



Samba Active Directory tools for Windows Admins

ADUC and ADSI Edit in Linux (via YaST)

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To get the source code

github.com/orgs/yast/teams/samba-team



Introduction

- What is SUSE?
- What is YaST?
- Prerequisites to YaST AD tools
 - yast-python-bindings



What is SUSE?

1991 – The Birth of Linux



SUSE Timeline

1992 to 2000 The Pioneering Years



1992

S.u.S.E. founded (German acronym for "Software und System-Entwicklung).

SLS is released, it's the first comprehensive Linux distribution.

1994

S.u.S.E Linux 1.0 ships on floppies.

1996

S.u.S.E Linux 4.2 is the first true SUSE distribution.

YaST released.

1997-1998

SUSE becomes Europe's leading Linux distribution.

SUSE enters North America market.

1999

IBM, SAP and Oracle partnerships announced.

SUSE Linux Enterprise Server released.

SUSE enters Asia Pacific market.

2000

YaST rewritten.

SUSE Linux Enterprise Server released.

SUSE Linux Enterprise Server for IBM s/390.

SUSE helps AMD port Linux to x86-64.

2001 to 2010

Building a Strong Ecosystem

2001

SUSE Linux Enterprise Server for x86 released.

2002-2003

SUSE acquired by Novell

Intel, AMD, HP, Fujitsu and other major partnerships announced.

2004

openSUSE Launched.

2006

Microsoft and SUSE announce interoperability agreement.

SUSE offers first Enterprise virtualization technology integration for Linux (Xen).

2009

SUSE Linux Enterprise Server 11 released with KVM.

SUSE Studio launched.

2010

VMware partnership announced.

SUSE Linux Enterprise available on Amazon EC2.

2011 to Present

Enabling an Always Open Data Center

2011

Novell acquired by Attachmate

SUSE OpenStack Cloud released.

2012

SUSE Linux Enterprise available on Microsoft Azure.

SUSECON launched in North America.

2014

SUSE joins Micro Focus.

SUSE Linux Enterprise 12 released.

SUSE Manager released.

2015

SUSE Enterprise Storage based on Ceph launched.

SUSE joins Cloud Foundry.

2016

SUSE CEO joins Micro Focus board.

SUSE acquires openATTIC Storage Management assets.

2011 to Present

From Linux Pioneer to Software-defined Infrastructure and Beyond



2017

SUSE acquires OpenStack IaaS and Cloud Foundry PaaS talent and technology assets from HPE.

SUSE celebrates its 25th anniversary.

SUSE Cloud Application

2018

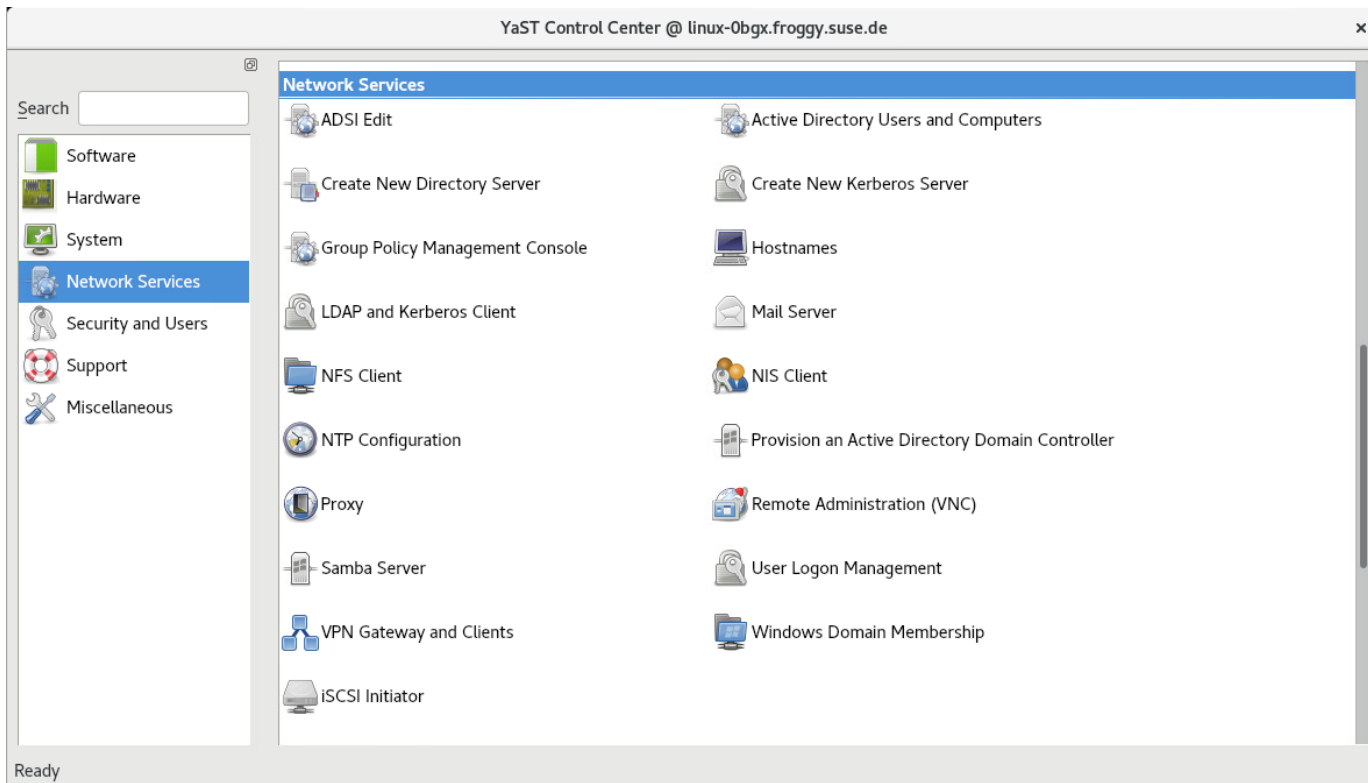
SUSE Enterprise 15 released.

2019

Partnership with EQT sees SUSE become largest independent open source software company.

What is YaST?

Yet another Setup Tool!



Installing and removing software



The screenshot shows the YaST2 window with the search results for 'samba'. The search results table is as follows:

Package	Summary	Installed (Available)
<input checked="" type="checkbox"/> libevent0-32bit	Samba teve...	0.9.37-2.2 (0.9.39-1.1)
<input checked="" type="checkbox"/> libwbclient0	Samba libw...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> libwbclient0-32bit	Samba libw...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> python3-pysmbc	Python bindi...	1.0.15.8-1.4
<input checked="" type="checkbox"/> samba	A SMB/CIFS...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> samba-client	Samba Clie...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> samba-client-32bit	Samba Clie...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> samba-libs	Samba libra...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> samba-libs-32bit	Samba libra...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> samba-libs-python3	Python3 de...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> samba-python3	Samba Pyth...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> samba-winbind	Winbind Da...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> samba-winbind-32bit	Winbind Da...	4.9.4+git.126.aa8e79e6e87-1.2 (4.10.2+git.78.0c89af72312-1.1)
<input checked="" type="checkbox"/> yast2-samba-client	YaST2 - Sa	4.1.1-1.1 (4.2.0-1.1)

The 'samba' package is selected. Below the table, the 'Description' tab is active, showing the following text:

samba - A SMB/CIFS File, Print, and Authentication Server

Samba is a suite of programs that allows SMB/CIFS clients to use the Unix file space, printers, and authentication subsystem.

