

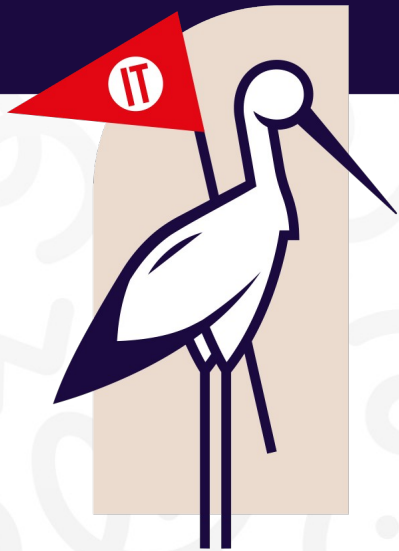


OPENRSAT: OPENING RSAT TO A WIDER WORLD

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23/04/2026

CONTENT



- ▶ OpenRSAT story
- ▶ What is OpenRSAT
- ▶ FreePascal and Lazarus
- ▶ Purpose
- ▶ Fun facts

OPENRSAT - STORY



OPENRSAT - STORY

- ▶ Tranquil IT is expert in Active Directory



OPENRSAT - STORY

- ▶ Tranquil IT want to develop tools related to the Active Directory



OPENRSAT - STORY

- ▶ Tranquil IT developed a LDAP client with mORMot2



SAMBA
Active Directory

OPENRSAT - STORY

- ▶ Setup samba AD : 10-15min
- ▶ Setup a client machine : 10-15min
- ▶ Install Windows RSAT : 1-3 hours (if it works on your machine)



OPENRSAT - STORY

- ▶ Tranquil IT decided to create its own GUI tools for Unix users

OPENRSAT
by  **TRANQUILIT**

OPENRSAT - WHAT IS THIS?



OPENRSAT – WHAT IS THIS?

- ▶ RSAT (Remote Server Administration Tools)
- ▶ Administrate Active Directory
- ▶ GUI Tool

OPENRSAT – WHAT IS THIS?

- ▶ Lightweight (<20MB)
- ▶ Fast
- ▶ Portable and self contained
- ▶ Cross-platform (Linux, Windows and MacOS)
- ▶ Few dependencies to build (fpc, lazarus, mORMot2)
- ▶ Few dependencies from the system (gtk2, openssl)

Opensat – Authentication

The screenshot shows the 'Profil configuration' dialog box with the following settings:

- Domain: opensat.lan
- Domain Controller: srvads.opensat.lan
- TLS:
- Unsafe connection:
- Timeout: 5000
- Auth method: Simple (selected), Kerberos
- Account: Username: demouser @ opensat.lan, Password: [empty]
- Buttons: Test Connection, Show DC infos, Test Authentication, Cancel, OK

Simple authentication

The screenshot shows the 'Profil configuration' dialog box with the following settings:

- Domain: opensat.lan
- Domain Controller: srvads.opensat.lan
- TLS:
- Unsafe connection:
- Timeout: 5000
- Auth method: Simple, Kerberos (selected)
- Channel binding:
- Current username:
- Account: Username: demouser @ opensat.lan, Password: [empty]
- Buttons: Test Connection, Show DC infos, Test Authentication, Cancel, OK

Kerberos authentication

Openrsat – Users and Computers

The screenshot shows the OpenRSAT console window with the 'Users and Computers' tab selected. The left pane displays the Active Directory structure for 'opensat.lan', including folders for Builtin, Computers, Domain Controllers, ForeignSecurityPrincipals, Managed Service Accounts, Users, and opensat. The right pane shows a table of these containers.

Name	Type	Description
Builtin	builtinDomain	
Computers	container	Default container for upgraded computer ac...
Domain Controllers	organizationalUnit	Default container for domain controllers
ForeignSecurityPrincipals	container	Default container for security identifiers (SI...
Managed Service Accounts	container	Default container for managed service acco...
Users	container	Default container for upgraded user accounts
opensat	organizationalUnit	

Total : 7 elements

User: demouser@opensat.lan DC: srvads.opensat.lan Version: 0.4.226

Openrsat – DNS

The screenshot shows the OpenRSAT DNS console interface. The left pane displays a tree view of the domain structure, with 'openrsat.lan' selected under 'Forward Lookup'. The right pane shows a table of DNS records for the selected domain.

