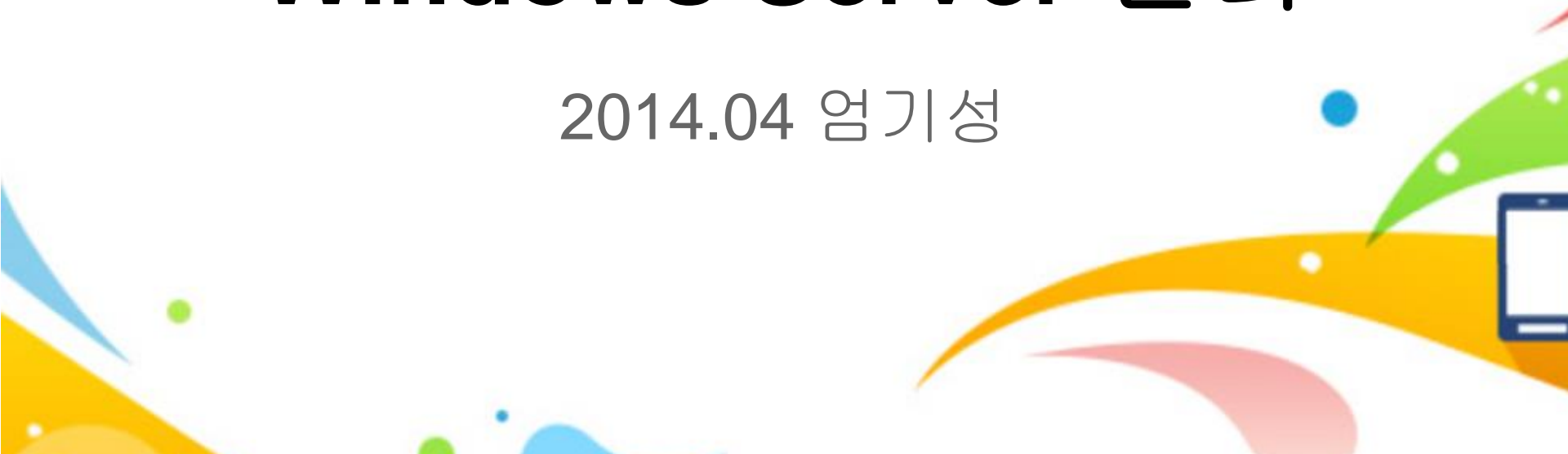


IT 엔지니어를 위한

커뮤니티 세미나

쉘을 활용한 Windows Server 관리

2014.04 엄기성



발표자

- 2000.10 부터 IT Pro.
- Tech. Support(?) at BLUEHOLE Studio
- Likes
 - Aspera, DigitalOcean, Dropbox, Vagrant
 - 無人설치, PowerShell, Vim
- Dislikes
 - 有人설치, 단순반복작업, 밤샘, BSOD

셸(Shell)?

셸? Shell? CLI?

셸(꺆데기의 영어 단어)은 사용자와 운영 체제의 내부(커널) 사이의 인터페이스를 감싸는 층이기 때문에 그러한 이름이 붙었다.

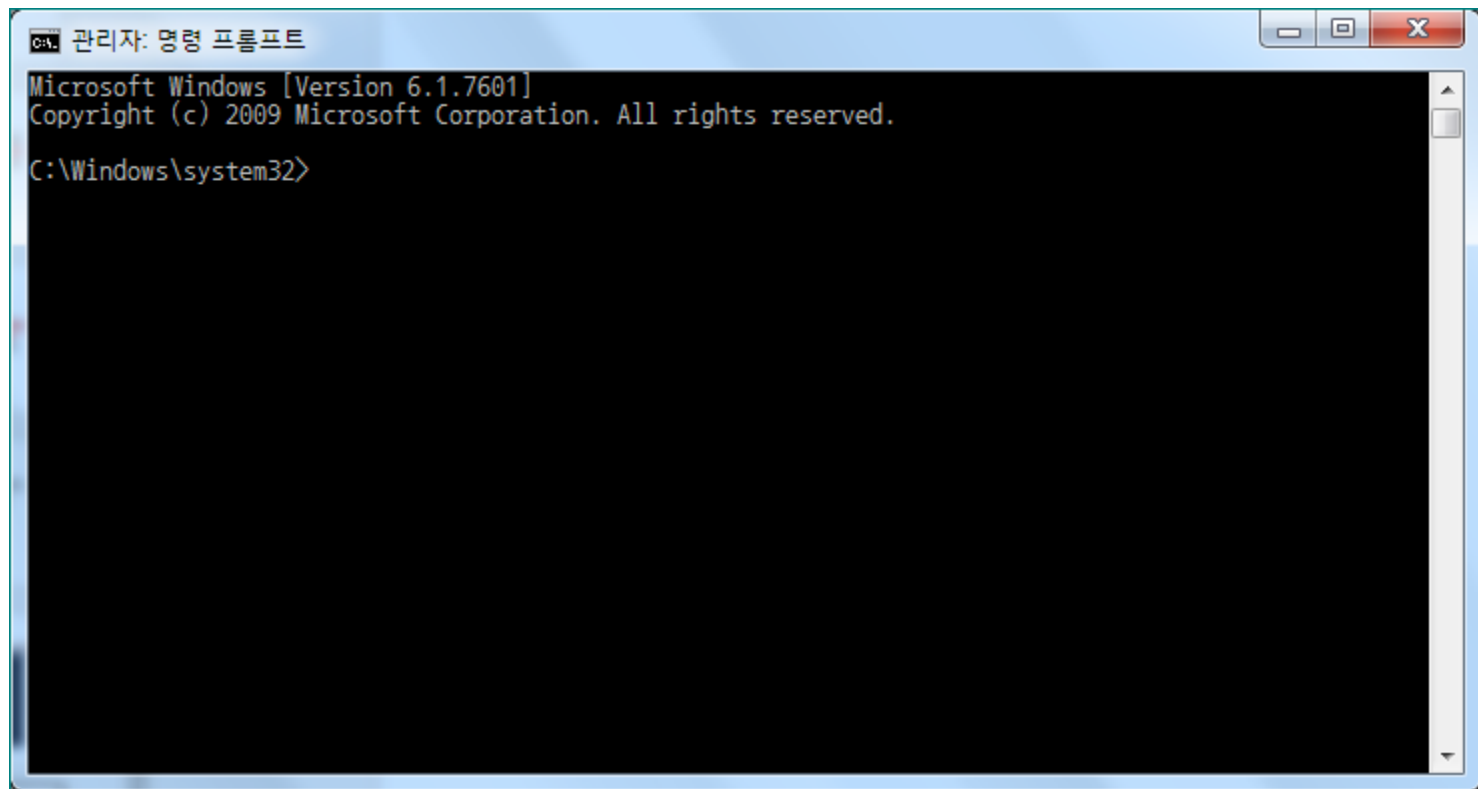
from 위키피디아 <http://ko.wikipedia.org/wiki/셸>

셸? Shell? CLI?

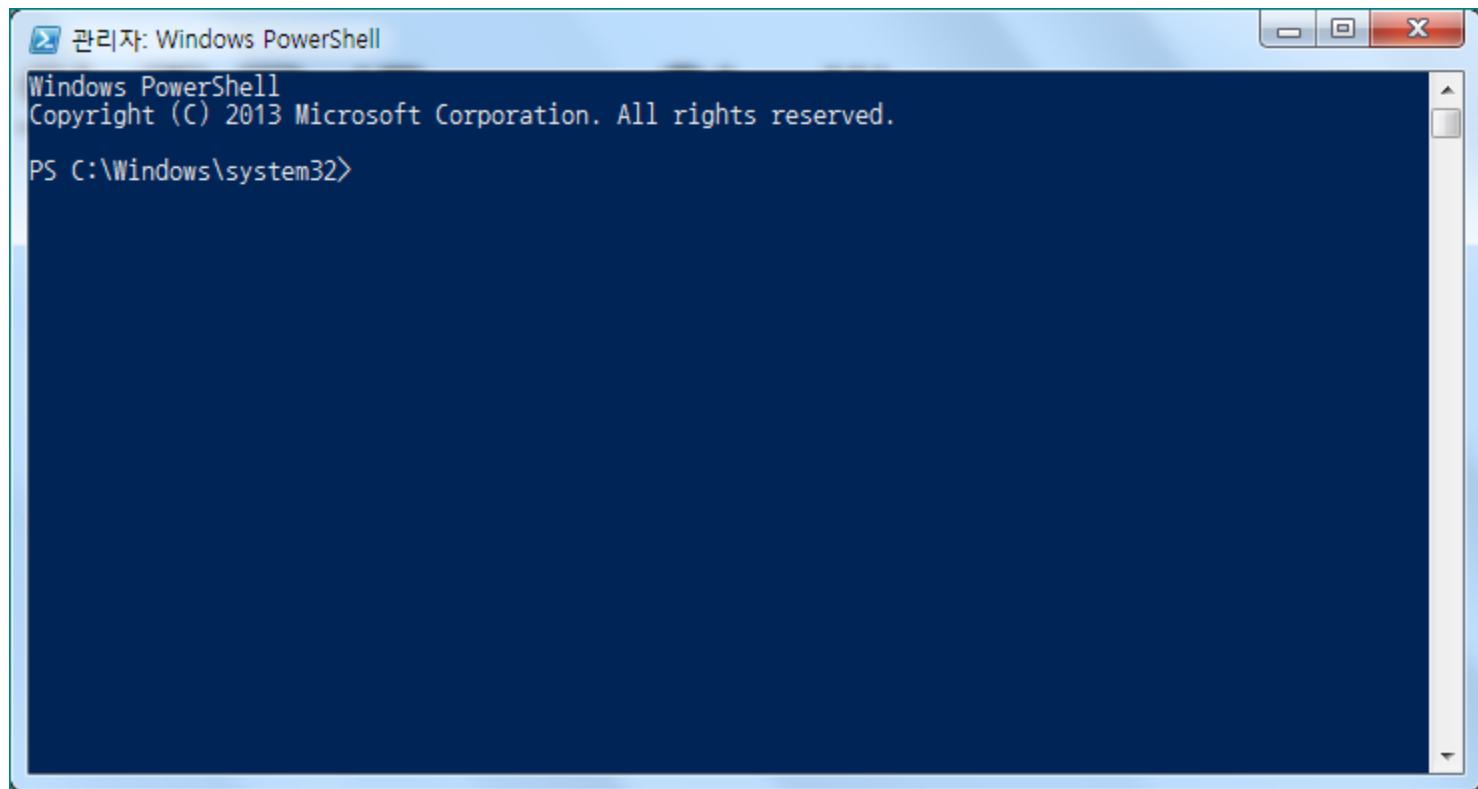
셸은 일반적으로 명령 줄과 그래픽 형의 두 종류로 분류된다. 명령 줄 셸은 운영 체제 상에서 명령 줄 인터페이스(CLI)를 제공하는 반면에, 그래픽 셸은 그래픽 사용자 인터페이스(GUI)를 제공한다.