The package named samba contains all programs that are needed to act as a server. The binaries expect the configuration file to be found in `/etc/samba/smb.conf`

For a more detailed description of Samba, check the samba-doc package or the Samba.org Web page at <https://www.Samba.org/>

Buttons for 'Cancel' and 'Accept' are visible at the bottom right of the window.

Configuring the firewall



Firewall Configuration

File Options View Help

Active Bindings Configuration: Runtime

Connections
Interfaces
Sources

Zones Services IPSets

A firewall zone defines the level of trust for network connections, interfaces and source addresses bound to the zone. The zone combines services, ports, protocols, masquerading, port/packet forwarding, icmp filters and rich rules. The zone can be bound to interfaces and source addresses.

block
dmz
drop
external
home
internal
public
trusted
work

Change Zone

Services Ports Protocols Source Ports Masquerading Port Forwarding ICMP Filter

Here you can define which services are trusted in the zone. Trusted services are accessible from all hosts and networks that can reach the machine from connections, interfaces and sources bound to this zone.

Service

- rsyncd
- salt-master
- samba
- samba-client
- sane
- sip
- sips
- slp
- smtp
- smtps

Connection to firewalld established.
Default Zone: public Log Denied: off Panic Mode: disabled Automatic Helpers: system (off) Lockdown: disabled

Enabling and disabling system services



YaST2 - services-manager @ linux-0bgx.froggy.suse.de

Services Manager

Default System Target

Graphical Interface

Service	Start	State	Description
usbmuxd	Manually	Inactive (Dead)	Socket daemon for the usbmux protocol used by Apple devices
user@1000	Manually	Active (Running)	User Manager for UID 1000
user@462	Manually	Active (Running)	User Manager for UID 462
vgauthd	On Boot	Active (Running)	open-vm-tools: vgauth service for virtual machines hosted on VMware
vmblock-fuse	On Boot	Active (Running)	open-vm-tools: vmblock-fuse service for virtual machines hosted on VMware
vmtoolsd	On Boot	Active (Running)	open-vm-tools: vmtoolsd service for virtual machines hosted on VMware
wicked	On Boot	Active (Exited)	wicked managed network interfaces
wickedd	Manually	Active (Running)	wicked network management service daemon
wickedd-auto4	On Boot	Active (Running)	wicked AutoIPv4 supplicant service
wickedd-dhcp4	On Boot	Active (Running)	wicked DHCPv4 supplicant service
wickedd-dhcp6	On Boot	Active (Running)	wicked DHCPv6 supplicant service
wickedd-nanny	On Boot	Active (Running)	wicked network nanny service
winbind	Manually	Inactive (Dead)	Samba Winbind Daemon
wpa_supplicant	Manually	Active (Running)	WPA Supplicant daemon
xfs	Manually	Inactive (Dead)	LSB: X Font Server
YaST2-Firstboot	On Boot	Inactive (Dead)	YaST2 Firstboot
YaST2-Second-Stage	On Boot	Inactive (Dead)	YaST2 Second Stage

Start Start Mode Show Details

Help Cancel OK

Windows Domain Membership



YaST2 - Windows Domain Membership

Windows Domain Membership

Membership

Domain or Workgroup

FROGGY.SUSE.DE

Currently a member of this domain Leave

Use SMB Information for Linux Authentication

- Create Home Directory on Login
- Offline Authentication
- Single Sign-on for SSH

Expert Settings...

Sharing by Users

Allow Users to Share Their Directories

Allow Guest Access

Permitted Group

users

Maximum Number of Shares

100

Help NTP Configuration... Cancel OK

Active Directory Users and Computers



YaST2 - aduc @ linux-0bgx.froggy.suse.de

File Action

Active Directory Users and Computers

▼ froggy.suse.de

- Builtin
- Computers
- Domain Controllers
- ForeignSecurityPrincipals
- Users

Name	Type	Description
Account Operators	Group	Members can administer domain user and group accounts
Administrators	Group	Administrators have complete and unrestricted access to the c
Backup Operators	Group	Backup Operators can override security restrictions for the sol
Certificate Service DCOM Access	Group	Members of this group are allowed to connect to Certification
Cryptographic Operators	Group	Members are authorized to perform cryptographic operations.
Distributed COM Users	Group	Members are allowed to launch, activate and use Distributed C
Event Log Readers	Group	Members of this group can read event logs from local machine
Guests	Group	Guests have the same access as members of the Users group
IIS_IUSRS	Group	Built-in group used by Internet Information Services.
Incoming Forest Trust Builders	Group	Members of this group can create incoming, one-way trusts to
Network Configuration Operators	Group	Members in this group can have some administrative privileges
Performance Log Users	Group	Members of this group may schedule logging of performance
Performance Monitor Users	Group	Members of this group can access performance counter data l
Pre-Windows 2000 Compatible Access	Group	A backward compatibility group which allows read access on a
Print Operators	Group	Members can administer domain printers
Remote Desktop Users	Group	Members in this group are granted the right to logon remotely
Replicator	Group	Supports file replication in a domain
Server Operators	Group	Members can administer domain servers
Terminal Server License Servers	Group	Members of this group can update user accounts in Active Dire
Users	Group	Users are prevented from making accidental or intentional syst
Windows Authorization Access Group	Group	Members of this group have access to the computed tokenGro

Help

ADSI Edit



YaST2 - adsi @ linux-0bgx.froggy.suse.de

File Action

ADSI Edit

- ▼ Default naming context
 - ▼ DC=froggy,DC=suse,DC=de
 - ▶ **CN=Builtin**
 - ▶ CN=Computers
 - ▶ OU=Domain Controllers
 - CN=ForeignSecurityPrincipals
 - CN=Infrastructure
 - CN=LostAndFound
 - CN=NTDS Quotas
 - ▶ CN=Program Data
 - ▶ CN=System
 - ▶ CN=Users

