COMP 012 - Network Administration

Windows + Linux + Packet Tracer + Python Automation

SESSION 7: NETWORK SERVICES CONFIGURATION

ACTIVITY 7.1: DNS SERVER CONFIGURATION

Topic: Setting up DNS on Windows and Linux

Description: Configure DNS servers for name resolution in your lab

INSTRUCTIONS:

Windows DNS Server:
- Add DNS Server role in Server Manager
- Create Forward Lookup Zone: yourlab.local
- Create Reverse Lookup Zone: 192.168.1.x
- Add A records for all servers
- Add CNAME for www, mail
- Add PTR records for reverse lookup

Linux DNS (BIND9) - Optional:
- sudo apt install bind9
- Configure /etc/bind/named.conf.local
- Create zone file
- Configure forwarders

Test DNS:
- nslookup servername.yourlab.local
- nslookup [IP address] (reverse)
- From Windows: nslookup
- From Linux: dig, host commands

Configure clients to use your DNS server

Document all DNS records created

Deliverables: Submit DNS configuration and nslookup test results	**30 Points**

ACTIVITY 7.2: DHCP SERVER CONFIGURATION

Topic: Implementing DHCP for automatic IP assignment

Description: Set up DHCP to automatically configure network clients

INSTRUCTIONS:

Windows DHCP Server:
- Add DHCP Server role
- Authorize in Active Directory
- Create new scope:
  - Name: LAN_Scope

- Range: 192.168.1.100 - 192.168.1.200
- Subnet: 255.255.255.0
- Exclusions: 192.168.1.100-110 (for servers)
- Lease duration: 8 days

Configure scope options:
• Router (003): 192.168.1.1
• DNS Server (006): 192.168.1.10
• Domain Name (015): yourlab.local
Create reservations:
• Reserve IP for printer by MAC address
Activate scope
Test from client:
• ipconfig /release
• ipconfig /renew
• ipconfig /all (verify DHCP settings)
View leases in DHCP console

Deliverables: Submit DHCP configuration and client lease screenshots	**30 Points**

ACTIVITY 7.3: WEB SERVER AND FILE SHARING

Topic: Deploying IIS, Apache, and file shares

Description: Set up web servers and file sharing services

INSTRUCTIONS:

Windows IIS Web Server:
• Add Web Server (IIS) role
• Create test website in C:\inetpub\wwwroot
• Create HTML page with your name
• Test: http://localhost
• Configure binding for yourlab.local
Linux Apache Web Server:
• sudo apt install apache2
• Create page in /var/www/html
• sudo systemctl enable apache2
• Test: http://[linux-ip]
Windows File Sharing (SMB):
• Create folder C:\Shares\Public
• Right-click → Properties → Sharing
• Set share and NTFS permissions
• Access: \\servername\Public
Linux File Sharing (Samba):
• sudo apt install samba

• Configure /etc/samba/smb.conf
• Create Samba user: sudo smbpasswd -a user
• Test from Windows: \\linux-ip\sharename
Document all services and access methods

Deliverables: Submit web server and file share configuration with access tests	**35 Points**

TOTAL POINTS: 95