from 위키피디아 <http://ko.wikipedia.org/wiki/셸>

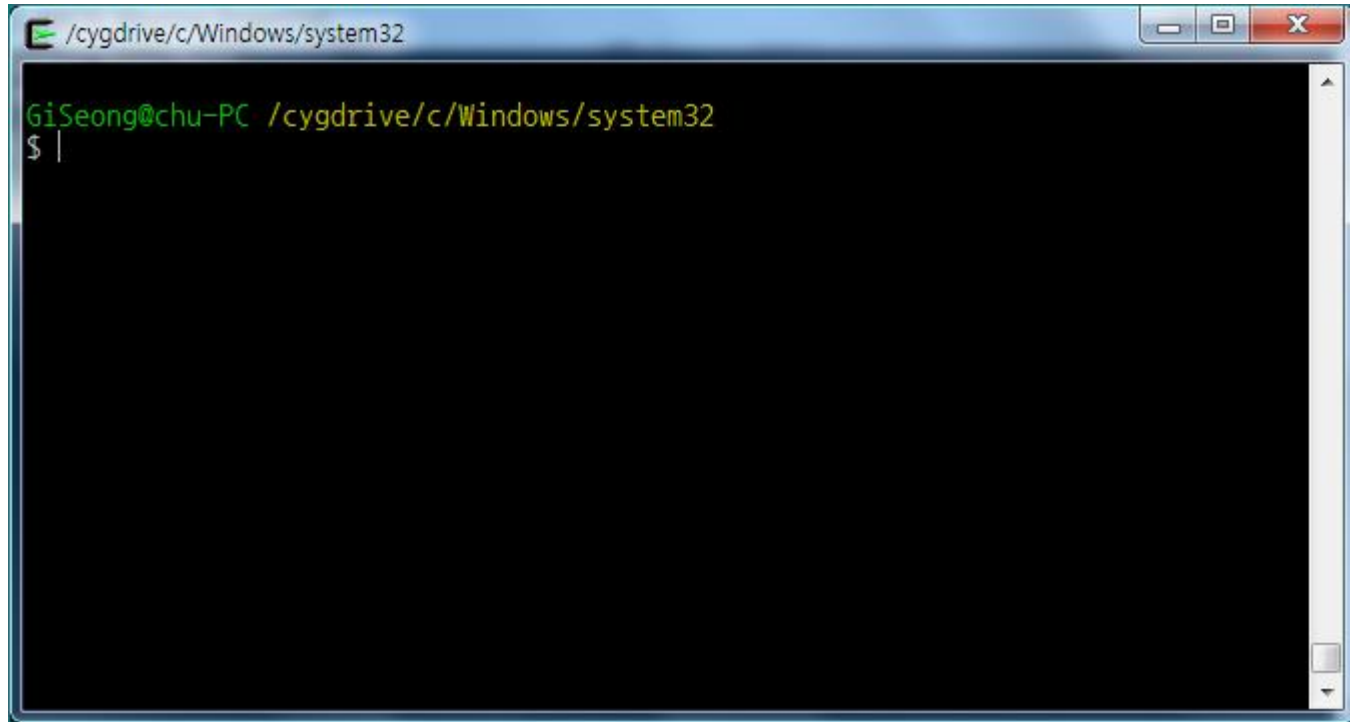
cmd



PowerShell



cygwin



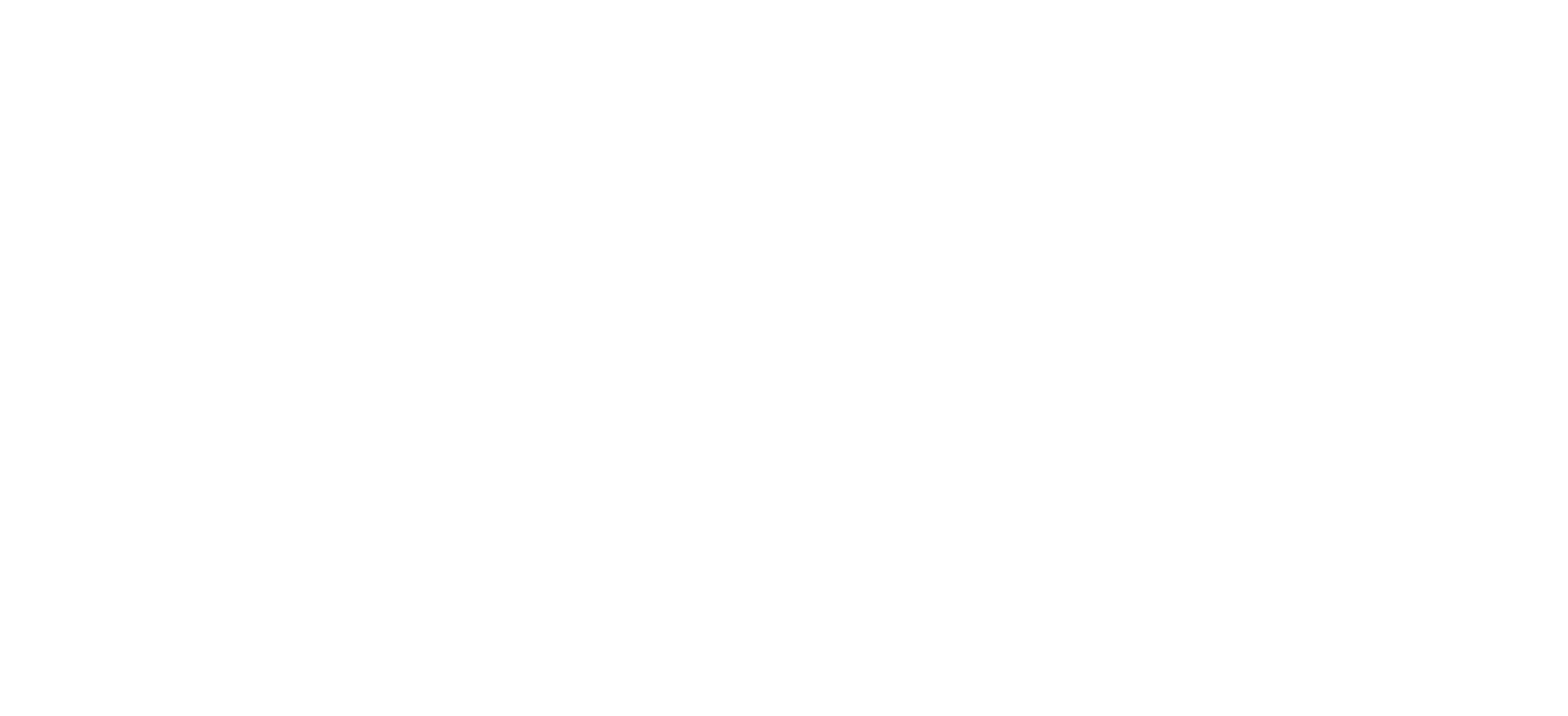
Shell 환경 - 장점

- 같은 일을 더 빨리 할 수 있다. (시간 절약)
- 반복할 때 실수를 줄인다. (실수 예방)
- 잘난 척(?) 할 수 있다 :-)

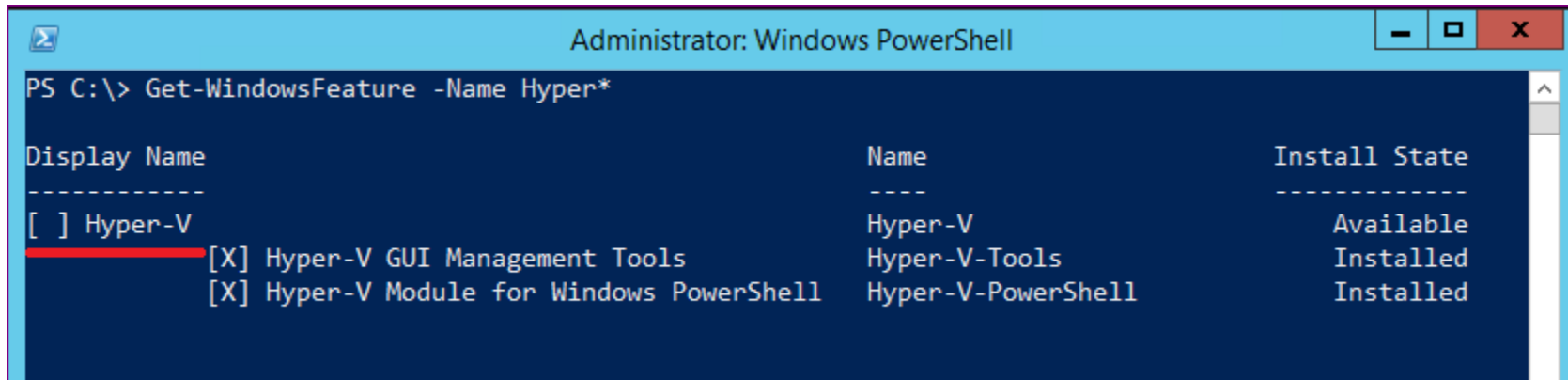
Shell 환경 - 단점

- 학습 시간이 상대적으로 많이 필요하다.
- 타이핑을 많이 하게 된다. (손목 아파요~)

Shell 맛보기



Hyper-V – Role 설치

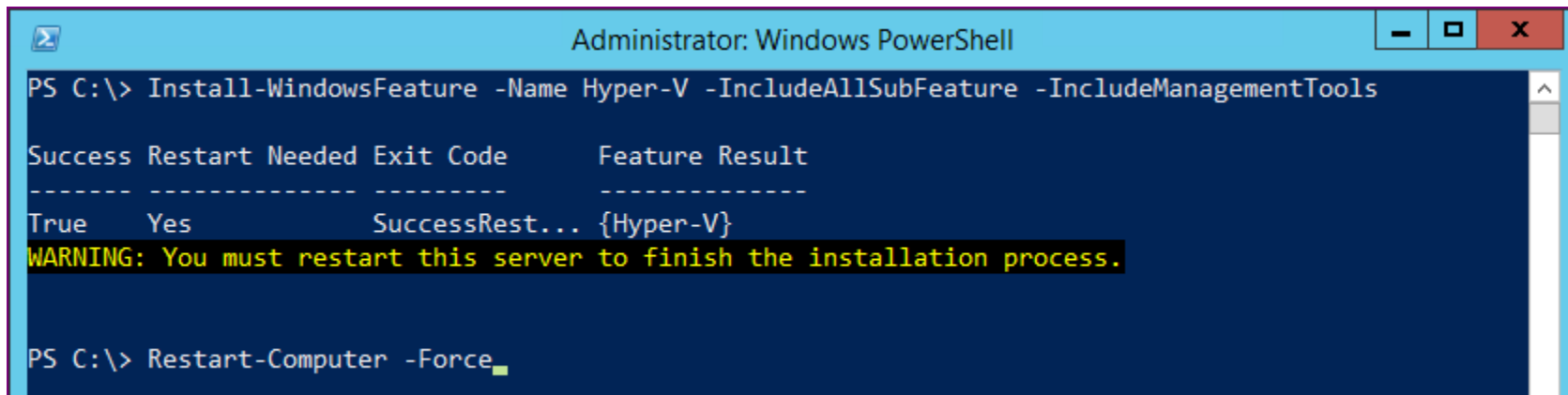


The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The command executed is `Get-WindowsFeature -Name Hyper*`. The output is a table with three columns: "Display Name", "Name", and "Install State". The "Hyper-V" feature is listed as "Available", while "Hyper-V GUI Management Tools" and "Hyper-V Module for Windows PowerShell" are listed as "Installed".

```
PS C:\> Get-WindowsFeature -Name Hyper*
```

Display Name	Name	Install State
[] Hyper-V	Hyper-V	Available
[X] Hyper-V GUI Management Tools	Hyper-V-Tools	Installed
[X] Hyper-V Module for Windows PowerShell	Hyper-V-PowerShell	Installed

Hyper-V – Role 설치



The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The command executed is `Install-WindowsFeature -Name Hyper-V -IncludeAllSubFeature -IncludeManagementTools`. The output displays a table with columns: Success, Restart Needed, Exit Code, and Feature Result. The result for Hyper-V is "True", "Yes", "SuccessRest...", and "{Hyper-V}". A yellow warning message states: "WARNING: You must restart this server to finish the installation process." The final command shown is `Restart-Computer -Force`.

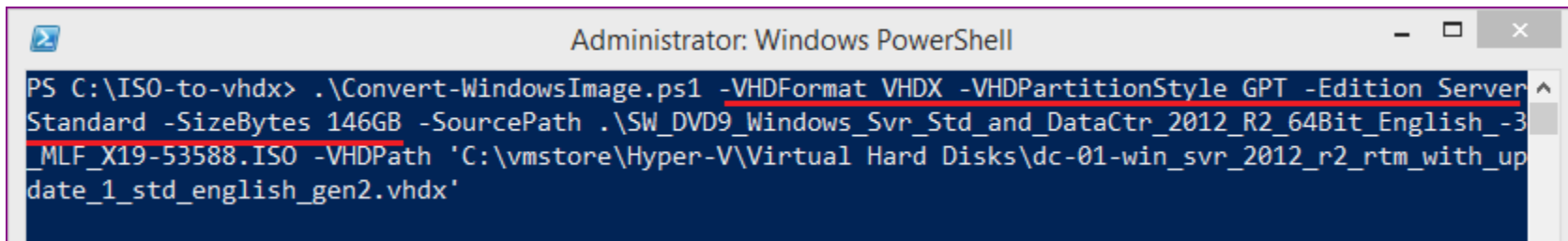
```
Administrator: Windows PowerShell

PS C:\> Install-WindowsFeature -Name Hyper-V -IncludeAllSubFeature -IncludeManagementTools

Success Restart Needed Exit Code      Feature Result
-----
True     Yes                SuccessRest... {Hyper-V}
WARNING: You must restart this server to finish the installation process.

PS C:\> Restart-Computer -Force
```

Hyper-V – VHDX 디스크 생성



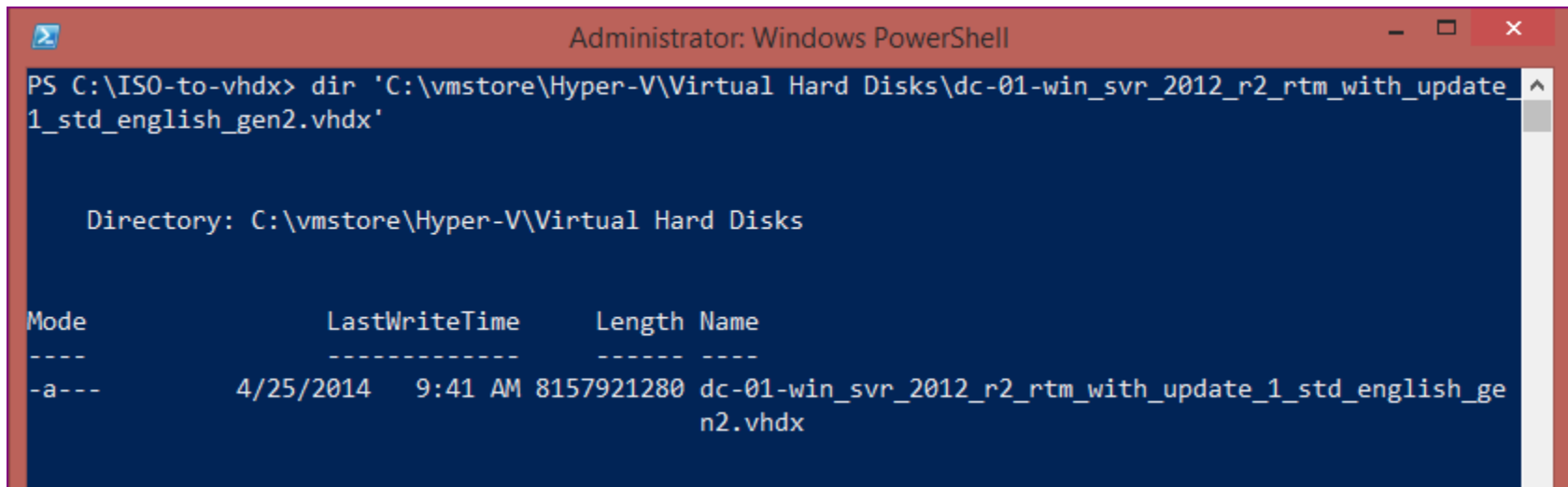
```
Administrator: Windows PowerShell
PS C:\ISO-to-vhdx> .\Convert-WindowsImage.ps1 -VHDFormat VHDX -VHDPartitionStyle GPT -Edition Server
Standard -SizeBytes 146GB -SourcePath .\SW_DVD9_Windows_Svr_Std_and_DataCtr_2012_R2_64Bit_English_-3
_MLF_X19-53588.ISO -VHDPath 'C:\vmstore\Hyper-V\Virtual Hard Disks\dc-01-win_svr_2012_r2_rtm_with_up
date_1_std_english_gen2.vhdx'
```

