

Proxmox Windows Server 2022 Active Directory Lab Deployment Guide

1. Prepare Proxmox and upload ISOs

- Log in to Proxmox web UI.
- Upload Windows Server 2022 ISO.
- Upload VirtIO drivers ISO.
- Upload Windows 10/11 ISO.

2. Create a dedicated lab network in Proxmox

- Create Linux Bridge vmbr1.
- Assign subnet 192.168.100.0/24.
- Plan IP ranges for DCs, servers, clients.

3. Create a base Windows Server 2022 VM template

- Create VM with UEFI, VirtIO SCSI, VirtIO NIC.
- Add VirtIO ISO.
- Install Windows Server 2022.
- Load VirtIO storage and network drivers.
- Install QEMU guest agent.
- Update Windows.
- Convert VM to template.

4. Deploy DC01 (Primary Domain Controller)

- Clone template to DC01.
- Set static IP 192.168.100.10.
- Install AD DS and DNS roles.
- Promote to domain controller for new forest lab.local.
- Verify ADUC and DNS.

5. Deploy DC02 (Secondary Domain Controller)

- Clone template to DC02.
- Set static IP 192.168.100.11.
- Join domain.
- Install AD DS role.

- Promote to additional domain controller.
- Validate replication using repadmin.

6. Build FS01 (File Server)

- Clone template to FS01.
- Join domain.
- Install File Server role.
- Create shares and set NTFS/share permissions.

7. Create MGMT01 (Management VM)

- Clone template.
- Join domain.
- Install RSAT tools.
- Use for AD, DNS, GPO management.

8. Deploy Windows Client VMs

- Create Windows 10/11 base VM.
- Install VirtIO drivers.
- Convert to template.
- Clone to WIN11-CL01, etc.
- Join domain.

9. Build and test Group Policies

- Create OU structure.
- Create GPOs for servers, clients, drive mappings.
- Test with gpupdate and gpresult.

10. Use snapshots and templates for lab workflows

- Take baseline snapshots.
- Snapshot before major changes.
- Clone clients quickly for testing.