

# Building a File Server with Samba

LPIC-2: Linux Engineer (202-450)

## Objectives:

At the end of this episode, I will be able to:

1. Describe the purpose and function of Samba 4.
2. Configure a Linux host as a Samba server.

Additional resources used during the episode can be obtained using the download link on the overview episode.

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- Building a File Server with Samba
    - What is Samba?
    - Installing Samba Server
    - Allowing Samba through a Firewall
    - Samba Server Configuration
  - What is Samba?
    - <https://www.samba.org/>
    - SMB Protocol
      - Server Message Block
      - Developed by IBM
      - Built on by Microsoft for Windows for Workgroups
    - CIFS
      - Common Internet File System
      - Technical specification for open use of SMB
  - Installing Samba Server
    - `sudo apt install samba`
    - Other packages
      - VFS: Virtual File System
        - Default FS is the Linux file system
        - Expanded filesystem modules are used mostly for NAS devices
      - AD-DC: Active Directory Domain Controller
        - Windows Domain Controller emulation
      - DSDB: Directory Services Database
        - LDAP variant (LDB) developed for Samba
  - Allowing Samba through a Firewall
    - SMB Network Ports
      - UDP/137: NetBIOS Name Service
      - UDP/138: NetBIOS Datagram Service
      - TCP/139: SMB over NetBIOS (Pre-Windows 2000)
      - TCP/445: SMB over TCP (Windows 2000 and newer)
    - Allowing access
      - `sudo ufw allow Samba`
      - `sudo ufw allow from 10.222.0.0/24 to any app Samba`
  - Samba Server Configuration
    - Configuration File
      - `/etc/samba/smb.conf`
    - Common initial changes

- Workgroup name
  - Listening interfaces
- Check for errors
  - testparm
- Starting Samba
  - `sudo systemctl enable --now smb`
- Common Installation Issues
  - Samba won't start without a proper hostname
    - `hostnamectl set-hostname <name>`
    - Or define it in `/etc/samba/smb.conf`