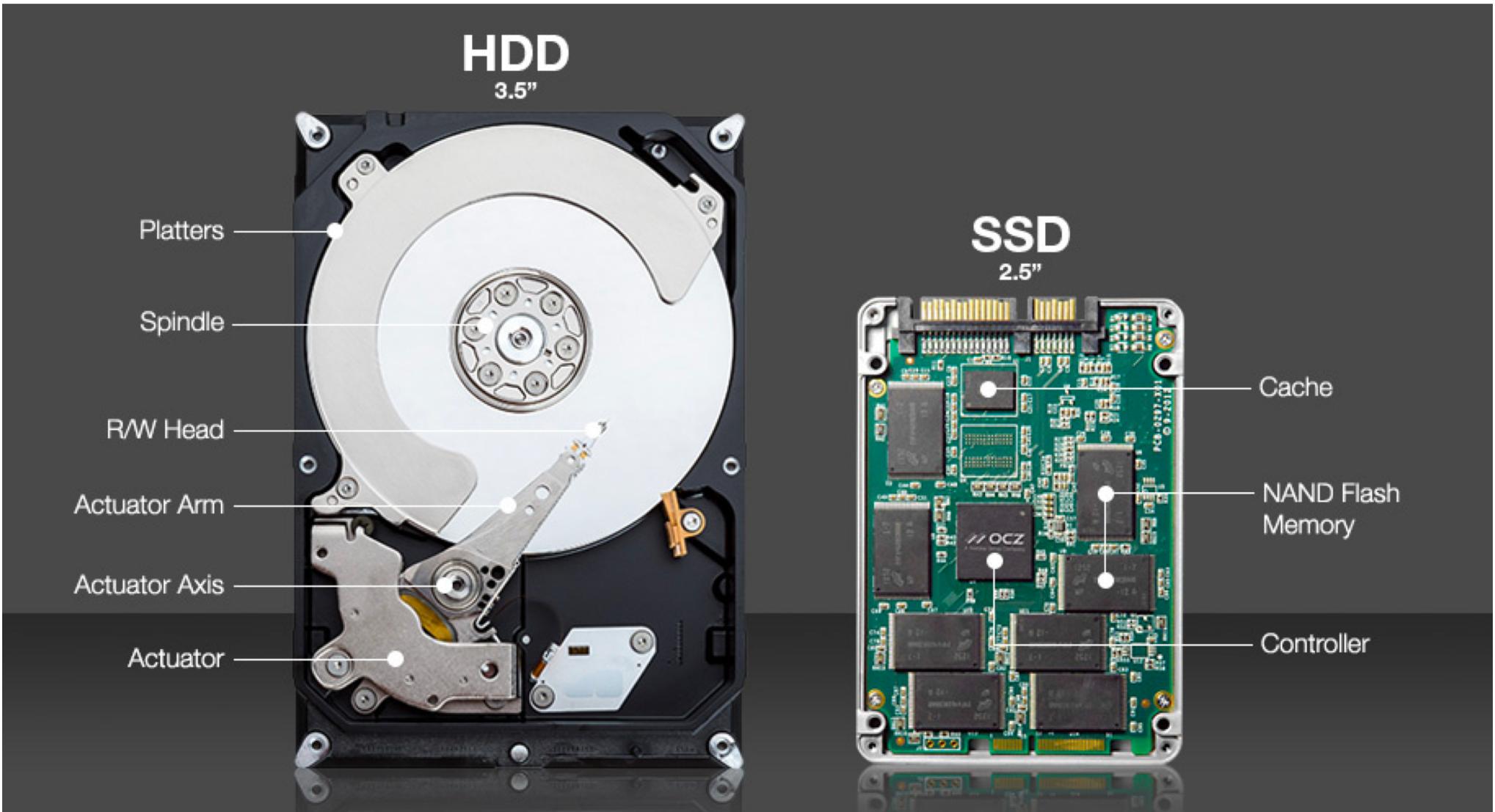