Hyper-V – VHDX 디스크 생성

```
Windows(R) Image to Virtual Hard Disk Converter for Windows(R) 8
Copyright (C) Microsoft Corporation. All rights reserved.
Version 6.3.9600.7.amd64fre.fbl_core1_hyp_dev(mikekol).140217-3000 Release to Web

INFO : Opening ISO SW_DVD9_Windows_Svr_Std_and_DataCtr_2012_R2_64Bit_English_-3_MLF_X19-53588.ISO.
..
INFO : Looking for H:\sources\install.wim...
INFO : Image 2 selected (ServerStandard)...)
INFO : Creating sparse disk...
INFO : Attaching VHDX...
INFO : Disk initialized with GPT...
INFO : Disk partitioned with two Volumes...
INFO : System Volume formatted (with DiskPart)...)
INFO : Boot Volume formatted (with Format-Volume)...)
INFO : Access path (I:\) has been assigned to the System Volume...
INFO : Access path (J:\) has been assigned to the Boot Volume...
INFO : Applying image to VHDX. This could take a while...
INFO : Signing disk...
INFO : Image applied. Making image bootable...
INFO : Drive is bootable. Cleaning up...
INFO : Closing VHDX...
INFO : Closing Windows image...
INFO : Closing ISO...
INFO : Done.
```

Hyper-V – VHDX 디스크 생성



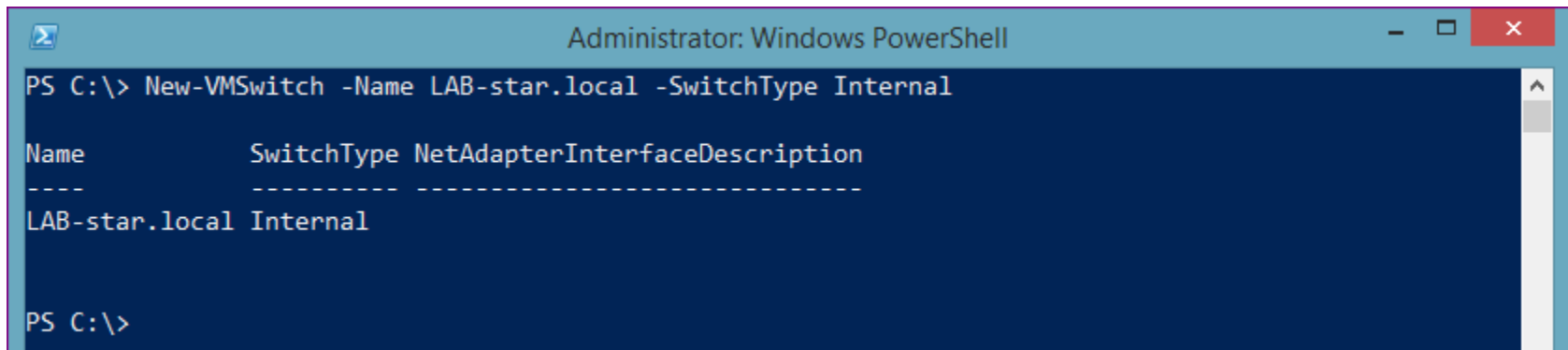
A screenshot of a Windows PowerShell window titled "Administrator: Windows PowerShell". The command executed is `PS C:\ISO-to-vhdx> dir 'C:\vmstore\Hyper-V\Virtual Hard Disks\dc-01-win_svr_2012_r2_rtm_with_update_1_std_english_gen2.vhdx'`. The output shows the directory path `C:\vmstore\Hyper-V\Virtual Hard Disks` and a table of file details for the specified VHDX file.

Mode	LastWriteTime	Length	Name
-a---	4/25/2014 9:41 AM	8157921280	dc-01-win_svr_2012_r2_rtm_with_update_1_std_english_gen2.vhdx

Hyper-V – VHDX 디스크 생성

- 동일한 방법으로 총 4개의 .VHDX 생성

Hyper-V – Virtual Switch 생성



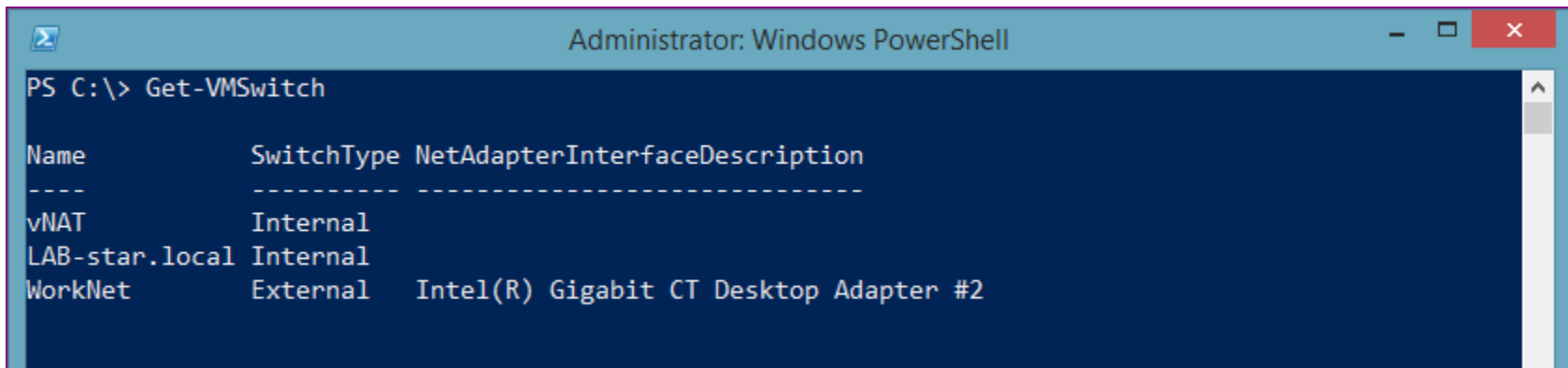
A screenshot of a Windows PowerShell console window titled "Administrator: Windows PowerShell". The window has a blue header bar with standard Windows window controls (minimize, maximize, close) on the right. The main area has a dark blue background with white text. The command `New-VMSwitch -Name LAB-star.local -SwitchType Internal` has been executed. Below the command, a table displays the properties of the newly created virtual switch. The table has three columns: "Name", "SwitchType", and "NetAdapterInterfaceDescription". The first row shows "LAB-star.local" for Name, "Internal" for SwitchType, and a blank space for NetAdapterInterfaceDescription. The prompt `PS C:\>` is visible at the bottom.

```
PS C:\> New-VMSwitch -Name LAB-star.local -SwitchType Internal
```

Name	SwitchType	NetAdapterInterfaceDescription
LAB-star.local	Internal	

```
PS C:\>
```

Hyper-V – Virtual Switch 생성

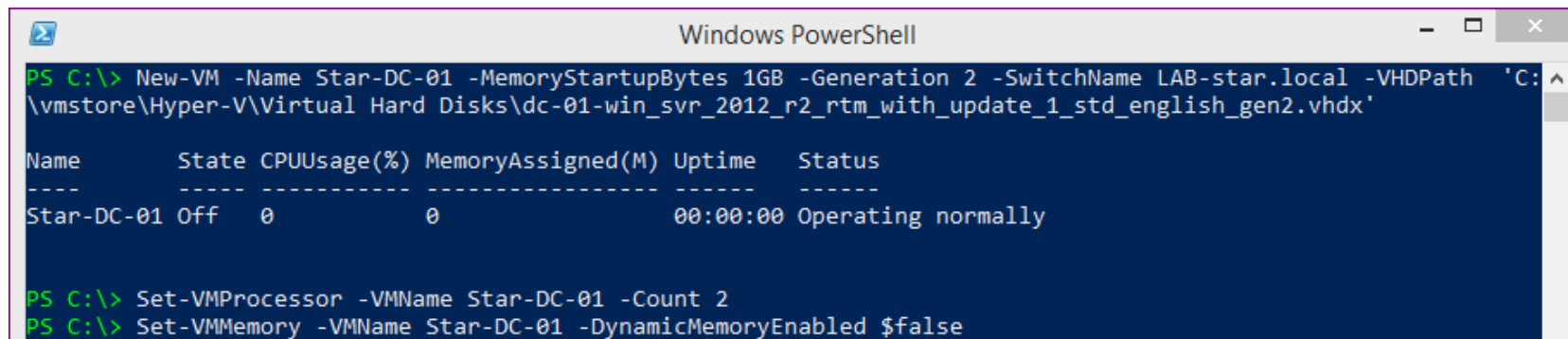


A screenshot of a Windows PowerShell window titled "Administrator: Windows PowerShell". The command `PS C:\> Get-VMSwitch` has been executed. The output is a table with three columns: Name, SwitchType, and NetAdapterInterfaceDescription. The table lists three virtual switches: vNAT (Internal), LAB-star.local (Internal), and WorkNet (External, connected to Intel(R) Gigabit CT Desktop Adapter #2).

```
PS C:\> Get-VMSwitch
```

Name	SwitchType	NetAdapterInterfaceDescription
vNAT	Internal	
LAB-star.local	Internal	
WorkNet	External	Intel(R) Gigabit CT Desktop Adapter #2

Hyper-V – VM 생성



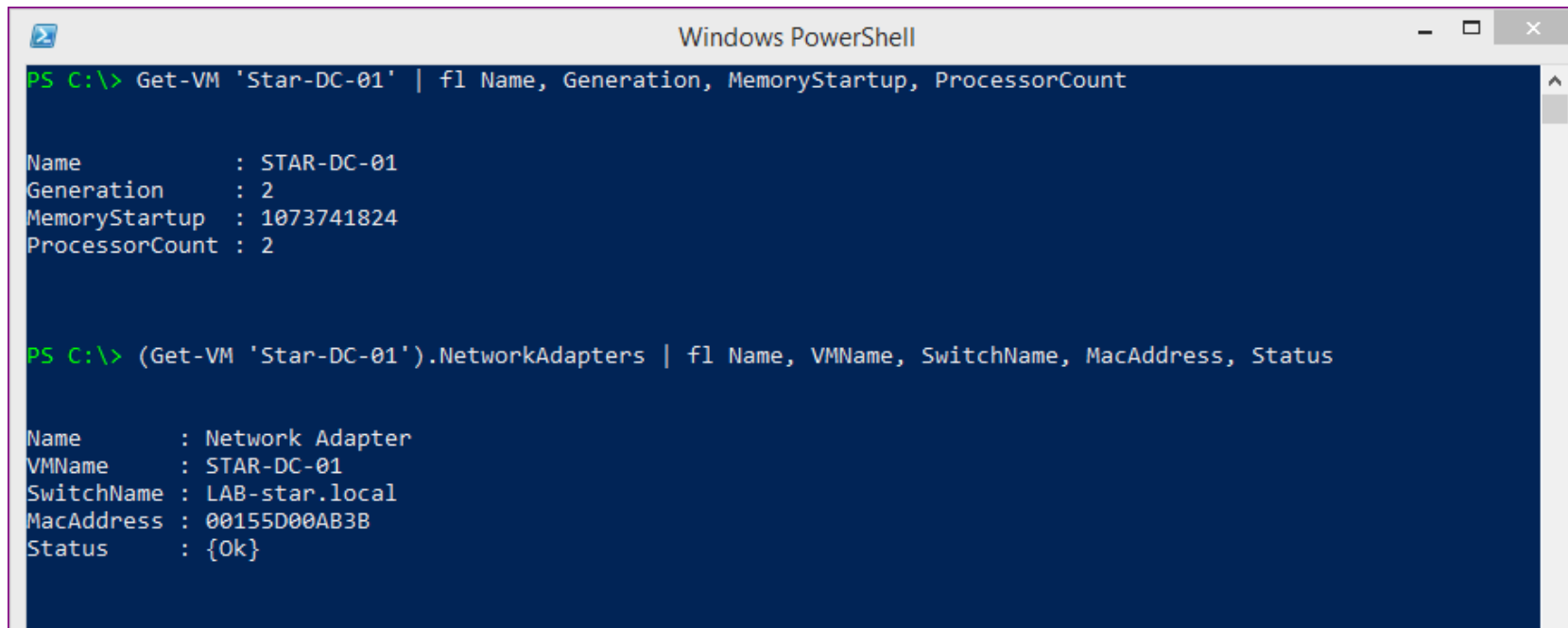
```
Windows PowerShell

PS C:\> New-VM -Name Star-DC-01 -MemoryStartupBytes 1GB -Generation 2 -SwitchName LAB-star.local -VHDPath 'C:\vmstore\Hyper-V\Virtual Hard Disks\dc-01-win_svr_2012_r2_rtm_with_update_1_std_english_gen2.vhdx'

Name      State CPUUsage(%) MemoryAssigned(M) Uptime    Status
----      -
Star-DC-01 Off    0          0              00:00:00 Operating normally

PS C:\> Set-VMProcessor -VMName Star-DC-01 -Count 2
PS C:\> Set-VMemory -VMName Star-DC-01 -DynamicMemoryEnabled $false
```

Hyper-V – VM 생성



```
Windows PowerShell

PS C:\> Get-VM 'Star-DC-01' | fl Name, Generation, MemoryStartup, ProcessorCount

Name           : STAR-DC-01
Generation     : 2
MemoryStartup  : 1073741824
ProcessorCount : 2

PS C:\> (Get-VM 'Star-DC-01').NetworkAdapters | fl Name, VMName, SwitchName, MacAddress, Status

Name           : Network Adapter
VMName         : STAR-DC-01
SwitchName     : LAB-star.local
MacAddress     : 00155D00AB3B
Status         : {Ok}
```

Hyper-V – VM 생성

- 동일한 방법으로 총 4개의 VM을 생성
 - STAR-DC-01
 - STAR-DC-02
 - STAR-APP-01
 - STAR-APP-02

