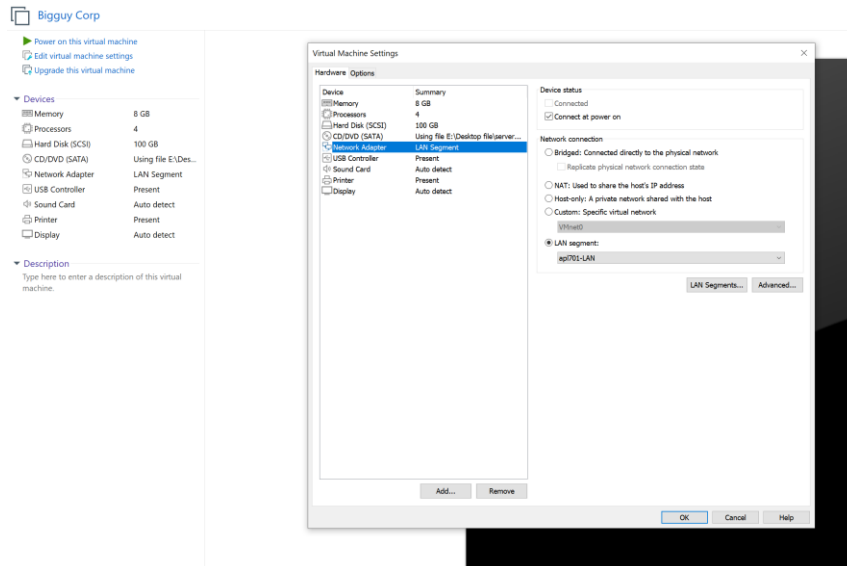


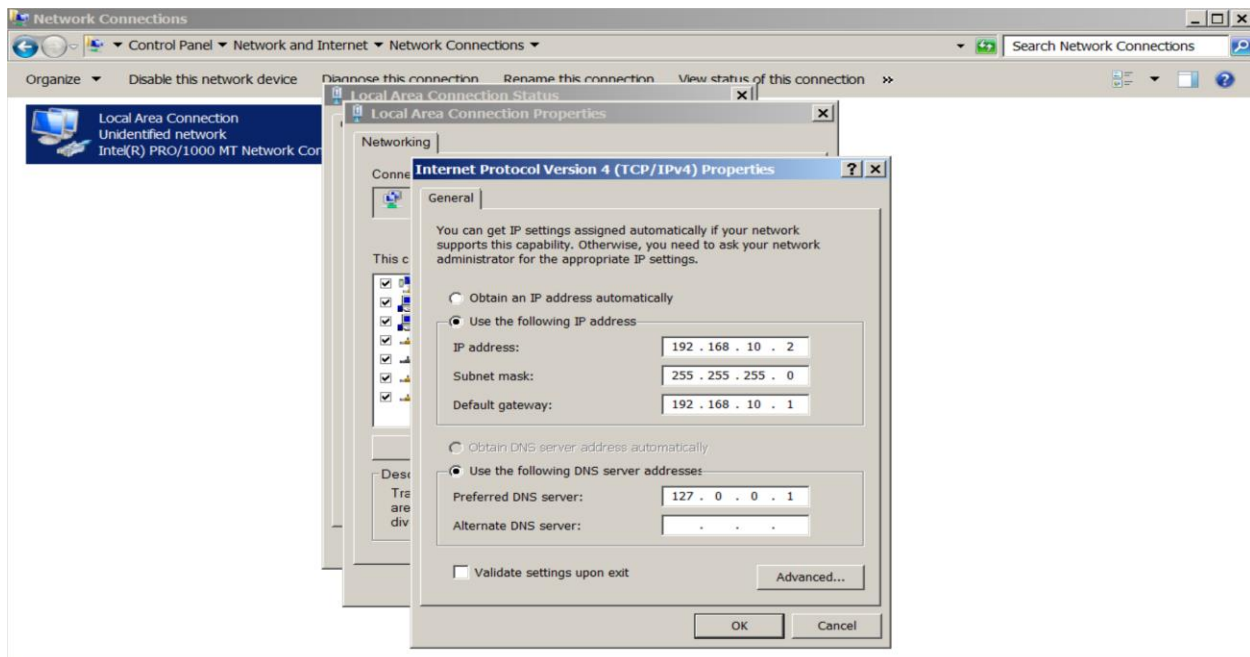
# MULTI ACCESS PRINT SERVICE ON WINDOW SERVER AND LINUX

## WINDOW 2008 R2 CONFIGURATION

- Create LAN segment named apl701-LAN
- Then, set up LAN segment as the main network card for window vm



- **Configure static IP address on Open Network and Internet setting**
  - Right-click to the internet symbol
  - Click to change adapter setting
  - Right-click to network adapter and choose Properties
  - Then, choose Internet Protocol Version 4 (TCP/IPv4) and then assign the static IP address

