

NSSA221-Site Book



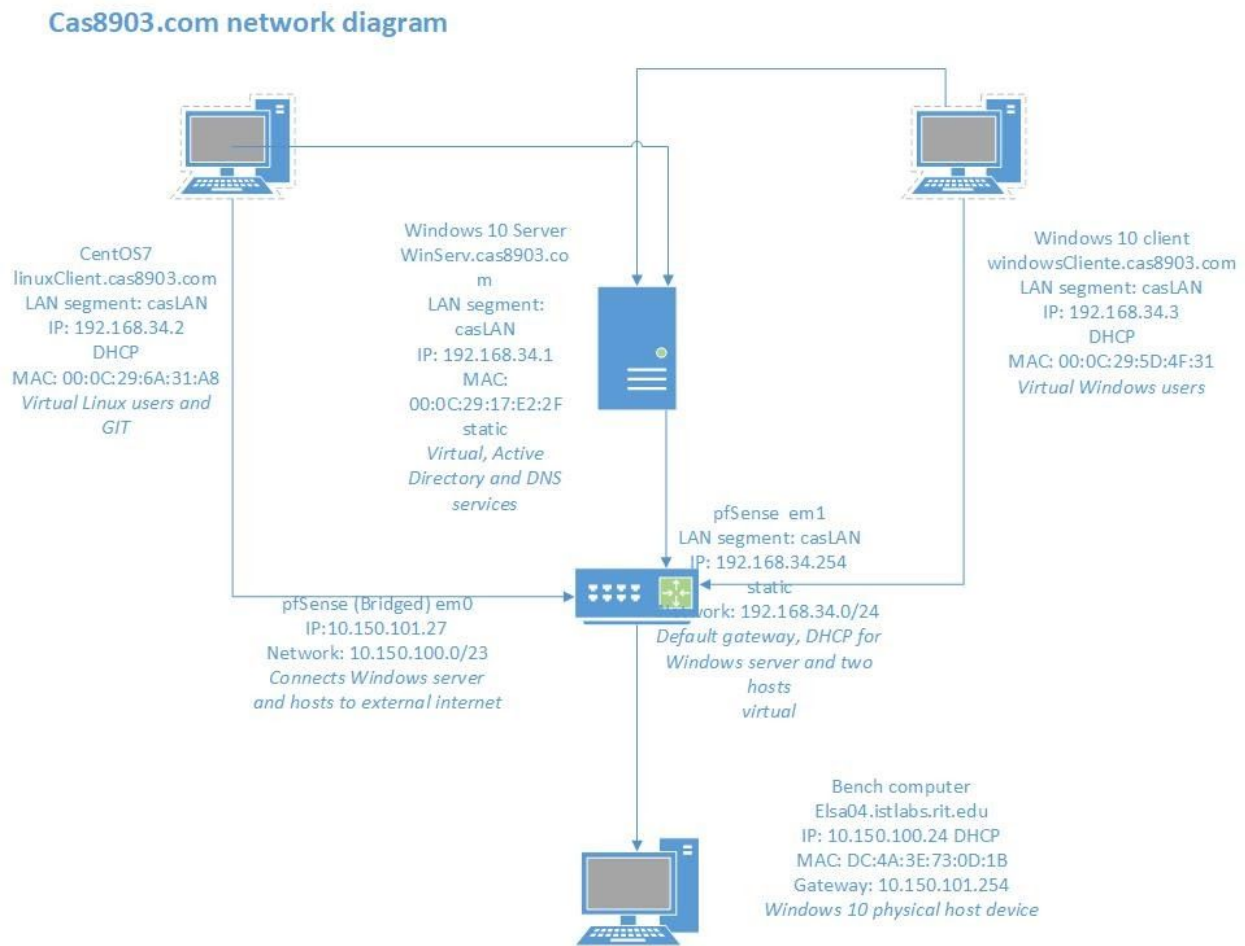
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Figure 1: Network Topology



