COMP 012 - Network Administration

Windows + Linux + Packet Tracer + Python Automation

SESSION 5: WINDOWS SERVER FUNDAMENTALS

ACTIVITY 5.1: WINDOWS SERVER INSTALLATION

Topic: Installing and configuring Windows Server 2022

Description: Deploy Windows Server in your virtual lab environment

INSTRUCTIONS:

Create VM in VirtualBox:
- Name: WinServer2022
- Type: Microsoft Windows
- Version: Windows 2022 (64-bit)
- RAM: 4096 MB minimum
- Disk: 50 GB dynamically allocated
- Network: Attach to Host-Only + NAT

Install Windows Server 2022:
- Select 'Desktop Experience'
- Custom installation
- Set Administrator password

Post-installation configuration:
- Set static IP address
- Configure computer name
- Set time zone
- Enable Remote Desktop
- Check Windows Update

Server Manager overview:
- Dashboard, Local Server
- Add roles and features
- Tools menu

Take screenshots of all steps

Deliverables: Submit installation screenshots and server configuration	**30 Points**

ACTIVITY 5.2: ACTIVE DIRECTORY DOMAIN SERVICES

Topic: Installing and configuring AD DS

Description: Set up Active Directory for centralized identity management

INSTRUCTIONS:

Install AD DS role:

- Server Manager → Add Roles and Features
- Select Active Directory Domain Services
- Complete installation

Promote to Domain Controller:
- Click notification flag → Promote
- Add a new forest
- Root domain name: yourlab.local
- Set DSRM password
- Accept defaults for DNS, SYSVOL
- Complete promotion and restart

Create AD structure:
- Open Active Directory Users and Computers
- Create OUs: IT, HR, Sales, Servers
- Create users (minimum 5):
  - Set password, description, department
- Create security groups:
  - IT_Admins, HR_Staff, Sales_Team
- Add users to appropriate groups

Test login with domain user

Deliverables: Submit AD DS setup screenshots and OU/user structure	**35 Points**

ACTIVITY 5.3: POWERSHELL BASICS FOR ADMINISTRATION

Topic: Introduction to PowerShell for server management

Description: Learn essential PowerShell commands for Windows administration

INSTRUCTIONS:

Open PowerShell as Administrator

Basic commands:
- Get-Command - list all commands
- Get-Help [command] - get help
- Get-Service - list services
- Get-Process - list processes
- Get-EventLog -LogName System -Newest 10

AD PowerShell commands:
- Import-Module ActiveDirectory
- Get-ADUser -Filter * | Select Name
- Get-ADGroup -Filter *
- Get-ADComputer -Filter *

Create users with PowerShell:

New-ADUser -Name 'John Doe' \
  -GivenName 'John' -Surname 'Doe' \

```
  -SamAccountName 'jdoe' \
  -UserPrincipalName 'jdoe@yourlab.local' \
  -Path 'OU=IT,DC=yourlab,DC=local' \
  -AccountPassword (ConvertTo-SecureString 'P@ssw0rd' -AsPlainText -Force) \
  -Enabled $true
Create script to bulk-create users from CSV
```

Deliverables: Submit PowerShell commands log and bulk user creation script	**30 Points**

TOTAL POINTS: 95