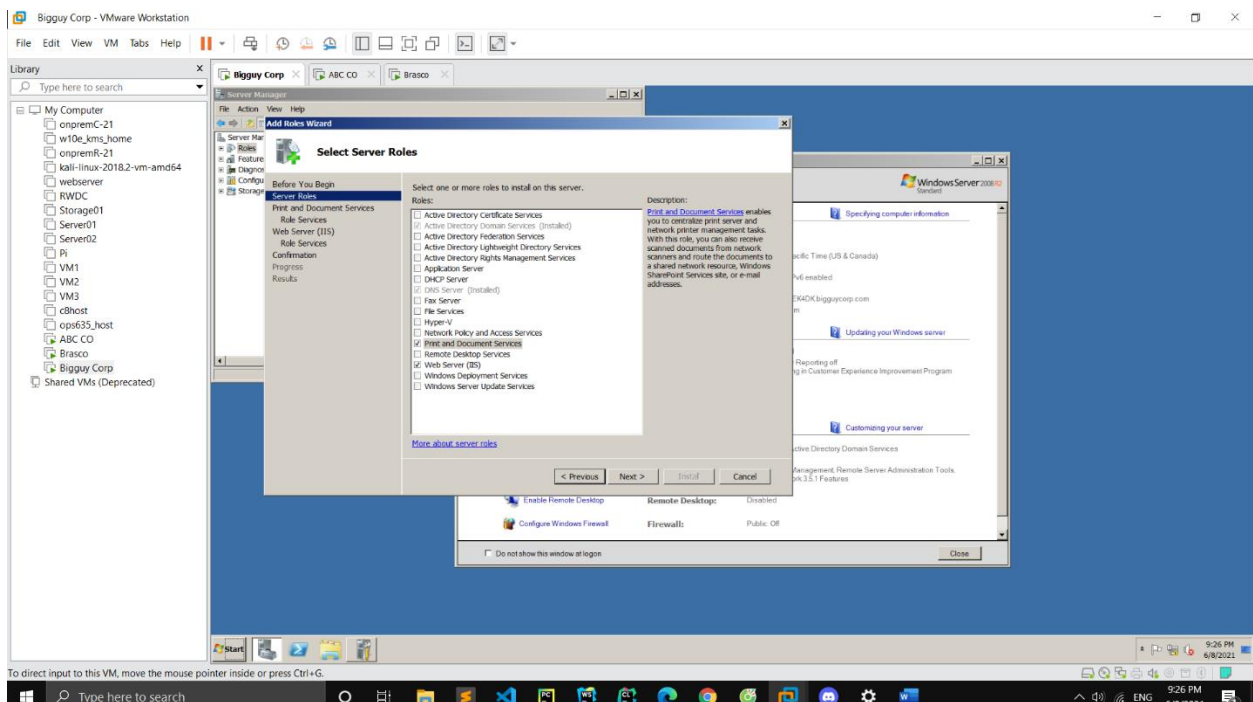


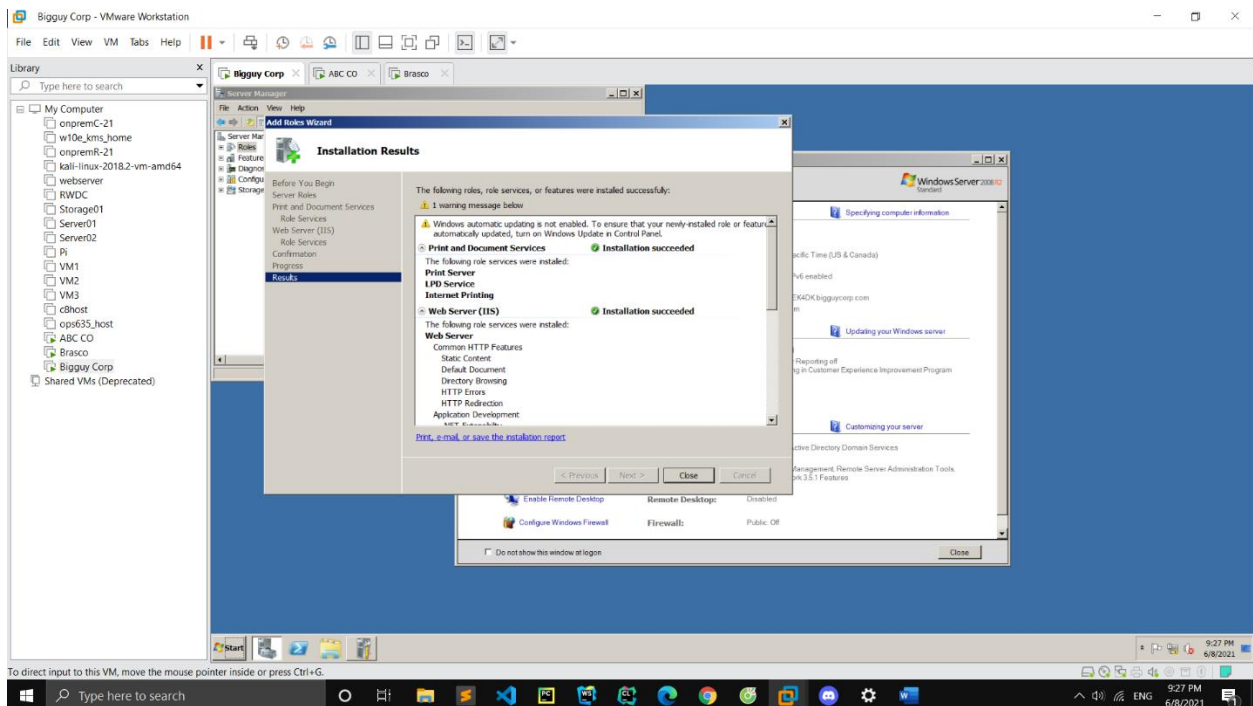
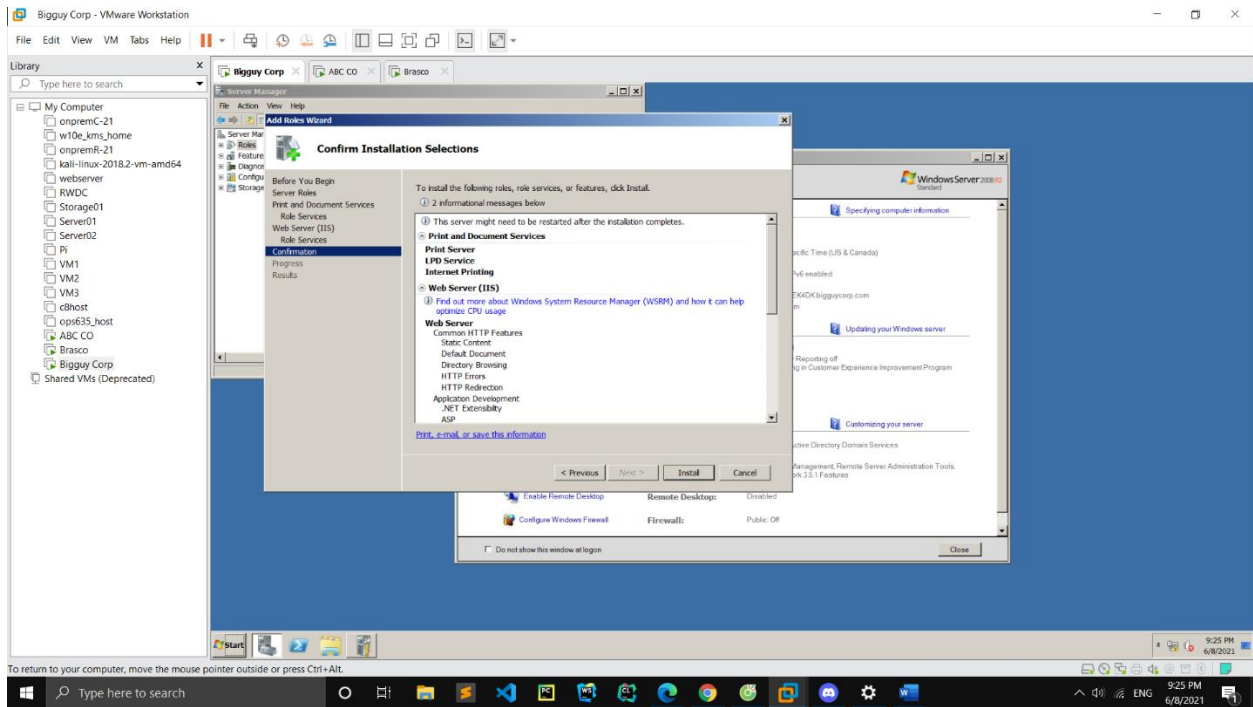
- **Configure Active Directory Domain and Services:**

