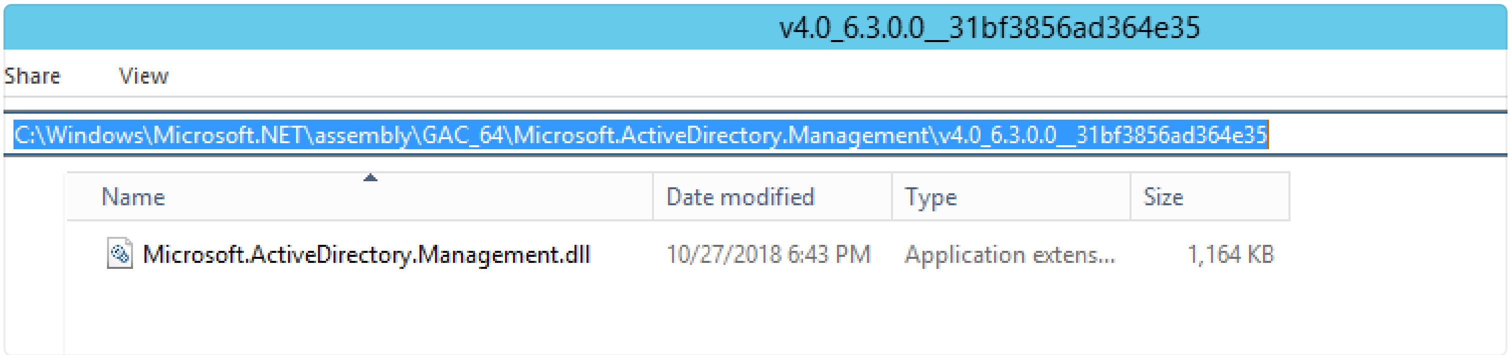
Active Directory Enumeration with AD Module without RSAT or Admin Privileges

This lab shows how it is possible to use Powershell to enumerate Active Directory with Powershell's `Active Directory` module on a domain joined machine that does not have Remote Server Administration Toolkit (RSAT) installed on it. Installing RSAT requires admin privileges and is actually what makes the AD Powershell module available and this lab shows how to bypass this obstacle.

Execution

The secret to being able to run AD enumeration commands from the AD Powershell module on a system without RSAT installed, is the DLL located in `C:\Windows\Microsoft.NET\assembly\GAC_64\Microsoft.ActiveDirectory.Management` on a system that **has the RSAT** installed:



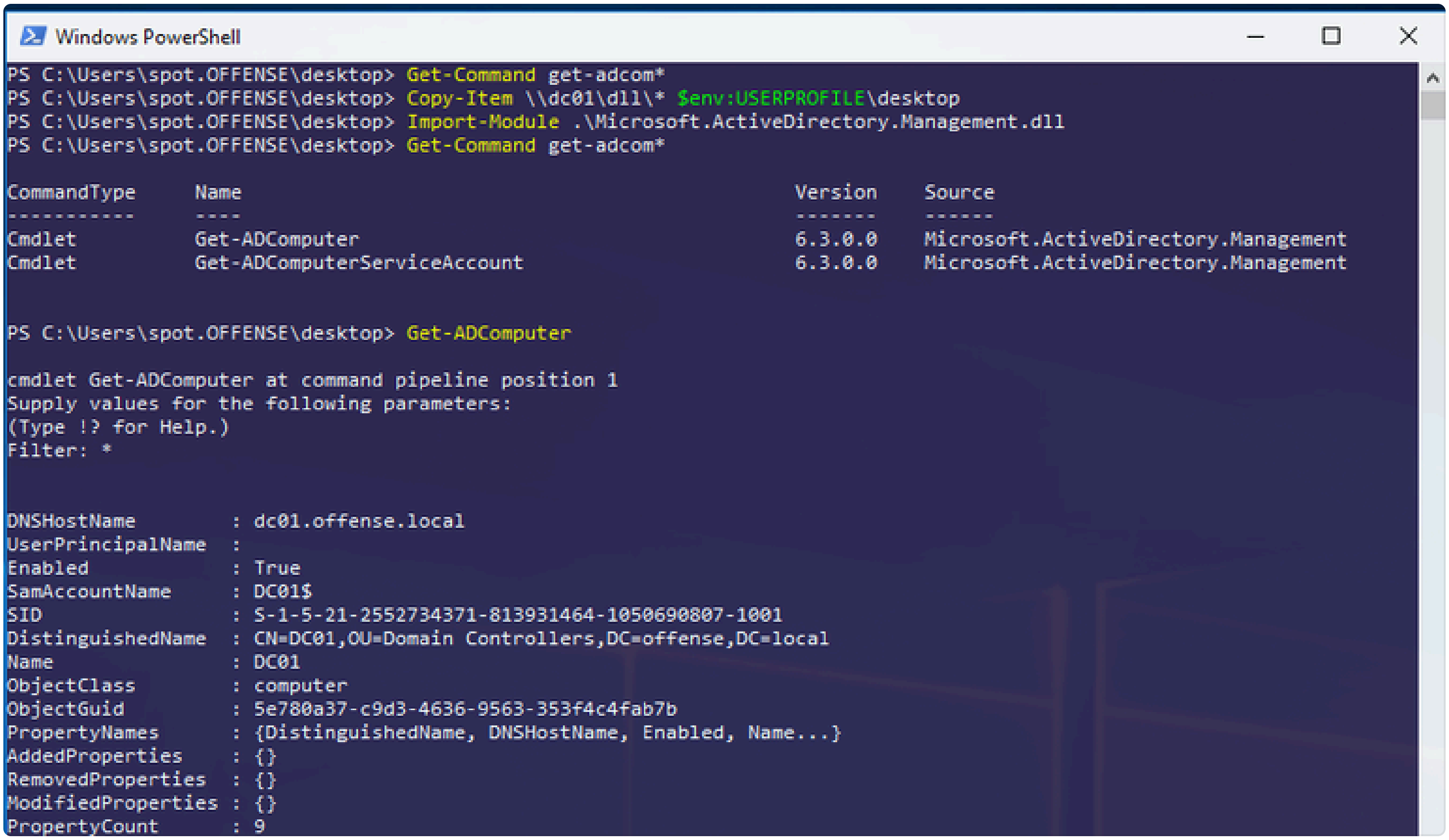
C:\Windows\Microsoft.NET\assembly\GAC_64\Microsoft.ActiveDirectory.Management\v4.0_6.3.0.0__31bf3856ad364e35