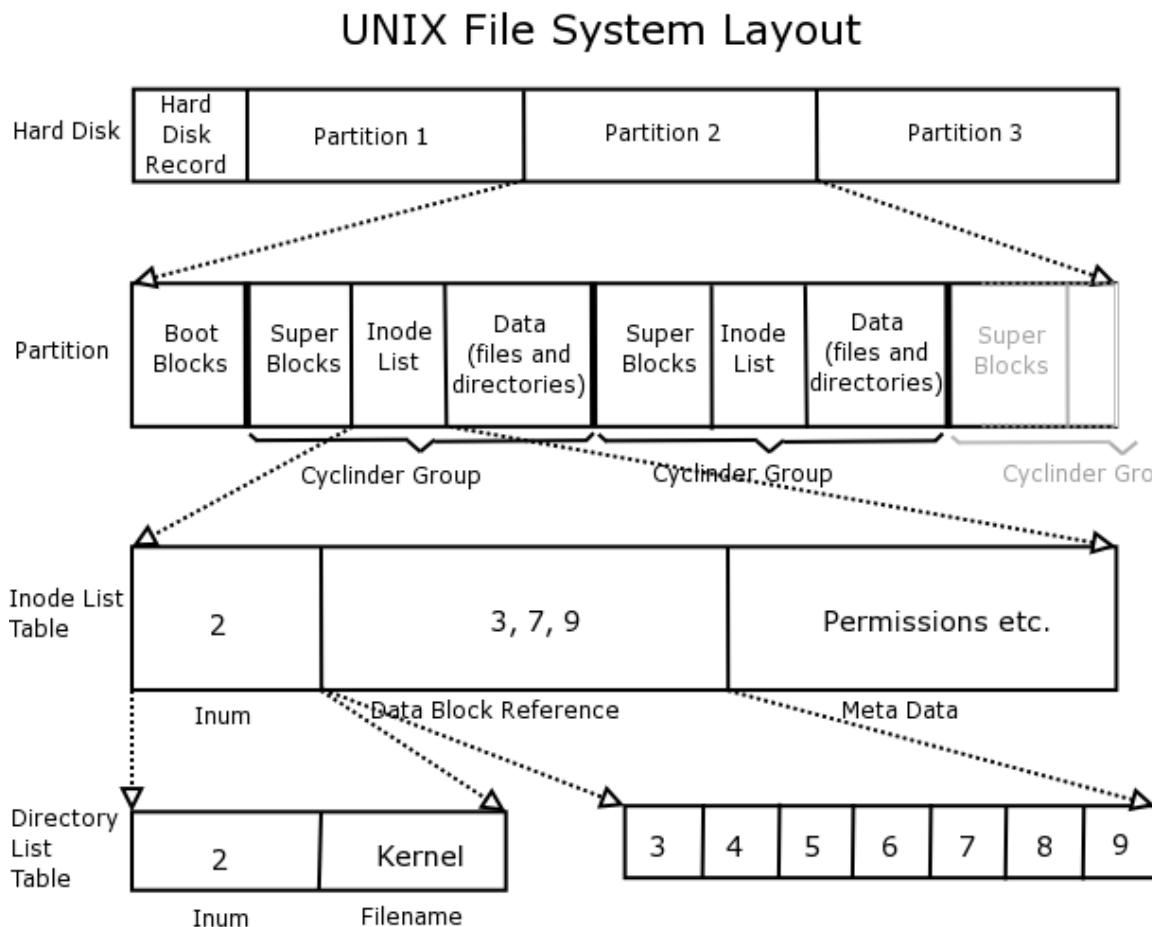