- Install the ADDS role feature.
- Click to the server manager, and click Add Roles
- Finding the Active Directory Domain and service
- Click Next, and choose Create a new domain in new forest
- Set up the domain name for the machine
- Install DNS, then restart the machine.

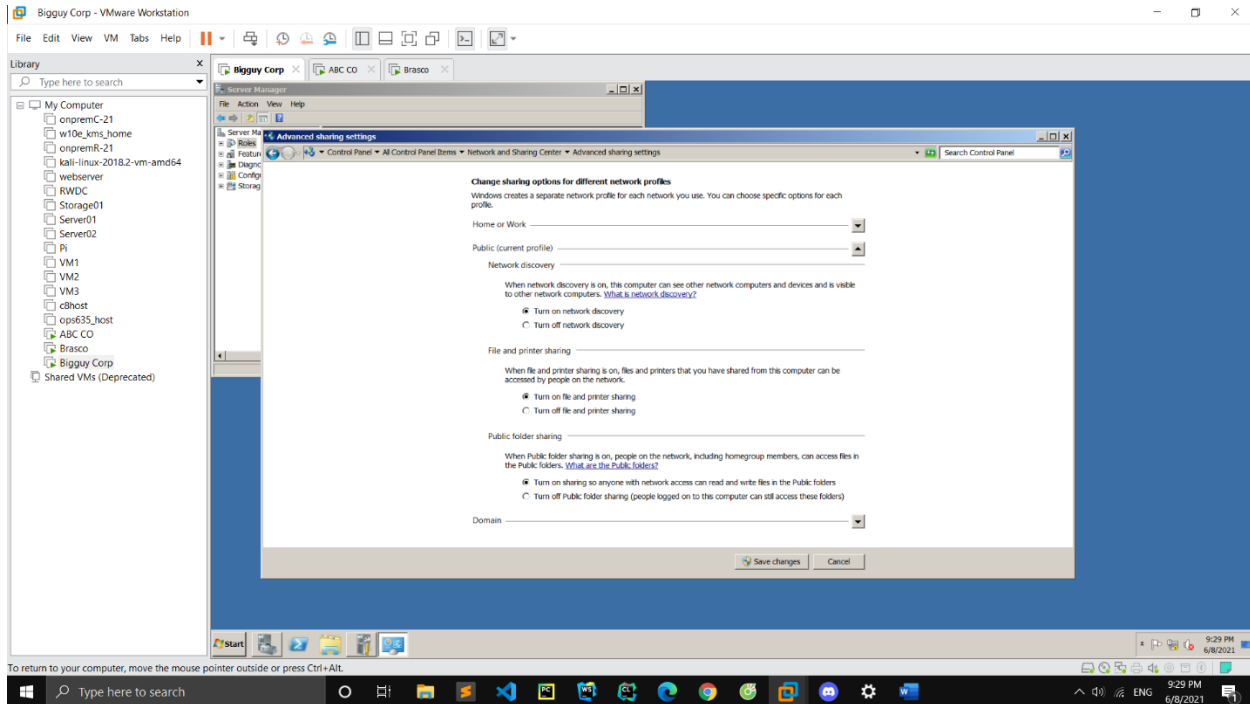
- **Configure window Roles service**

- Install the Internet Printing service feature
- Install the Print and Document service
- Add the features during the installation: Print server, LDP service and Internet Printing

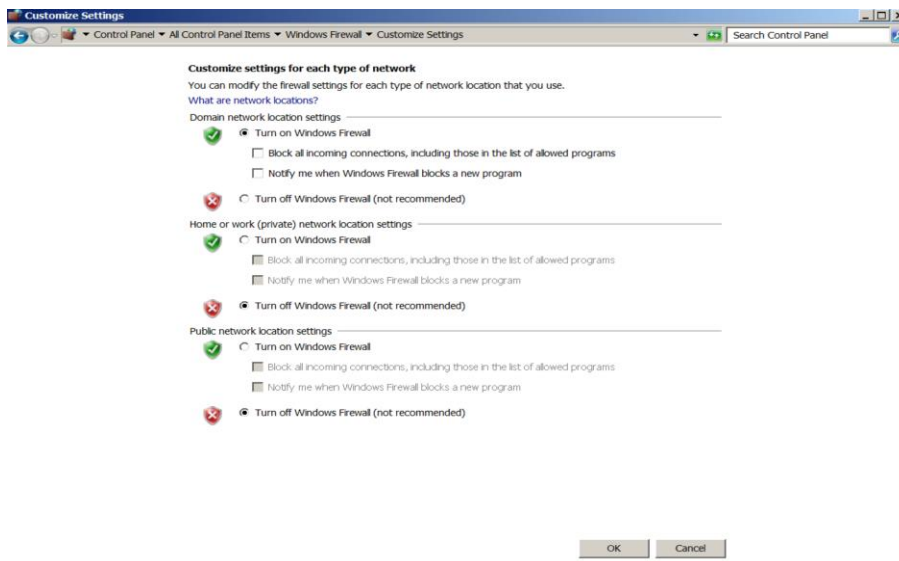




- **Configure Network and Sharing Center**
  - Right-click to Network symbol
  - Then, choose Network sharing center
  - Then, Change advanced sharing options
  - Turn on all of network discovery and sharing.