Name	Class	Distinguished Name
Account Operators	group	CN=Account Operators,CN=Builtin,DC=froggy,DC=suse,DC=de
Administrators	group	CN=Administrators,CN=Builtin,DC=froggy,DC=suse,DC=de
Backup Operators	group	CN=Backup Operators,CN=Builtin,DC=froggy,DC=suse,DC=de
Certificate Service DCOM Access	group	CN=Certificate Service DCOM Access,CN=Builtin,DC=froggy,DC=suse,DC=de
Cryptographic Operators	group	CN=Cryptographic Operators,CN=Builtin,DC=froggy,DC=suse,DC=de
Distributed COM Users	group	CN=Distributed COM Users,CN=Builtin,DC=froggy,DC=suse,DC=de
Event Log Readers	group	CN=Event Log Readers,CN=Builtin,DC=froggy,DC=suse,DC=de
Guests	group	CN=Guests,CN=Builtin,DC=froggy,DC=suse,DC=de
IIS_IUSRS	group	CN=IIS_IUSRS,CN=Builtin,DC=froggy,DC=suse,DC=de
Incoming Forest Trust Builders	group	CN=Incoming Forest Trust Builders,CN=Builtin,DC=froggy,DC=suse,DC=de
Network Configuration Operators	group	CN=Network Configuration Operators,CN=Builtin,DC=froggy,DC=suse,DC=de
Performance Log Users	group	CN=Performance Log Users,CN=Builtin,DC=froggy,DC=suse,DC=de
Performance Monitor Users	group	CN=Performance Monitor Users,CN=Builtin,DC=froggy,DC=suse,DC=de
Pre-Windows 2000 Compatible Access	group	CN=Pre-Windows 2000 Compatible Access,CN=Builtin,DC=froggy,DC=suse,DC=de
Print Operators	group	CN=Print Operators,CN=Builtin,DC=froggy,DC=suse,DC=de
Remote Desktop Users	group	CN=Remote Desktop Users,CN=Builtin,DC=froggy,DC=suse,DC=de
Replicator	group	CN=Replicator,CN=Builtin,DC=froggy,DC=suse,DC=de
Server Operators	group	CN=Server Operators,CN=Builtin,DC=froggy,DC=suse,DC=de
Terminal Server License Servers	group	CN=Terminal Server License Servers,CN=Builtin,DC=froggy,DC=suse,DC=de
Users	group	CN=Users,CN=Builtin,DC=froggy,DC=suse,DC=de
Windows Authorization Access Group	group	CN=Windows Authorization Access Group,CN=Builtin,DC=froggy,DC=suse,DC=de

Help

YaST in the Terminal



```
YaST2 - menu @ linux-0bgx.froggy.suse.de

YaST Control Center

Software
System
Hardware
Network Services
Security and Users
Support
Miscellaneous

ADSI Edit
Active Directory Users and Computers
Create New Directory Server
Create New Kerberos Server
Group Policy Management Console
Hostnames
LDAP and Kerberos Client
Mail Server
NFS Client
NIS Client
NTP Configuration
Provision an Active Directory Domain Controller
Proxy
Remote Administration (VNC)
Samba Server
User Logon Management
VPN Gateway and Clients
Windows Domain Membership
iSCSI Initiator

[Help] [Run] [Quit]

F1 Help F9 Quit
```

Prerequisites to YaST AD tools

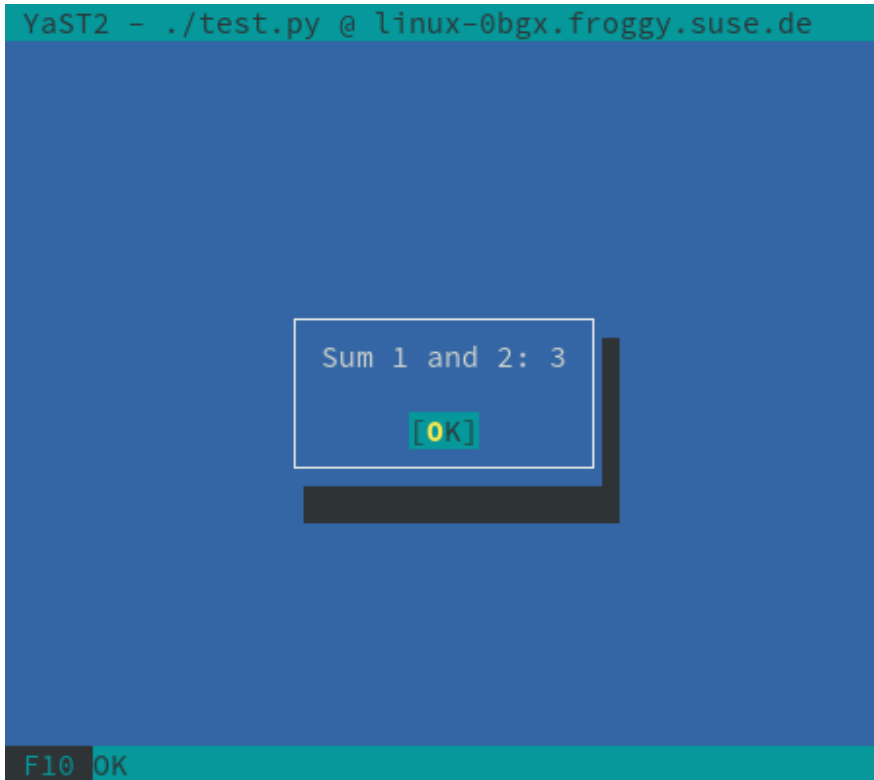
Why python?

- Samba python bindings
- YaST python bindings



YaST Python Bindings

```
YaST2 - ./test.py @ linux-0bgx.froggy.suse.de
```



```
Sum 1 and 2: 3
```

```
[OK]
```

```
F10 OK
```

```
# Python module declaration Sum.py  
from yast import Declare  
@Declare('integer', 'integer', 'integer')  
def suma(a, b):  
    return a + b
```

```
# Python UI  
import yast  
yast.import_module('Sum')  
yast.import_module('Popup')  
sum = yast.Sum.suma(1, 2)  
yast.Popup.Message('Sum 1 and 2: %d' % sum)
```

