx.x.xx.xxx

d-i netcfg/get_netmask string 255.255.255.0

d-i netcfg/get_gateway string yy.y.yy.y

d-i netcfg/get_nameservers string 8.8.8.8 8.8.4.4

d-i netcfg/hostname string ahups184lpar

d-i netcfg/get_domain string s390.mainline.com
```

```
d-i netcfg/confirm_static boolean true

# provide network-console password

d-i network-console/password password password

d-i network-console/password-again password password

d-i network-console/start note

# user setup - encrypted password is password - used makepasswd --crypt-md5 to generate encrypted
password

d-i passwd/user-fullname string Andy Hartman

d-i passwd/username string andy

d-i passwd/user-password-crypted password $1$McLHEm/S$qi3/awg6ZRjdHYiC9FTHF.

d-i user-setup/encrypt-home boolean false

# enable shadow passwords

d-i passwd/shadow boolean true

# HW clock

d-i clock-setup/utc boolean true

# time zone

d-i time/zone string America/New_York

# The Debian release to install

d-i mirror/suite string bionic

# do not enable live installer, use normal instead

d-i live-installer/enable boolean false

# Apply Secuity Fixes

d-i pkgsel/update-policy select unattended-upgrades

# activate DASD, dasdfmt if needed

d-i s390-dasd/dasd string 0.0.b502

# DASD configuration

d-i s390-dasd/auto-format boolean true
```

```
d-i s390-dasd/force-format boolean true

# auto-partition, all files in one partition

#d-i partman-auto/method string regular

#d-i partman-auto/disk string /dev/disk/by-path/ccw-0.0.b502

#d-i partman-auto/choose_recipe select atomic

#d-i partman/choose_partition select finish

#d-i partman/confirm_nooverwrite boolean true

#d-i partman/confirm boolean true

# 1 DASD - LVM and regular partitions

d-i partman-auto/disk string /dev/disk/by-path/ccw-0.0.b502

d-i partman-auto/method string regular

# d-i partman-auto/method string lvm

# d-i partman-lvm/device_remove_lvm boolean true

# d-i partman-lvm/device_remove_lvm_span boolean true

# d-i partman-md/device_remove_md boolean true

# d-i partman-auto/purge_lvm_from_device boolean true

# d-i partman-auto-lvm/new_vg_name string system-vg

# d-i partman-lvm/confirm boolean true

d-i partman/alignment string "optimal"

# d-i partman-auto-lvm/guided_size string max

d-i partman-auto/expert_recipe string                      \
    boot-root-swap ::                              \
        1536 100 1536 ext4                         \
            $primary{ }                      \
            $bootable{ }                     \
            method{ format } format{ }           \
            use_filesystem{ } filesystem{ ext4 }    \
```

```
        mountpoint{ / }                    \

                .                                   \

        2355 100 2355 ext4                      \

            $primary{ }                     \

            method{ format } format{ }          \

            use_filesystem{ } filesystem{ ext4 }    \

            mountpoint{ /usr }               \

        .                                   \

        787 100 1000000000 linux-swap               \

            $primary{ }                     \

            method{ swap } format{ }            \

    .
```

d-i partman-lvm/confirm_nooverwrite boolean true

d-i partman/confirm_write_new_label boolean true

d-i partman/choose_partition select finish

d-i partman/confirm boolean true

d-i partman/confirm_nooverwrite boolean true

Software selection

d-i tasksel/first multiselect standard system utilities, Basic Ubuntu server

after installation, install some packages and create rc.local and halt.local - use only one line!

d-i preseed/late_command string in-target sed -i s/prohibit-password/yes/g /etc/ssh/sshd_config ; \

 apt-install makepasswd debconf-utils ;

reboot at the end

d-i finish-install/reboot_in_progress note

Red Hat 7.6 Parameters

From the Load from Removable Media or Server Screen on the HMC

Select FTP Server

Fill in the fields as follows for a manual/semi-automated or automated installation using your ftp site:

Host Name : zz.z.z.zzz – your ftp server's ip address

User Name : anonymous – or your ftp servers userid

Password   : 'can be anything' - or your ftp server's password

Protocol   : FTP

File Path   : /rhel76code – your ftp server directory containing the Red Hat installation code

On your ftp server in the directory you have your Red Hat installation code in the images directory there is a file named genericdvd.prm. This will control the installation. Leave this file unchanged if you wish to do a manual install. I've listed an example of a parmfile for a semi-automated installation as well as a fulling automated installation. Both examples are one continuous line, with no line feeds, parameters separated by spaces. I found this to work best and eliminate the possibility of extraneous characters.

Semi-Automated Red Hat Installation genericdvd.prm

ro ramdisk_size=40000 cio_ignore=all,!condev rd.cmdline=ask inst.ssh
ip=xx.x.xx.xxx::yy.y.yy.y:24:ahrh76lpar.mainline.:enccw0.0.0100:none
rd.znet=qeth,0.0.0100,0.0.0101,0.0.0102,layer2=0,portname=ANDYP0,portno=0 rd.dasd=0.0.B500
nameserver=8.8.8.8 nameserver=8.8.4.4 inst.stage2=nfs:zz.z.zz.zzz:/data/rhel76code
inst.repo=nfs:zz.z.zz.zzz:/data/rhel76code root.live=nfs:zz.z.zz.zzz:/data/rhel76code/images/install.img

Fully Automated Red Hat Installation genericdvd.prm

ro ramdisk_size=40000 cio_ignore=all,!condev inst.cmdline inst.ssh
ip=xx.x.xx.xxx::yy.y.yy.y:24:ahrh76lpar.mainline.com:enccw0.0.0100:none
rd.znet=qeth,0.0.0100,0.0.0101,0.0.0102,layer2=0,portname=ANDYP0,portno=0 rd.dasd=0.0.B500
nameserver=8.8.8.8 nameserver=8.8.4.4 inst.repo=nfs:zz.z.zz.zzz:/data/rhel76code
inst.ks=nfs:zz.z.zz.zzz:/data/rhel76code/ahrh76lpar.anaconda-ks.cfg

xx.x.xx.xxx – your new Red Hat server's ip address

yy.y.y.y – your gateway address

zz.z.zz.zzz – your ftp server address

Red Hat Kickstart File

This file is used for the fully automated installation process and needs to be located on an accessible ftp/HTTP/nfs server. I put mine in the directory where I keep the Red Hat installation code.

You will have to make changes as appropriate for your environment.

#version=DEVEL

System authorization information

auth --enableshadow --passalgo=sha512

Skip GUI Installation

skipx

System z - no prompts

cmdline

Reboot/Halt after installation is complete

halt

Use NFS installation media

nfs –server=zz.z.zz.zzz --dir=/data/rhel76code

Run the Setup Agent on first boot

firstboot --disable

Keyboard layouts

keyboard --vckeymap=us --xlayouts='us'

System language

lang en_US.UTF-8

Network information

network --bootproto=static --device=enccw0.0.0100 –gateway=yy.y.yy.y –ip=xx.x.xx.xxx --nameserver=8.8.4.4,8.8.8.8 --netmask=255.255.255.0 --ipv6=auto --activate

network --hostname=ahrh76lpar.mainline.com

Root password

rootpw --iscrypted
6YGbhEkeQqKSOUnLY$ML2k.B4hF53QOtqHerZ25ecKTWMO7RtqC4mZaKiyWobgdHGU4.ooD0keDtKnai4y5FNU0Ddo/V/8tVvIy5MGZ1

System services

services --enabled="chronyd"

System timezone

timezone America/New_York