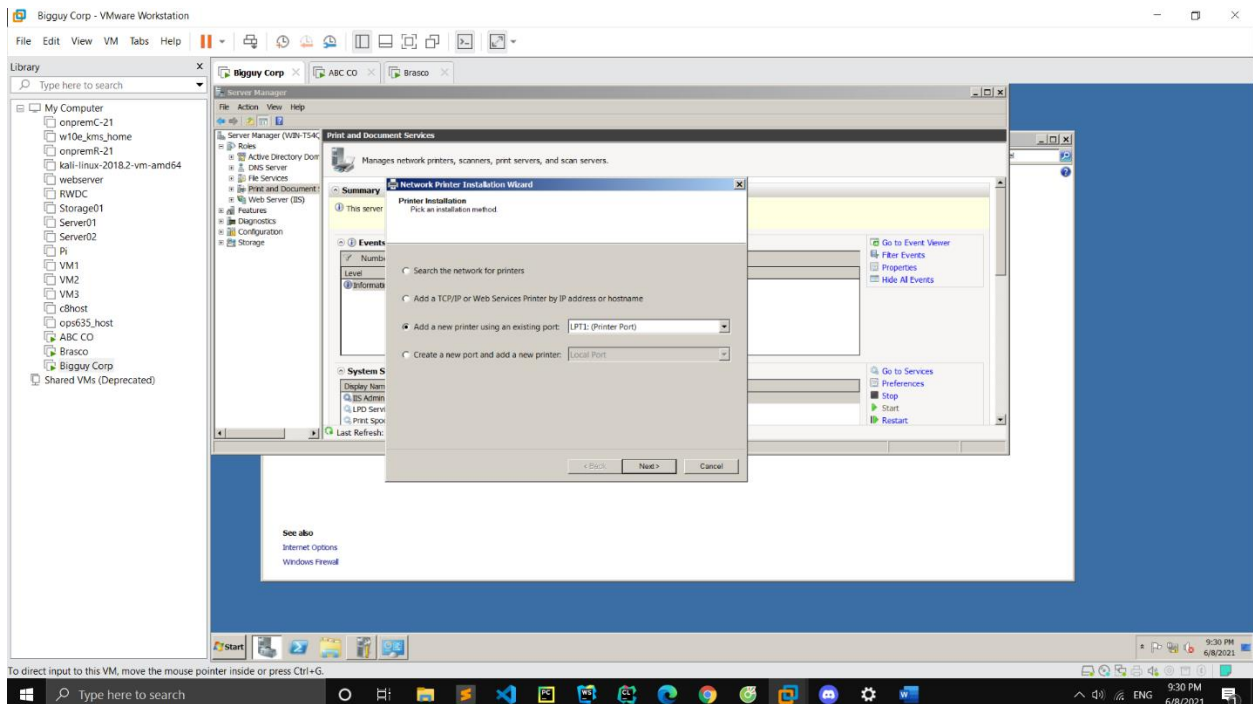


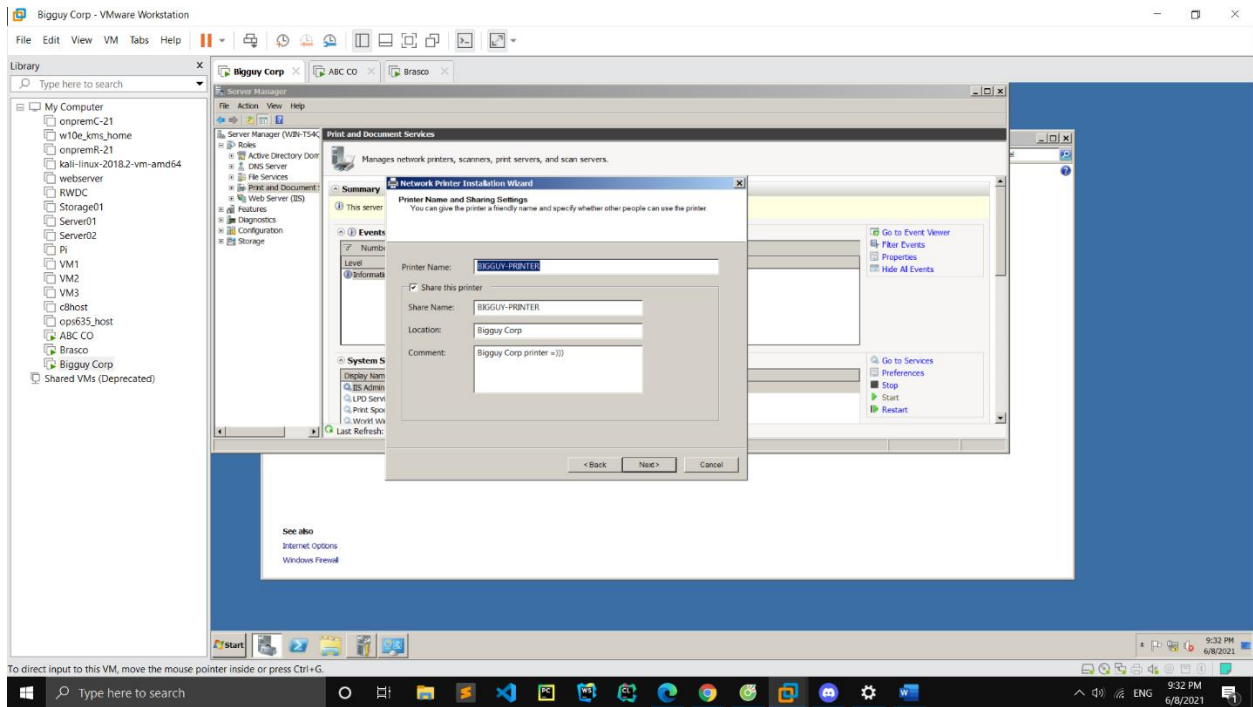
- **Turn off the firewall**
  - Click to Windows Firewall and Disable the firewall setting