Name	Type	Data	Timestamp
Forward Lookup			
_udp			
_tcp			
_sites			
DomainDnsZones			
srvads	Host (A)	10.11.2.121	
ForestDnsZones			
(Same as parent folder)	Start of Authority (S...	[1].srvads.openrsat.lan,hostmaster.openrsat...	
(Same as parent folder)	Name Server (NS)		
(Same as parent folder)	Host (A)	10.11.2.121	
_msdc	Name Server (NS)		

Total : 10 elements

User: demouser@openrsat.lan DC: srvads.openrsat.lan Version: 0.4.226

Openrsat – Sites and Services

OpenRSAT

File View ?

Users and Computers Domain Name System Sites and Services Services and Interfaces

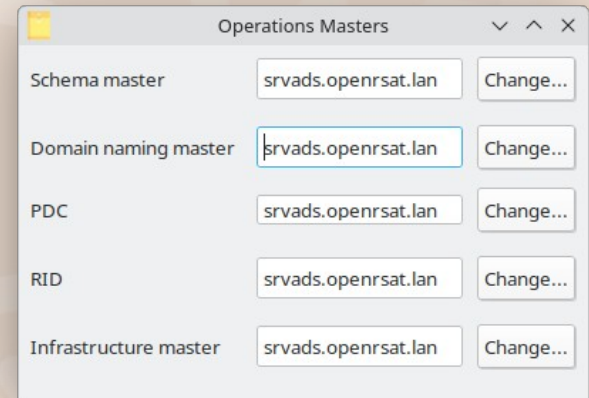
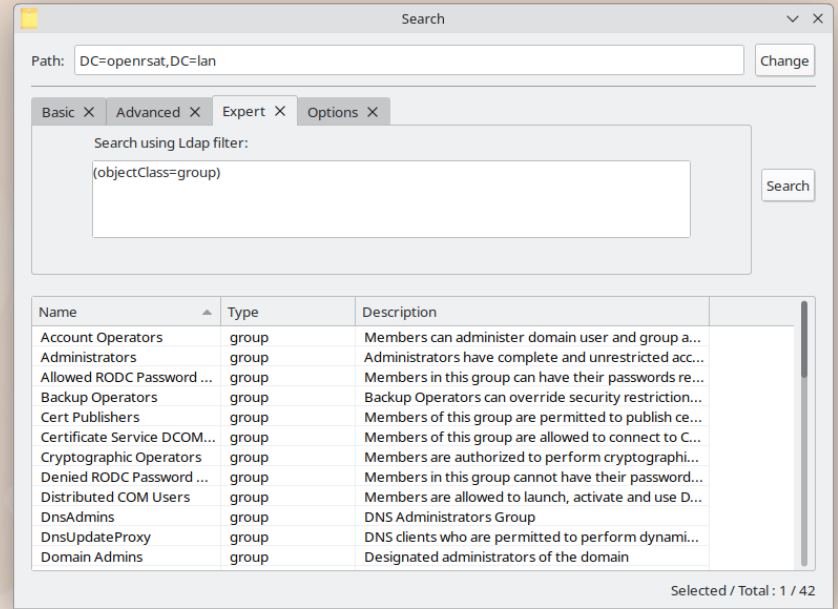
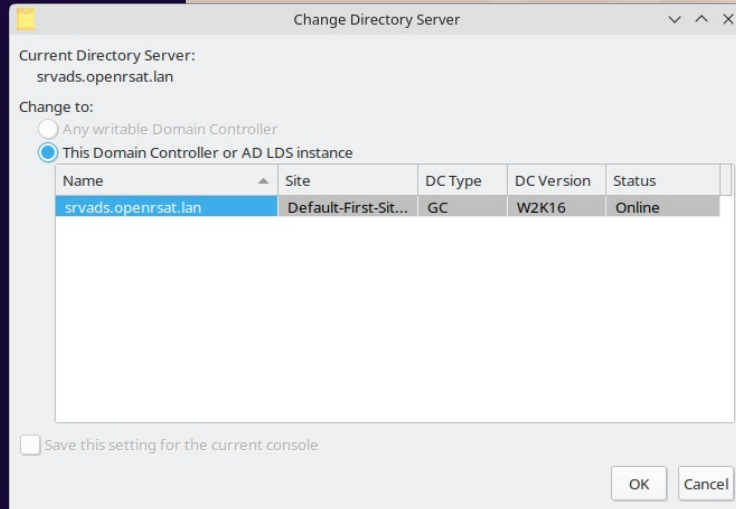
OpenRSAT by TRANQUILIT

