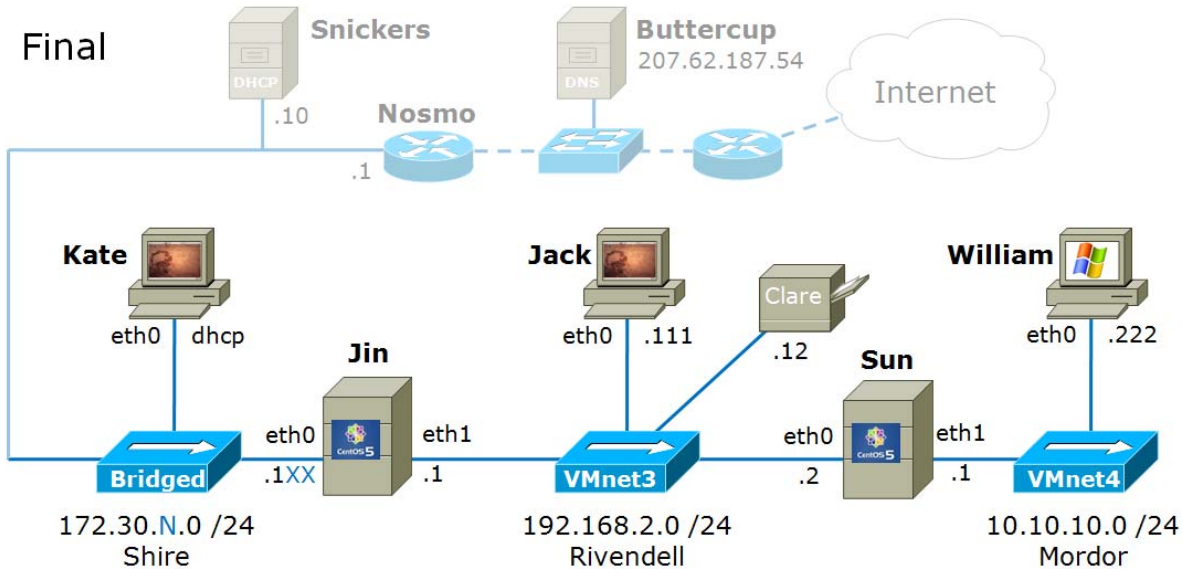


Resources: Open book and Internet. Note, during the test you may not ask for or get assistance from others.



Demonstrate skills (60 points*)

- Do Task 1 and any other two tasks (20 points each*)
- Do additional tasks for extra credit (6 points each*)
- Document your results in a file called *final* that you will submit at the end
- Make sure your tasks will still be working after a system restart
- When you finish a task, have the instructor sign off that the task completed satisfactorily.

Task 1

- Configure the systems as shown in the diagram above
- Kate and Jack are Ubuntu systems, Jin and Sun are CentOS systems, William is an Windows XP system
- Kate and Jin should have Internet access
- Setup forwarding and static routes so that all VMs can ping each other
- Modify the default firewalls on Jin and Sun to allow unlimited packet forwarding.
- Reboot your system to make sure the configuration is persistent.
- Document in *final* the **hostname**, **ifconfig**, **route -n** output for Kate, Jin, Jack and Sun
- Demonstrate your results to the instructor
 - Instructor's initials: _____

Task 2

- Install a DHCP server on Jin to service the 192.168.2.0/24 and 10.10.10.0/24 networks using a DHCP relay on Sun
- For the 192.168.2.0/24 network your DHCP server should offer an IP address (192.168.2.100 to 192.168.2.149), a netmask (255.255.255.0), a domain name (Rivendell), a default gateway (192.168.2.1) and DNS server (207.62.187.54) to clients.