Hyper-V – VM 실행

```
Windows PowerShell

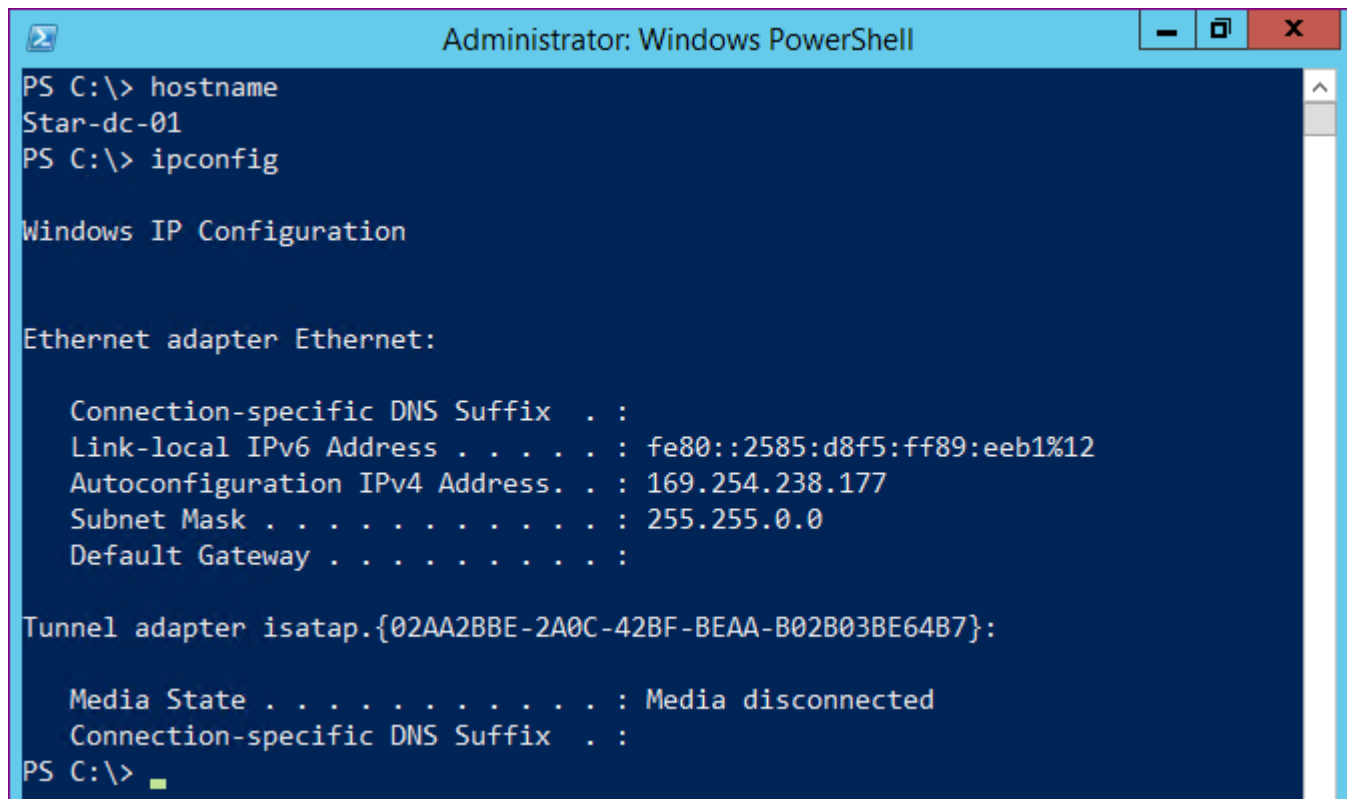
PS C:\> get-vm
```

Name	State	CPUUsage(%)	MemoryAssigned(M)	Uptime	Status
STAR-App1	Off	0	0	00:00:00	Operating normally
STAR-App2	Off	0	0	00:00:00	Operating normally
STAR-DC-01	Off	0	0	00:00:00	Operating normally
STAR-DC-02	Off	0	0	00:00:00	Operating normally

```
PS C:\> get-vm | start-vm
PS C:\>
PS C:\>
PS C:\> get-vm
```

Name	State	CPUUsage(%)	MemoryAssigned(M)	Uptime	Status
STAR-App1	Running	24	1024	00:00:10	Operating normally
STAR-App2	Running	24	1024	00:00:09	Operating normally
STAR-DC-01	Running	0	1024	00:00:08	Operating normally
STAR-DC-02	Running	0	1024	00:00:07	Operating normally

Hyper-V – VM 네트워크 설정

A screenshot of a Windows PowerShell window titled "Administrator: Windows PowerShell". The window has a blue title bar and standard Windows window controls (minimize, maximize, close). The command prompt shows the following text:

```
PS C:\> hostname
Star-dc-01
PS C:\> ipconfig

Windows IP Configuration

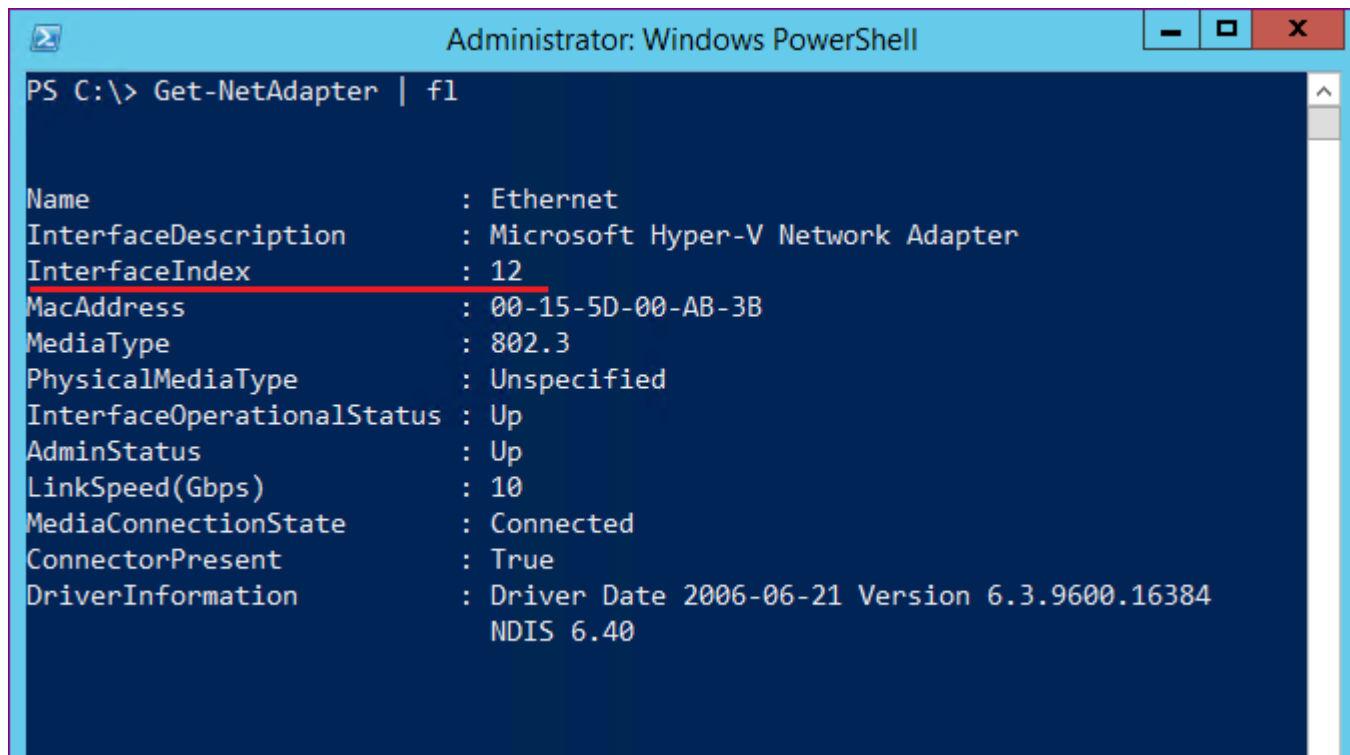
Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::2585:d8f5:ff89:eeb1%12
    Autoconfiguration IPv4 Address. . : 169.254.238.177
    Subnet Mask . . . . . : 255.255.0.0
    Default Gateway . . . . . : 

Tunnel adapter isatap.{02AA2BBE-2A0C-42BF-BEAA-B02B03BE64B7}:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 
PS C:\> █
```


Hyper-V – VM 네트워크 설정

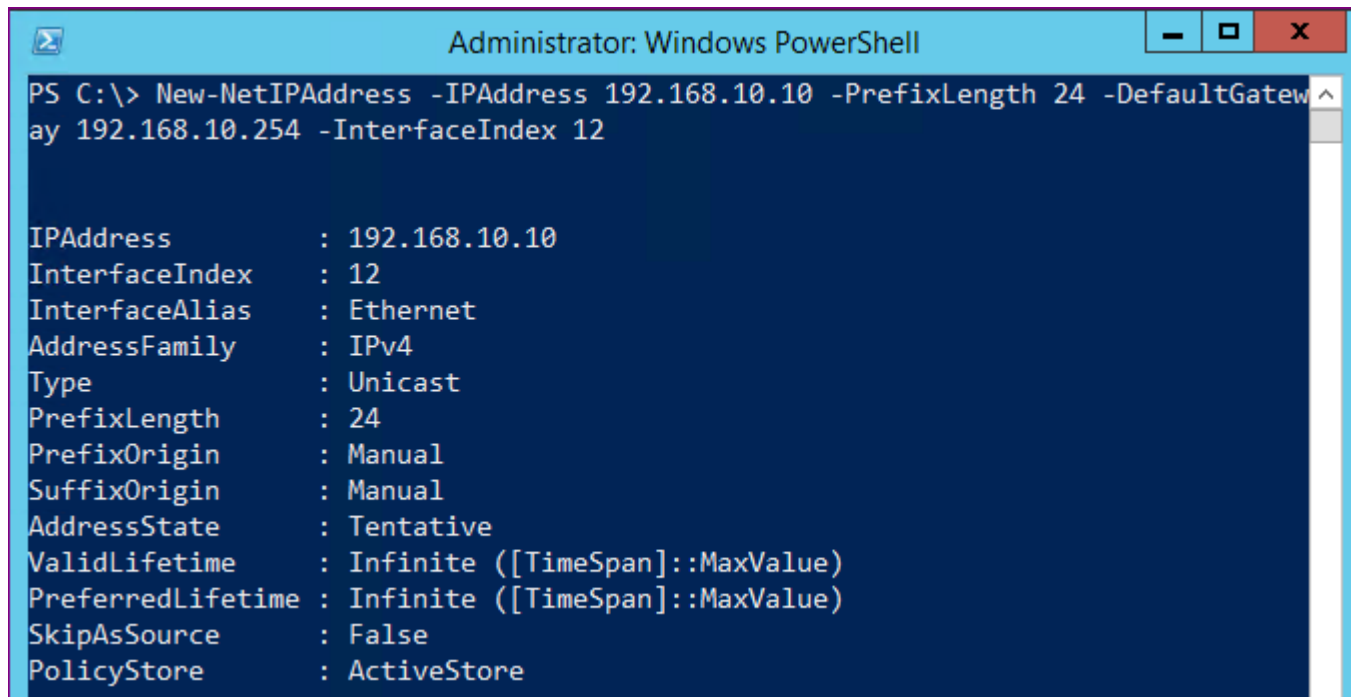
A screenshot of a Windows PowerShell window titled "Administrator: Windows PowerShell". The command "Get-NetAdapter | fl" has been executed, displaying the properties of a network adapter. The output is as follows:

```
PS C:\> Get-NetAdapter | fl

Name                : Ethernet
InterfaceDescription : Microsoft Hyper-V Network Adapter
InterfaceIndex       : 12
MacAddress           : 00-15-5D-00-AB-3B
MediaType            : 802.3
PhysicalMediaType    : Unspecified
InterfaceOperationalStatus : Up
AdminStatus          : Up
LinkSpeed(Gbps)      : 10
MediaConnectionState : Connected
ConnectorPresent     : True
DriverInformation    : Driver Date 2006-06-21 Version 6.3.9600.16384
                      NDIS 6.40
```

The "InterfaceIndex" value, 12, is underlined with a red line in the original image.

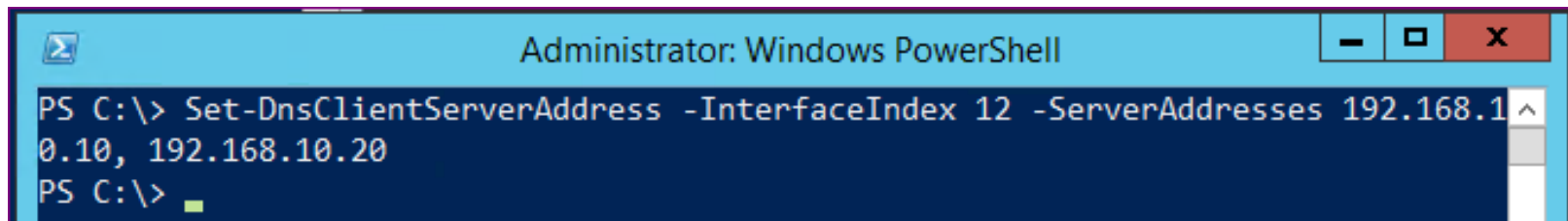
Hyper-V – VM 네트워크 설정



```
Administrator: Windows PowerShell
PS C:\> New-NetIPAddress -IPAddress 192.168.10.10 -PrefixLength 24 -DefaultGateway 192.168.10.254 -InterfaceIndex 12

IPAddress      : 192.168.10.10
InterfaceIndex : 12
InterfaceAlias  : Ethernet
AddressFamily   : IPv4
Type            : Unicast
PrefixLength    : 24
PrefixOrigin    : Manual
SuffixOrigin    : Manual
AddressState    : Tentative
ValidLifetime   : Infinite ([TimeSpan]::MaxValue)
PreferredLifetime : Infinite ([TimeSpan]::MaxValue)
SkipAsSource    : False
PolicyStore     : ActiveStore
```

Hyper-V – VM 네트워크 설정



```
Administrator: Windows PowerShell
PS C:\> Set-DnsClientServerAddress -InterfaceIndex 12 -ServerAddresses 192.168.10.10, 192.168.10.20
PS C:\>
```

The image shows a screenshot of a Windows PowerShell window titled "Administrator: Windows PowerShell". The window has a blue title bar with standard Windows window controls (minimize, maximize, close). The command prompt shows the execution of the command `Set-DnsClientServerAddress -InterfaceIndex 12 -ServerAddresses 192.168.10.10, 192.168.10.20`. The command is entered on two lines, and the prompt returns to `PS C:\>` after execution. A small green cursor is visible at the end of the second prompt line.