Lab 01

Save to and from //files.istlabs.rit.edu\students\cas8903

Login with main\cas8903

Windows Server AD forest: cas8903.com

Save Powershell script from setup wizard

Configure DHCP with default Admin

IPv4>New Scope

Scope: exclude 192.168.34.1-192.168.34.10 and 192.168.34.254

Add .254 as pfSense default gateway

Creating and categorizing a user via GUI

Server Active Directory Users and Computers>cas8903.com>new>user

Right click user once created>add to a group>select group

Via CLI

Add-Computer -DomainName cas8903.com -Credential (Get-Credential)

Joining CentOS to AD Domain CLI

systemctl enable realmd

realm join --user=username cas8903.com

Login with username@cas8903.com

Remote AD management

settings>Manage Optional Features>Add a feature>RSAT ADDS..., RSAT: DHCP Serv..., RSAT: DNS Serv...

Access via Powershell Admin

Enter-PSSession -Computername winServ

Get-ADDomain

OU in GUI

Windows Server Active Directory Users and Computers>right click

cas8903.com>New>Organizational Unit and name it

Adding a user

Right click the created Organizational Unit>New>User

OU in Powershell

One line!

New-ADOrganizationalUnit -Name unitname -Path

"dc=cas8903,dc=com" - ProtectedFromAccidentalDeletion:\$true

-PassThru

Adding a User in Powershell

One line!

```
Set-ADUser -Identity "CN=Firstname Lastname,OU=ouname,  
DC=cas8903,DC=COM" - OFFICEPHONE "0000"
```

Windows Server GPOs

Windows Server Group Policy Management>Create a GPO in this domain...>name
then edit created GPO >configure according to your preferences for all clients here

Update clients to pull new GPO

Login as user on client

CLI gpupdate

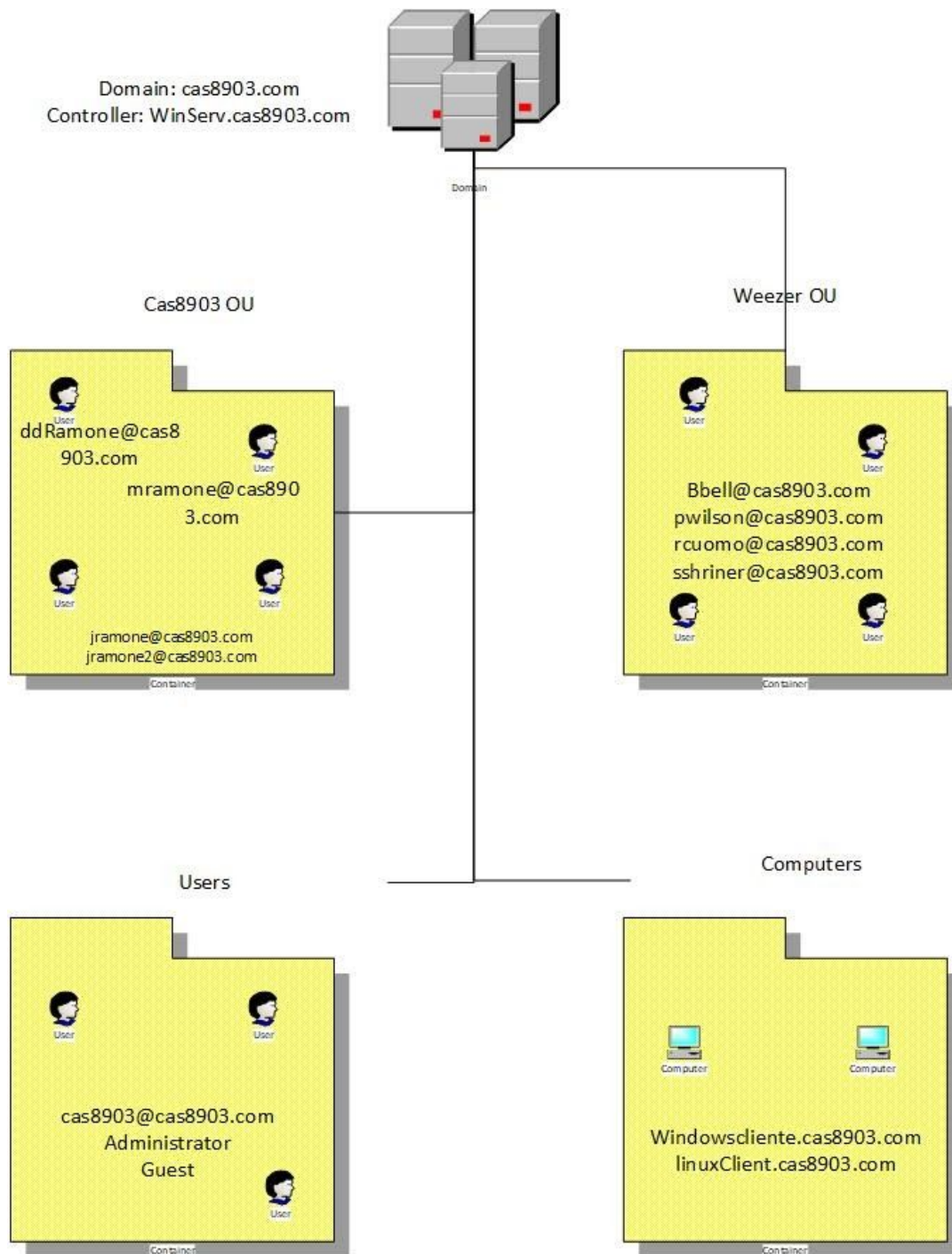
Set Hostname CentOS

```
Hostnamectl set-hostname hostname
```