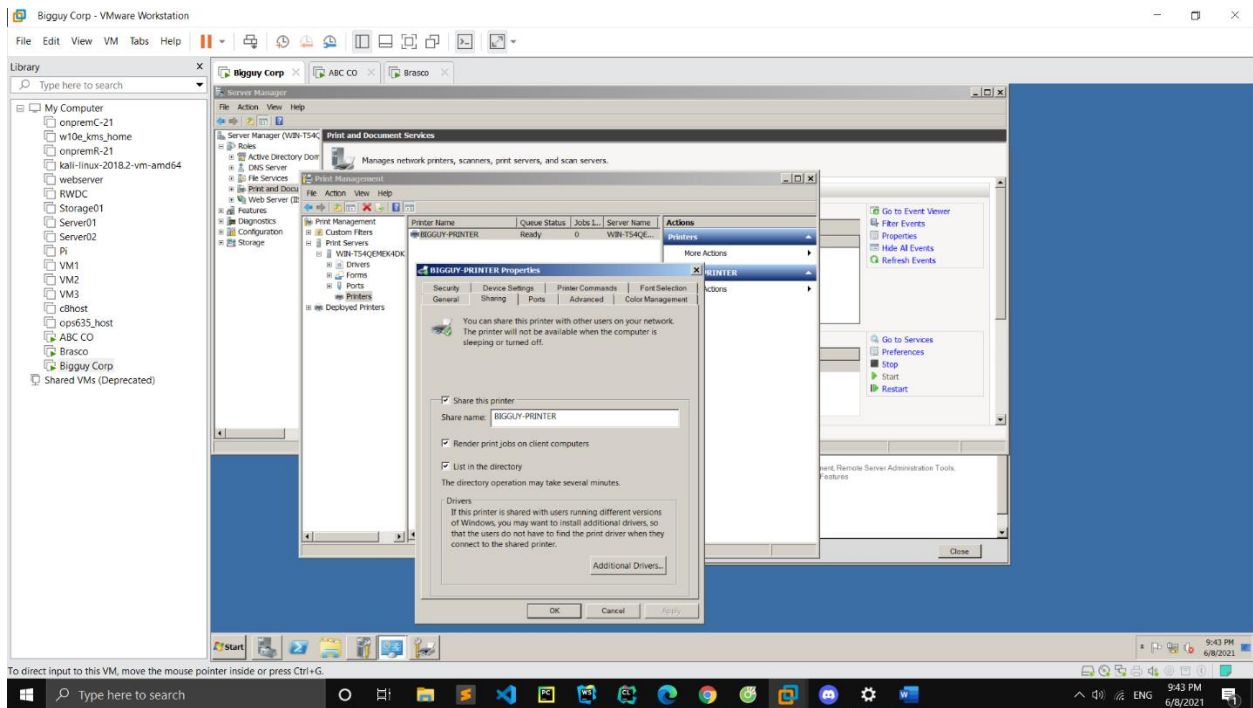
- **Add Printer and Share printing service on Window Server.**

- Window + S, then find Printer Management
- Right-Click into the Printers, and click Add Printer.
- Then select Add a new printer using port LPT1: (Printer Port)
- Select Generic/Text only
- Assign name of your Printer and suitable description.
- Click next, then Finish.

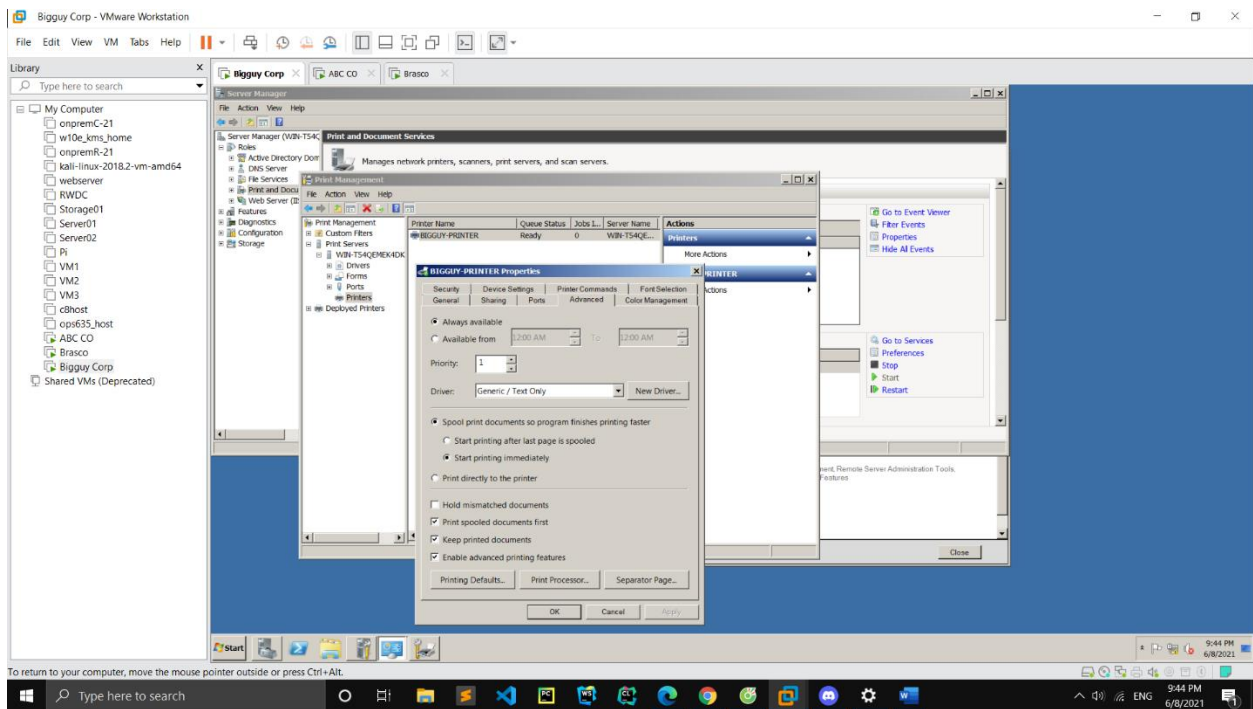




- Right-click into the created printer, sharing tab and share your printer.