Name	Type	Description
NTDS Site Settings	nTDSiteSettings	
Servers	serversContainer	

Selected / Total : 1 / 2

User: demouser@opensat.lan DC: srvads.opensat.lan Version: 0.4.226

Openrsat – Extras



Openrsat – Extras

The screenshot shows the 'Attributes' tab for the user 'sambauser'. The 'Attributes' section is expanded, showing a list of attributes and their values. The 'nTSecurityDescriptor' attribute is highlighted in blue.

Attribute	value
logonCount	0
memberOf	CN=sambagroup,OU=Groups,OU=sambaxp,DC=openrsat,DC=lan
name	sambauser
nTSecurityDescriptor	O:S-1-5-21-1914183297-131318966-1111497615-512G:S-1-5-21-1914183297-...
objectCategory	CN=Person,CN=Schema,CN=Configuration,DC=openrsat,DC=lan
objectClass	top; person; organizationalPerson; user
objectGUID	BC1979D7-6DEA-4C63-AB48-D5DDA6965DB1
objectSid	S-1-5-21-1914183297-131318966-1111497615-1121
primaryGroupID	513
pwdLastSet	2026-04-16T10:07:59
sAMAccountName	SAMBAUSER
sAMAccountType	805306368
userAccountControl	512
userPrincipalName	sambauser@openrsat.lan
uSNChanged	6329
uSNCreated	6329

Buttons: Modify, Filter, OK, Cancel, Apply

The screenshot shows the 'Advanced Security Settings for sambauser' dialog box. The 'Owner' and 'Group' are both set to 'Domain Admins'. The 'View raw data' checkbox is unchecked. The 'Permissions' table is visible, showing a list of permissions for 'Domain Admins'.

Type	Trustee	Access	Target property	Applies
✓ Allow	Domain Admins	Full control		This ob
✓ Allow	Local System	Full control		This ob
✓ Allow	Builtin Account Operators	Full control		This ob
✓ Allow	Self	List content, Read, R...		This ob
✓ Allow	Self	Control Access	User-Change-Password	This ob
✓ Allow	Self	Control Access	Send-As	This ob
✓ Allow	Self	Control Access	Receive-As	This ob
✓ Allow	Self	Read, Write	Personal-Information	This ob
✓ Allow	Self	Read, Write	Email-Information	This ob
✓ Allow	Self	Read, Write	Web-Information	This ob
✓ Allow	RAS and IAS Servers	Read	RAS-Information	This ob
✓ Allow	RAS and IAS Servers	Read	User-Account-Restrictions	This ob
✓ Allow	RAS and IAS Servers	Read	Membership	This ob
✓ Allow	Authenticated User	Read Control		This ob
✓ Allow	Authenticated User	Read	General-Information	This ob
✓ Allow	Authenticated User	Read	Personal-Information	This ob
✓ Allow	Authenticated User	Read	Web-Information	This ob
✓ Allow	Authenticated User	Read	Public-Information	This ob
✓ Allow	Everyone	Control Access	User-Change-Password	This ob
✓ Allow	RAS and IAS Servers	Read	User-Login	This ob
✓ Allow	Cert Publishers	Read, Write	X509-Cert	This ob
✓ Allow	Builtin Authorization Access	Read	Token Groups Global And Universal	This ob

Buttons: + Add, X Delete, Edit, Restore default, OK, Cancel, Apply

OPENRSAT - LAZARUS



OPENRSAT – LAZARUS AND FPC

- ▶ Open source IDE (Lazarus) and compiler (FreePascal Compiler)
- ▶ Easy to build cross-platform tools
- ▶ Native UI (Win32, gtk, cocoa)
- ▶ Portable and self contained binaries
- ▶ Only three build dependencies to manage : FPC, Lazarus and mORMot2

