joe@dc1:~$ sudo apt-get update && sudo apt-get upgrade
joe@dc1:~$ sudo apt-get install samba samba-client ntp
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

# The loopback network interface
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
d    address 144.38.220.203
d    netmask 255.255.255.224
d    gateway 144.38.220.193
# make sure first ip is this server
# samba will handle internal dns requests
# second address is one of my nameservers
dns-nameservers 144.38.220.203 144.38.219.184
dns-search zero.cs.dixie.edu

joe@dc1:~$
joe@dc1:~$ hostname
dc1
joe@dc1:~$ echo "make sure hosts resolves dc1 to our ip address"
make sure hosts resolves dc1 to our ip address
joe@dc1:~$ cat /etc/hosts
127.0.0.1 localhost
144.38.220.203 dc1.zero.cs.dixie.edu dc1

# The following lines are desirable for IPv6 capable hosts
::1   localhost ip6-localhost ip6-loopback
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters

joe@dc1:~$
sudo service ntp stop
* Stopping NTP server ntpd

sudo ntpdate -B 0.ubuntu.pool.ntp.org
9 Feb 12:29:19 ntpdate[25361]: adjust time server 208.75.88.4 offset 0.007590 sec

sudo service ntp start
* Starting NTP server ntpd

joe@dc1:~$
joe@dc1:~$ sudo shutdown -h now
joe@dc1:~$ sudo mv /etc/samba/smb.conf /etc/samba/smb.conf.orig
[sudo] password for joe:
joe@dc1:~$ sudo samba-tool domain provision --use-rfc2307 --interactive
sudo samba-tool domain provision --use-rfc2307 --interactive

Realm [ZERO.CS.DIXIE.EDU]: PDC.ZERO.CS.DIXIE.EDU
  Domain [PDC]:
  Server Role (dc, member, standalone) [dc]:
  DNS backend (SAMBA_INTERNAL, BIND9_FLATFILE, BIND9_DLZ, NONE) [SAMBA_INTERNAL]:
  DNS forwarder IP address (write 'none' to disable forwarding) [144.38.220.203]: 144.38.219.183

Administrator password:
  Retype password:

Looking up IPv4 addresses
Looking up IPv6 addresses
No IPv6 address will be assigned

Setting up share.ldb
Setting up secrets.ldb
Setting up the registry
Setting up the privileges database
Setting up idmap db
Setting up SAM db
Setting up sam.ldb partitions and settings
Setting up sam.ldb rootDSE
Pre-loading the Samba 4 and AD schema
Adding DomainDN: DC=pdc,DC=zero,DC=cs,DC=dixie,DC=edu
Adding configuration container
Setting up sam.ldb schema
Setting up sam.ldb configuration data
joe@sambaserver:~$ sudo samba-tool domain provision --use-rfc2307 --interactive
Realm [ZERO.CS.DIXIE.EDU]:
  Domain [ZERO]:
  Server Role (dc, member, standalone) [dc]:
  DNS backend (SAMBA_INTERNAL, BIND9_FLATFILE, BIND9_DLZ, NONE) [SAMBA_INTERNAL]:
  DNS forwarder IP address (write 'none' to disable forwarding) [144.38.220.42]: 144.3 8.219.183
Administrator password:
Retype password:
Looking up IPv4 addresses
Looking up IPv6 addresses
No IPv6 address will be assigned
Setting up share.ldb
Setting up secrets.ldb
Setting up the registry
Setting up the privileges database
Setting up idmap db
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Setting up sam.ldb partitions and settings
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# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

# The loopback network interface
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
  address 144.38.220.203
  netmask 255.255.255.224
  gateway 144.38.220.193
  #removed upstream server
dns-nameservers 144.38.220.203
dns-search zero.cs.dixie.edu
joe@dc1:~$
joe@dc1:~$ sudo reboot
joe@dc1:~$ echo "name lookup tests"
nname lookup tests
joe@dc1:~$ host -t SRV _ldap._tcp.pdc.zero.cs.dixie.edu
_ldap._tcp.pdc.zero.cs.dixie.edu has SRV record 0 100 389 dc1.pdc.zero.cs.dixie.edu.
joe@dc1:~$ host -t SRV _kerberos._udp.pdc.zero.cs.dixie.edu
_kerberos._udp.pdc.zero.cs.dixie.edu has SRV record 0 100 88 dc1.pdc.zero.cs.dixie.edu.
joe@dc1:~$ host -t A dc1.zero.cs.dixie.edu
dc1.zero.cs.dixie.edu has address 144.38.220.203
joe@dc1:~$ host -t A www.google.com
www.google.com has address 74.125.25.106
www.google.com has address 74.125.25.147
www.google.com has address 74.125.25.99
www.google.com has address 74.125.25.103
www.google.com has address 74.125.25.105
www.google.com has address 74.125.25.104
joe@dc1:~$
joe@dc1:~$ sudo apt-get install krb5-user
Configuring Kerberos Authentication

When users attempt to use Kerberos and specify a principal or user name without specifying what administrative Kerberos realm that principal belongs to, the system appends the default realm. The default realm may also be used as the realm of a Kerberos service running on the local machine. Often, the default realm is the uppercase version of the local DNS domain.

Default Kerberos version 5 realm:

ZERO.CS.DIXIE.EDU

<Ok>
Configuring Kerberos Authentication

Enter the hostnames of Kerberos servers in the ZERO.CS.DIXIE.EDU Kerberos realm separated by spaces.

Kerberos servers for your realm:

dc1.zero.cs.dixie.edu

<Ok>
Configuring Kerberos Authentication

Enter the hostname of the administrative (password changing) server for the ZERO.CS.DIXIE.EDU Kerberos realm.

Administrative server for your Kerberos realm:

dc1.zero.cs.dixie.edu

<Ok>
joe@dc1:~$ sudo mv /etc/krb5.conf /etc/krb5.conf.orig
joe@dc1:~$ sudo ln -sf /var/lib/samba/private/krb5.conf /etc/krb5.conf
joe@dc1:~$ kinit administrator@PDC.ZERO.CS.DIXIE.EDU
Password for administrator@PDC.ZERO.CS.DIXIE.EDU:
Warning: Your password will expire in 41 days on Tue 22 Mar 2016 01:36:53 PM MDT
joe@dc1:~$ klist
Ticket cache: FILE:/tmp/krb5cc_1001
Default principal: administrator@PDC.ZERO.CS.DIXIE.EDU

Valid starting          Expires                      Service principal
02/09/2016 12:47:18    02/09/2016 22:47:18      krbtgt/PDC.ZERO.CS.DIXIE.EDU@PDC.ZERO.CS.DIXIE.EDU
                        renew until 02/10/2016 12:47:13
joe@dc1:~$
can i connect with client?

sudo smbclient -L PDC.ZERO.CS.DIXIE.EDU -U%

Sharename     Type     Comment
------------- -------- ---------------
netlogon       Disk     
sysvol         Disk     
IPC$           IPC      IPC Service (Samba 4.1.6-Ubuntu)

Server     Comment
------------ ------------
Workgroup   Master
WORKGROUP   DC1
joe@dc1:~$ echo "test authentication with smbclient"
test authentication with smbclient
joe@dc1:~$ sudo smbclient //localhost/netlogon -U 'administrator'
Enter administrator's password:
Domain=[PDC] OS=[Unix] Server=[Samba 4.1.6-Ubuntu]
smb: 