Hyper-V – VM 네트워크 설정

```
Administrator: Windows PowerShell
PS C:\> ipconfig /all|more

Windows IP Configuration

Host Name . . . . . : Star-dc-01
Primary Dns Suffix . . . . . :
Node Type . . . . . : Mixed
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No

Ethernet adapter Ethernet:

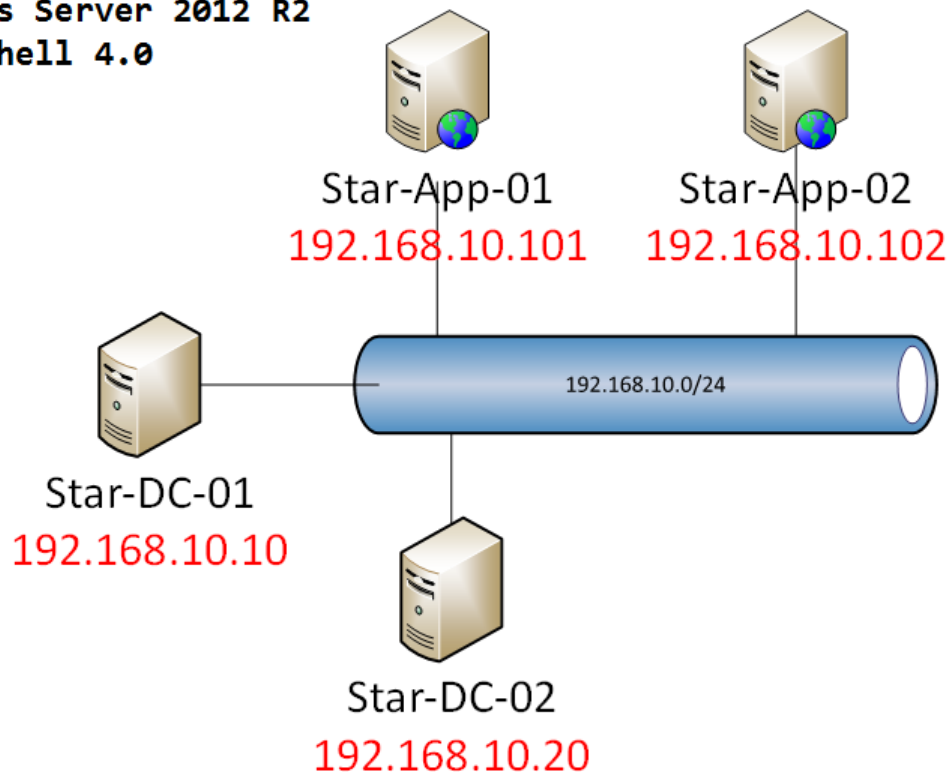
Connection-specific DNS Suffix . :
Description . . . . . : Microsoft Hyper-V Network Adapter
Physical Address. . . . . : 00-15-5D-00-AB-3B
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . : fe80::2585:d8f5:ff89:eeb1%12(Preferred)
IPv4 Address. . . . . : 192.168.10.10(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.10.254
DHCPv6 IAID . . . . . : 301995357
DHCPv6 Client DUID. . . . . : 00-01-00-01-1A-EA-B6-E4-00-15-5D-00-AB-3B
DNS Servers . . . . . : 192.168.10.10
                        192.168.10.20
NetBIOS over Tcpip. . . . . : Enabled
```

Hyper-V – VM 네트워크 설정

- 동일한 방법으로 모든 VM의 네트워크 설정
 - STAR-DC-01
 - STAR-DC-02
 - STAR-APP-01
 - STAR-APP-02

LAB 환경

- Windows Server 2012 R2
- PowerShell 4.0



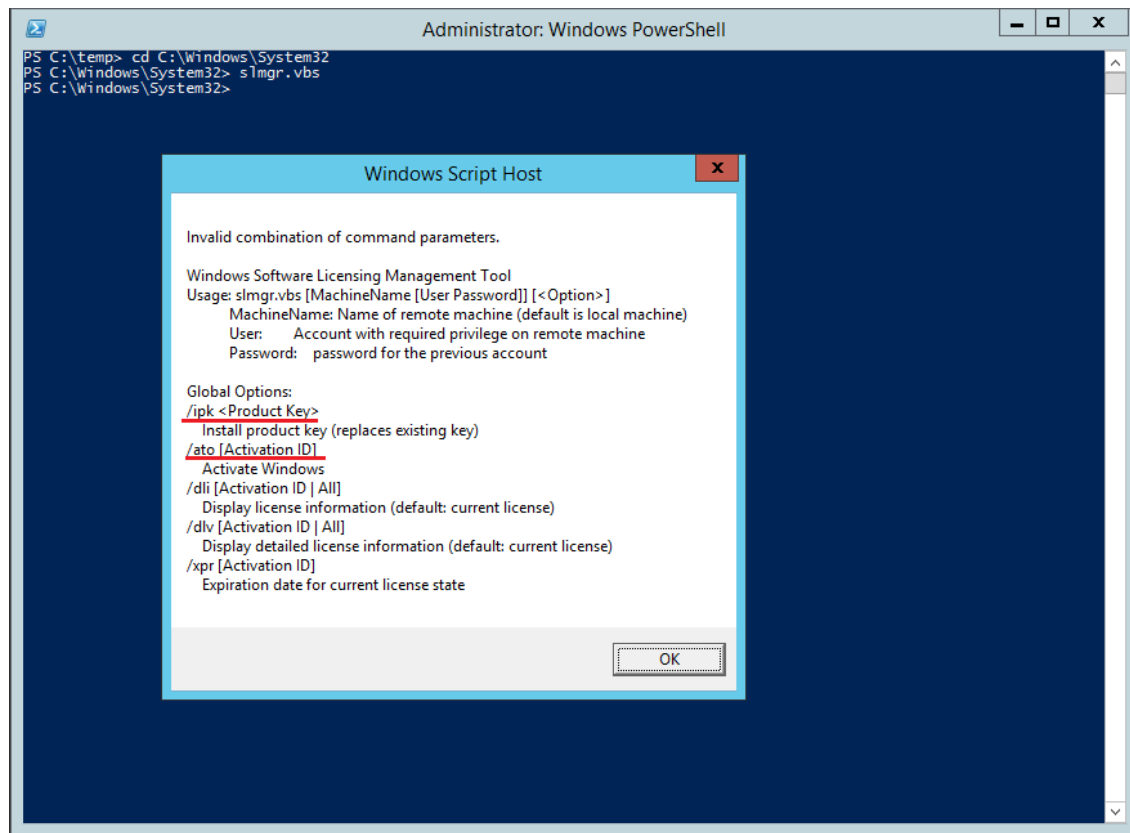
기타 설정

- Windows Server를 4개의 VM에 설치했다.
- 이제 해야 할 일은?

License Activation

C:\Windows\System32\slmgr.vbs

License Activation



License Activation

```
C:\Windows\System32>cscript slmgr.vbs /ipk [REDACTED]
Microsoft (R) Windows Script Host version 5.8
Copyright (C) Microsoft Corporation. All rights reserved.

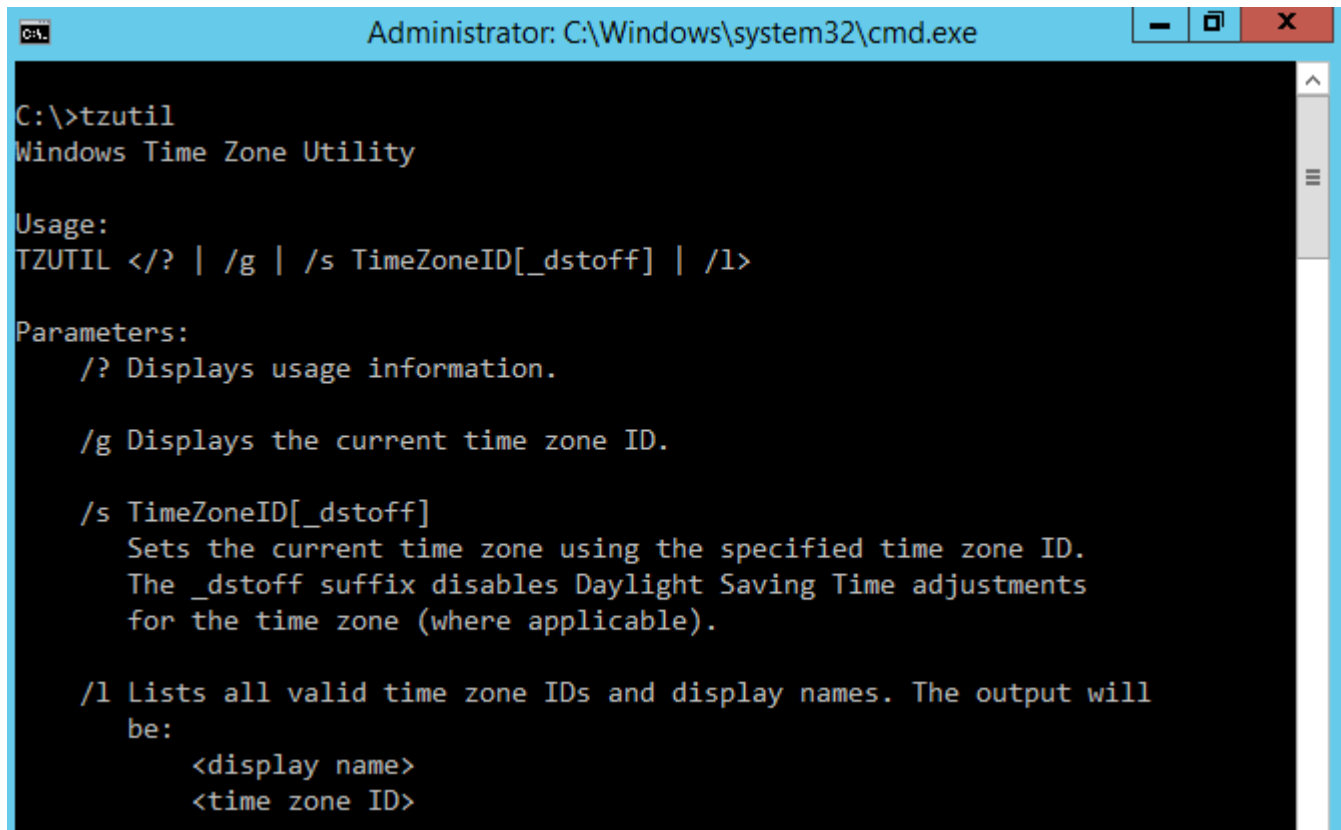
Installed product key [REDACTED] successfully.

C:\Windows\System32>cscript slmgr.vbs /ato
Microsoft (R) Windows Script Host version 5.8
Copyright (C) Microsoft Corporation. All rights reserved.

Activating Windows(R), ServerStandard edition (979d2e65-04b7-44c9-9d7b-ef4028168
cha) ...
Product activated successfully.

C:\Windows\System32>_
```

Time Zone 변경



```
Administrator: C:\Windows\system32\cmd.exe

C:\>tzutil
Windows Time Zone Utility

Usage:
TZUTIL </? | /g | /s TimeZoneID[_dstoff] | /l>

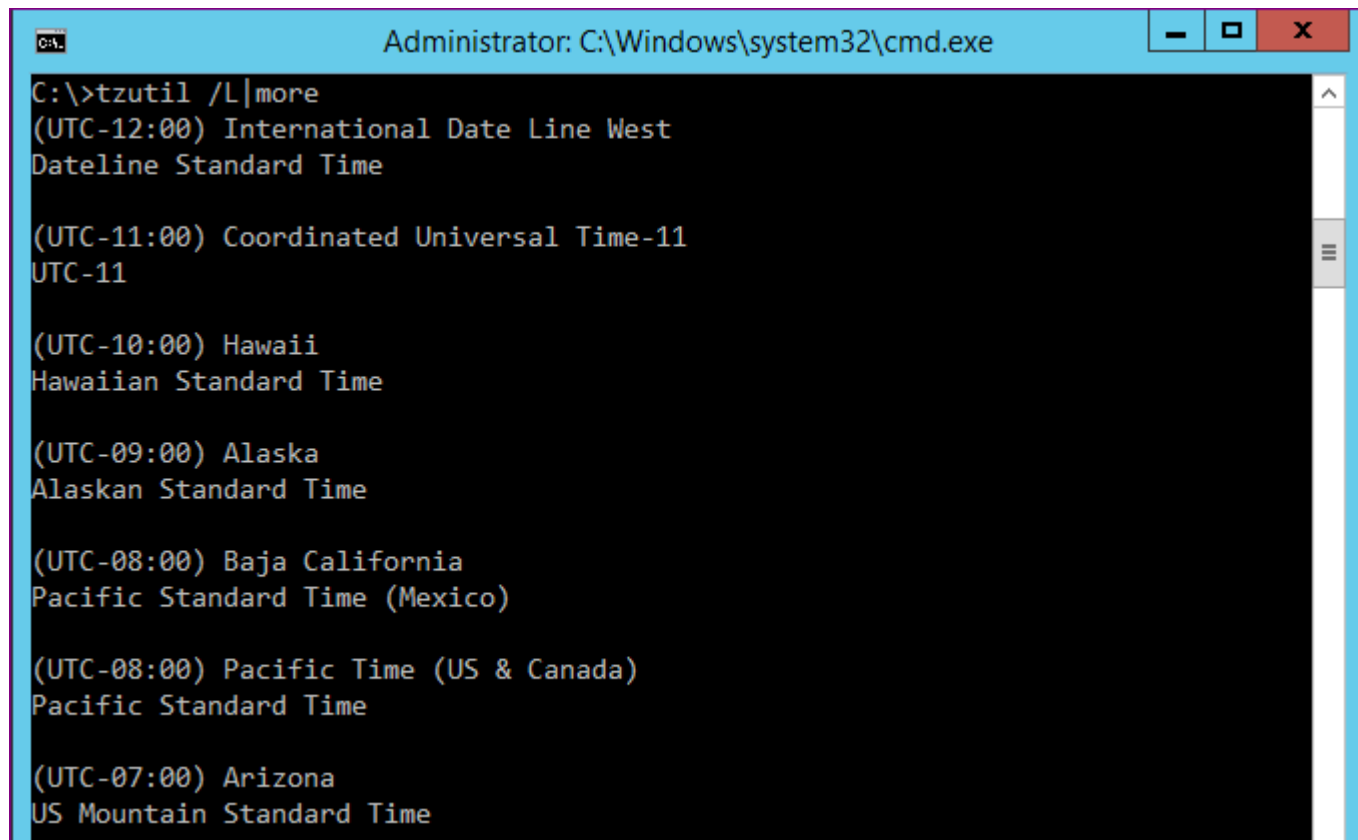
Parameters:
    /? Displays usage information.

    /g Displays the current time zone ID.

    /s TimeZoneID[_dstoff]
        Sets the current time zone using the specified time zone ID.
        The _dstoff suffix disables Daylight Saving Time adjustments
        for the time zone (where applicable).

    /l Lists all valid time zone IDs and display names. The output will
        be:
            <display name>
            <time zone ID>
```

