

# Active Directory Lab Setup

## # Implementing Group Policy Objects (GPOs) in a Windows Server Home Lab

### ## Overview

This document outlines the implementation of several key Group Policy Objects (GPOs) in a Windows Server 2022 home lab environment. These GPOs enhance security, usability, and standardization across domain-connected client machines.

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### ## Prerequisites

- Windows Server 2022 with Active Directory Domain Services (AD DS) and Group Policy Management Console (GPMC) installed
- At least one domain-joined Windows client

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### ## GPOs Created & Configured

#### ### 1. Password Policy GPO

**\*\*Purpose\*\*:** Enforce strong password practices

- **\*\*Settings Applied\*\*:**
  - Minimum password length: 12 characters
  - Password must meet complexity requirements
  - Maximum password age: 60 days
  - Minimum password age: 1 day

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- Enforce password history: 5 previous passwords
- **Scope**: Linked to the domain root

### ### 2. Drive Mapping GPO

**Purpose**: Automatically map network drive on user login

- **Configuration**:
  - User Configuration Preferences Windows Settings Drive Maps
  - New Mapped Drive: \\SERVER\Shared
  - Drive Letter: Z:
  - Action: Update
- **Scope**: Applied to specific OU (e.g., USA > Users)

### ### 3. Desktop Wallpaper GPO

**Purpose**: Standardize desktop appearance across user accounts

- **Configuration**:
  - User Configuration Policies Administrative Templates Desktop Desktop
  - Enable Desktop Wallpaper setting
  - Wallpaper path: \\SERVER\wallpapers\company.jpg
  - Wallpaper Style: Fill
- **Scope**: Applied to user-based OUs

### ### 4. Restrict Control Panel GPO

**Purpose**: Limit user access to sensitive system settings

- **Configuration**:
  - User Configuration Policies Administrative Templates Control Panel

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- Enable: Prohibit access to Control Panel and PC settings
- **Scope**: Applied to general user OU

### ### 5. Disable USB Storage GPO

**Purpose**: Block access to USB storage devices

- **Configuration**:
  - Computer Configuration Policies Administrative Templates System Removable Storage Access
  - All Removable Storage classes: Deny all access
- **Scope**: Applied to all domain computers

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### ## Bonus Activity: Account Lockout Policy

**Objective**: Prevent brute-force attacks via account lockout

- **Configuration Path**:
  - Computer Configuration Policies Windows Settings Security Settings Account Policies Account Lockout Policy
- **Settings Applied**:
  - Account lockout threshold: 5 invalid attempts
  - Account lockout duration: 15 minutes
  - Reset account lockout counter: 15 minutes
- **Status**: Created, linked to domain root, tested using dummy accounts

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### ## Implementation Tips

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- Use Group Policy Modeling to preview GPO impacts
- Apply GPOs to specific OUs for better management granularity
- Regularly update documentation with GPO changes

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### ## Suggested Repository Structure

/GPO\_Implementation\_Home\_Lab

screenshots

gpo-settings-example.png

README.md

docs

GPO\_Configuration\_Guide.pdf