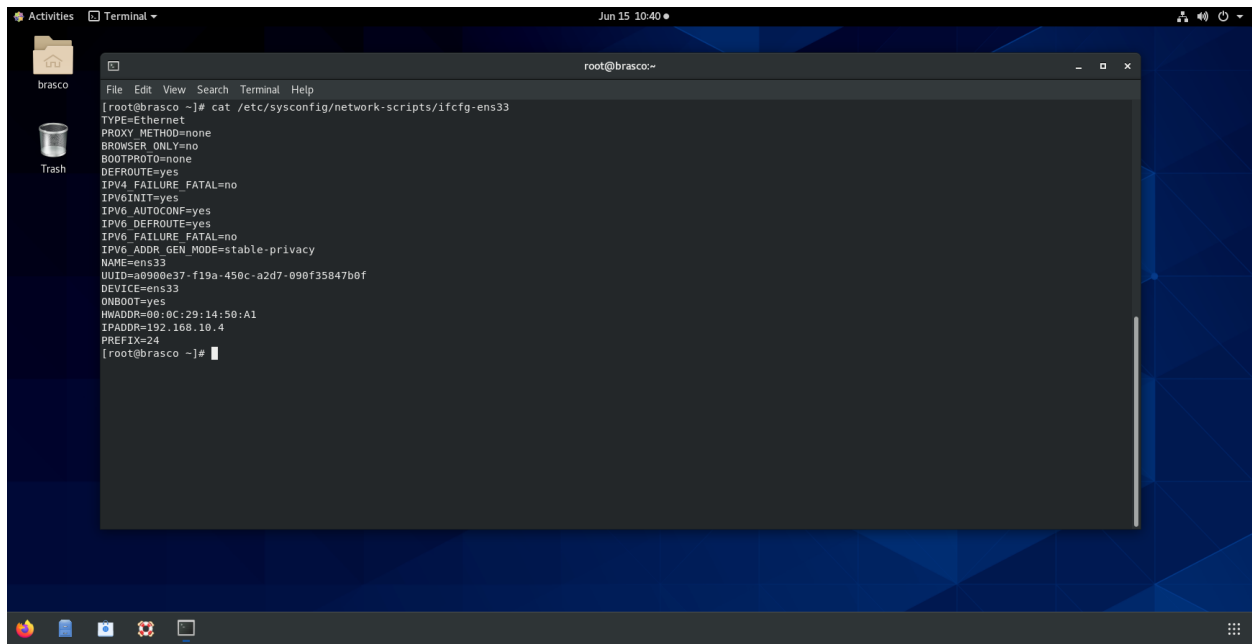


- Click to the Advanced tab.



## CENTOS 8 CONFIGURATION

- Set-up the network adapter as similar as Window Server 2008 R2 “apl-701-LAN”
- Configure the Static IP address
  - `sudo vi /etc/sysconfig/network-script/ifcfg-ens33`
  - Save the setting, and restart the network ens33 (`ifdown ens33 -> ifup ens33`)



The screenshot shows a CentOS 8 desktop environment. A terminal window is open, displaying the contents of the file `/etc/sysconfig/network-scripts/ifcfg-ens33`. The file content is as follows:

```
File Edit View Search Terminal Help
[root@brasco ~]# cat /etc/sysconfig/network-scripts/ifcfg-ens33
TYPE=Ethernet
PROXY_METHOD=none
BROWSER_ONLY=no
BOOTPROTO=none
DEFROUTE=yes
IPV4_FAILURE_FATAL=no
IPV6INIT=yes
IPV6_AUTOCONF=yes
IPV6_DEFROUTE=yes
IPV6_FAILURE_FATAL=no
IPV6_ADDR_GEN_MODE=stable-privacy
NAME=ens33
UUID=a0900e37-f19a-450c-a2d7-090f35847b0f
DEVICE=ens33
ONBOOT=yes
HWADDR=08:0C:29:14:50:A1
IPADDR=192.168.10.4
PREFIX=24
[root@brasco ~]#
```

- Configure CUPS for printing service
  - `yum install cups -y`
  - `yum install cups-ipptool -y`
  - `systemctl enable cups`
  - `systemctl start cups`
  - `vi /etc/cups/cupsd.conf`
  - Listen all with 631

```
# Only listen for connections from the local machine.
Listen *:631
Listen /var/run/cups/cups.sock
```

- Ensure that the Browsing setting is ON

```
# Show shared printers on the local network.
Browsing On
BrowseLocalProtocols cups dnssd
```



- Allow printing communication on your network. My network is 192.168.10.0/24

```
# Restrict access to the server...
<Location />
  Order allow,deny
  Allow 192.168.10.0/24
</Location>

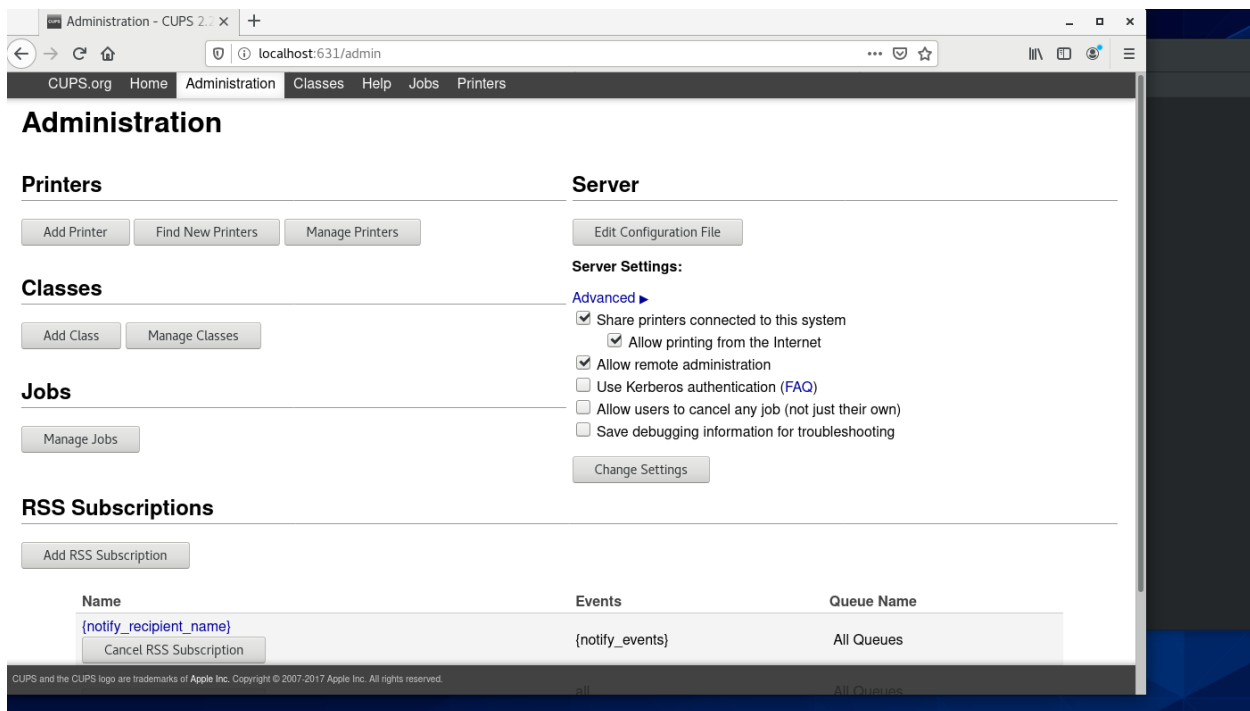
# Restrict access to the admin pages...
<Location /admin>
  Order allow,deny
  Allow 192.168.10.0/24
</Location>
```