```
user --groups=wheel --name=andy --
password=$6$EyDhhayAzldT71w.$r11yDccAz8IbJ8DxTf7HXg/oW.XeJ9AACNHJB4Dbe6fs2Lq2iPillTcN7djymTuj
TvjGvaduTQVkv1ATd1rgQ1 --iscrypted --gecos="Andy Hartman"

# System bootloader configuration

bootloader --append=" crashkernel=auto" --location=mbr --boot-drive=/dev/disk/by-path/ccw-0.0.b500

# Partition clearing information

ignoredisk --only-use=/dev/disk/by-path/ccw-0.0.b500

# Format the MBR and dasdfmt any unformatted disk volumes

zerombr

clearpart --all --initlabel devices=/dev/disk/by-path/ccw-0.0.b500

# Disk partitioning information

part /boot --fstype=xfs --size=948 --ondisk=/dev/disk/by-path/ccw-0.0.b500

part / --fstype=xfs --size=5120 --ondisk=/dev/disk/by-path/ccw-0.0.b500

part swap --size=968 --ondisk=/dev/disk/by-path/ccw-0.0.b500

%packages

@^minimal

@core

@system-admin-tools

chrony

kexec-tools

%end

%addon com_redhat_kdump --enable --reserve-mb='auto'

%end

%anaconda

pwpolicy root --minlen=6 --minquality=1 --notstrict --nochanges --notempty

pwpolicy user --minlen=6 --minquality=1 --notstrict --nochanges --emptyok

pwpolicy luks --minlen=6 --minquality=1 --notstrict --nochanges --notempty

%end
```

SLES 15 Parameters

From the Load from Removable Media or Server Screen on the HMC

Select FTP Server

Fill in the fields as follows for a manual/semi automated or automated installation using your ftp site:

Host Name : zz.z.z.zzz – your ftp server's ip address

User Name : anonymous – or your ftp servers userid

Password   : 'can be anything' - or your ftp server's password

Protocol   : FTP

File Path   : /SLES15 – your ftp server directory containing the SLES installation code

On your ftp server in the directory you have your SLES installation code, there is a directory /*boot/*s390x, in that directory there is a file named parmfile. This will control the installation. Leave this file unchanged if you wish to do a manual install. I've listed an example of a parmfile for a semi-automated installation as well as a fulling automated installation. Both examples are one continuous line, with no line feeds, parameters are seperated by spaces. I found this to work best and eliminate the possibility of extraneous characters.

Semi-Automated SLES Installation parmfile

ramdisk_size=131072 root=/dev/ram1 ro init=/linuxrc TERM=dumb Manual=0 cio_ignore=all,!condev,!0.0.0100-0.0.0102,!0.0.b501 HostIP=xx.x.xx.xxx Hostname=ahsl15lpar.s390.mainline.com InstNetDev=osa Netmask=255.255.255.0 Gateway="yy.y.yy.y" Portno=0 OsaInterface=qdio OsaMedium=eth ReadChannel=0.0.0100 WriteChannel=0.0.0101 DataChannel=0.0.0102 Layer2=0 InstNetDev=osa DASD=b501 Install=ftp://anonymous:andy@zz.z.zz.zzz/SLES15/ OSAHWAddr= Nameserver=8.8.8.8,8.8.4.4 linuxrclog=/dev/console UseSSH=1 SSHPassword=password UseVNC=1 VNCPassword=password

Fully Automated SLES Installation parmfile

ramdisk_size=131072 root=/dev/ram1 ro init=/linuxrc TERM=dumb Manual=0 cio_ignore=all,!condev,!0.0.0100-0.0.0102,!0.0.b501 HostIP=xx.x.xx.xxx Hostname=ahsl15lpar.s390.mainline.com InstNetDev=osa Netmask=255.255.255.0 Gateway="yy.y.yy.y" Portno=0 OsaInterface=qdio OsaMedium=eth ReadChannel=0.0.0100 WriteChannel=0.0.0101 DataChannel=0.0.0102 Layer2=0 InstNetDev=osa DASD=b501 Install=ftp://anonymous:andy@zz.z.zz.zzz/SLES15/ OSAHWAddr= Nameserver=8.8.8.8,8.8.4.4 linuxrclog=/dev/console UseSSH=1 SSHPassword=password UseVNC=1 VNCPassword=password AutoYast=ftp://anonymous:andy@zz.z.zz.zzz/SLES15/ahsl15lpar.autoinst.xml

xx.x.xx.xxx – your new SLES server's ip address

yy.y.y.y – your gateway address

zz.z.zz.zzz – your ftp server address

SLES AutoYast File

This file is used for the fully automated installation process and needs to be located on an accessible ftp/HTTP/nfs server. I put mine in the directory where I keep the SLES installation code.

You will have to make changes as appropriate for your environment.