- Discos
- Partições
- Filesystems





# Disco / partição / filesystem



`ls -lia`

`df -i`

`dumpe2fs -h`

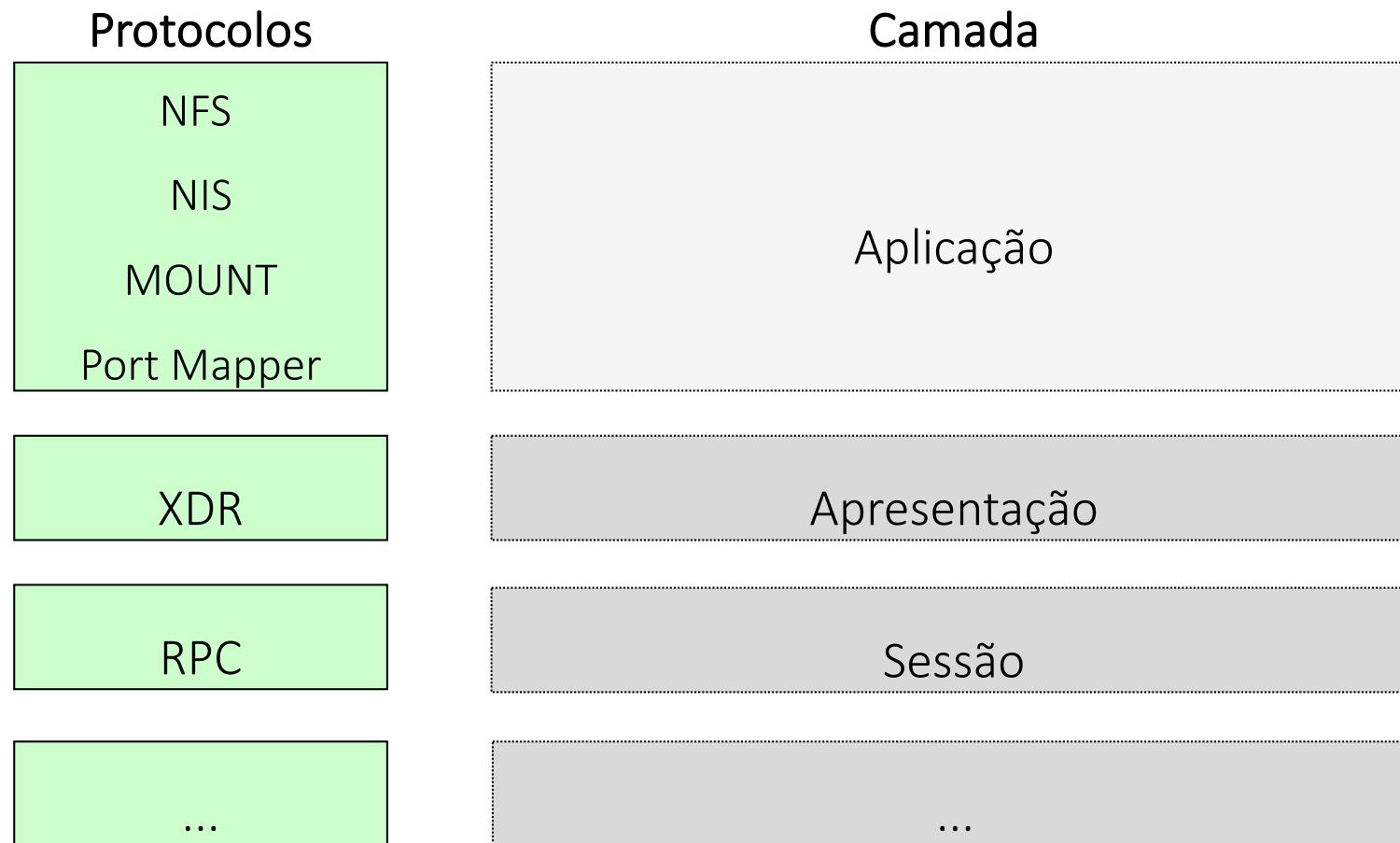
`stat / istat`

superblock  
inode → metadata

Alguma informação:  
Size, (Bytes) UID, GID, qtd.  
blocos, data/hora de criação,  
acesso e alteração, ...