Show Unix FQDN

```
Hostname -f
```

Figure 2 : Active Directory Topology



Lab 02

Adding local user with Linux GUI

Terminal

Yum -y install system-config-users

System config users

User manager

Add Group

Add User

Configure details

May or may not assign a Group ID yourself

Adding local user with Linux CLI

Useradd -s /bin/csh -m -d /home/hdrctry -g grupnom
emailaccountname

^new default shell location ^home directory ^add to group if
existent

Reset root password

Reboot CentOS

While booting, press 'e' when you see the list of OS options (GRUB
menu)

Arrow down to boot arguments

Disable rhgb quiet

Hides boot process

Append rw init= /bin/bash

Loads into shell single user

Enter touch /.autorelabel

Resets file system labeling

Enter passwd

Resets password

Enter exec /sbin/init

Reboots system

Creates empty folder within Serenity repos using Terminal

mkdir dirName.git

cd dirName.git

git init --bare .

git config --bool core.bare true

Client SSH

Terminal: ssh cas8903@serenity.ist.rit.edu

Yes, accept key fingerprint

ssh-keygen -b 2048 stored in /root/.ssg.id_rsa

Cit Documentation

Version: 1.8.3.1

Local Repository: gitGir.git

Global Username: Chris_Sequeira

Global email: cas8903@rit.edu

Global push setting: default matching

Added gitPush.txt

Committed gitPush.txt

gitDir.git cloned to /var/temp/gitClone

Table 1: Local Linux Account Information

User ID	Group ID	HomeDirectory	DefaultShell	Membership
jbach	1001	/home/jbach	bin/bash	baroque
avivaldi	1001	/home/avivaldi	bin/bash	baroque
ghandel	1001	/home/ghandel	bin/bash	baroque
cmonteverdi	1001	/home/cmonteverdi	bin/bash	baroque
dellington		/home/dellington	bin/bash	jazz
lyoung		/home/lyoung	bin/bash	jazz
bwebster		/home/bwebster	bin/bash	jazz

Lab 03

Downloading XFS

```
sudo yum install xfsprogs
```

Installing xfs and formatting a drive (sdb)

```
sudo mkfs.xfs -f /dev/sdb1
```

Creating mount point

```
mkdir /media/samba
```

```
mount /media/samba /dev/sdb
```

Validate with `mount | grep samba`

NEED TO MOUNT A DEVICE EVERY TIME IN UNIX, ADD TO FSTAB

Creating a RAID1 with two storage devices

```
mdadm --create /dev/md0 --level=1 --raid-devices=2 /dev/sd[c-d]
```

Formatting aforementioned RAID1 to MBR/DOS

```
1 GB primary, (RAID1-1GB) extended
```

```
Fdisk md0
```

```
0
```

```
N
```

```
At sectors, 1G
```