```xml
<?xml version="1.0"?>
<!DOCTYPE profile>
<profile xmlns="http://www.suse.com/1.0/yast2ns"
xmlns:config="http://www.suse.com/1.0/configns">
  <add-on>
    <add_on_products config:type="list">
      <listentry>
        <media_url><![CDATA[https://updates.suse.com/SUSE/Products/SLE-Module-Server-
Applications/15/s390x/product?tjnDNcqEru4xx_lab6kLb8soWw-
6Sp7_18gNIDI43FRlMxrvuAfGUNCtWoll_NOWA9tzK4ED8akPuXF0-
C6FfsCSF6Dkz_m8k3fck7rVuHidy73jJwJ7UDsL-6fmyJSTkzRjCBZ9KePRPoRuuLSYHgUT-
MGuq4SVGUHNvw]]></media_url>
        <product>sle-module-server-applications</product>
        <product_dir/>
      </listentry>
      <listentry>
        <media_url><![CDATA[https://updates.suse.com/SUSE/Products/SLE-Module-
Basesystem/15/s390x/product?3Ln8XVqYbGTEmz6PfV2IhELPOwXkR8kgTn3ztw15-
gKHNKJD_aYMtWkpKTDTG1_t8bvqqW0diwcSbm0yx7EXiERSQGK1FXSFBaEek2_P9vAEx
bnyHW_Fu0nJySxrIAXDZH9x6iFYzXvncaHX5HvOsiKH-Q]]></media_url>
        <product>sle-module-basesystem</product>
        <product_dir/>
      </listentry>
    </add_on_products>
  </add-on>
  <bootloader>
    <global>
      <append>hvc_iucv=8 TERM=dumb resume=/dev/disk/by-path/ccw-0.0.b501-part3
cio_ignore=all,!ipldev,!condev</append>
      <gfxmode>auto</gfxmode>
      <hiddenmenu>false</hiddenmenu>
      <os_prober>false</os_prober>
      <terminal>console</terminal>
      <timeout config:type="integer">8</timeout>
      <trusted_grub>false</trusted_grub>
    </global>
    <loader_type>grub2</loader_type>
  </bootloader>
  <dasd>
    <devices config:type="list">
      <listentry>
        <channel>0.0.b501</channel>
        <diag config:type="boolean">false</diag>
        <format config:type="boolean">false</format>
```

```xml
      </listentry>
     </devices>
     <format_unformatted config:type="boolean">false</format_unformatted>
    </dasd>
    <deploy_image>
     <image_installation config:type="boolean">false</image_installation>
    </deploy_image>
    <firewall>
     <default_zone>public</default_zone>
     <enable_firewall config:type="boolean">true</enable_firewall>
     <log_denied_packets>off</log_denied_packets>
     <start_firewall config:type="boolean">true</start_firewall>
     <zones config:type="list">
      <zone>
       <interfaces config:type="list"/>
       <masquerade config:type="boolean">false</masquerade>
       <name>block</name>
       <ports config:type="list"/>
       <protocols config:type="list"/>
       <services config:type="list"/>
       <sources config:type="list"/>
      </zone>
      <zone>
       <interfaces config:type="list"/>
       <masquerade config:type="boolean">false</masquerade>
       <name>dmz</name>
       <ports config:type="list"/>
       <protocols config:type="list"/>
       <services config:type="list">
        <service>ssh</service>
       </services>
       <sources config:type="list"/>
      </zone>
      <zone>
       <interfaces config:type="list"/>
       <masquerade config:type="boolean">false</masquerade>
       <name>drop</name>
       <ports config:type="list"/>
       <protocols config:type="list"/>
       <services config:type="list"/>
       <sources config:type="list"/>
      </zone>
      <zone>
       <interfaces config:type="list"/>
       <masquerade config:type="boolean">true</masquerade>
       <name>external</name>
       <ports config:type="list"/>
       <protocols config:type="list"/>
       <services config:type="list">
```

```xml
      <service>ssh</service>
    </services>
    <sources config:type="list"/>
  </zone>
  <zone>
    <interfaces config:type="list"/>
    <masquerade config:type="boolean">false</masquerade>
    <name>home</name>
    <ports config:type="list"/>
    <protocols config:type="list"/>
    <services config:type="list">
      <service>ssh</service>
      <service>mdns</service>
      <service>samba-client</service>
      <service>dhcpv6-client</service>
    </services>
    <sources config:type="list"/>
  </zone>
  <zone>
    <interfaces config:type="list"/>
    <masquerade config:type="boolean">false</masquerade>
    <name>internal</name>
    <ports config:type="list"/>
    <protocols config:type="list"/>
    <services config:type="list">
      <service>ssh</service>
      <service>mdns</service>
      <service>samba-client</service>
      <service>dhcpv6-client</service>
    </services>
    <sources config:type="list"/>
  </zone>
  <zone>
    <interfaces config:type="list"/>
    <masquerade config:type="boolean">false</masquerade>
    <name>public</name>
    <ports config:type="list"/>
    <protocols config:type="list"/>
    <services config:type="list">
      <service>ssh</service>
      <service>dhcpv6-client</service>
      <service>tigervnc</service>
      <service>tigervnc-https</service>
    </services>
    <sources config:type="list"/>
  </zone>
  <zone>
    <interfaces config:type="list"/>
    <masquerade config:type="boolean">false</masquerade>
```

```xml
        <name>trusted</name>
        <ports config:type="list"/>
        <protocols config:type="list"/>
        <services config:type="list"/>
        <sources config:type="list"/>
      </zone>
      <zone>
        <interfaces config:type="list"/>
        <masquerade config:type="boolean">false</masquerade>
        <name>work</name>
        <ports config:type="list"/>
        <protocols config:type="list"/>
        <services config:type="list">
          <service>ssh</service>
          <service>dhcpv6-client</service>
        </services>
        <sources config:type="list"/>
      </zone>
    </zones>
  </firewall>
  <general>
    <ask-list config:type="list"/>
    <cio_ignore config:type="boolean">true</cio_ignore>
    <mode>
      <confirm config:type="boolean">false</confirm>
    </mode>
    <proposals config:type="list"/>
    <signature-handling>
      <accept_file_without_checksum
config:type="boolean">true</accept_file_without_checksum>
      <accept_non_trusted_gpg_key
config:type="boolean">true</accept_non_trusted_gpg_key>
      <accept_unknown_gpg_key config:type="boolean">true</accept_unknown_gpg_key>
      <accept_unsigned_file config:type="boolean">true</accept_unsigned_file>
      <accept_verification_failed config:type="boolean">false</accept_verification_failed>
      <import_gpg_key config:type="boolean">true</import_gpg_key>
    </signature-handling>
    <storage>
      <start_multipath config:type="boolean">false</start_multipath>
    </storage>
  </general>
  <groups config:type="list">
    <group>
      <encrypted config:type="boolean">true</encrypted>
      <gid>100</gid>
      <group_password>x</group_password>
      <groupname>users</groupname>
      <userlist/>
    </group>
```

```xml
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>482</gid>
  <group_password>x</group_password>
  <groupname>systemd-timesync</groupname>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>493</gid>
  <group_password>x</group_password>
  <groupname>audio</groupname>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>478</gid>
  <group_password>x</group_password>
  <groupname>sshd</groupname>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>2</gid>
  <group_password>x</group_password>
  <groupname>daemon</groupname>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>481</gid>
  <group_password>x</group_password>
  <groupname>nscd</groupname>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>15</gid>
  <group_password>x</group_password>
  <groupname>shadow</groupname>
  <userlist>vnc</userlist>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>1</gid>
  <group_password>x</group_password>
  <groupname>bin</groupname>
  <userlist>daemon</userlist>
</group>
```