YaST Python Bindings

```
-rw-r--r-- 1 dmulder users 395 Apr 3 01:34 PythonLogger.h
-rw-r--r-- 1 dmulder users 148 May 16 08:34 test.py
-rw-r--r-- 1 dmulder users 1586 Apr 3 01:34 Y2CCPython.cc
-rw-r--r-- 1 dmulder users 1534 Apr 3 01:34 Y2CCPythonClient.cc
-rw-r--r-- 1 dmulder users 1088 Apr 3 01:34 Y2CCPythonClient.h
-rw-r--r-- 1 dmulder users 1930 Apr 3 01:34 Y2CCPython.h
-rw-r--r-- 1 dmulder users 568 Apr 3 01:34 y2log.h
-rw-r--r-- 1 dmulder users 1194 Apr 3 01:34 y2log.i
-rw-r--r-- 1 dmulder users 3264 Apr 3 01:34 Y2PythonClientComponent.cc
-rw-r--r-- 1 dmulder users 761 Apr 3 01:34 Y2PythonClientComponent.h
-rw-r--r-- 1 dmulder users 1713 Apr 3 01:34 Y2PythonComponent.cc
-rw-r--r-- 1 dmulder users 1793 Apr 3 01:34 Y2PythonComponent.h
-rw-r--r-- 1 dmulder users 678 Apr 3 01:34 yast-core.i
-rw-r--r-- 1 dmulder users 439913 May 16 08:07 yast-core_wrap.cxx
-rw-r--r-- 1 dmulder users 9573 Apr 3 01:34 yast.cpp
-rw-r--r-- 1 dmulder users 1166 Apr 3 01:34 yast.h
-rw-r--r-- 1 dmulder users 21782 Apr 26 12:24 yast_help.py
-rw-r--r-- 1 dmulder users 5512 May 16 08:07 yast.py
-rw-r--r-- 1 dmulder users 5511 Apr 26 12:24 yast.py.in
-rw-r--r-- 1 dmulder users 4139 Apr 26 12:24 ycpbuiltins.py
-rw-r--r-- 1 dmulder users 6249 Apr 3 01:34 YCPDeclarations.cc
-rw-r--r-- 1 dmulder users 3427 Apr 3 01:34 YCPDeclarations.h
-rw-r--r-- 1 dmulder users 3082 Apr 26 12:24 YCPDeclarations.py
-rw-r--r-- 1 dmulder users 7229 Apr 3 01:34 ycp.i
-rw-r--r-- 1 dmulder users 6685 May 16 08:07 YCPMap.h
-rw-r--r-- 1 dmulder users 50963 May 16 08:07 ycp.py
-rw-r--r-- 1 dmulder users 14512 Apr 26 12:24 YPython.cc
-rw-r--r-- 1 dmulder users 964 Apr 3 01:34 YPythonCode.cc
-rw-r--r-- 1 dmulder users 494 Apr 3 01:34 YPythonCode.h
-rw-r--r-- 1 dmulder users 3129 Apr 3 01:34 YPython.h
-rw-r--r-- 1 dmulder users 8118 Apr 3 01:34 YPythonNamespace.cc
-rw-r--r-- 1 dmulder users 1687 Apr 3 01:34 YPythonNamespace.h
-rw-r--r-- 1 dmulder users 126 Apr 3 01:34 ytypes.h
-rw-r--r-- 1 dmulder users 3938 Apr 3 01:34 ytypes.i
dmulder@linux-0bgx:~/code/yast-python-bindings/src> █
```

For more info

**github.com/yast/yast-python-bindings
dmulder@suse.com**



Samba AD Tools

Outline

- **YaST Active Directory Users and Computers**
- **YaST ADSI Edit**
- **Extras**



Active Directory Users and Computers

How do I get it?

On openSUSE:

```
sudo zypper in yast2-aduc
```

Fedora repos:

```
https://build.opensuse.org/project/show/home:hellcp:YaST-for-Fedora
```

or

```
git clone https://github.com/yast/yast2-aduc.git
```

```
git clone https://github.com/yast/yast2-adcommon-python.git
```

Loading ADUC

```
YaST2 - menu @ linux-0bgx

YaST Control Center

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Proxy
Remote Administration (VNC)
Samba Server
User Logon Management
VPN Gateway and Clients
Windows Domain Membership
iSCSI Initiator

[Help] [Run] [Quit]

F1 Help F9 Quit
```

User Properties

The screenshot shows the 'ADMIN Properties' dialog box with the 'Unix Attributes' tab selected. The left pane shows a tree view of the system hierarchy, with 'Users' selected. The main area displays the following fields:

- UID number: 22398
- GID number: 1000
- GECOS: ADMIN
- Home directory: /home/FROGGV/admin
- Login shell: /bin/sh

At the bottom of the dialog are buttons for [OK], [Cancel], and [Apply]. The status bar at the bottom left shows 'F9 Cancel' and 'F10 OK'.

On the right side of the dialog, there is a text area containing the following text:

ption
in account for administering t
s in this group can have their
s of this group are permitted
s in this group cannot have th
ministrators Group
ients who are permitted to per
ated administrators of the dom
rkstations and servers joined
main controllers in the domain
main guests
main users
ated administrators of the ent
s of this group are Read-Only
s in this group can modify gro
in account for guest access to
tribution Center Service Acco
s in this group can access rem
s of this group are Read-Only
ated administrators of the sch