# Network File System

Enquadramento do NFS no modelo TCP/IP (e OSI)



# Configuração RPC

NFS recorre a RPC. É necessário assegurar que o mapeador de portos (portmap) RPC se encontra activo.

```
ps aux | grep portmap
```

```
rpc      615  0.0  0.1  1512  552 ?          S     Dec04   0:00 portmap
```

Serviços RPC: rpcinfo -p

program	vers	proto	port	
100000	2	tcp	111	rpcbind
100000	2	udp	111	rpcbind
100005	1	udp	712	mountd
100005	2	udp	712	mountd
100005	1	tcp	715	mountd
100005	2	tcp	715	mountd
100003	2	udp	2049	nfs
100003	2	tcp	2049	nfs

# NFS – Configuração do servidor

Especificar sistemas de ficheiros a serem exportados

Ficheiro /etc(exports (no servidor NFS)

```
# Apenas a máquina-1 e a máquina-2 podem aceder ao
# sistema de ficheiros
# máquina-2: dá acesso de root (desligado por omissão)
/maquina-1(rw) maquina-2(rw,no_root_squash)
# Todas as máquinas da ESTG começadas por "info*" podem aceder a /info
/info info*.estg.iplei.pt(rw)
# ro: Leitura; insecure: pedido pode vir de um porto inseguro
# (>1024); all_squash: pedidos mapeados para o nobody
/pub (ro,insecure,all_squash)
```

exportfs -a

man 5 exportfs

# NFS – Configuração do cliente

## Sintaxe do comando mount

```
mount -t nfs <dir-remoto> <dir-local> -o <opções>
```

## Exemplo

```
mount -t nfs lcalinux:/pub /lcalinux-pub
```

## Montagem automática no arranque (/etc/fstab):

/dev/sd08	/mnt/remote	nfs	defaults	0	0
dev	filesystem	type	options	dump	fsck order

**Executar:** `mount /dev/sd08` ou `mount /mnt/remote`

# NFS – Configuração do cliente

## Desativar filesystem remoto

```
umount <dir-local>
```

## Verificar filesystems já disponíveis para acesso remoto:

```
showmount
```

```
#showmount -e wume2
Export list for wume2:
/projects2
*.local.cse.lehigh.edu,davison
/projects1
*.local.cse.lehigh.edu,davison
```

## Estatísticas NFS: nfsstat

# smb.conf: «global» - exemplo (1)

## [global]

```
## Browsing/Identification ##
# Change this to the workgroup/NT-domain name your Samba
# server will part of
workgroup = ubuntu710
# server string is the equivalent of the NT Description field
server string = Samba (Ubuntu server 710)
# Suporte p/ WINS (nmbd activado como WINS)
wins support = yes
# This will prevent nmbd to search for NetBIOS names through DNS.
dns proxy = no
# What naming service and in what order should we use
# to host names <-> IP
name resolve order = lmhosts host wins bcast
# Faz desta máquina a controladora do workgroup
preferred master = yes
domain master = yes
local master = yes
# OS level > 32 garante vitória na eleição do controlador de workgroup
os level = 35
```

# smb.conf: «global» - exemplo (2)

```
# Configura servidor tempo - convém q estejamos a correr NTP
#(windows machines: net time \\ubuntu710 /set /yes)
    time server = yes
#### Networking ####
; usa os valores por omissão
#### Debugging/Accounting ####
# Use a separate log file for each machine that connects
    log file = /var/log/samba/log.%m
# Put a capping on the size of the log files (in Kb).
    max log size = 1000
# We want Samba to log a minimum amount of information to syslog.
Everything
# should go to /var/log/samba/log.{smbd,nmbd} instead.
    syslog = 0
# Do something sensible when Samba crashes: mail the admin a backtrace
    panic action = /usr/share/samba/panic-action %d
# samba accesses are logged to utmp as "smb" devices (smb/0...)
    utmp = yes
# Set DEBUG log level (0 means mininum log)
    log level = 2
```

# smb.conf: «global» - exemplo (3)

```
##### Authentication #####
# "security = user" is always a good idea. This will
# require a Unix account in this server for every user
# accessing the server.

    security = user

# You may wish to use password encryption. See the section on
# 'encrypt passwords' in the
# smb.conf(5) manpage before enabling.

    encrypt passwords = true

# If you are using encrypted passwords,
# Samba will need to know what password database type
# you are using.

    passdb backend = tdbSAM
    obey pam restrictions = yes
;    guest account = nobody
    invalid users = root
```

