CMAC 3990 – Systems Administration and Operation
Fall 2025 – Section 200

Assignment 4 – 50 points

Configure a network bond with updated network settings, LDAP logins, and Samba file sharing for your virtual machine.

IP Address: 147.64.243.1## (01-15)
Hostname: cmac3990-1##.cs.edinboro.edu (01-15)
Subdomain: 41##.megastuff.biz

Create a network bond for your virtual machine (10 points)

- Use the nmcli command to create a new bond interface (bond-mybond0), with the enp1s0 and enp8s0 interfaces:
  - `nmcli con add type bond ifname mybond0 bond.options "mode=balance-rr,miimon=100"`
  - `nmcli con add type ethernet ifname enp1s0 master bond-mybond0`
  - `nmcli con add type ethernet ifname enp8s0 master bond-mybond0`

- Disable the bond interface and reconfigure it – Replace the ## with your 2-digit number!
  - `nmcli con down bond-mybond0`
  - `nmcli con mod bond-mybond0 ipv4.method manual ipv4.addresses 147.64.243.1##/23`
  - `nmcli con mod bond-mybond0 ipv4.gateway 147.64.242.1`
  - `nmcli con mod bond-mybond0 ipv4.dns "147.64.242.100,8.8.8.8,8.8.4.4"`

- Change the interface autoconnect setting for your interfaces:
  - `nmcli con mod enp1s0 connection.autoconnect no`
  - `nmcli con mod bond-mybond0 connection.autoconnect yes`

- Disable the old interface and enable the new interface at the same time:
  - `nmcli con down enp1s0; nmcli con up bond-mybond0`

Disable SELinux (3 points)

- SELinux provides powerful application control, but is not desired for our class configuration.
- Edit the `/etc/selinux/config` file to set the boot-time config to permissive.
  - `SELINUX=permissive`
- Set the current runtime config with the `setenforce 0` command

Install the necessary packages for client LDAP authentication and enable the oddjobd service (3 points)

- `dnf -y install openldap-clients sssd sssd-ldap oddjob-mkhomedir authselect-compat`
- `systemctl enable oddjobd --now`

Connect to the LDAP server using the following 3 commands (5 points)

- `authselect select sssd with-mkhomedir --force`
- `authconfig --enableforcelegacy –update`
- `authconfig --enableldap --enableldapauth --ldapserver="ldap://147.64.243.110" --ldapbasedn="dc=megastuff,dc=biz" --update`

Validate proper LDAP operation (2 points)

- `getent passwd ldapstudent01`

Install Samba and set up a basic share. Make sure there is a file in the samba share directory that is readable! (5 points)

- Install the packages:
  - `dnf -y install samba samba-common-tools samba-client`

- Create the Samba share directory and test file:
  - `mkdir -p /share`
  - `echo test > /share/sambadoc.txt`
  - `chmod -R ugo+rwX /share`

- Define the share named "share" with the following settings in the `/etc/samba/smb.conf` file:

```
[share]
        comment=This is the cmac3990 share
        path=/share
        public=yes
        writable=no
```

Allow the samba service through the firewall, make sure it is persistent on reboot, and apply. (3 points)

- `firewall-cmd --add-service=samba --permanent`
- `firewall-cmd --reload`

Make sure that the samba service is enabled and will start on boot (3 points)

- `systemctl start smb; systemctl enable smb`

Add a samba user named "user" with the password "password" (2 points)

- `smbpasswd -a user`

Make sure your machine is up to date, reboot your machine, and validate everything is still working! (2 points)

- `dnf -y update; reboot`

Create a document explaining what you did in this exercise, and upload it in D2L to the Dropbox folder HW4. (10 points)

Download and run my check script:

https://jpatalon.cs.edinboro.edu/cmac3990/classfiles/assignment4check.sh