Name	Date modified	Type	Size
Microsoft.ActiveDirectory.Management.dll	10/27/2018 6:43 PM	Application extens...	1,164 KB

This means that we can just grab the DLL from the system with RSAT and drop it on the system we want to enumerate from (that does not have RSAT installed) and simply import that DLL as a module:

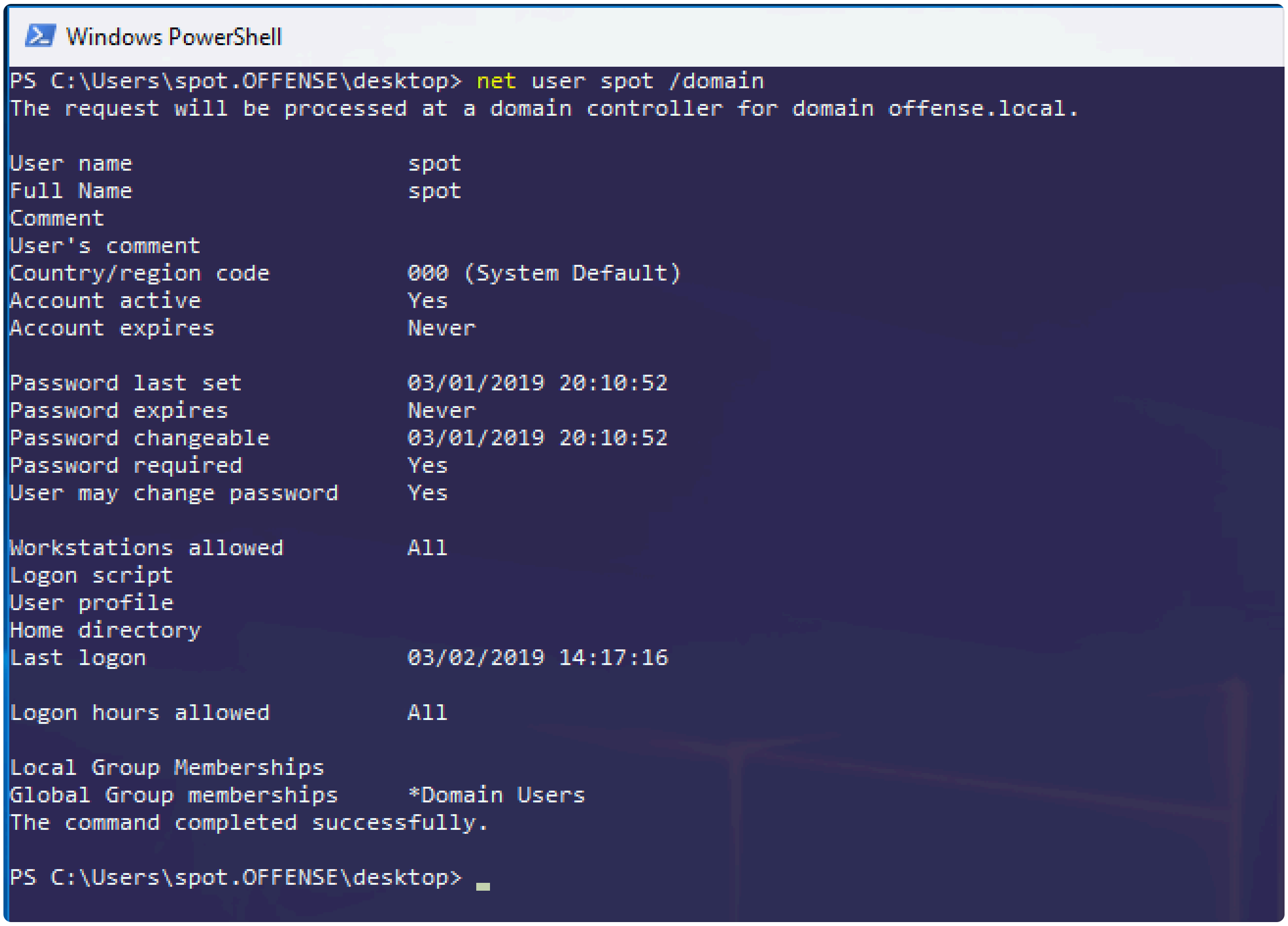
```
Import-Module .\Microsoft.ActiveDirectory.Management.dll
```