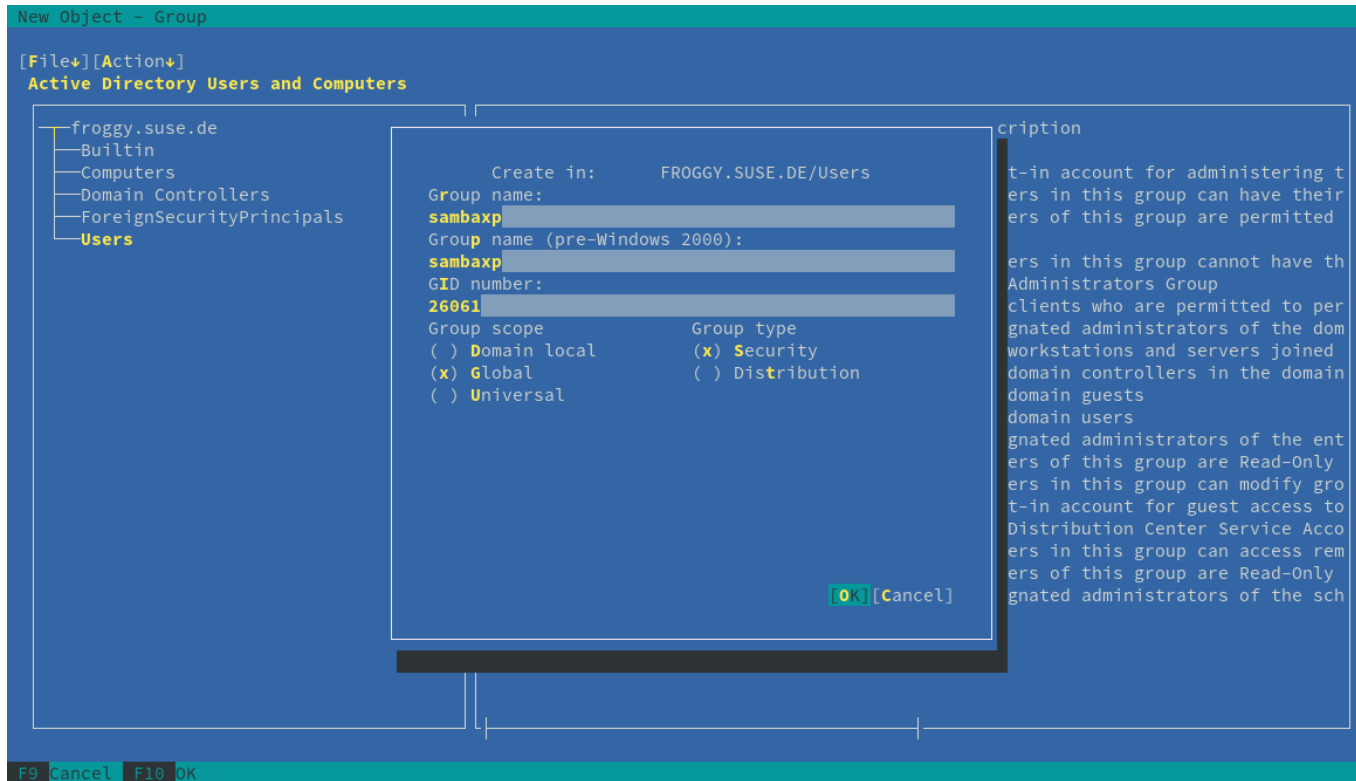
Create a user

Active Directory Users and Computers

[File+] [Action+]
Active Directory Users and Computers

Name	Type	Description
ADMIN	User	
Administrator	User	Built-in account for administering t
Allowed RODC Password Replication Group	Group	Members in this group can have their
Cert Publishers	Group	Members of this group are permitted
Denied RODC Password Replication Group	Group	Members in this group cannot have th
DnsAdmins	Group	DNS Administrators Group
DnsUpdateProxy	Group	DNS clients who are permitted to per
Domain Admins	Group	Designated administrators of the dom
Domain Computers	Group	All workstations and servers joined
Domain Controllers	Group	All domain controllers in the domain
Domain Guests	Group	All domain guests
Domain Users	Group	All domain users
Enterprise Admins	Group	Designated administrators of the ent
Enterprise Read-only Domain Controllers	Group	Members of this group are Read-Only
Group Policy Creator Owners	Group	Members in this group can modify gro
Guest	User	Built-in account for guest access to
krbtgt	User	Key Distribution Center Service Acco
RAS and IAS Servers	Group	Servers in this group can access rem
Read-only Domain Controllers	Group	Members of this group are Read-Only
samba	Group	
Schema Admins	Group	Designated administrators of the sch

Create a group



Add users to a group

Active Directory Users and Computers

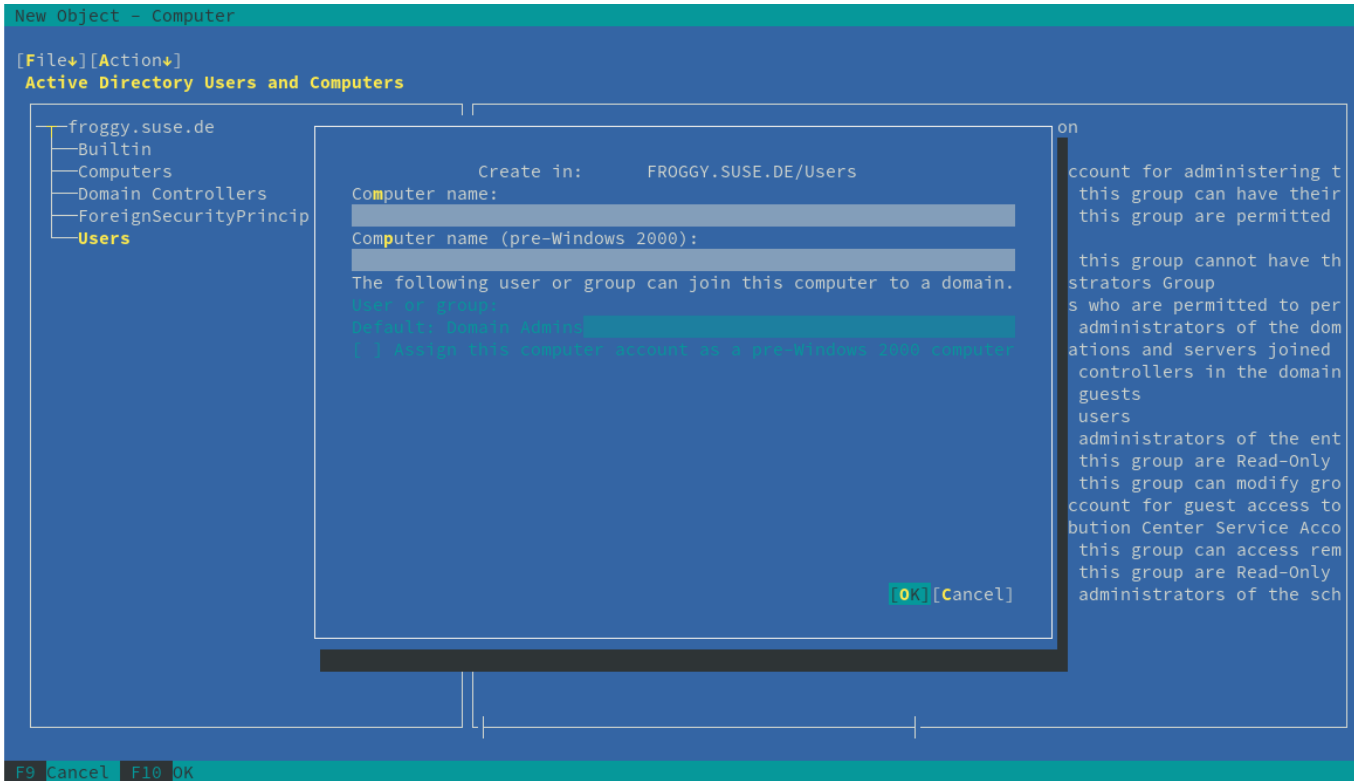
[File+] [Action+]

Active Directory Users and Computers

- froggy.suse.de
 - Builtin
 - Computers
 - Domain Controllers
 - ForeignSecurityPrincipals
 - Users**

Name	Type	Description
ADMIN	User	
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David M Mulder	User	
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sambaxp	Group	
Schema Admins	Group	Designated administrators of the sch