Time Zone 변경



A screenshot of a Windows command prompt window. The title bar is light blue and contains the text "Administrator: C:\Windows\system32\cmd.exe" along with standard window control buttons (minimize, maximize, close). The command prompt itself has a black background with white text. The command entered is "C:\>tzutil /L|more". The output is a list of time zones, with each entry consisting of a UTC offset in parentheses followed by the name of the time zone. The list is paginated, with a vertical scrollbar on the right side of the command prompt window.

```
C:\>tzutil /L|more
(UTC-12:00) International Date Line West
Dateline Standard Time

(UTC-11:00) Coordinated Universal Time-11
UTC-11

(UTC-10:00) Hawaii
Hawaiian Standard Time

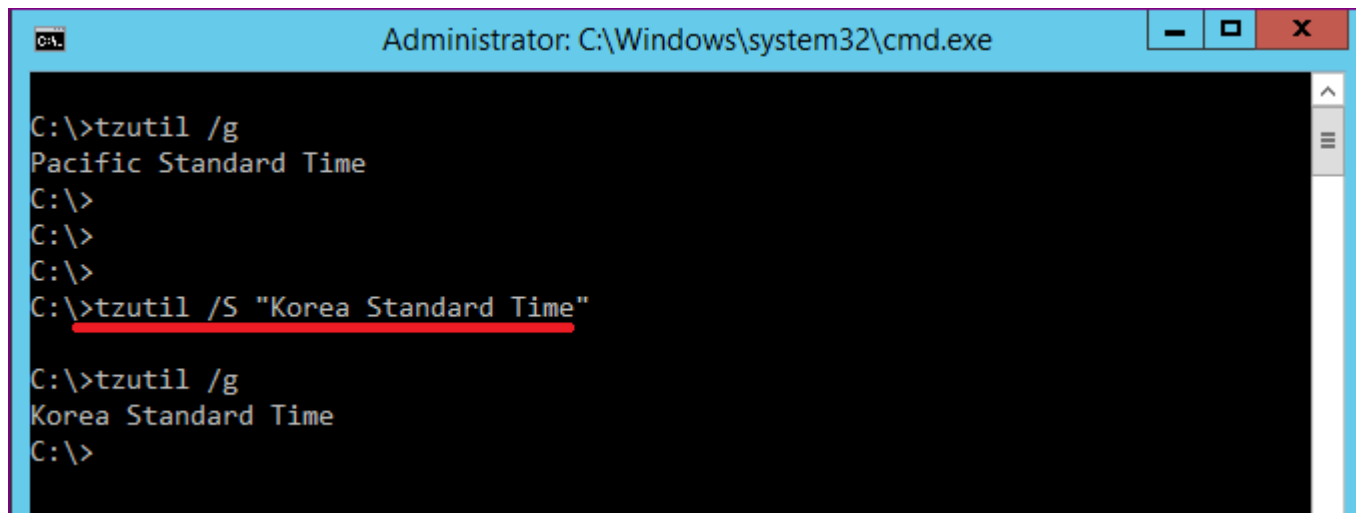
(UTC-09:00) Alaska
Alaskan Standard Time

(UTC-08:00) Baja California
Pacific Standard Time (Mexico)

(UTC-08:00) Pacific Time (US & Canada)
Pacific Standard Time

(UTC-07:00) Arizona
US Mountain Standard Time
```

Time Zone 변경

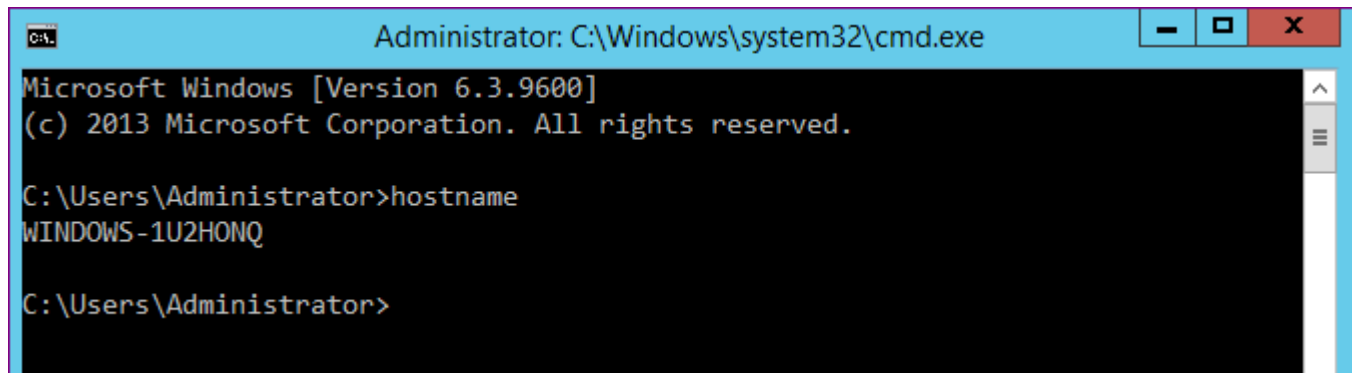


```
Administrator: C:\Windows\system32\cmd.exe

C:\>tzutil /g
Pacific Standard Time
C:\>
C:\>
C:\>
C:\>tzutil /S "Korea Standard Time"

C:\>tzutil /g
Korea Standard Time
C:\>
```

Hostname 변경



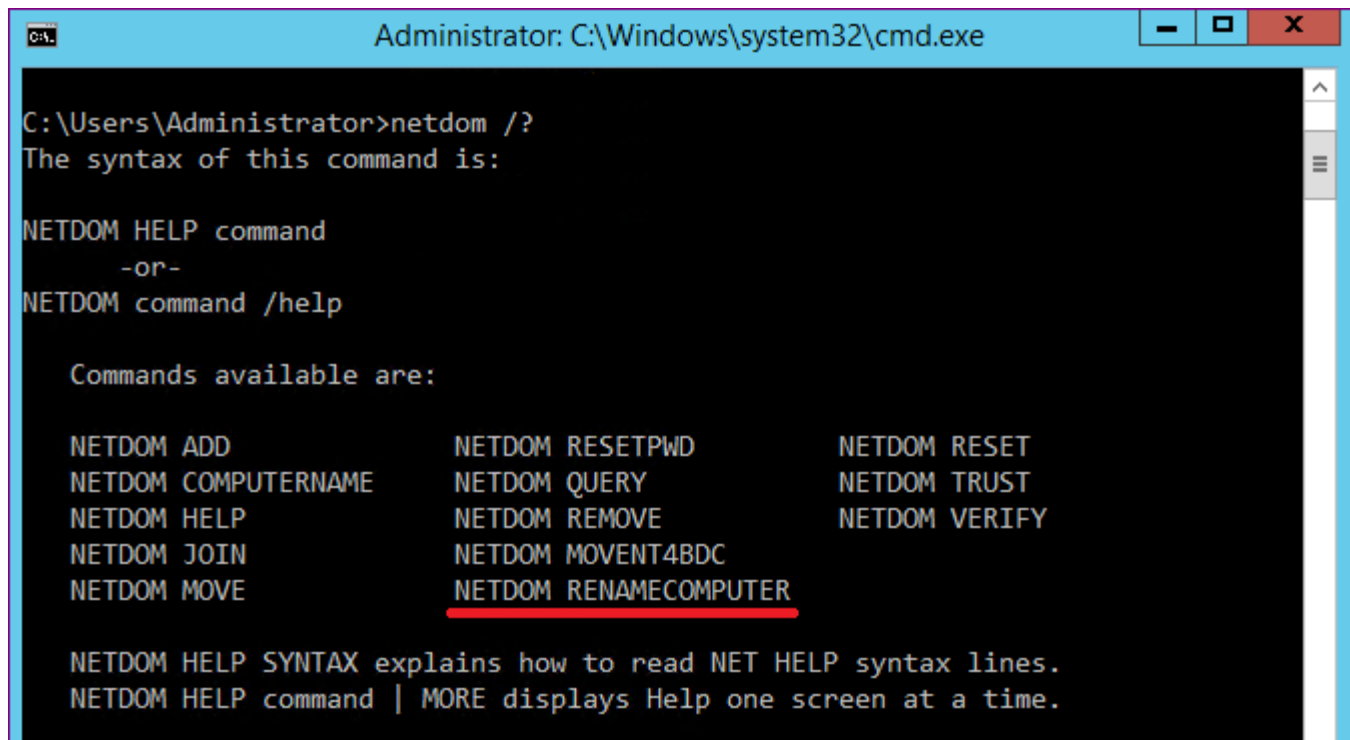
A screenshot of a Windows command prompt window. The title bar is light blue and contains the text "Administrator: C:\Windows\system32\cmd.exe" along with standard window control buttons (minimize, maximize, close). The command prompt itself has a black background with white text. It displays the Microsoft Windows version (6.3.9600) and copyright information (© 2013 Microsoft Corporation). The user is logged in as Administrator. The command "hostname" has been entered, and the output "WINDOWS-1U2HONQ" is displayed. The prompt is currently at "C:\Users\Administrator>".

```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>hostname
WINDOWS-1U2HONQ

C:\Users\Administrator>
```

Hostname 변경



A screenshot of a Windows command prompt window titled "Administrator: C:\Windows\system32\cmd.exe". The window has a blue title bar and standard Windows window controls (minimize, maximize, close). The command prompt shows the following text:

```
C:\Users\Administrator>netdom /?
The syntax of this command is:

NETDOM HELP command
        -or-
NETDOM command /help

Commands available are:

NETDOM ADD                NETDOM RESETPWD          NETDOM RESET
NETDOM COMPUTERNAME       NETDOM QUERY             NETDOM TRUST
NETDOM HELP               NETDOM REMOVE            NETDOM VERIFY
NETDOM JOIN               NETDOM MOVENT4BDC
NETDOM MOVE               NETDOM RENAMECOMPUTER

NETDOM HELP SYNTAX explains how to read NET HELP syntax lines.
NETDOM HELP command | MORE displays Help one screen at a time.
```

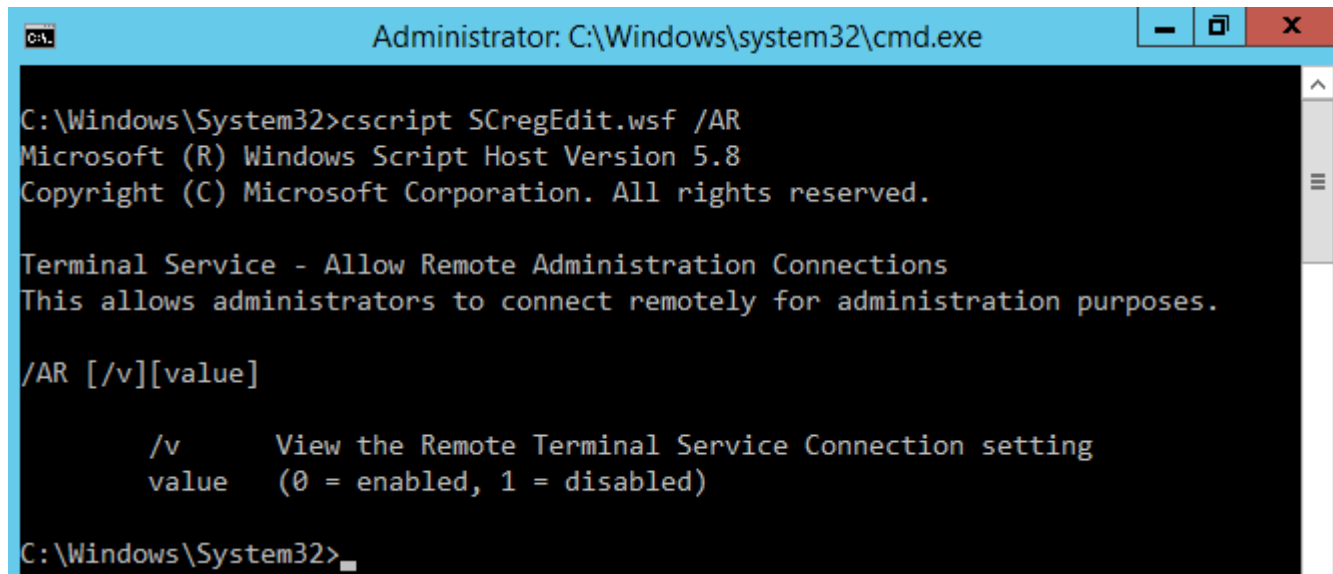
The command `netdom /?` was entered, and the output displays the syntax and available commands for the `netdom` utility. The command `NETDOM RENAMECOMPUTER` is highlighted with a red underline.