- For the 10.10.10.0/24 network your DHCP server should offer an IP address (10.10.10.100 to 10.10.10.149), a netmask (255.255.255.0), a domain name (Rivendell), a default gateway (10.10.10.1) and DNS server (207.62.187.54) to clients.
- Your DHCP server should have reservations so that The Jack and William hosts always get the IP address shown on the map above.
- The default lease time should be 2 hours and the maximum lease time should be 4 hours.
- Configure Jack and William as DHCP clients and force them to get new leases.
- Make sure you still have end-to-end connectivity between all hosts.
- Record in *final* Jin's `/etc/dhcpd.conf` and `/var/lib/dhcpd/dhcpd.leases` and Sauron's `/var/lib/dhcp3/dhclient.leases`.
- Demonstrate your results to the instructor
 - Instructor's initials: _____

Task 3

- Configure printing on Jin
- Configure CUPS for remote management.
- Add a "pretend" HP LaserJet 1320N (use a socket connection to 192.168.2.12:9100) named Clare
- Make Clare your default printer
- Stop the printer so it doesn't print but will still accept jobs (to be spooled).
- Get a .jpg file from the `/home/cis192/depot` on Opus and print it.
- Print the `/etc/printcap` file.
- Configure the firewall to allow connections to the CUPS service.
- Reboot your system to make sure the configuration is persistent.
- Record in *final* the output of the `lpq` command, a listing of the `/var/spool/cups` directory showing the spooled print jobs and `/etc/cups/printers.conf`
- Record in *final* output from `iptables -nL`
- Demonstrate your results to the instructor
 - Instructor's initials: _____

Task 4

- Install and configure a Samba server on Jin
- Create a read only share in `/var/shares/depot` that only can be accessed only from Sun or 172.30.1.100 (Instructor station).
- Copy the *.txt files from the Opus `/home/cis192/depot` to populate your depot share on Jin.
- Modify the firewall to allow new connections to the ports used by Samba.
- Set contexts so your share is available under SELinux enforcing mode.
- Reboot to make sure you are still sharing after a system restart
- Record in *final* your `/etc/samba/smb.conf` file on Jin and `smbclient -L` output on Sun showing the share.
- Record in *final* output from `iptables -nL`
- Record in *final* output from `ls -RZ /var/shares`
- Demonstrate your results to the instructor
 - Instructor's initials: _____

Task 5

- Install an Apache web server on Jin
- Configure user directories so every user can publish from their `public_html` directory
- Create a user named Frodo on Jin.

- Publish a custom web page from Frodo's public_html directory
- Open the firewall to allow new connections to your web server.
- Set contexts to allow publishing under SELinux enforcing mode.
- Reboot to make sure you are still publishing after a system restart
- Record in *final* any changes made to */etc/httpd/conf/httpd.conf*
- Record in *final* output from **iptables -nL**
- Record in *final* output from **ls -RZ /home/frodo**
- Demonstrate your results to the instructor
 - Instructor's initials: _____

Task 6

- Install an vsftpd FTP server with a custom banner on Jin
- Allow anonymous access to files in */var/ftp/pub* with SELinux set to enforcing mode
- Make sure you can retrieve files on Jin from Kate and William in either active or passive mode
- Configure the firewall to allow incoming FTP connections.
- Set contexts to allow FTP access under SELinux enforcing mode
- Reboot to make sure your FTP server is still working after a system restart
- Record in *final* your */etc/vsftpd/vsftpd.conf* file
- Record in *final* output from **iptables -nL**
- Record in *final* output from **ls -RZ /var/ftp**
- Demonstrate your results to the instructor
 - Instructor's initials: _____

Task 7

- Install and configure DNS server on Jin for *Rivendell* and *Mordor* domains
- Add A and PTR records for each VM shown in the diagram
- Configure all your VMs to use Jin as their DNS server.
- Configure the firewall to allow incoming DNS connections.
- Reboot to make sure your DNS server is still working after a system restart
- Record in *final* your *named.conf* and *zone database* files
- Record in *final* output from **iptables -nL**
- Demonstrate your results to the instructor
 - Instructor's initials: _____

Task 8

- Install and configure Jin as a NIS server for the NIS domain *island*
- Configure SUN as a NIS client for that NIS domain
- Configure the system so that the user Frodo can login to either Sun or Jin
- Frodo should be able to change his password using **yppasswd**
- Frodo should not be in the */etc/passwd* files on either SUN or Jin
- Frodo should be in the *passwd* NIS map files
- Record in *final* the */etc/ypserv.conf*, */etc/sysconfig/network* and **yppcat passwd** output
- Record in *final* the */etc/yp.conf* and */etc/nsswitch.conf* on Sun
- Reboot to make sure your NIS server is still working after a system restart
- Demonstrate your results to the instructor
 - Instructor's initials: _____

*You must submit your final file to get credit. Use the following:

```
scp final cis192@opus.cabrillo.edu:final.lastname
```