

Managing Active Directory with PowerShell



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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
```



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

Count	Name	Group
-----	-----	-----
7	Add	{Add-ADCentralAccessPolicyMember, Add-ADComputerServiceAccount, Add-ADDomainControll...
2	Clear	{Clear-ADAccountExpiration, Clear-ADClaimTransformLink}
2	Disable	{Disable-ADAccount, Disable-ADOptionalFeature}
2	Enable	{Enable-ADAccount, Enable-ADOptionalFeature}
43	Get	{Get-ADAccountAuthorizationGroup, Get-ADAccountResultantPasswordReplicationPolicy, G...
1	Grant	{Grant-ADAAuthenticationPolicySiloAccess}
1	Install	{Install-ADServiceAccount}
3	Move	{Move-ADDirectoryServer, Move-ADDirectoryServerOperationMasterRole, Move-ADObject}
20	New	{New-ADAAuthenticationPolicy, New-ADAAuthenticationPolicySilo, New-ADCentralAccessPoli...
26	Remove	{Remove-ADAAuthenticationPolicy, Remove-ADAAuthenticationPolicySilo, Remove-ADCentralA...
1	Rename	{Rename-ADObject}
1	Reset	{Reset-ADServiceAccountPassword}
1	Restore	{Restore-ADObject}
1	Revoke	{Revoke-ADAAuthenticationPolicySiloAccess}
1	Search	{Search-ADAccount}
30	Set	{Set-ADAccountAuthenticationPolicySilo, Set-ADAccountControl, Set-ADAccountExpiratio...
1	Show	{Show-ADAAuthenticationPolicyExpression}
1	Sync	{Sync-ADObject}
1	Test	{Test-ADServiceAccount}
1	Uninstall	{Uninstall-ADServiceAccount}
1	Unlock	{Unlock-ADAccount}

```
PS C:\> Get-Command -module ActiveDirectory | Measure-Object | Select-Object Count
```

```
Count
-----
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
```

Name	ObjectClass	DistinguishedName
Accounting	organizationalUnit	OU=Accounting,DC=Company,DC=Pri
Builtin	builtinDomain	CN=Builtin,DC=Company,DC=Pri
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
IT	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 Quotas	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'
```

Name	ObjectClass	DistinguishedName
Administrator	user	CN=Administrator,CN=Users,DC=Company,DC=Pri

```
PS AD:\DC=Company,DC=Pri> _
```


Show Me



Questions



Session Survey

- Your feedback is very important to us
- Please take a moment to complete the session survey found in the mobile app
- Use the QR code or search for “Converge360 Events” in your app store
- Find this session on the Agenda tab
- Click “Session Evaluation”
- Thank you!