OPENRSAT - PURPOSE



OPENRSAT – PURPOSE

- ▶ To not fully replace Microsoft RSAT
- ▶ To provide an open source solution for daily work
- ▶ To remove the needs of a domain joined computer
- ▶ To manage your Active Directory also on Linux and MacOS

OPENRSAT - DEMO



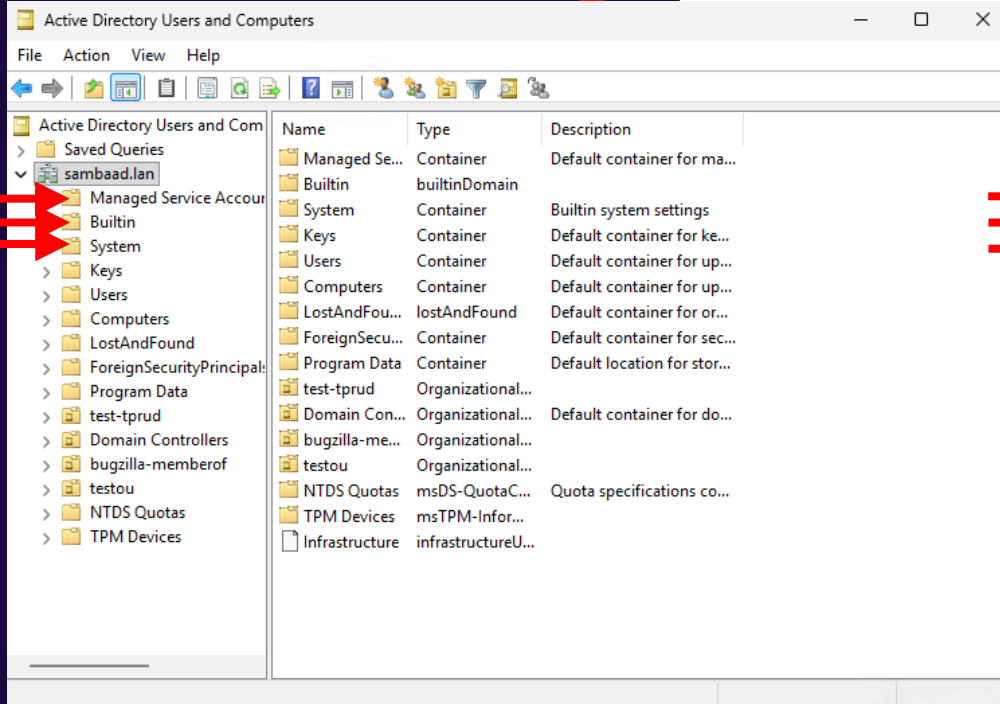
OPENRSAT - FUN FACTS



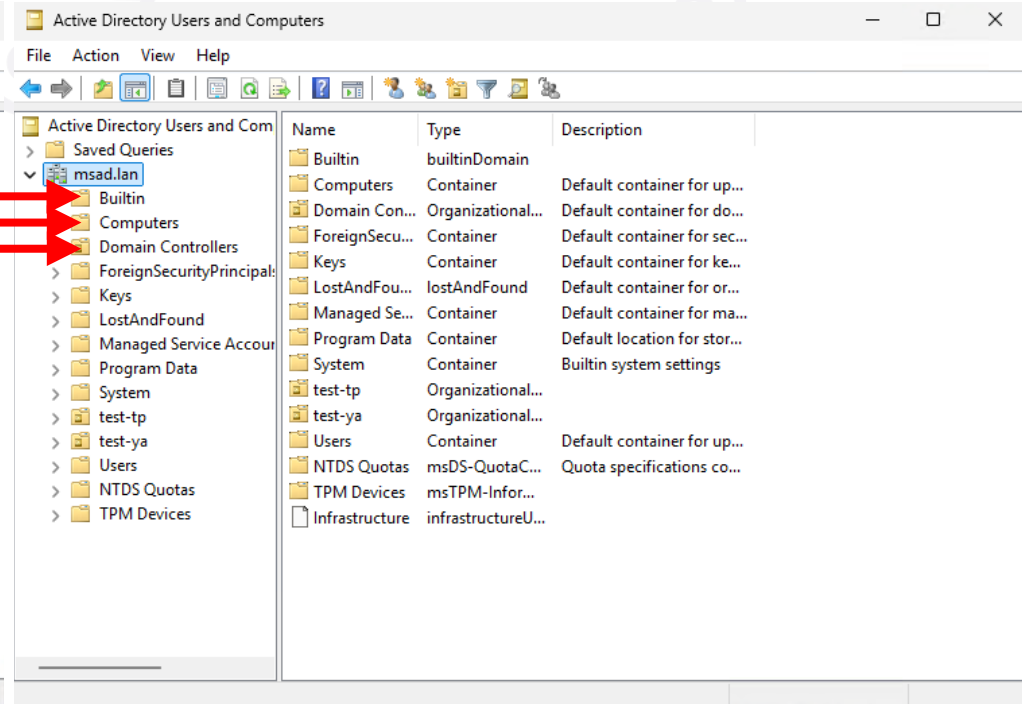
OPENRSAT – FUN FACT – SORTED CONTAINERS

Samba Active Directory

Microsoft Active Directory



Name	Type	Description
Managed Se...	Container	Default container for ma...
Builtin	builtinDomain	
System	Container	Builtin system settings
Keys	Container	Default container for ke...
Users	Container	Default container for up...
Computers	Container	Default container for up...
LostAndFou...	lostAndFound	Default container for or...
ForeignSecu...	Container	Default container for sec...
Program Data	Container	Default location for stor...
test-tprud	Organizational...	
Domain Con...	Organizational...	Default container for do...
bugzilla-me...	Organizational...	
testou	Organizational...	
NTDS Quotas	msDS-QuotaC...	Quota specifications co...
TPM Devices	msTPM-Infor...	
Infrastructure	infrastructureU...	



Name	Type	Description
Builtin	builtinDomain	
Computers	Container	Default container for up...
Domain Con...	Organizational...	Default container for do...
ForeignSecu...	Container	Default container for sec...
Keys	Container	
LostAndFou...	lostAndFound	Default container for or...
Managed Se...	Container	Default container for ma...