- Save and exit. Then issue the systemctl commands above to restart cups service
- **Allow firewall for printing service**
  - firewall-cmd --add-port=631/tcp --permanent --zone=public
  - firewall-cmd --reload
- **Allow the printing service on Browser (Mozilla firefox)**
  - yum install cups-browsed -y
  - systemctl enable cups-browsed
  - systemctl start cups-browsed
- **Share CUPS printer via IPP**
  - yum install epel-release -y
  - yum install nss-mdns -y
  - yum install avahi -y
- **Issue these command to start service and allow firewall**
  - systemctl enable avahi-daemon
  - systemctl start avahi-daemon
  - firewall-cmd --add-port=5353/udp --permanent --zone=public
  - firewall-cmd --reload

➔ It helps cups client and cups server are able to communicate together
- **Install Printer-Setting GUI:**
  - cd /etc/yum.repos.d/
  - curl 'https://copr.fedorainfracloud.org/coprs/scx/system-config-printer/repo/epel-8/scx-system-config-printer-epel-8.repo' > 'scx-system-config-printer-epel-8.repo'
  - yum install system-config-printer



- **Adding printer client**
  - yum install cup-ipptool -y
  - systemctl restart cups
- **Add Printer to Linux Machine via browser (Mozilla Firefox)**
  - Open Mozilla Firefox, then type <http://localhost:631/>
  - Then click into the Adding Printers and Classes
  - Enable the Allow printing from the Internet
  - Then Add Printer



- Type root and your machine password
- Select Internet Printing Protocol (http)

- Type the URL to your home printer page. Then click Continue

**Add Printer**

**Add Printer**

**Connection:**

Examples:

- http://hostname:631/ipp/
- http://hostname:631/ipp/port1
- ipp://hostname/ipp/
- ipp://hostname/ipp/port1
- lpd://hostname/queue
- socket://hostname
- socket://hostname:9100

See "Network Printers" for the correct URI to use with your printer.

- Type your printer Name, then enable "Sharing this printer"
- Choose the proper printer and driver (Generic and PDF driver)
- Then click Finish
- When you finish, the printer is available on <http://localhost:631/printers/>

- **Configure SAMBA to connect from Linux to Window 2008 R2**

- vi /etc/samba/smb.conf

```
[global]
    workgroup = SAMBA
    security = user

    passdb backend = tdbsam

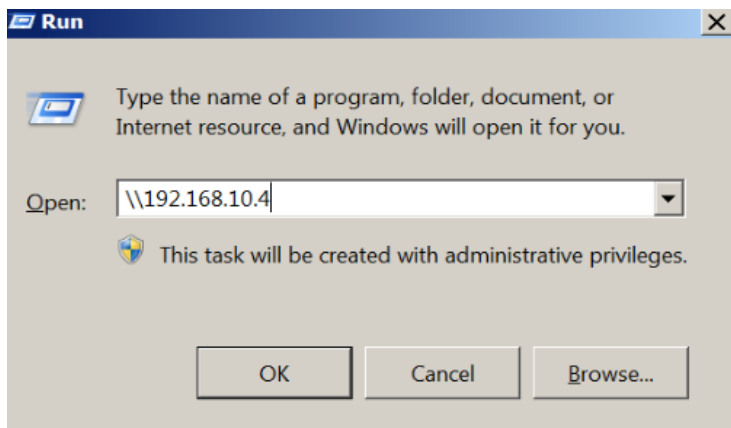
    printing = cups
    printcap name = cups
    load printers = yes
    cups options = raw
    rpc_server:spoolss = external
    rpc_daemon:spoolssd = fork
```

```
[printers]
    comment = All Printers
    #path = /var/tmp
    path = /var/spool/samba
    printable = Yes
    create mask = 0600
    browseable = Yes
    guest ok = Yes
    valid users = samba apl701
```

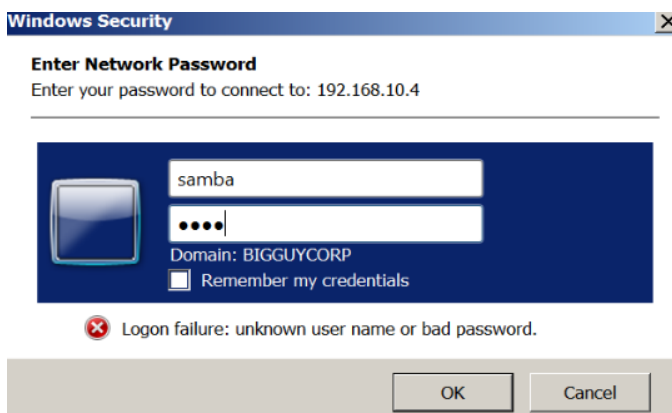
- Save, and restart samba service by issue the command `systemctl restart smb`
- Create the user for samba service. ( This user is used to login when you find the connection on Window server //192.168.10.4)
- `useradd -m samba`
- `passwd samba`
- `smbpasswd -a samba`
- `systemctl restart smb nmb`