```xml
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>488</gid>
  <group_password>x</group_password>
  <groupname>kvm</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>484</gid>
  <group_password>x</group_password>
  <groupname>systemd-journal</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>51</gid>
  <group_password>x</group_password>
  <groupname>postfix</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>495</gid>
  <group_password>x</group_password>
  <groupname>lock</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>491</gid>
  <group_password>x</group_password>
  <groupname>dialout</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>487</gid>
  <group_password>x</group_password>
  <groupname>lp</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>476</gid>
  <group_password>x</group_password>
  <groupname>vnc</groupname>
  <userlist/>
</group>
```

```xml
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>486</gid>
  <group_password>x</group_password>
  <groupname>tape</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>71</gid>
  <group_password>x</group_password>
  <groupname>ntadmin</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>65534</gid>
  <group_password>x</group_password>
  <groupname>nobody</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>42</gid>
  <group_password>x</group_password>
  <groupname>trusted</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>490</gid>
  <group_password>x</group_password>
  <groupname>disk</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>498</gid>
  <group_password>!</group_password>
  <groupname>mail</groupname>
  <userlist>postfix</userlist>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>477</gid>
  <group_password>x</group_password>
  <groupname>ts-shell</groupname>
  <userlist/>
</group>
```

```xml
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>496</gid>
  <group_password>x</group_password>
  <groupname>kmem</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>494</gid>
  <group_password>x</group_password>
  <groupname>utmp</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>497</gid>
  <group_password>x</group_password>
  <groupname>wheel</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>492</gid>
  <group_password>x</group_password>
  <groupname>cdrom</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>485</gid>
  <group_password>x</group_password>
  <groupname>video</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>499</gid>
  <group_password>x</group_password>
  <groupname>messagebus</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>0</gid>
  <group_password>x</group_password>
  <groupname>root</groupname>
  <userlist/>
</group>
```

```xml
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>480</gid>
  <group_password>x</group_password>
  <groupname>chrony</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>65533</gid>
  <group_password>x</group_password>
  <groupname>nogroup</groupname>
  <userlist>nobody</userlist>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>62</gid>
  <group_password>x</group_password>
  <groupname>man</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>5</gid>
  <group_password>x</group_password>
  <groupname>tty</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>59</gid>
  <group_password>x</group_password>
  <groupname>maildrop</groupname>
  <userlist>postfix</userlist>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>489</gid>
  <group_password>x</group_password>
  <groupname>input</groupname>
  <userlist/>
</group>
<group>
  <encrypted config:type="boolean">true</encrypted>
  <gid>479</gid>
  <group_password>x</group_password>
  <groupname>polkitd</groupname>
  <userlist/>
</group>
```

```xml
    <group>
     <encrypted config:type="boolean">true</encrypted>
     <gid>483</gid>
     <group_password>x</group_password>
     <groupname>systemd-coredump</groupname>
     <userlist/>
    </group>
   </groups>
   <host>
    <hosts config:type="list">
     <hosts_entry>
      <host_address>xx.x.xx.xxx</host_address>
      <names config:type="list">
       <name>ahsl15lpar.s390.mainline.com ahsl15lpar</name>
      </names>
     </hosts_entry>
     <hosts_entry>
      <host_address>127.0.0.1</host_address>
      <names config:type="list">
       <name>localhost</name>
      </names>
     </hosts_entry>
     <hosts_entry>
      <host_address>::1</host_address>
      <names config:type="list">
       <name>localhost ipv6-localhost ipv6-loopback</name>
      </names>
     </hosts_entry>
     <hosts_entry>
      <host_address>fe00::0</host_address>
      <names config:type="list">
       <name>ipv6-localnet</name>
      </names>
     </hosts_entry>
     <hosts_entry>
      <host_address>ff00::0</host_address>
      <names config:type="list">
       <name>ipv6-mcastprefix</name>
      </names>
     </hosts_entry>
     <hosts_entry>
      <host_address>ff02::1</host_address>
      <names config:type="list">
       <name>ipv6-allnodes</name>
      </names>
     </hosts_entry>
     <hosts_entry>
      <host_address>ff02::2</host_address>
      <names config:type="list">
```

```xml
        <name>ipv6-allrouters</name>
      </names>
    </hosts_entry>
    <hosts_entry>
      <host_address>ff02::3</host_address>
      <names config:type="list">
        <name>ipv6-allhosts</name>
      </names>
    </hosts_entry>
  </hosts>
</host>
<language>
  <language>en_US</language>
  <languages/>
</language>
<login_settings/>
<networking>
  <dhcp_options>
    <dhclient_client_id/>
    <dhclient_hostname_option>AUTO</dhclient_hostname_option>
  </dhcp_options>
  <dns>
    <dhcp_hostname config:type="boolean">true</dhcp_hostname>
    <domain>s390.mainline.com</domain>
    <hostname>ahsl15lpar</hostname>
    <nameservers config:type="list">
      <nameserver>8.8.8.8</nameserver>
      <nameserver>8.8.4.4</nameserver>
    </nameservers>
    <resolv_conf_policy>auto</resolv_conf_policy>
    <write_hostname config:type="boolean">false</write_hostname>
  </dns>
  <interfaces config:type="list">
    <interface>
      <bootproto>static</bootproto>
      <device>eth0</device>
      <ipaddr>xx.x.xx.xxx</ipaddr>
      <netmask>255.255.255.0</netmask>
      <prefixlen>24</prefixlen>
      <startmode>auto</startmode>
    </interface>
    <interface>
      <bootproto>static</bootproto>
      <device>lo</device>
      <firewall>no</firewall>
      <ipaddr>127.0.0.1</ipaddr>
      <netmask>255.0.0.0</netmask>
      <network>127.0.0.0</network>
      <prefixlen>8</prefixlen>
```