Create a computer object



Searching

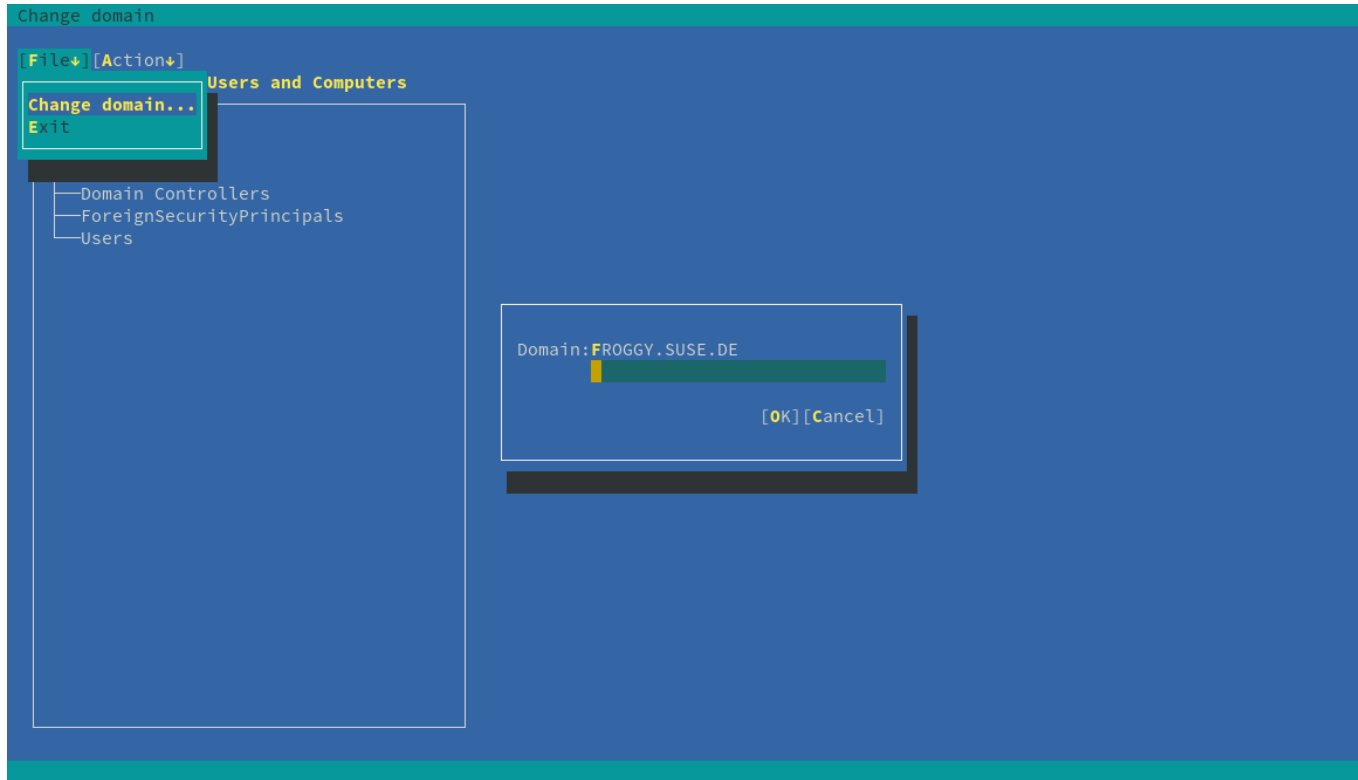
Active Directory Users and Computers

[File+] [Action+]
Active Directory Users and Computers

- froggy.suse.de
 - Builtin
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Changing Domains



ADSI Edit

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Fedora repos:

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```

```
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```

ADSI Edit

```
YaST2 - menu @ linux-0bgx

YaST Control Center

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LDAP and Kerberos Client
Mail Server
NFS Client
NIS Client
NTP Configuration
Provision an Active Directory Domain Controller
Proxy
Remote Administration (VNC)
Samba Server
User Logon Management
VPN Gateway and Clients
Windows Domain Membership
iSCSI Initiator

[Help] [Run] [Quit]