# smb.conf: «homes» - exemplo

Permite configurar partilhar a directória «home» de cada utilizador UNIX com apenas uma única secção

```
[homes]
comment = "Directória pessoal de %S"
browseable = no
writeable = no
path = %H ← %H → HOME
valid users = %S ← %S → login
```

# smb.conf: «homes» - exemplo

```
# Partilha dos directórios HOME dos utilizadores (acesso: \\server\username)
[homes]
    comment = "homes (%H)"
    browseable = no

# Only "username" can connect to \\server\username
# This might need tweaking when using external authentication schemes
    valid users = %S

# By default, the home directories are exported read-only. Change next
# parameter to 'yes' if you want to be able to write to them.
    writable = yes

# File creation mask is set to 0700 for security reasons. If you want to
# create files with group=rw permissions, set next parameter to 0775.
    create mask = 0700

# Directory creation mask is set to 0700 for security reasons. If you want to
# create dirs. with group=rw permissions, set next parameter to 0775.
;   directory mask = 0700
```

# smb.conf: exemplo de partilha

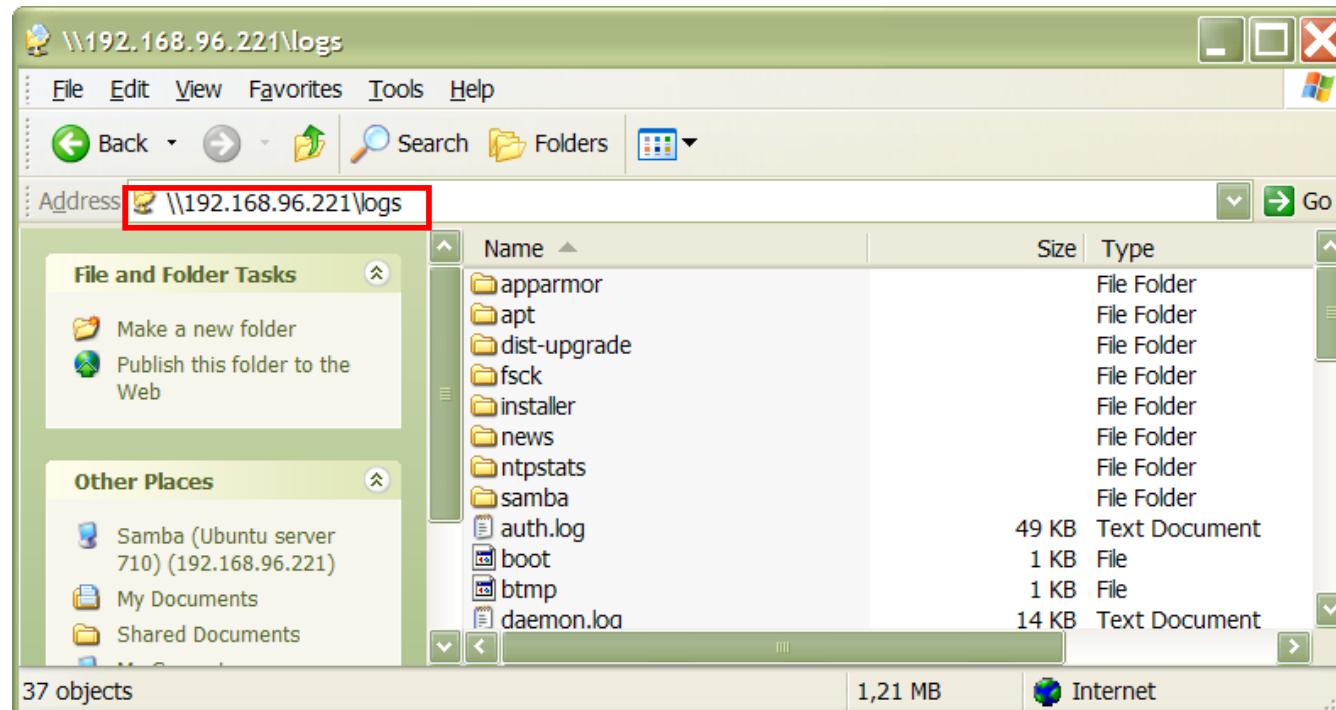
## [logs]