```xml
      <startmode>nfsroot</startmode>
      <usercontrol>no</usercontrol>
    </interface>
  </interfaces>
  <ipv6 config:type="boolean">true</ipv6>
  <keep_install_network config:type="boolean">true</keep_install_network>
  <managed config:type="boolean">false</managed>
  <net-udev config:type="list">
    <rule>
      <name>eth0</name>
      <rule>KERNELS</rule>
      <value>0.0.0100</value>
    </rule>
  </net-udev>
  <routing>
    <ipv4_forward config:type="boolean">false</ipv4_forward>
    <ipv6_forward config:type="boolean">false</ipv6_forward>
    <routes config:type="list">
      <route>
        <destination>default</destination>
        <device>eth0</device>
        <gateway>yy.y.yy.y</gateway>
        <netmask>-</netmask>
      </route>
    </routes>
  </routing>
  <s390-devices config:type="list">
    <listentry>
      <chanids>0.0.0100 0.0.0101 0.0.0102</chanids>
      <portname>no portname required</portname>
      <type>qeth</type>
    </listentry>
    <listentry>
      <chanids>   </chanids>
      <type/>
    </listentry>
  </s390-devices>
</networking>
<nis>
  <netconfig_policy>auto</netconfig_policy>
  <nis_broadcast config:type="boolean">false</nis_broadcast>
  <nis_broken_server config:type="boolean">false</nis_broken_server>
  <nis_domain/>
  <nis_local_only config:type="boolean">false</nis_local_only>
</nis>
<ntp-client>
  <ntp_policy>auto</ntp_policy>
  <ntp_servers config:type="list"/>
  <ntp_sync>manual</ntp_sync>
```

```
</ntp-client>
<partitioning config:type="list">
  <drive>
    <device>/dev/disk/by-path/ccw-0.0.b501</device>
    <disklabel>dasd</disklabel>
    <enable_snapshots config:type="boolean">false</enable_snapshots>
    <initialize config:type="boolean">false</initialize>
    <partitions config:type="list">
     <partition>
       <create config:type="boolean">true</create>
       <filesystem config:type="symbol">ext2</filesystem>
       <format config:type="boolean">true</format>
       <mount>/boot</mount>
       <mountby config:type="symbol">path</mountby>
       <partition_id config:type="integer">131</partition_id>
       <partition_nr config:type="integer">1</partition_nr>
       <partition_type>primary</partition_type>
       <resize config:type="boolean">false</resize>
       <size>314572800</size>
     </partition>
     <partition>
       <create config:type="boolean">true</create>
       <create_subvolumes config:type="boolean">true</create_subvolumes>
       <filesystem config:type="symbol">btrfs</filesystem>
       <format config:type="boolean">true</format>
       <mount>/</mount>
       <mountby config:type="symbol">path</mountby>
       <partition_id config:type="integer">131</partition_id>
       <partition_nr config:type="integer">2</partition_nr>
       <partition_type>primary</partition_type>
       <resize config:type="boolean">false</resize>
       <size>5989466112</size>
       <subvolumes config:type="list">
         <subvolume>
           <copy_on_write config:type="boolean">true</copy_on_write>
           <path>home</path>
         </subvolume>
         <subvolume>
           <copy_on_write config:type="boolean">false</copy_on_write>
           <path>var</path>
         </subvolume>
         <subvolume>
           <copy_on_write config:type="boolean">true</copy_on_write>
           <path>usr/local</path>
         </subvolume>
         <subvolume>
           <copy_on_write config:type="boolean">true</copy_on_write>
           <path>tmp</path>
         </subvolume>
```

```xml
        <subvolume>
          <copy_on_write config:type="boolean">true</copy_on_write>
          <path>srv</path>
        </subvolume>
        <subvolume>
          <copy_on_write config:type="boolean">true</copy_on_write>
          <path>root</path>
        </subvolume>
        <subvolume>
          <copy_on_write config:type="boolean">true</copy_on_write>
          <path>opt</path>
        </subvolume>
      </subvolumes>
      <subvolumes_prefix><![CDATA[@]]></subvolumes_prefix>
    </partition>
    <partition>
      <create config:type="boolean">true</create>
      <filesystem config:type="symbol">swap</filesystem>
      <format config:type="boolean">true</format>
      <mount>swap</mount>
      <mountby config:type="symbol">path</mountby>
      <partition_id config:type="integer">131</partition_id>
      <partition_nr config:type="integer">3</partition_nr>
      <partition_type>primary</partition_type>
      <resize config:type="boolean">false</resize>
      <size>1075149120</size>
    </partition>
  </partitions>
  <type config:type="symbol">CT_DISK</type>
  <use>all</use>
  </drive>
 </partitioning>
 <printer>
  <client_conf_content>
    <file_contents><![CDATA[# CUPS client configuration file (optional).

# You may use /etc/cups/client.conf (system wide)
# or ~/.cups/client.conf (per user).
# For more information see "man 5 client.conf".

# The ServerName directive specifies the remote server
# that is to be used for all client operations. That is, it
# redirects all client requests directly to that remote server
# so that a local running cupsd is not used in this case.
# The default is to use the local server ("localhost") or domain socket.
# Only one ServerName directive may appear.
# If multiple names are present, only the last one is used.
# The default port number is 631 but can be overridden by adding
# a colon followed by the desired port number.
```

The default IPP version is 2.0 but can be overridden by adding
a slash followed by version=V where V is 1.0 or 1.1 or 2.0 or 2.1 or 2.2.
IPP version 2.0 does do not work with CUPS 1.3 or older servers.
If an CUPS 1.3 or older server is used, its older IPP version
must be specified as .../version=1.1 or .../version=1.0.

Examples:
ServerName sever.example.com
ServerName 192.0.2.10
ServerName sever.example.com:8631
ServerName older.server.example.com/version=1.1
ServerName older.server.example.com:8631/version=1.1

]]></file_contents>
    </client_conf_content>
    <cupsd_conf_content>
      <file_contents><![CDATA[#
Configuration file for the CUPS scheduler. See "man cupsd.conf" for a
complete description of this file.
#

Log general information in error_log - change "warn" to "debug"
for troubleshooting...
LogLevel warn
PageLogFormat

Only listen for connections from the local machine.
Listen localhost:631
Listen /run/cups/cups.sock

Show shared printers on the local network.
Browsing On
BrowseLocalProtocols dnssd

Default authentication type, when authentication is required...
DefaultAuthType Basic

Web interface setting...
WebInterface Yes

Restrict access to the server...
<Location />
  Order allow,deny
</Location>

Restrict access to the admin pages...
<Location /admin>
  Order allow,deny
</Location>

```
# Restrict access to configuration files...
<Location /admin/conf>
  AuthType Default
  Require user @SYSTEM
  Order allow,deny
</Location>

# Restrict access to log files...
<Location /admin/log>
  AuthType Default
  Require user @SYSTEM
  Order allow,deny
</Location>

# Set the default printer/job policies...
<Policy default>
  # Job/subscription privacy...
  JobPrivateAccess default
  JobPrivateValues default
  SubscriptionPrivateAccess default
  SubscriptionPrivateValues default

