

**NAME**

ntlm\_auth - tool to allow external access to Winbind's NTLM authentication function

**SYNOPSIS**

ntlm\_auth

**DESCRIPTION**

This tool is part of the **samba**(7) suite.

ntlm\_auth is a helper utility that authenticates users using NT/LM authentication. It returns 0 if the users is authenticated successfully and 1 if access was denied. ntlm\_auth uses winbind to access the user and authentication data for a domain. This utility is only intended to be used by other programs (currently Squid and mod\_ntlm\_winbind)

**OPERATIONAL REQUIREMENTS**

The **winbindd**(8) daemon must be operational for many of these commands to function.

Some of these commands also require access to the directory winbindd\_privileged in \$LOCKDIR. This should be done either by running this command as root or providing group access to the winbindd\_privileged directory. For security reasons, this directory should not be world-accessable.

**OPTIONS**

--helper-protocol=PROTO

Operate as a stdio-based helper. Valid helper protocols are:

squid-2.4-basic

Server-side helper for use with Squid 2.4's basic (plaintext) authentication.

squid-2.5-basic

Server-side helper for use with Squid 2.5's basic (plaintext) authentication.

squid-2.5-ntlmssp

Server-side helper for use with Squid 2.5's NTLMSSP authentication.

Requires access to the directory winbindd\_privileged in \$LOCKDIR. The protocol used is described here: [http://devel.squid-cache.org/ntlm/squid\\_helper\\_protocol.html](http://devel.squid-cache.org/ntlm/squid_helper_protocol.html). This protocol has been extended to allow the NTLMSSP Negotiate packet to be included as an argument to the YR command. (Thus avoiding loss of information in the protocol exchange).

ntlmssp-client-1

Client-side helper for use with arbitrary external programs that may wish to use Samba's NTLMSSP authentication knowledge.

This helper is a client, and as such may be run by any user. The protocol used is effectively the reverse of the previous protocol. A YR command (without any arguments) starts the authentication exchange.

#### gss-spnego

Server-side helper that implements GSS-SPNEGO. This uses a protocol that is almost the same as squid-2.5-ntlmssp, but has some subtle differences that are undocumented outside the source at this stage.

Requires access to the directory winbindd\_privileged in \$LOCKDIR.

#### gss-spnego-client

Client-side helper that implements GSS-SPNEGO. This also uses a protocol similar to the above helpers, but is currently undocumented.

#### ntlm-server-1

Server-side helper protocol, intended for use by a RADIUS server or the 'winbind' plugin for pppd, for the provision of MSCHAP and MSCHAPv2 authentication.

This protocol consists of lines in the form: Parameter: value and Parameter:: Base64-encode value. The presence of a single period . indicates that one side has finished supplying data to the other. (Which in turn could cause the helper to authenticate the user).

Currently implemented parameters from the external program to the helper are:

#### Username

The username, expected to be in Samba's **unix charset**.

#### Examples:

Username: bob

Username:: Ym9i

#### NT-Domain

The user's domain, expected to be in Samba's **unix charset**.

#### Examples:

NT-Domain: WORKGROUP

NT-Domain:: V09SS0dST1VQ

#### Full-Username

The fully qualified username, expected to be in Samba's **unix charset** and qualified with the **winbind separator**.

Examples:

Full-Username: WORKGROUP\bob

Full-Username:: V09SS0dST1VQYm9i

#### LANMAN-Challenge

The 8 byte LANMAN Challenge value, generated randomly by the server, or (in cases such as MSCHAPv2) generated in some way by both the server and the client.

Examples:

LANMAN-Challenge: 0102030405060708

#### LANMAN-Response

The 24 byte LANMAN Response value, calculated from the user's password and the supplied LANMAN Challenge. Typically, this is provided over the network by a client wishing to authenticate.

Examples:

LANMAN-Response:

0102030405060708090A0B0C0D0E0F101112131415161718

#### NT-Response

The  $\geq 24$  byte NT Response calculated from the user's password and the supplied LANMAN Challenge. Typically, this is provided over the network by a client wishing to authenticate.

