Managing Active Directory with PowerShell



Jeff Hicks Learning Architect

Level: Intermediate













PS C:\> whoami

- Veteran IT Pro
- Microsoft MVP
- Author
- Teacher
- https://jdhitsolutions.github.io







Why PowerShell

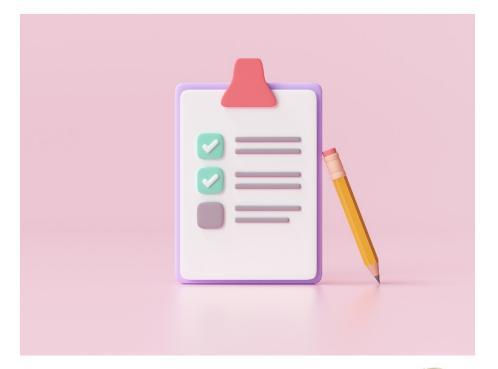
- Available everywhere
 - Install PowerShell 7
- Manage from your desktop
- Consistency
- Efficiency
- Scalability
 - Manage at Scale





Requirements

- PowerShell
- RSAT ActiveDirectory tools
 - Local AD infrastructure
 - Run from your desktop
 - NO RDP!
- Permissions
- DNSServer module
 - Out of scope today





PS C:\> Get-WindowsCapability -name rsat.ActiveDirectory* -online

Name : Rsat.ActiveDirectory.DS-LDS.Tools~~~0.0.1.0

State : Installed

DisplayName : RSAT: Active Directory Domain Services and Lightweight Directory Services Tools

Description : Active Directory Domain Services (AD DS) and Active Directory Lightweight Directory Services (AD LDS)

Tools include snap-ins and command-line tools for remotely managing AD DS and AD LDS on Windows Server.

DownloadSize : 5230259 InstallSize : 34704398

Remote Server Administration Tools

Ships with Windows 10/11



Get-WindowsCapability -name rsat.ActiveDirectory* -online |
Add-WindowsCapability -online



```
Count Name
                                Group
                                {Add-ADCentralAccessPolicyMember. Add-ADComputerServiceAccount. Add-ADDomainControll...
   7 Add
                                {Clear-ADAccountExpiration, Clear-ADClaimTransformLink}
    2 Clear
    2 Disable
                                {Disable-ADAccount, Disable-ADOptionalFeature}
    2 Enable
                                {Enable-ADAccount, Enable-ADOptionalFeature}
                                {Get-ADAccountAuthorizationGroup, Get-ADAccountResultantPasswordReplicationPolicy, G...
  43 Get
    1 Grant
                                {Grant-ADAuthenticationPolicySiloAccess}
                                {Install-ADServiceAccount}
    1 Install
                                {Move-ADDirectoryServer, Move-ADDirectoryServerOperationMasterRole, Move-ADObject}
    3 Move
                                {New-ADAuthenticationPolicy, New-ADAuthenticationPolicySilo, New-ADCentralAccessPoli...
   20 New
                                {Remove-ADAuthenticationPolicy, Remove-ADAuthenticationPolicySilo, Remove-ADCentralA...
   26 Remove
                                {Rename-ADObject}
    1 Rename
    1 Reset
                                {Reset-ADServiceAccountPassword}
    1 Restore
                                {Restore-ADObject}
                                {Revoke-ADAuthenticationPolicvSiloAccess}
    1 Revoke
                                {Search-ADAccount}
    1 Search
                                {Set-ADAccountAuthenticationPolicySilo, Set-ADAccountControl, Set-ADAccountExpiratio...
   30 Set
                                {Show-ADAuthenticationPolicyExpression}
    1 Show
                                {Sync-ADObject}
    1 Sync
                                {Test-ADServiceAccount}
    1 Test
    1 Uninstall
                                {Uninstall-ADServiceAccount}
    1 Unlock
                                {Unlock-ADAccount}
PS C:\> Get-Command -module ActiveDirectory | Measure-Object | Select-Object Count
Count
```

PS C:\> Get-Command -module ActiveDirectory | Group Verb

147

PSDrive

- Navigate AD as a drive
- Use tab completion
- Use distinguished names
- Use tab-completion
- Watch for trailing \

PS AD:\DC=Company,DC=Pri> dir ObjectClass DistinguishedName Name Accounting organizationalUnit OU=Accounting, DC=Company, DC=Pri CN=Builtin, DC=Company, DC=Pri Builtin builtinDomain Computers container CN=Computers, DC=Company, DC=Pri Dev organizationalUnit OU=Dev.DC=Company.DC=Pri Domain Controllers organizationalUnit OU=Domain Controllers.DC=Company.DC=Pri **Employees** organizationalUnit OU=Employees, DC=Company, DC=Pri ForeignSecurityPr... container CN=ForeignSecurityPrincipals,DC=Company,DC=Pri Infrastructure infrastructureUpdate CN=Infrastructure.DC=Company.DC=Pri organizationalUnit OU=IT, DC=Company, DC=Pri JEA_Operators organizationalUnit OU=JEA_Operators, DC=Company, DC=Pri Keys container CN=Keys, DC=Company, DC=Pri LostAndFound lostAndFound CN=LostAndFound, DC=Company, DC=Pri Managed Service A... container CN=Managed Service Accounts,DC=Company,DC=Pri Marketing organizationalUnit OU=Marketing, DC=Company, DC=Pri NTDS Ouotas msDS-QuotaContainer CN=NTDS Quotas,DC=Company,DC=Pri Program Data container CN=Program Data,DC=Company,DC=Pri Sales organizationalUnit OU=Sales, DC=Company, DC=Pri Servers organizationalUnit OU=Servers, DC=Company, DC=Pri System container CN=System, DC=Company, DC=Pri TPM Devices msTPM-Information... CN=TPM Devices,DC=Company,DC=Pri Users container CN=Users, DC=Company, DC=Pri PS AD:\DC=Company,DC=Pri> get-item '//Rootdse/CN=Administrator,CN=Users,DC=Company,DC=Pri' ObjectClass DistinguishedName Administrator CN=Administrator, CN=Users, DC=Company, DC=Pri user PS AD:\DC=Company,DC=Pri>



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Questions



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