  # Job-related operations must be done by the owner or an administrator...
  <Limit Create-Job Print-Job Print-URI Validate-Job>
    Order deny,allow
  </Limit>

  <Limit Send-Document Send-URI Hold-Job Release-Job Restart-Job Purge-Jobs Set-Job-
Attributes Create-Job-Subscription Renew-Subscription Cancel-Subscription Get-Notifications
Reprocess-Job Cancel-Current-Job Suspend-Current-Job Resume-Job Cancel-My-Jobs
Close-Job CUPS-Move-Job CUPS-Get-Document>
    Require user @OWNER @SYSTEM
    Order deny,allow
  </Limit>

  # All administration operations require an administrator to authenticate...
  <Limit CUPS-Add-Modify-Printer CUPS-Delete-Printer CUPS-Add-Modify-Class CUPS-
Delete-Class CUPS-Set-Default CUPS-Get-Devices>
    AuthType Default
    Require user @SYSTEM
    Order deny,allow
  </Limit>

  # All printer operations require a printer operator to authenticate...
  <Limit Pause-Printer Resume-Printer Enable-Printer Disable-Printer Pause-Printer-After-
Current-Job Hold-New-Jobs Release-Held-New-Jobs Deactivate-Printer Activate-Printer
Restart-Printer Shutdown-Printer Startup-Printer Promote-Job Schedule-Job-After Cancel-
Jobs CUPS-Accept-Jobs CUPS-Reject-Jobs>
```

```
    AuthType Default
    Require user @SYSTEM
    Order deny,allow
  </Limit>

  # Only the owner or an administrator can cancel or authenticate a job...
  <Limit Cancel-Job CUPS-Authenticate-Job>
    Require user @OWNER @SYSTEM
    Order deny,allow
  </Limit>

  <Limit All>
    Order deny,allow
  </Limit>
</Policy>

# Set the authenticated printer/job policies...
<Policy authenticated>
  # Job/subscription privacy...
  JobPrivateAccess default
  JobPrivateValues default
  SubscriptionPrivateAccess default
  SubscriptionPrivateValues default

  # Job-related operations must be done by the owner or an administrator...
  <Limit Create-Job Print-Job Print-URI Validate-Job>
    AuthType Default
    Order deny,allow
  </Limit>

  <Limit Send-Document Send-URI Hold-Job Release-Job Restart-Job Purge-Jobs Set-Job-
Attributes Create-Job-Subscription Renew-Subscription Cancel-Subscription Get-Notifications
Reprocess-Job Cancel-Current-Job Suspend-Current-Job Resume-Job Cancel-My-Jobs
Close-Job CUPS-Move-Job CUPS-Get-Document>
    AuthType Default
    Require user @OWNER @SYSTEM
    Order deny,allow
  </Limit>

  # All administration operations require an administrator to authenticate...
  <Limit CUPS-Add-Modify-Printer CUPS-Delete-Printer CUPS-Add-Modify-Class CUPS-
Delete-Class CUPS-Set-Default>
    AuthType Default
    Require user @SYSTEM
    Order deny,allow
  </Limit>

  # All printer operations require a printer operator to authenticate...
```

```
  <Limit Pause-Printer Resume-Printer Enable-Printer Disable-Printer Pause-Printer-After-
Current-Job Hold-New-Jobs Release-Held-New-Jobs Deactivate-Printer Activate-Printer
Restart-Printer Shutdown-Printer Startup-Printer Promote-Job Schedule-Job-After Cancel-
Jobs CUPS-Accept-Jobs CUPS-Reject-Jobs>
    AuthType Default
    Require user @SYSTEM
    Order deny,allow
  </Limit>

  # Only the owner or an administrator can cancel or authenticate a job...
  <Limit Cancel-Job CUPS-Authenticate-Job>
    AuthType Default
    Require user @OWNER @SYSTEM
    Order deny,allow
  </Limit>

  <Limit All>
    Order deny,allow
  </Limit>
</Policy>

# Set the kerberized printer/job policies...
<Policy kerberos>
  # Job/subscription privacy...
  JobPrivateAccess default
  JobPrivateValues default
  SubscriptionPrivateAccess default
  SubscriptionPrivateValues default

  # Job-related operations must be done by the owner or an administrator...
  <Limit Create-Job Print-Job Print-URI Validate-Job>
    AuthType Negotiate
    Order deny,allow
  </Limit>

  <Limit Send-Document Send-URI Hold-Job Release-Job Restart-Job Purge-Jobs Set-Job-
Attributes Create-Job-Subscription Renew-Subscription Cancel-Subscription Get-Notifications
Reprocess-Job Cancel-Current-Job Suspend-Current-Job Resume-Job Cancel-My-Jobs
Close-Job CUPS-Move-Job CUPS-Get-Document>
    AuthType Negotiate
    Require user @OWNER @SYSTEM
    Order deny,allow
  </Limit>

  # All administration operations require an administrator to authenticate...
  <Limit CUPS-Add-Modify-Printer CUPS-Delete-Printer CUPS-Add-Modify-Class CUPS-
Delete-Class CUPS-Set-Default>
    AuthType Default
    Require user @SYSTEM
```

```
    Order deny,allow
  </Limit>

  # All printer operations require a printer operator to authenticate...
  <Limit Pause-Printer Resume-Printer Enable-Printer Disable-Printer Pause-Printer-After-
Current-Job Hold-New-Jobs Release-Held-New-Jobs Deactivate-Printer Activate-Printer
Restart-Printer Shutdown-Printer Startup-Printer Promote-Job Schedule-Job-After Cancel-
Jobs CUPS-Accept-Jobs CUPS-Reject-Jobs>
    AuthType Default
    Require user @SYSTEM
    Order deny,allow
  </Limit>

  # Only the owner or an administrator can cancel or authenticate a job...
  <Limit Cancel-Job CUPS-Authenticate-Job>
    AuthType Negotiate
    Require user @OWNER @SYSTEM
    Order deny,allow
  </Limit>

  <Limit All>
    Order deny,allow
  </Limit>
</Policy>

# The policy below is added by SUSE during build of our cups package.
# The policy 'allowallforanybody' is totally open and insecure and therefore
# it can only be used within an internal network where only trused users exist
# and where the cupsd is not accessible at all from any external host, see
# http://en.opensuse.org/SDB:CUPS_and_SANE_Firewall_settings
# Have in mind that any user who is allowed to do printer admin tasks
# can change the print queues as he likes - e.g. send copies of confidental
# print jobs from an internal network to any external destination, see
# http://en.opensuse.org/SDB:CUPS_in_a_Nutshell
# For documentation regarding 'Managing Operation Policies' see
# http://www.cups.org/documentation.php/doc-1.7/policies.html
<Policy allowallforanybody>
  # Allow anybody to access job's private values:
  JobPrivateAccess all
  # Make none of the job values to be private:
  JobPrivateValues none
  # Allow anybody to access subscription's private values:
  SubscriptionPrivateAccess all
  # Make none of the subscription values to be private:
  SubscriptionPrivateValues none
  # Allow anybody to do all IPP operations:
  # Currently the IPP operations Validate-Job Cancel-Jobs Cancel-My-Jobs Close-Job CUPS-
Get-Document
  # must be additionally exlicitly specified because those IPP operations are not included
```