Examples:

NT-Response: 0102030405060708090A0B0C0D0E0F10111213141516171

#### Password

The user's password. This would be provided by a network client, if the helper is being used in a legacy situation that exposes plaintext passwords in this way.

**Examples:**

Password: samba2

Password:: c2FtYmEy

**Request-User-Session-Key**

Upon successful authentication, return the user session key associated with the login.

**Examples:**

Request-User-Session-Key: Yes

**Request-LanMan-Session-Key**

Upon successful authentication, return the LANMAN session key associated with the login.

**Examples:**

Request-LanMan-Session-Key: Yes

**Warning**

Implementers should take care to base64 encode any data (such as usernames/passwords) that may contain malicious user data, such as a newline. They may also need to decode strings from the helper, which likewise may have been base64 encoded.

--username=USERNAME

Specify username of user to authenticate

--domain=DOMAIN

Specify domain of user to authenticate

--workstation=WORKSTATION

Specify the workstation the user authenticated from

--challenge=STRING

NTLM challenge (in HEXADECIMAL)

--lm-response=RESPONSE

LM Response to the challenge (in HEXADECIMAL)

--nt-response=RESPONSE

NT or NTLMv2 Response to the challenge (in HEXADECIMAL)

--password=PASSWORD

User's plaintext password

If not specified on the command line, this is prompted for when required.

For the NTLMSSP based server roles, this parameter specifies the expected password, allowing testing without winbindd operational.

--request-lm-key

Retrieve LM session key

--request-nt-key

Request NT key

--diagnostics

Perform Diagnostics on the authentication chain. Uses the password from --password or prompts for one.

--require-membership-of={SID|Name}

Require that a user be a member of specified group (either name or SID) for authentication to succeed.

--pam-winbind-conf=FILENAME

Define the path to the pam\_winbind.conf file.

--target-hostname=HOSTNAME

Define the target hostname.

--target-service=SERVICE

Define the target service.

--use-cached-creds

Whether to use credentials cached by winbindd.

--allow-mschapv2

Explicitly allow MSCHAPv2.

--offline-logon

Allow offline logons for plain text auth.

`--configfile=<configuration file>`

The file specified contains the configuration details required by the server. The information in this file includes server-specific information such as what printcap file to use, as well as descriptions of all the services that the server is to provide. See `smb.conf` for more information. The default configuration file name is determined at compile time.

`-V|--version`

Prints the program version number.

`-?|--help`

Print a summary of command line options.

`--usage`

Display brief usage message.

## EXAMPLE SETUP

To setup `ntlm_auth` for use by squid 2.5, with both basic and NTLMSSP authentication, the following should be placed in the `squid.conf` file.

```
auth_param ntlm program ntlm_auth --helper-protocol=squid-2.5-ntlmssp
auth_param basic program ntlm_auth --helper-protocol=squid-2.5-basic
auth_param basic children 5
auth_param basic realm Squid proxy-caching web server
auth_param basic credentialsttl 2 hours
```

### Note

This example assumes that `ntlm_auth` has been installed into your path, and that the group permissions on `winbindd_privileged` are as described above.

To setup `ntlm_auth` for use by squid 2.5 with group limitation in addition to the above example, the following should be added to the `squid.conf` file.

```
auth_param ntlm program ntlm_auth --helper-protocol=squid-2.5-ntlmssp --require-membership-of='WORKGROU
auth_param basic program ntlm_auth --helper-protocol=squid-2.5-basic --require-membership-of='WORKGROU
```

## TROUBLESHOOTING

If you're experiencing problems with authenticating Internet Explorer running under MS Windows 9X

or Millennium Edition against ntlm\_auth's NTLMSSP authentication helper (--helper-protocol=squid-2.5-ntlmssp), then please read the Microsoft Knowledge Base article #239869 and follow instructions described there.

**VERSION**

This man page is part of version 4.13.17 of the Samba suite.

**AUTHOR**

The original Samba software and related utilities were created by Andrew Tridgell. Samba is now developed by the Samba Team as an Open Source project similar to the way the Linux kernel is developed.

The ntlm\_auth manpage was written by Jelmer Vernooij and Andrew Bartlett.