- **Connect from Window to Linux CentOS8**

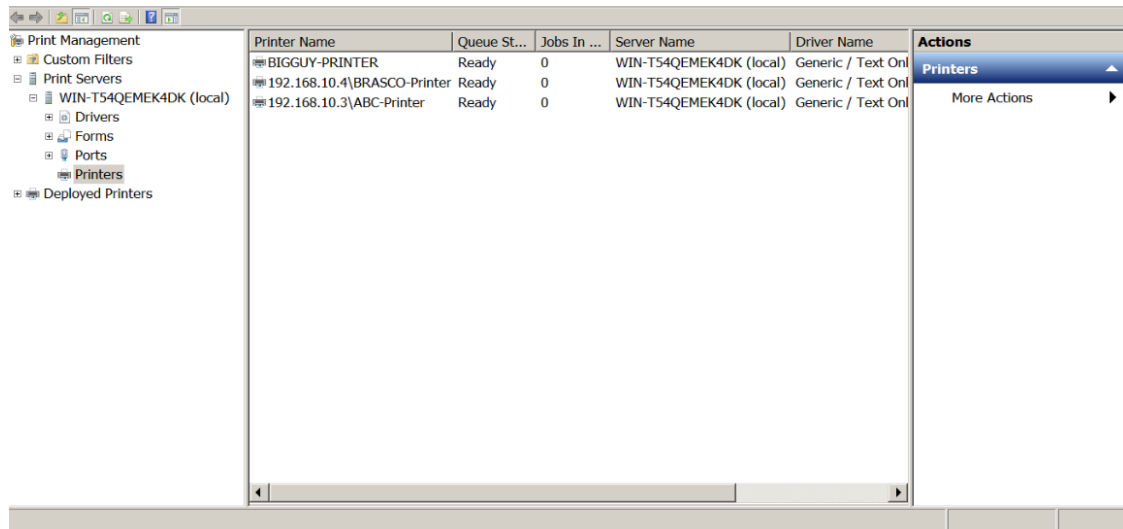
- Click Run on window server 2008 R2. Then issue //IP\_address\_Linux



- Then login as samba user that created above

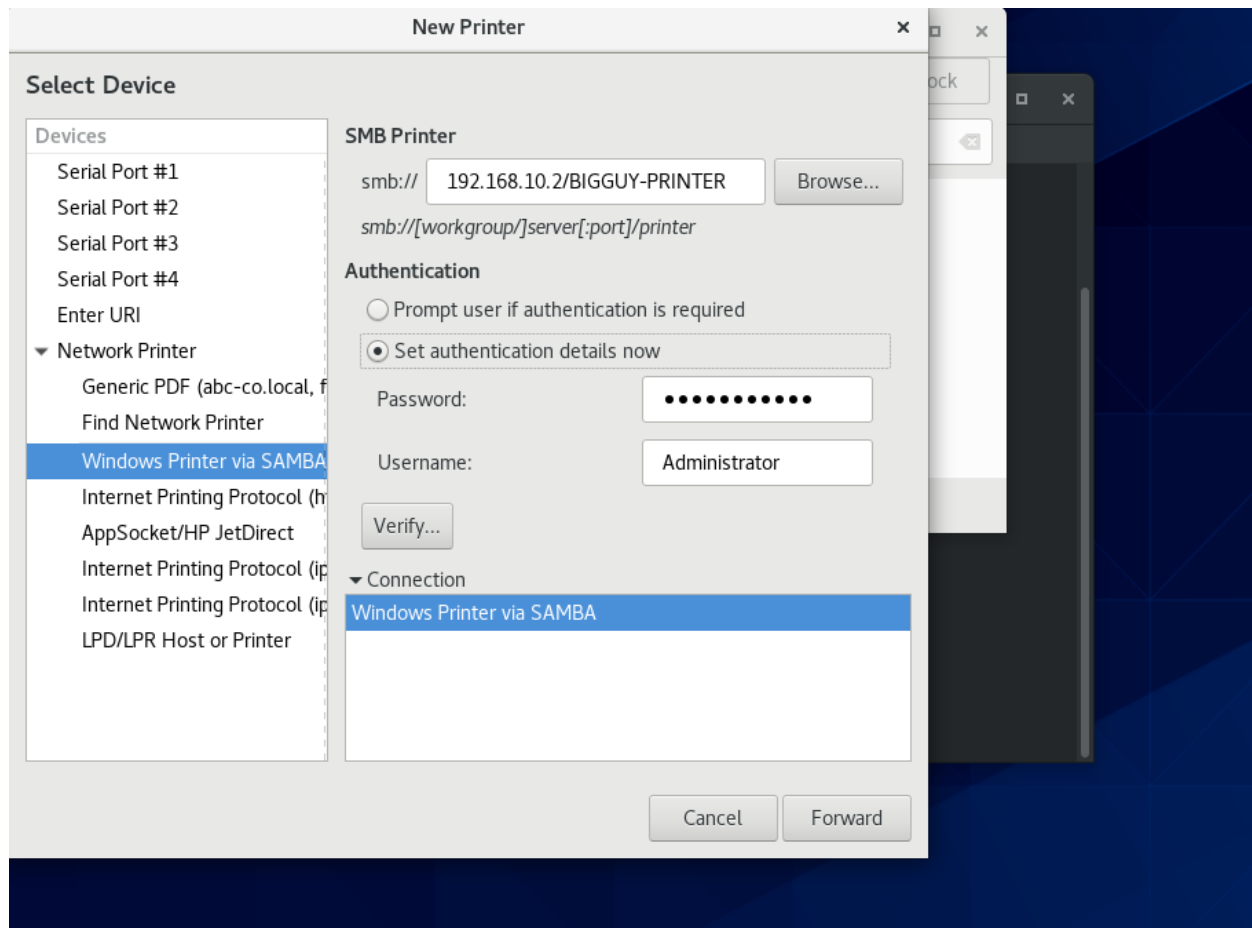


- Then you can choose a printer and add the connection as remote printer.
- You can check successful installation on Print Management



- **Connect Linux Printing via samba to Window server 2008 R2**

- Unlock and Click Add.
- Open the Printer setting that installed above by using curl command
- Then, select Window Printer via SAMBA
- Add the printer via smb URL
- Set the authentication as the Window server 2008 R2 "Administrator"



- Click Forward and Select Generic as the driver
- Click IPP for everywhere for the driver
- Then, click Finish
- You can check successful installation on <http://localhost:631/printers/>

Queue Name	Description	Location	Make and Model	Status
<a href="#">ABC-Printer</a>	ABC-Printer		Remote printer: Generic PDF Printer	Idle
<a href="#">BIGGUY-PRINTER</a>	Remote from Brasco to Bigguy	Bigguy Corp	Generic PDF Printer	Idle
<a href="#">BIGGUY-PRINTER@abc-co.local</a>	Remote printing from ABC to Bigguy		Remote printer: Generic PDF Printer	Idle
<a href="#">Brasco-ABC</a>	Remote printer from Brasco to ABC	ABC	Local Raw Printer	Idle
<a href="#">BRASCO-Printer</a>	BRASCO-Printer	BRASCO	Generic PDF Printer	Idle

- ➔ If you cannot connect from Window server Printer “client-error-not-possible”, you can issue the command “yum install samba-client”, then restart the samba service.