Hostname 변경

```
C:\>netdom renamecomputer %COMPUTERNAME% /newname:Star-DC-01 /Reboot:60 /Force  
The command completed successfully.
```

```
C:\>
```


Remote Desktop 활성화



```
Administrator: C:\Windows\system32\cmd.exe

C:\Windows\System32>cscript SCRegEdit.wsf /AR
Microsoft (R) Windows Script Host Version 5.8
Copyright (C) Microsoft Corporation. All rights reserved.

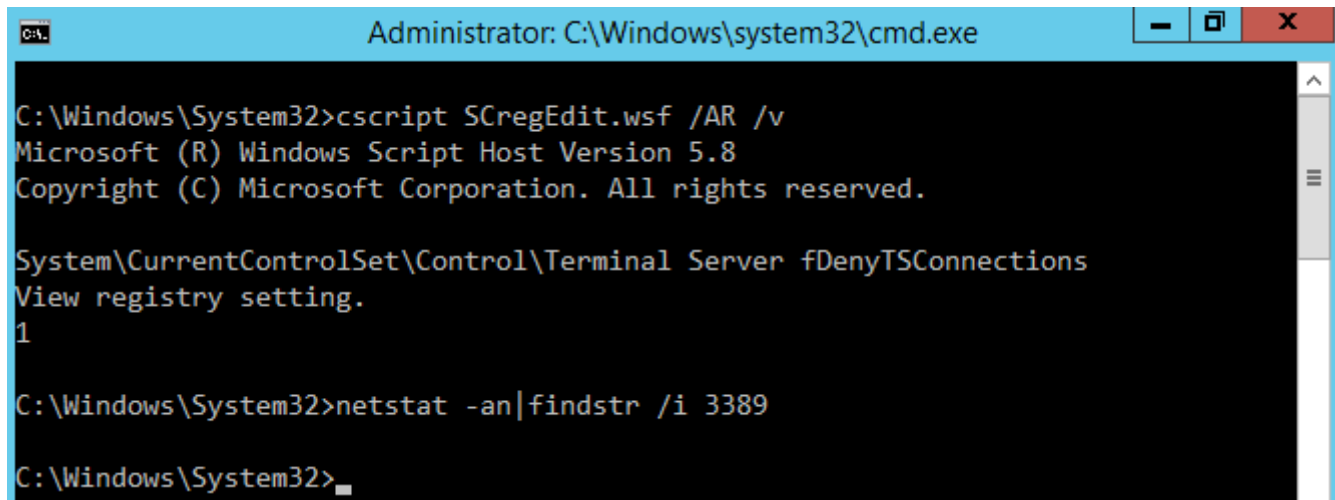
Terminal Service - Allow Remote Administration Connections
This allows administrators to connect remotely for administration purposes.

/AR [/v][value]

        /v      View the Remote Terminal Service Connection setting
        value   (0 = enabled, 1 = disabled)

C:\Windows\System32>
```

Remote Desktop 활성화



```
Administrator: C:\Windows\system32\cmd.exe

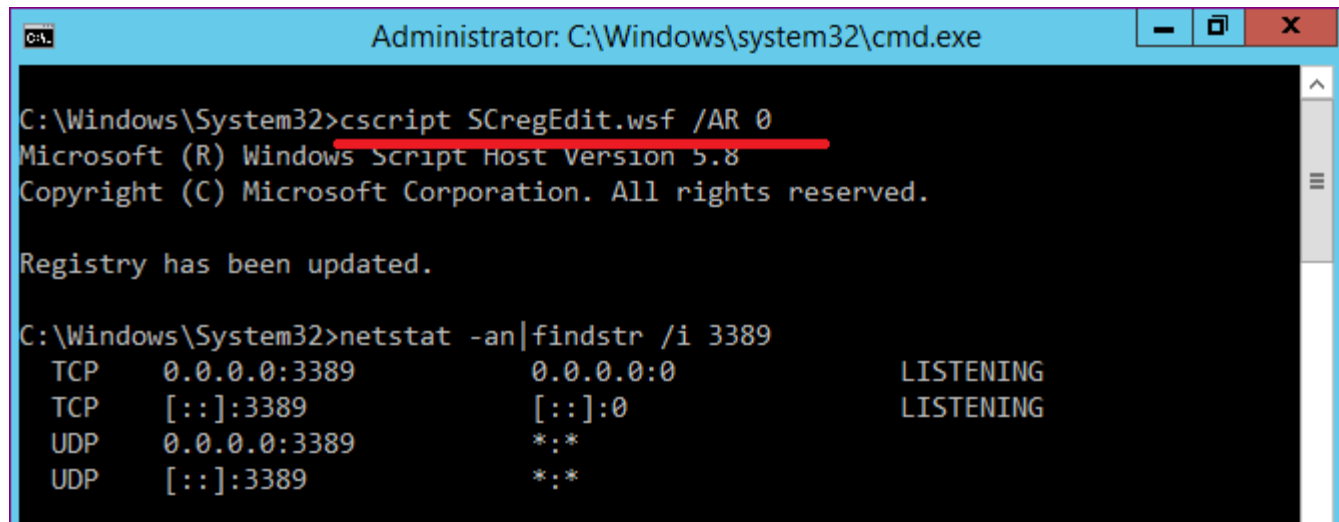
C:\Windows\System32>cscript SCregEdit.wsf /AR /v
Microsoft (R) Windows Script Host Version 5.8
Copyright (C) Microsoft Corporation. All rights reserved.

System\CurrentControlSet\Control\Terminal Server fDenyTSConnections
View registry setting.
1

C:\Windows\System32>netstat -an|findstr /i 3389

C:\Windows\System32>
```

Remote Desktop 활성화



A screenshot of a Windows command prompt window titled "Administrator: C:\Windows\system32\cmd.exe". The window has a blue title bar and standard Windows window controls (minimize, maximize, close). The command prompt shows the following text:

```
C:\Windows\System32>cscript SCregEdit.wsf /AR 0
Microsoft (R) Windows Script Host Version 5.8
Copyright (C) Microsoft Corporation. All rights reserved.

Registry has been updated.

C:\Windows\System32>netstat -an|findstr /i 3389
```

TCP	0.0.0.0:3389	0.0.0.0:0	LISTENING
TCP	[::]:3389	[::]:0	LISTENING
UDP	0.0.0.0:3389	*:*	
UDP	[::]:3389	*:*	

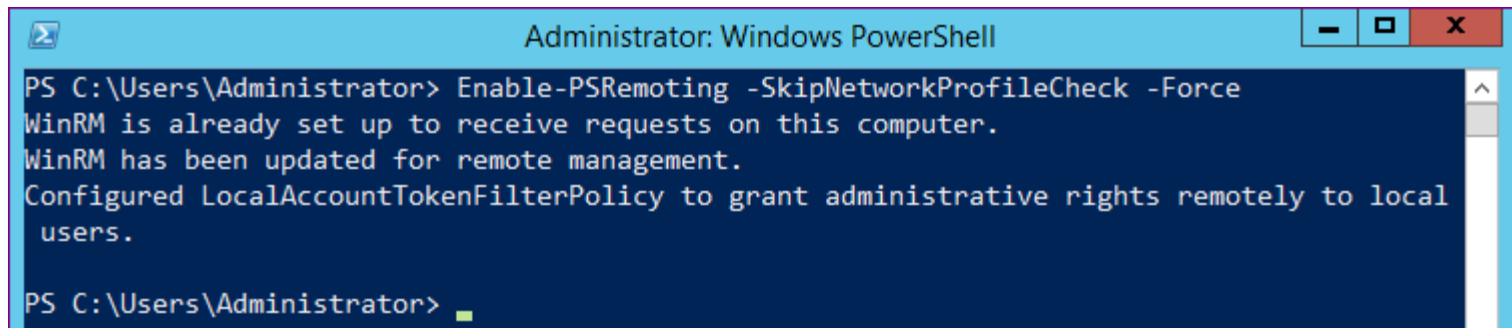
Remote Management 활성화

▣ Enabling or disabling remote management

In Windows Server 2012 R2 and Windows Server 2012, remote management is enabled by default. Before administrators can connect to a computer that is running Windows Server 2012 R2 or Windows Server 2012 remotely by using Server Manager, Server Manager remote management must be enabled on the destination computer if it has been disabled. The procedures in this section describe how to disable remote management, and how to re-enable remote management if it has been disabled. In the Server Manager console, the remote management status for the local server is displayed in the **Properties** area of the **Local Server** page.

Local administrator accounts other than the built-in Administrator account may not have rights to manage a server remotely, even if remote management is enabled. The Remote User Account Control (UAC) **LocalAccountTokenFilterPolicy** registry setting must be configured to allow local accounts of the Administrators group other than the built-in administrator account to remotely manage the server.

Remote Management 활성화



```
Administrator: Windows PowerShell
PS C:\Users\Administrator> Enable-PSRemoting -SkipNetworkProfileCheck -Force
WinRM is already set up to receive requests on this computer.
WinRM has been updated for remote management.
Configured LocalAccountTokenFilterPolicy to grant administrative rights remotely to local
users.
PS C:\Users\Administrator> 
```

Remote Management 활성화

KB2667402의 추억

Remote Management 활성화

Remote Desktop을 사용할 수 없는 서버의
Remote Desktop Service를 고쳐야 한다면?
물론 서버의 콘솔은 접근 불가능한 상태임.

Remote Management 활성화

- After you install security update 2667402 on a computer that is running Windows 7 or Windows Server 2008 R2, and then you install Service Pack 1 (SP1) for Windows 7 or for Windows Server 2008 R2, the binary version of Rdpcorekmts.dll is 6.1.7600.16952 and not 6.1.7601.17767. In this scenario, you may be unable to create a remote desktop session to control the Windows 7-based or Windows Server 2008 R2-based computer.

This issue occurs because the SP1 binary version of Rdpcorekmts.dll was not originally deployed when security update 2667402 was originally installed.

On June 12, 2012, security update 2667402 was rereleased to address this issue. Customers who are running Windows 7 or Windows Server 2008 R2 should install the reoffered update. This includes those who already successfully installed the update that was originally offered on March 13, 2012.

Note No security risk is associated with this issue. The computer is not in an unprotected state even though an unexpected version of Rdpcorekmts.dll is installed.

Remote Management 활성화

작업내용만 간단히 정리하면..

- 문제 발생한 서버에서 다음과 같이 진행
 1. Remote Desktop Service 정지
 2. takeown 명령을 이용해서 C:\Windows\system32\rdpcorekmts.dll 파일의 소유권 획득
 3. rdpcorekmts.dll 파일에 대해서 현재 작업중인 관리자 계정이 Full Control 할 수 있도록 권한 부여
 4. rdpcorekmts.dll 파일을 rdpcorekmts.old로 re-name
 5. 다른 정상적인 환경의 Windows Server 2008 R2 VM 에서 **rdpcorekmts.dll** 가져와서 C:\Windows\system32 로 덮어쓴다.
 6. 시스템 재부팅
 7. 정상적으로 RDP 로그인되는 것 확인하고 **KB2667402** 업데이트를 제거한다.
 8. 다시 재부팅
 9. 이제 평소처럼 작업한다. 밀린 업데이트를 설치하거나.. 이때 앞에서 제거했던 **KB2667402** 가 다시 설치되어도 놀랄 필요는 없다.

sconfig

```
=====
                        Server Configuration
=====

1) Domain/Workgroup:                Workgroup:  WORKGROUP
2) Computer Name:                   STAR-DC-01
3) Add Local Administrator
4) Configure Remote Management      Enabled

5) Windows Update Settings:         Automatic
6) Download and Install Updates
7) Remote Desktop:                  Enabled (more secure clients only)

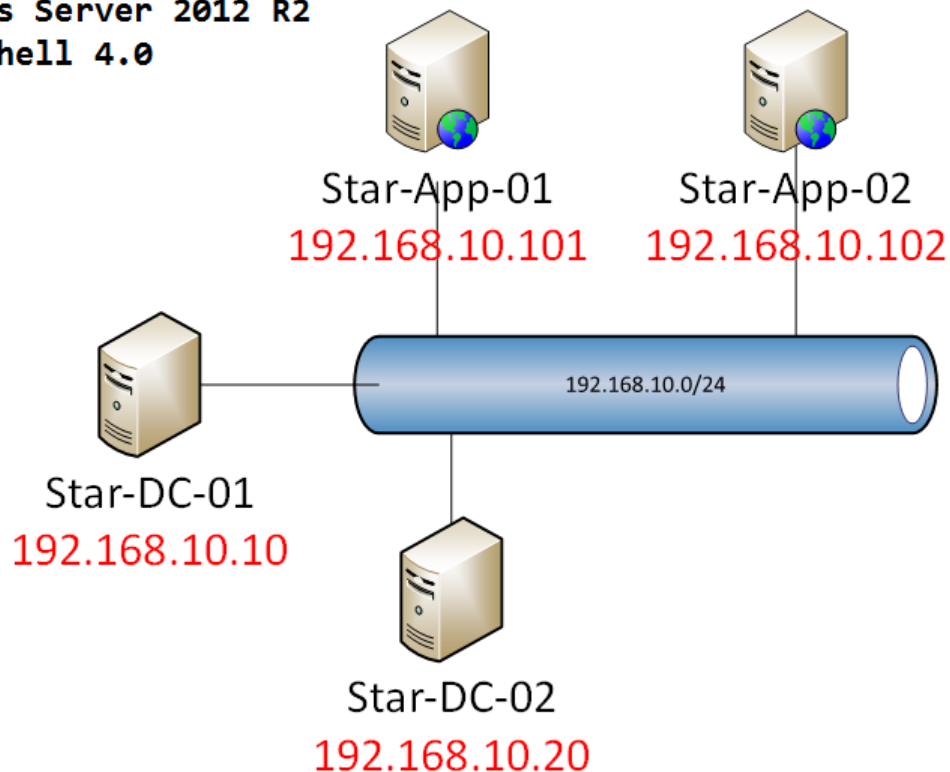
8) Network Settings
9) Date and Time
10) Help improve the product with CEIP  Participating
11) Windows Activation

12) Log Off User
13) Restart Server
14) Shut Down Server
15) Exit to Command Line

Enter number to select an option: █
```