```
  # in the "All" wildcard value - otherwise cupsd prints error messages of the form
  # "No limit for Validate-Job defined in policy allowallforanybody and no suitable template
found."
  <Limit Validate-Job Cancel-Jobs Cancel-My-Jobs Close-Job CUPS-Get-Document>
    Order deny,allow
    Allow from all
  </Limit>
  # Since CUPS > 1.5.4 the "All" wildcard value must be specified separately,
  # otherwise clients like "lpstat -p" just hang up,
  # see https://bugzilla.opensuse.org/show_bug.cgi?id=936309
  # and https://www.cups.org/str.php?L4659
  <Limit All>
    Order deny,allow
    Allow from all
  </Limit>
</Policy>
# Explicitly set the CUPS 'default' policy to be used by default:
DefaultPolicy default

]]></file_contents>
    </cupsd_conf_content>
  </printer>
  <proxy>
   <enabled config:type="boolean">false</enabled>
   <ftp_proxy/>
   <http_proxy/>
   <https_proxy/>
   <no_proxy>localhost,127.0.0.1</no_proxy>
   <proxy_password/>
   <proxy_user/>
  </proxy>
  <report>
   <errors>
    <log config:type="boolean">true</log>
    <show config:type="boolean">true</show>
    <timeout config:type="integer">0</timeout>
   </errors>
   <messages>
    <log config:type="boolean">true</log>
    <show config:type="boolean">true</show>
    <timeout config:type="integer">0</timeout>
   </messages>
   <warnings>
    <log config:type="boolean">true</log>
    <show config:type="boolean">true</show>
    <timeout config:type="integer">0</timeout>
   </warnings>
   <yesno_messages>
    <log config:type="boolean">true</log>
```

```xml
      <show config:type="boolean">true</show>
      <timeout config:type="integer">0</timeout>
    </yesno_messages>
  </report>
  <services-manager>
    <default_target>multi-user</default_target>
    <services>
      <disable config:type="list"/>
      <enable config:type="list">
        <service>YaST2-Firstboot</service>
        <service>YaST2-Second-Stage</service>
        <service>apparmor</service>
        <service>auditd</service>
        <service>klog</service>
        <service>btrfsmaintenance-refresh</service>
        <service>ca-certificates</service>
        <service>cio_ignore</service>
        <service>cron</service>
        <service>firewalld</service>
        <service>wickedd-auto4</service>
        <service>wickedd-dhcp4</service>
        <service>wickedd-dhcp6</service>
        <service>wickedd-nanny</service>
        <service>display-manager</service>
        <service>getty@tty1</service>
        <service>iscsi</service>
        <service>iscsid</service>
        <service>issue-generator</service>
        <service>kbdsettings</service>
        <service>lvm2-monitor</service>
        <service>wicked</service>
        <service>nscd</service>
        <service>postfix</service>
        <service>purge-kernels</service>
        <service>rollback</service>
        <service>rsyslog</service>
        <service>serial-getty@sclp_line0</service>
        <service>serial-getty@ttysclp0</service>
        <service>smartd</service>
        <service>sshd</service>
      </enable>
    </services>
  </services-manager>
  <software>
    <image/>
    <install_recommended config:type="boolean">true</install_recommended>
    <instsource/>
    <packages config:type="list">
      <package>xorg-x11-fonts</package>
```

```xml
      <package>xorg-x11-Xvnc</package>
      <package>xorg-x11</package>
      <package>sles-release</package>
      <package>sle-module-server-applications-release</package>
      <package>sle-module-basesystem-release</package>
      <package>openssh</package>
      <package>kexec-tools</package>
      <package>iproute2</package>
      <package>icewm</package>
      <package>grub2</package>
      <package>glibc</package>
      <package>firewalld</package>
      <package>e2fsprogs</package>
      <package>btrfsprogs</package>
      <package>autoyast2</package>
    </packages>
    <patterns config:type="list">
      <pattern>apparmor</pattern>
      <pattern>base</pattern>
      <pattern>enhanced_base</pattern>
      <pattern>minimal_base</pattern>
      <pattern>sw_management</pattern>
      <pattern>x11</pattern>
      <pattern>x11_yast</pattern>
      <pattern>yast2_basis</pattern>
    </patterns>
    <products config:type="list">
      <product>SLES</product>
    </products>
  </software>
  <ssh_import>
    <copy_config config:type="boolean">false</copy_config>
    <import config:type="boolean">false</import>
  </ssh_import>
  <timezone>
    <hwclock>UTC</hwclock>
    <timezone>America/New_York</timezone>
  </timezone>
  <user_defaults>
    <expire/>
    <group>100</group>
    <groups/>
    <home>/home</home>
    <inactive>-1</inactive>
    <no_groups config:type="boolean">true</no_groups>
    <shell>/bin/bash</shell>
    <skel>/etc/skel</skel>
    <umask>022</umask>
  </user_defaults>
```

```xml
  <users config:type="list">
   <user>
    <authorized_keys config:type="list"/>
    <encrypted config:type="boolean">true</encrypted>
    <fullname>Andy Hartman</fullname>
    <gid>100</gid>
    <home>/home/andy</home>
    <password_settings>
     <expire/>
     <flag/>
     <inact/>
     <max>99999</max>
     <min>0</min>
     <warn>7</warn>
    </password_settings>
    <shell>/bin/bash</shell>
    <uid>1000</uid>

<user_password>$6$piTwKw2tjprq$yTc.OqUiGn4dcUFV0eoyLY9vBocVmRoXyeoPMrMpDce
gOz7lMYoIV.NAEGHi8MxTlfU1il766yw.1Xq.GGcTk1</user_password>
    <username>andy</username>
   </user>
   <user>
    <encrypted config:type="boolean">true</encrypted>
    <fullname>systemd Core Dumper</fullname>
    <gid>483</gid>
    <home>/</home>
    <password_settings>
     <expire/>
     <flag/>
     <inact/>
     <max/>
     <min/>
     <warn/>
    </password_settings>
    <shell>/sbin/nologin</shell>
    <uid>483</uid>
    <user_password>!!</user_password>
    <username>systemd-coredump</username>
   </user>
   <user>
    <encrypted config:type="boolean">true</encrypted>
    <fullname>nobody</fullname>
    <gid>65534</gid>
    <home>/var/lib/nobody</home>
    <password_settings>
     <expire/>
     <flag/>
     <inact/>
```