Program Data	Container	Default location for stor...
System	Container	Builtin system settings
test-tp	Organizational...	
test-ya	Organizational...	
Users	Container	Default container for up...
NTDS Quotas	msDS-QuotaC...	Quota specifications co...
TPM Devices	msTPM-Infor...	
Infrastructure	infrastructureU...	

OPENRSAT - FUN FACT - DSACLS

```
PS C:\Users\DEMOUSER\Documents> Measure-Command {./tidsac ls.exe "CN=Demo User,OU=Users,OU=openrsat,DC=openrsat,DC=lan"}

Days           : 0
Hours          : 0
Minutes       : 0
Seconds       : 0
Milliseconds   : 54
Ticks         : 548448
TotalDays     : 6.34777777777778E-07
TotalHours    : 1.52346666666667E-05
TotalMinutes  : 0.00091408
TotalSeconds  : 0.0548448
TotalMilliseconds : 54.8448
```

```
PS C:\Users\DEMOUSER\Documents> Measure-Command {dsac ls.exe "CN=Demo User,OU=Users,OU=openrsat,DC=openrsat,DC=lan"}

Days           : 0
Hours          : 0
Minutes       : 0
Seconds       : 0
Milliseconds   : 552
Ticks         : 5529319
TotalDays     : 6.39967476851852E-06
TotalHours    : 0.000153592194444444
TotalMinutes  : 0.00921553166666667
TotalSeconds  : 0.5529319
TotalMilliseconds : 552.9319
```

OPENRSAT - FUN FACT - DNS

How to manage DNS zones and records in Active Directory?

```
graph TD; A[How to manage DNS zones and records in Active Directory?] --> B[DCE/RCP?]; A --> C[LDAP?]
```

DCE/RCP?

LDAP?

OPENRSAT – QUESTIONS?

- ▶ Open source (<https://github.com/tranquilit/opensat>)
- ▶ Developed by Tranquil IT
- ▶ Developed in FreePascal with Lazarus and mORMot2