ACT3 TODO MOUNT /media/nfs1,nfs2 to md0p1,2,5

Creating a RAID5 with three storage devices

```
Mdadm --create /dev/md1 --level=5 --raid-devices=3 /dev/sd[e-g]
```

!! repeats last command in terminal

Editing fstab

```
Sudo vi /etc/fstab
```

Make a virtual group

```
Vgcreate NAME /dev/device /dev/device
```

Make a logical group

```
Lvcreate 'L 3G -n lvname virtualgroupnamefrom above
```

Lvdisplay shows all volumes

LOGICAL VOLUME MAY NOT MOUNT WE WILL SEE

Lab 04

Configuration settings

Device	FQDN	IPv4 Address
CentOSRAID	Not in domain	
CentOS	elsa4.cas8903.com	192.168.34.3 or 5
Win10client	windowsclientelsa4.cas8903.com	192.168.34.4
Gateway	figure34.cas8903.com	Em0 192.168.34.254 em1 10.50.101.xx
W10 Server	Jasmine3.cas8903.com	192.168.34.1

Rsync contents of original to backup without .jpgs

```
Rsync -av --exclude '*jpg' original/ backup
```

Configure firewall for ftp traffic

Always reload network services after changing

```
Firewall-cmd --permanent --add-[port/service]=[21/tcp // ftp]
```

```
Firewall-cmd --reload
```

Create a local lftp account and login remotely

```
useradd
```

```
Lftp -u username hostnameofserver
```

Dropbox on linux

```
Setenforce1 or setenforce0
```

```
Chmod 0733 /var/ftp/dropbox
```

```
Chgrp ftp /var/ftp/dropbox
```

```
Sudo vi vsftpd.txt
```

```
anon_upload_enable=yes
```

```
anon_mkdir_write_enable=yes
```

```
Chown_uploads = yes
```

```
Chown_username = root
```

```
Sudo systemctl restart vsftpd
```

Login anonymously

```
Lftp serverdevcename
```

Allow for anonymous uploads

```
semanage fcontext -a -t public_content_rw_t "/var/ftp/dropbox(/.*)?"  
restorecon -Rv /var/ftp/dropbox  
setsebool -P ftpd_anon_write on
```

Lab 05

Disable SELinux

Setenforce 0

Install web packages

Yum groupinstall "Web Server"

Services

control

Systemctl [service] [restart/start/disable]

Start on boot

Chkconfig httpd on

AD Web Services

Ad server>tools>DNS>NewHost>map to ip>new alias CNAME

Web Firewall

```
firewall-cmd --permanent --add-service=http
firewall-cmd --permanent --add-service=https
firewall-cmd --reload
```

Apache TLS

```
Yum install mod_ssl -y
/etc/httpd/conf.d/ssl.conf
    Listen 443 https
    #SSL Virtual Host Context
        <VirtualHost _default_:443>
    #General global setup
        Uncomment these I guess
```

Mail

```
Install hMail
Disable autoban
Add cas8903.com domain
AD Server>tools>AD>resource record to IP
```

Remote Logging

```
Reserve new device in DHCP
Create DNS host record
Login as username@cas8903.com
/etc/rsyslog.conf
    Uncomment ModLoad imtcp
```

InputTCPServerRun 514
 Allow TCP and 514 traffic
 Restart rsyslog, firewall

Capture and test rsyslog traffic

Tail -f /var/log/messages
 Logger Test Message !

CRON

Minute-hour-date-month-day
 Crontab -l lists tasks
 Crontab -e edits
 Crontab -r deletes

Change Control

Descending by date

Date	Description
29Sept2019	Lab02:procedurals, tables of contents
26Sept2019	Wordcloud, network topology, AD topology
23Sept2019	Git installs on Centos, new gitDir.git
16Sept2019	Lab01:procedurals
9Sept2019	Lab01:AD, DNS, DHCP, remote setup, users
13Oct2019	Lab02 full
20Oct2019	Lab03:File systems and device formatting on Linux
25Oct2019	Lab03:Remainder
3Nov2019	Lab03:created l3Volume from sdh, sdi
11 Nov2019	Lab04:device table
18Nov2019	Lab04:all commands
10Dec2019	Lab05 full