```xml
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/bin/bash</shell>
      <uid>65534</uid>
      <user_password>!</user_password>
      <username>nobody</username>
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
      <fullname>User for polkitd</fullname>
      <gid>479</gid>
      <home>/var/lib/polkit</home>
      <password_settings>
        <expire/>
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/sbin/nologin</shell>
      <uid>477</uid>
      <user_password>!</user_password>
      <username>polkitd</username>
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
      <fullname>user for rpcbind</fullname>
      <gid>65534</gid>
      <home>/var/lib/empty</home>
      <password_settings>
        <expire/>
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/sbin/nologin</shell>
      <uid>481</uid>
      <user_password>!</user_password>
      <username>rpc</username>
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
      <fullname>bin</fullname>
      <gid>1</gid>
```

```xml
      <home>/bin</home>
      <password_settings>
        <expire/>
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/sbin/nologin</shell>
      <uid>1</uid>
      <user_password>!</user_password>
      <username>bin</username>
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
      <fullname>systemd Time Synchronization</fullname>
      <gid>482</gid>
      <home>/</home>
      <password_settings>
        <expire/>
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/sbin/nologin</shell>
      <uid>482</uid>
      <user_password>!!</user_password>
      <username>systemd-timesync</username>
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
      <fullname>User for nscd</fullname>
      <gid>481</gid>
      <home>/run/nscd</home>
      <password_settings>
        <expire/>
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/sbin/nologin</shell>
      <uid>480</uid>
      <user_password>!</user_password>
      <username>nscd</username>
```

```xml
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
      <fullname>Daemon</fullname>
      <gid>2</gid>
      <home>/sbin</home>
      <password_settings>
        <expire/>
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/sbin/nologin</shell>
      <uid>2</uid>
      <user_password>!</user_password>
      <username>daemon</username>
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
      <fullname>Mailer daemon</fullname>
      <gid>498</gid>
      <home>/var/spool/clientmqueue</home>
      <password_settings>
        <expire/>
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/sbin/nologin</shell>
      <uid>498</uid>
      <user_password>!</user_password>
      <username>mail</username>
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
      <fullname>SSH daemon</fullname>
      <gid>478</gid>
      <home>/var/lib/sshd</home>
      <password_settings>
        <expire/>
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
```

    </password_settings>
    <shell>/bin/false</shell>
    <uid>475</uid>
    <user_password>!</user_password>
    <username>sshd</username>
  </user>
  <user>
    <encrypted config:type="boolean">true</encrypted>
    <fullname>Printing daemon</fullname>
    <gid>487</gid>
    <home>/var/spool/lpd</home>
    <password_settings>
      <expire/>
      <flag/>
      <inact/>
      <max/>
      <min/>
      <warn/>
    </password_settings>
    <shell>/sbin/nologin</shell>
    <uid>476</uid>
    <user_password>!</user_password>
    <username>lp</username>
  </user>
  <user>
    <encrypted config:type="boolean">true</encrypted>
    <fullname>Manual pages viewer</fullname>
    <gid>62</gid>
    <home>/var/lib/empty</home>
    <password_settings>
      <expire/>
      <flag/>
      <inact/>
      <max/>
      <min/>
      <warn/>
    </password_settings>
    <shell>/sbin/nologin</shell>
    <uid>13</uid>
    <user_password>!</user_password>
    <username>man</username>
  </user>
  <user>
    <encrypted config:type="boolean">true</encrypted>
    <fullname>NFS statd daemon</fullname>
    <gid>65533</gid>
    <home>/var/lib/nfs</home>
    <password_settings>
      <expire/>

```xml
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/sbin/nologin</shell>
      <uid>479</uid>
      <user_password>!</user_password>
      <username>statd</username>
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
      <fullname>user for VNC</fullname>
      <gid>476</gid>
      <home>/var/lib/empty</home>
      <password_settings>
        <expire/>
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/sbin/nologin</shell>
      <uid>474</uid>
      <user_password>!</user_password>
      <username>vnc</username>
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
      <fullname>User for D-Bus</fullname>
      <gid>499</gid>
      <home>/run/dbus</home>
      <password_settings>
        <expire/>
        <flag/>
        <inact/>
        <max/>
        <min/>
        <warn/>
      </password_settings>
      <shell>/usr/bin/false</shell>
      <uid>499</uid>
      <user_password>!</user_password>
      <username>messagebus</username>
    </user>
    <user>
      <encrypted config:type="boolean">true</encrypted>
```

```xml
    <fullname>Postfix Daemon</fullname>
    <gid>51</gid>
    <home>/var/spool/postfix</home>
    <password_settings>
     <expire/>
     <flag/>
     <inact/>
     <max/>
     <min/>
     <warn/>
    </password_settings>
    <shell>/bin/false</shell>
    <uid>51</uid>
    <user_password>!</user_password>
    <username>postfix</username>
   </user>
   <user>
    <encrypted config:type="boolean">true</encrypted>
    <fullname>Chrony Daemon</fullname>
    <gid>480</gid>
    <home>/var/lib/chrony</home>
    <password_settings>
     <expire/>
     <flag/>
     <inact/>
     <max/>
     <min/>
     <warn/>
    </password_settings>
    <shell>/bin/false</shell>
    <uid>478</uid>
    <user_password>!</user_password>
    <username>chrony</username>
   </user>
   <user>
    <authorized_keys config:type="list"/>
    <encrypted config:type="boolean">true</encrypted>
    <fullname>root</fullname>
    <gid>0</gid>
    <home>/root</home>
    <password_settings>
     <expire/>
     <flag/>
     <inact/>
     <max/>
     <min/>
     <warn/>
    </password_settings>
    <shell>/bin/bash</shell>
```

```
    <uid>0</uid>

<user_password>$6$PQ7OyuFFvl6p$E7NNRcGLVA0IidvnFqelCx7k3NKlvn0bv8wcv96Kgwsx
t3Gun7sZGcGmzQuyvR28kqkL6mejuKa9R5g0tKPG31</user_password>
      <username>root</username>
    </user>
  </users>
  <zfcp>
    <devices config:type="list"/>
  </zfcp>
</profile>
```

Note: These examples are provided on an "as-is" basis and without any warranty, expressed or
implied.