**comment** = directorio de logs

**path** = /var/log

**read only** = yes

**valid users** = user, @adm ←———— Grupo “adm”



# smb.conf: exemplo de partilha

## [tmprw]

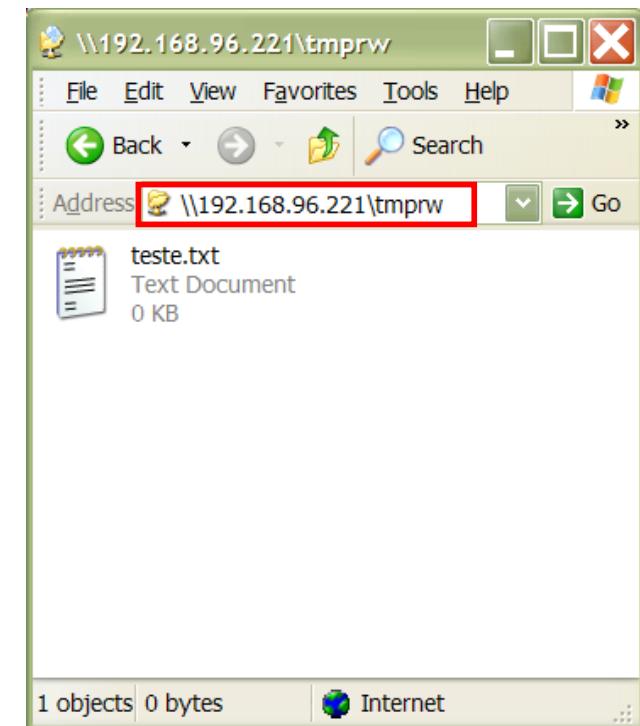
```
comment = partilha temporaria (leitura/escrita)
path = /TMP
writeable = yes
create mask = 0700
directory mask = 0700
```

NOTA: criação do directório /TMP

```
sudo mkdir /TMP
```

```
sudo chmod a+t /TMP
```

```
sudo chmod a+rwx /TMP
```



# Verificação do estado

```
mantunes@mario-lt:~$ smbstatus
```

Samba version 3.5.11

PID	Username	Group	Machine
-----	----------	-------	---------

12379 mantunes mantunes home-fcbe7f89a3 (192.168.56.152)

Service	pid	machine	Connected at
---------	-----	---------	--------------

mantunes 12379 home-fcbe7f89a3 Thu Feb 14 08:51:19 2013

## Locked files:

Pid	Uid	DenyMode	Access	R/W	Oplock	SharePath	Name	Time
-----	-----	----------	--------	-----	--------	-----------	------	------

12379 1000 DENY\_WRITE 0x20089 RONLY EXCLUSIVE+BATCH /home/mantunes  
WORK/AULAS/1213/GARS/lehigh-course-materials/18-X-Platform.pdf Thu Feb 14 15:13:20 2013

12379 1000 DENY\_NONE 0x100081 RDONLY NONE /home/mantunes  
WORK/AULAS/1213/GARS/Teorica Thu Feb 14 15:15:06 2013

12379 1000 DENY\_WRITE 0x20089 RDONLY EXCLUSIVE+BATCH /home/mantunes  
WORK/AULAS/1213/GARS/Teorica/GARS 6 nfs samba.ppt Thu Feb 14 15:15:34 2013

12379 1000 DENY\_NONE 0x100081 RDONLY NONE /home/mantunes . Thu  
Feb 14 09:46:20 2013

# Autenticação - utilitários

## Teste ao serviço samba

- 1) Executar \\###.###.###.### no Windows

É pedido login e password: Fornecer login e password empregues no “smbpasswd”

- 2) Acesso ao directório HOME via samba

Transparente para o utilizador

Aparenta ser mais uma drive Windows...