Note how before we import the module, `Get-Command get-adcom*` returns nothing, but that changes once we import the module:



```
PS C:\Users\spot.OFFENSE\desktop> Get-Command get-adcom*
PS C:\Users\spot.OFFENSE\desktop> Copy-Item \\dc01\dll\* $env:USERPROFILE\desktop
PS C:\Users\spot.OFFENSE\desktop> Import-Module .\Microsoft.ActiveDirectory.Management.dll
PS C:\Users\spot.OFFENSE\desktop> Get-Command get-adcom*

CommandType     Name                                               Version    Source
-----------     ----                                               -------    ------
Cmdlet          Get-ADComputer                                     6.3.0.0    Microsoft.ActiveDirectory.Management
Cmdlet          Get-ADComputerServiceAccount                       6.3.0.0    Microsoft.ActiveDirectory.Management


PS C:\Users\spot.OFFENSE\desktop> Get-ADComputer

cmdlet Get-ADComputer at command pipeline position 1
Supply values for the following parameters:
(Type !? for Help.)
Filter: *


DNSHostName       : dc01.offense.local
UserPrincipalName :
Enabled           : True
SamAccountName    : DC01$
SID               : S-1-5-21-2552734371-813931464-1050690807-1001
DistinguishedName : CN=DC01,OU=Domain Controllers,DC=offense,DC=local
Name              : DC01
ObjectClass       : computer
ObjectGuid        : 5e780a37-c9d3-4636-9563-353f4c4fab7b
PropertyNames     : {DistinguishedName, DNSHostName, Enabled, Name...}
AddedProperties   : {}
RemovedProperties : {}
ModifiedProperties : {}
PropertyCount     : 9
```

As mentioned earlier, this does not require the user have admin privileges:



```
PS C:\Users\spot.OFFENSE\desktop> net user spot /domain
The request will be processed at a domain controller for domain offense.local.

User name                    spot
Full Name                    spot
Comment
User's comment
Country/region code          000 (System Default)
Account active               Yes
Account expires              Never

Password last set            03/01/2019 20:10:52
Password expires             Never
Password changeable          03/01/2019 20:10:52
Password required            Yes
User may change password     Yes

Workstations allowed         All
Logon script
User profile
Home directory
Last logon                   03/02/2019 14:17:16

Logon hours allowed          All

Local Group Memberships
Global Group memberships     *Domain Users
The command completed successfully.

PS C:\Users\spot.OFFENSE\desktop>
```

Download Management.DLL

1 MB Microsoft.ActiveDirectory.Management.dll

Microsoft.ActiveDirectory.Management.dll

Reference

https://scriptdotsh.com/index.php/2019/01/01/active-directory-penetration-dojo-ad-environment-enumeration-1/
scriptdotsh.com

Previous
Backdooring AdminSDHolder for Persistence

Next
Enumerating AD Object Permissions with dsacls

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