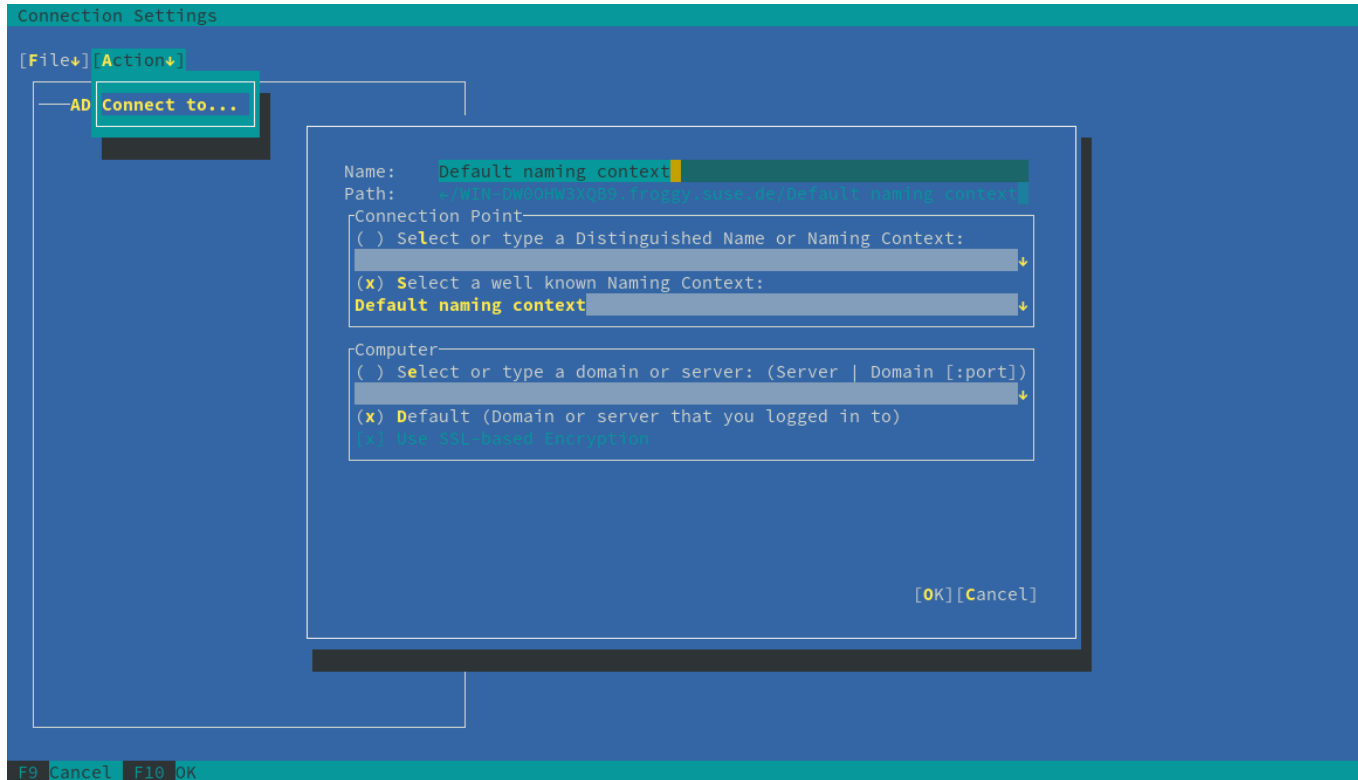
F1 Help F9 Quit
```

Hierarchical Treeview

The screenshot shows the ADSI Edit application window. On the left is a hierarchical treeview of the directory structure. The 'CN=Users' folder is selected and highlighted in green. On the right is a list of objects with columns for Name, Class, and Distinguished Name.

Name	Class	Distinguished Name
ADMIN	user	CN=ADMIN,CN=Users,DC=froggy,DC=suse,
Administrator	user	CN=Administrator,CN=Users,DC=froggy,
Allowed RODC Password Replication Group	group	CN=Allowed RODC Password Replication
Cert Publishers	group	CN=Cert Publishers,CN=Users,DC=frogg
David M Mulder	user	CN=David M Mulder,CN=Users,DC=froggy
Denied RODC Password Replication Group	group	CN=Denied RODC Password Replication
DnsAdmins	group	CN=DnsAdmins,CN=Users,DC=froggy,DC=s
DnsUpdateProxy	group	CN=DnsUpdateProxy,CN=Users,DC=froggy
Domain Admins	group	CN=Domain Admins,CN=Users,DC=froggy,
Domain Computers	group	CN=Domain Computers,CN=Users,DC=frog
Domain Controllers	group	CN=Domain Controllers,CN=Users,DC=fr
Domain Guests	group	CN=Domain Guests,CN=Users,DC=froggy,
Domain Users	group	CN=Domain Users,CN=Users,DC=froggy,D
Enterprise Admins	group	CN=Enterprise Admins,CN=Users,DC=fro
Enterprise Read-only Domain Contr	group	CN=Enterprise Read-only Domain Contr
Group Policy Creator Owners	group	CN=Group Policy Creator Owners,CN=Us
Guest	user	CN=Guest,CN=Users,DC=froggy,DC=suse,
krbtgt	user	CN=krbtgt,CN=Users,DC=froggy,DC=suse
RAS and IAS Servers	group	CN=RAS and IAS Servers,CN=Users,DC=f
Read-only Domain Controllers	group	CN=Read-only Domain Controllers,CN=U
Schema Admins	group	CN=Schema Admins,CN=Users,DC=froggy,

Changing Naming Contexts



Default Naming Context

ADSI Edit

[File+] [Action+]

ADSI Edit

- Default naming context
 - DC=froggy,DC=suse,DC=de
 - +CN=Builtin
 - +CN=Computers
 - +OU=Domain Controllers
 - CN=ForeignSecurityPrincipals
 - CN=Infrastructure
 - CN=LostAndFound
 - CN=NTDS Quotas
 - +CN=Program Data
 - +CN=System
 - + **CN=Users**

Name	Class	Distinguished Name
ADMIN	user	CN=ADMIN,CN=Users,DC=froggy,DC=suse,
Administrator	user	CN=Administrator,CN=Users,DC=froggy,
Allowed RODC Password Replication Group	group	CN=Allowed RODC Password Replication
Cert Publishers	group	CN=Cert Publishers,CN=Users,DC=froggy
David M Mulder	user	CN=David M Mulder,CN=Users,DC=froggy
Denied RODC Password Replication Group	group	CN=Denied RODC Password Replication
DnsAdmins	group	CN=DnsAdmins,CN=Users,DC=froggy,DC=s
DnsUpdateProxy	group	CN=DnsUpdateProxy,CN=Users,DC=froggy
Domain Admins	group	CN=Domain Admins,CN=Users,DC=froggy,
Domain Computers	group	CN=Domain Computers,CN=Users,DC=frog
Domain Controllers	group	CN=Domain Controllers,CN=Users,DC=fr
Domain Guests	group	CN=Domain Guests,CN=Users,DC=froggy,
Domain Users	group	CN=Domain Users,CN=Users,DC=froggy,D
Enterprise Admins	group	CN=Enterprise Admins,CN=Users,DC=fro
Enterprise Read-only Domain Contr	group	CN=Enterprise Read-only Domain Contr
Group Policy Creator Owners	group	CN=Group Policy Creator Owners,CN=Us
Guest	user	CN=Guest,CN=Users,DC=froggy,DC=suse,
krbtgt	user	CN=krbtgt,CN=Users,DC=froggy,DC=suse
RAS and IAS Servers	group	CN=RAS and IAS Servers,CN=Users,DC=f
Read-only Domain Controllers	group	CN=Read-only Domain Controllers,CN=U
Schema Admins	group	CN=Schema Admins,CN=Users,DC=froggy,

RootDSE Naming Context

The screenshot displays the Active Directory Administrative Center interface. On the left, a tree view shows the hierarchy: ADSI Edit > RootDSE [WIN-DW00HW3XQ] > RootDSE. The main pane shows a table of attributes and their values for the RootDSE Naming Context.

Attribute	Value
configurationNamingContext	CN=Configuration,DC=froggy,DC=su
currentTime	20190510170404.0Z
defaultNamingContext	DC=froggy,DC=suse,DC=de
dnsHostName	WIN-DW00HW3XQB9.froggy.suse.de
domainControllerFunctionality	3
domainFunctionality	3
dsServiceName	CN=NTDS Settings,CN=WIN-DW00HW3X
forestFunctionality	3
highestCommittedUSN	100424
isGlobalCatalogReady	TRUE
isSynchronized	TRUE
ldapServiceName	froggy.suse.de:win-dw0ohw3xqb9\$@
namingContexts	DC=froggy,DC=suse,DC=de; CN=Conf
rootDomainNamingContext	DC=froggy,DC=suse,DC=de
schemaNamingContext	CN=Schema,CN=Configuration,DC=fr
serverName	CN=WIN-DW00HW3XQB9,CN=Servers,CN
subschemaSubentry	CN=Aggregate,CN=Schema,CN=Config
supportedCapabilities	1.2.840.113556.1.4.800; 1.2.840.
supportedControl	1.2.840.113556.1.4.319; 1.2.840.
supportedLDAPPolicies	MaxPoolThreads; MaxDatagramRecv;
supportedLDAPVersion	3; 2
supportedSASLMechanisms	GSSAPI; GSS-SPNEGO; EXTERNAL; DI

[OK] [Cancel] [Apply]

F9 Cancel F10 OK

Configuration Naming Context

ADSI Edit

[File+] [Action+]

Name	Class	Distinguished Name
DisplaySpecifiers	container	CN=DisplaySpecifiers,CN=Configur
Extended-Rights	container	CN=Extended-Rights,CN=Configurat
ForestUpdates	container	CN=ForestUpdates,CN=Configuratio
LostAndFoundConfig	lostAndFound	CN=LostAndFoundConfig,CN=Configu
NTDS Quotas	msDS-QuotaContainer	CN=NTDS Quotas,CN=Configuration,
Partitions	crossRefContainer	CN=Partitions,CN=Configuration,D
Physical Locations	physicalLocation	CN=Physical Locations,CN=Configu
Services	container	CN=Services,CN=Configuration,DC=fro
Sites	sitesContainer	CN=Sites,CN=Configuration,DC=fro
WellKnown Security Principals	container	CN=WellKnown Security Principals

Schema Naming Context

ADSI Edit

[File+] [Action+]

Name	Class	Dist-
account	classSchema	CN=a
Account-Expires	attributeSchema	CN=A
Account-Name-History	attributeSchema	CN=A
ACS-Aggregate-Token-Rate-Per-User	attributeSchema	CN=A
ACS-Allocable-RSVP-Bandwidth	attributeSchema	CN=A
ACS-Cache-Timeout	attributeSchema	CN=A
ACS-Direction	attributeSchema	CN=A
ACS-DSBM-DeadTime	attributeSchema	CN=A
ACS-DSBM-Priority	attributeSchema	CN=A
ACS-DSBM-Refresh	attributeSchema	CN=A
ACS-Enable-ACS-Service	attributeSchema	CN=A
ACS-Enable-RSVP-Accounting	attributeSchema	CN=A
ACS-Enable-RSVP-Message-Logging	attributeSchema	CN=A
ACS-Event-Log-Level	attributeSchema	CN=A
ACS-Identity-Name	attributeSchema	CN=A
ACS-Max-Aggregate-Peak-Rate-Per-User	attributeSchema	CN=A
ACS-Max-Duration-Per-Flow	attributeSchema	CN=A
ACS-Max-No-Of-Account-Files	attributeSchema	CN=A
ACS-Max-No-Of-Log-Files	attributeSchema	CN=A
ACS-Max-Peak-Bandwidth	attributeSchema	CN=A
ACS-Max-Peak-Bandwidth-Per-Flow	attributeSchema	CN=A
ACS-Max-Size-Of-RSVP-Account-File	attributeSchema	CN=A
ACS-Max-Size-Of-RSVP-Log-File	attributeSchema	CN=A
ACS-Max-Token-Bucket-Per-Flow	attributeSchema	CN=A
ACS-Max-Token-Rate-Per-Flow	attributeSchema	CN=A
ACS-Maximum-SDU-Size	attributeSchema	CN=A
ACS-Minimum-Delay-Variation	attributeSchema	CN=A

User Properties

CN=David M Mulder Properties

[File+] [Action+]

- ADSI Edit
 - Default naming context
 - DC=froggy,DC=suse,DC=...
 - +CN=Builtin
 - +CN=Computers
 - +OU=Domain Controller
 - CN=ForeignSecurityPr...
 - CN=Infrastructure
 - CN=LostAndFound
 - CN=NTDS Quotas
 - +CN=Program Data
 - +CN=System
 - +CN=Users

Attribute	Value
fsMORoleOwner	<not set
garbageCollPeriod	<not set
gecos	David M
generationQualifier	<not set
gidNumber	1000
givenName	David
gPLink	<not set
gPOptions	<not set
groupMembershipSAM	<not set
groupPriority	<not set
groupsToIgnore	<not set
homeDirectory	/home/FR
homeDrive	<not set
homePhone	<not set
homePostalAddress	<not set
houseIdentifier	<not set
info	<not set
initials	M
instanceType	4
internationalISDNNumber	<not set
ipHostNumber	<not set
ipPhone	<not set
isCriticalSystemObject	<not set
isDeleted	<not set

[OK] [Cancel] [Apply]

F9 Cancel F10 OK

ed Name
=Users,DC=froggy,DC=suse,
rator,CN=Users,DC=froggy,
RODC Password Replication
lishers,CN=Users,DC=frogg
Mulder,CN=Users,DC=froggy
ODC Password Replication
s,CN=Users,DC=froggy,DC=s
eProxy,CN=Users,DC=froggy
dmins,CN=Users,DC=froggy,
omputers,CN=Users,DC=frog
ontrollers,CN=Users,DC=fr
uests,CN=Users,DC=froggy,
sers,CN=Users,DC=froggy,D
se Admins,CN=Users,DC=fro
se Read-only Domain Contr
licy Creator Owners,CN=Us
=Users,DC=froggy,DC=suse,
N=Users,DC=froggy,DC=suse
IAS Servers,CN=Users,DC=f
y Domain Controllers,CN=U
dmins,CN=Users,DC=froggy,

Group Properties

[File] [Action+]

ADSI Edit
 Default naming context
 DC=froggy,DC=suse,DC=

- CN=Builtin
- CN=Computers
- OU=Domain Controller
- CN=ForeignSecurityPr
- CN=Infrastructure
- CN=LostAndFound
- CN=NTDS Quotas
- CN=Program Data
- CN=System
- CN=Users**

Attribute	Value
accountNameHistory	<not set>
adminCount	<not set>
adminDescription	<not set>
adminDisplayName	<not set>
altSecurityIdentities	<not set>
associatedDomain	<not set>
auditingPolicy	<not set>
bootFile	<not set>
bootParameter	<not set>
bridgeheadServerListBL	<not set>
builtinCreationTime	<not set>
builtinModifiedCount	<not set>
cACertificate	<not set>
cn	sambaxp
controlAccessRights	<not set>
creationTime	<not set>
defaultLocalPolicyObject	<not set>
description	<not set>
desktopProfile	<not set>
directReports	<not set>
displayName	<not set>
displayNamePrintable	<not set>
distinguishedName	CN=sambaxp,CN=Users,DC=froggy
domainPolicyObject	<not set>

ed Name
 =Users,DC=froggy,DC=suse,
 rator,CN=Users,DC=froggy,
 RODC Password Replication
 lishers,CN=Users,DC=frogg
 Mulder,CN=Users,DC=froggy
 ODC Password Replication
 s,CN=Users,DC=froggy,DC=s
 eProxy,CN=Users,DC=froggy
 dmins,CN=Users,DC=froggy,
 omputers,CN=Users,DC=frog
 ontrollers,CN=Users,DC=fr
 uests,CN=Users,DC=froggy,
 sers,CN=Users,DC=froggy,D
 se Admins,CN=Users,DC=fro
 se Read-only Domain Contr
 licy Creator Owners,CN=Us
 =Users,DC=froggy,DC=suse,
 N=Users,DC=froggy,DC=suse
 IAS Servers,CN=Users,DC=f
 y Domain Controllers,CN=U
CN=Users,DC=froggy,DC=sus
 dmins,CN=Users,DC=froggy,

[OK] [Cancel] [Apply]

F9 Cancel F10 OK

Creating Objects

ADSI Edit

[File*] [Action+]

Tree View:

- ADSI Edit
 - Default naming context [WIN-DW00HW3X]
 - DC=froggy,DC=suse,DC=de
 - ← CN=Builtin
 - ← CN=Computers**
 - ← OU=Domain Controllers
 - ← CN=ForeignSecurityPrincipals
 - ← CN=Infrastructure
 - ← CN=LostAndFound
 - ← CN=NTDS Quotas
 - ← CN=Program Data
 - ← CN=System
 - ← CN=Users

Name	Class	Distinguished Name
LINUX-0BGX	computer	CN=LINUX-0BGX,CN=Computers,DC=froggy,DC=suse,DC=de

(Bonus) Provisioning an Active Directory DC

How do I get it?

On openSUSE:

```
sudo zypper in yast2-samba-provision
```

Fedora repos:

```
https://build.opensuse.org/project/show/home:hellcp:YaST-for-Fedora
```

or

```
git clone https://github.com/yast/yast-samba-provision.git
```

Provisioning a Samba AD DC

```
YaST2 - menu @ linux-0bgx

YaST Control Center

Software
System
Hardware
Network Services
Security and Users
Support
Miscellaneous

ADSI Edit
Active Directory Users and Computers
Create New Directory Server
Create New Kerberos Server
Group Policy Management Console
Hostnames
LDAP and Kerberos Client
Mail Server
NFS Client
NIS Client
NTP Configuration
Provision an Active Directory Domain Controller
Proxy
Remote Administration (VNC)
Samba Server
User Logon Management
VPN Gateway and Clients
Windows Domain Membership
iSCSI Initiator

[Help] [Run] [Quit]

F1 Help F9 Quit
```

Future Work

- **YaST DNS Manager for Samba AD-DC**
- **Additional Features for YaST ADSI Edit and YaST ADUC**
 - LDAP query dialog for ADSI Edit

DNS Manager (in progress)



Some takeaways

- **samba-tool api?**
 - Empty SambaOptions and CredentialsOptions required to instantiate Command.
 - Credential to CredentialsOptions to Credential is wasteful.
 - Parsing the Command object outf seems silly.
 - Above makes sense for testing, but not interfacing with a GUI.

For more info

github.com/orgs/yast/teams/samba-team
dmulder@suse.com

Report bugs to:
bugzilla.opensuse.org



Questions?



We adapt. You succeed.