LAB 환경

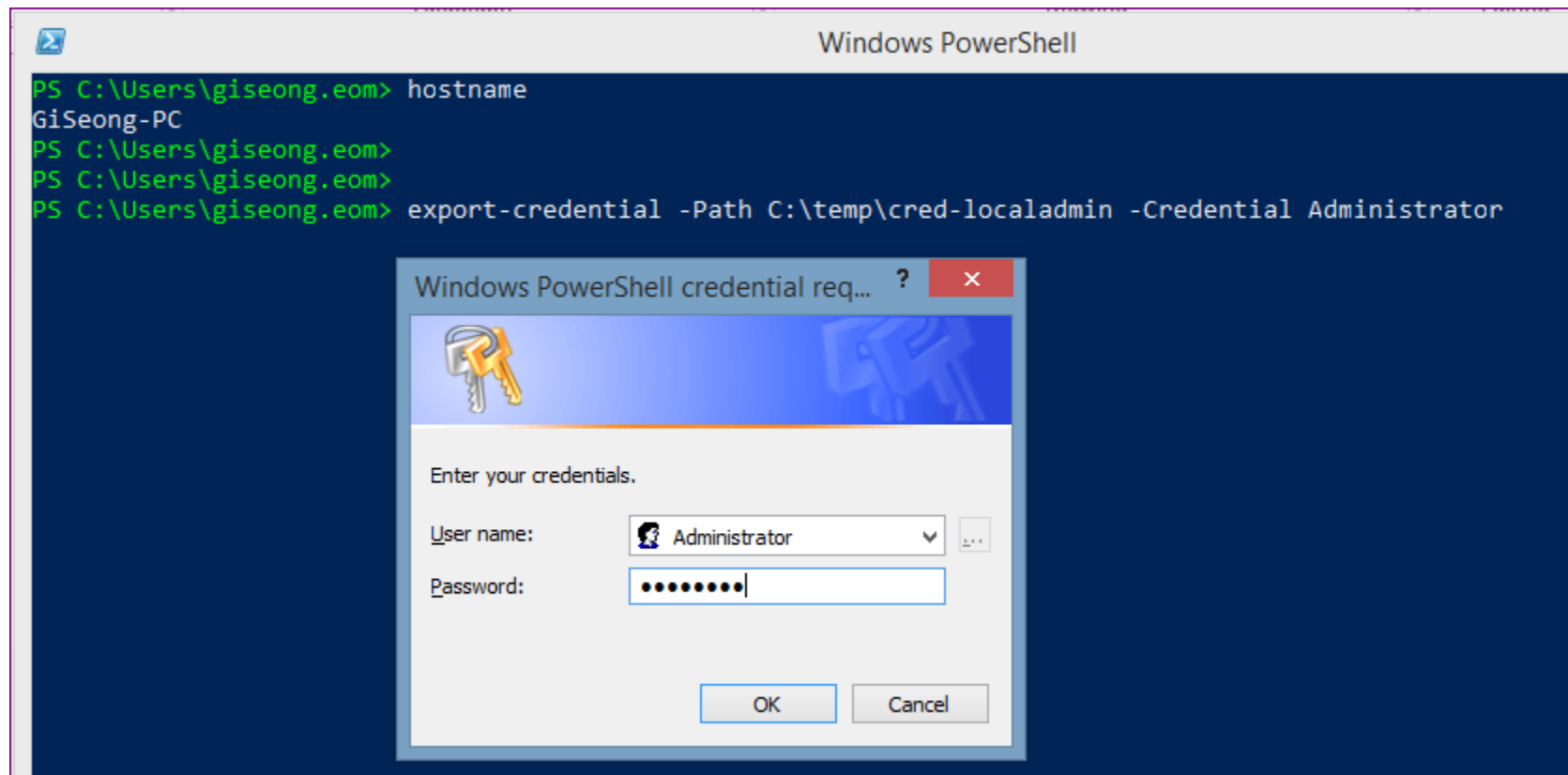
- Windows Server 2012 R2
- PowerShell 4.0



PowerShell을 이용한 원격작업

- 서버의 콘솔이 아닌, 관리자 PC에서 작업
- 대부분 PowerShell 사용

원격작업 준비

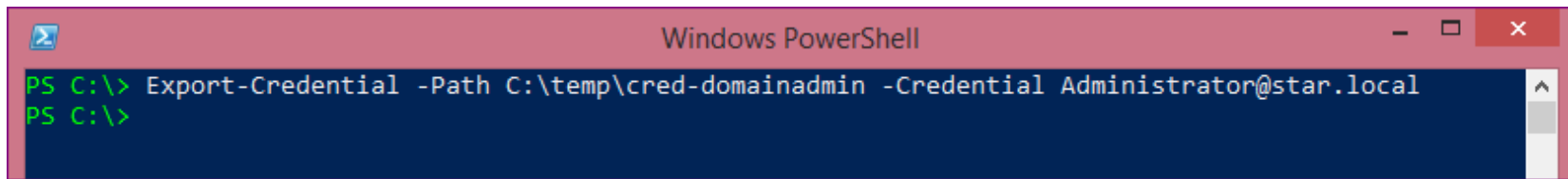


원격작업 준비

```
Windows PowerShell

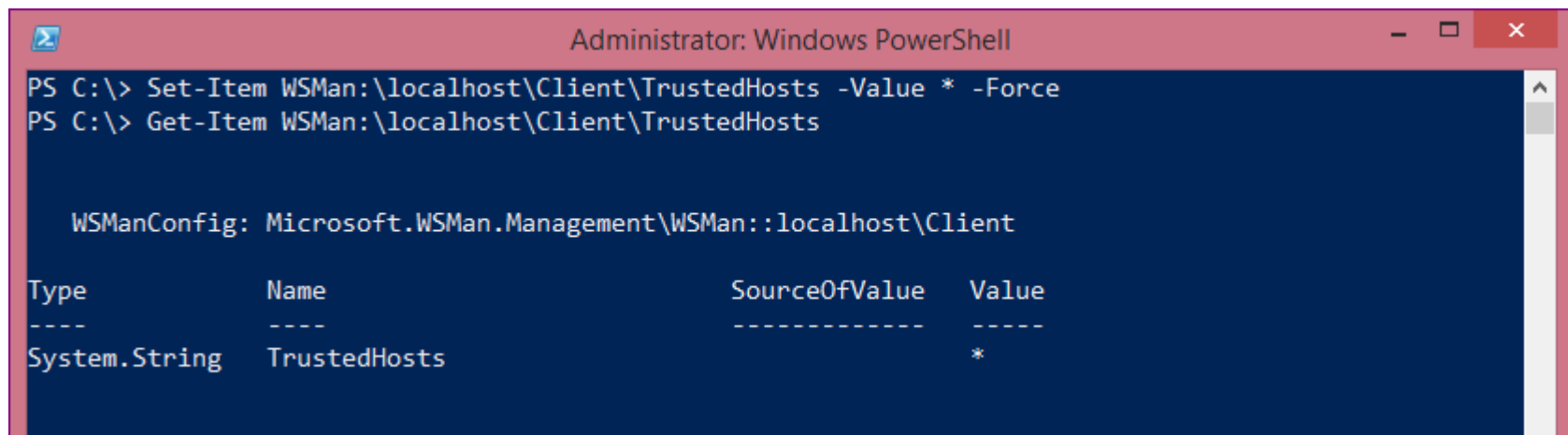
PS C:\Users\giseong.eom> cat C:\temp\cred-localadmin
<Objs Version="1.1.0.1" xmlns="http://schemas.microsoft.com/powershell/2004/04">
  <Obj RefId="0">
    <TN RefId="0">
      <T>Selected.System.Management.Automation.PSCredential</T>
      <T>System.Management.Automation.PSCustomObject</T>
      <T>System.Object</T>
    </TN>
    <MS>
      <S N="UserName">Administrator</S>
      <S N="Password">01000000d08c9ddf0115d1118c7a00c04fc297eb01000000de5d2a04bb59774f9c57c40b5d1f6d3d0000000
0020000000003660000c00000001000000022ff142dc86429fba61d2d753cb98788000000004800000a000000010000000ac40fc2f
57aa2ee21197ef2965bd314218000004a07ccbd5adb9914e1caaf2696eedb2373b4b2d16a41e8ad140000004e214832f4d232a747a24
de8c3ea50909c50974c</S>
    </MS>
  </Obj>
</Objs>
PS C:\Users\giseong.eom>
```

원격작업 준비

A screenshot of a Windows PowerShell terminal window. The title bar is pink and says "Windows PowerShell". The terminal has a dark blue background with green text. The command "Export-Credential -Path C:\temp\cred-domainadmin -Credential Administrator@star.local" has been entered and executed. A new prompt "PS C:\>" is visible on the next line.

```
PS C:\> Export-Credential -Path C:\temp\cred-domainadmin -Credential Administrator@star.local
PS C:\>
```

원격작업 준비



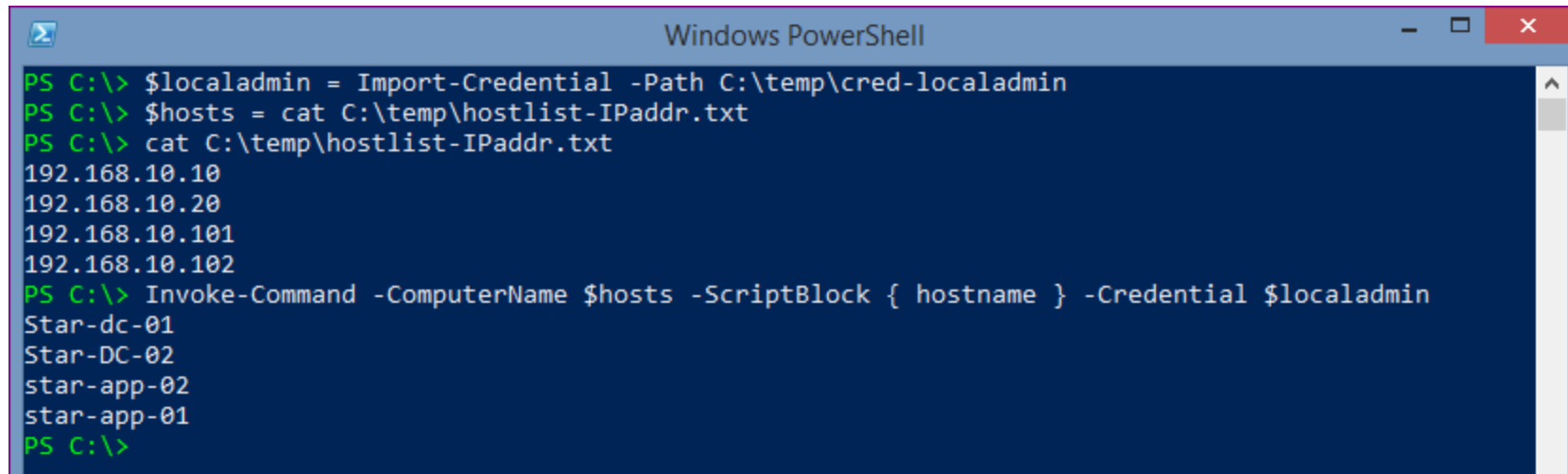
A screenshot of a Windows PowerShell console window titled "Administrator: Windows PowerShell". The window has a dark blue background and a light gray title bar. The console shows the following commands and output:

```
PS C:\> Set-Item WSMan:\localhost\Client\TrustedHosts -Value * -Force
PS C:\> Get-Item WSMan:\localhost\Client\TrustedHosts
```

The output of the second command is a table showing the configuration for the TrustedHosts property.

Type	Name	SourceOfValue	Value
System.String	TrustedHosts		*

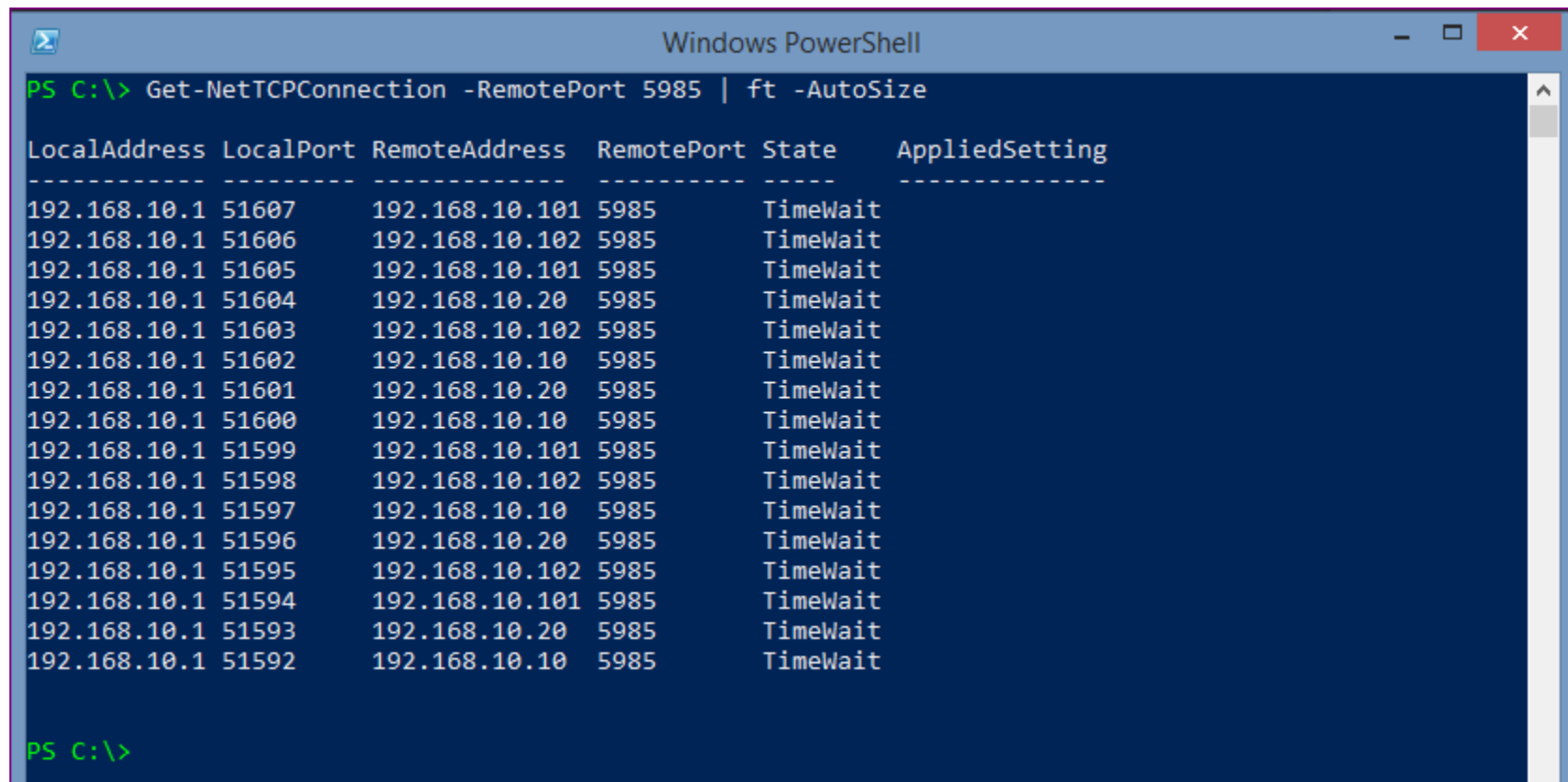
원격서버 연결 테스트



```
Windows PowerShell

PS C:\> $localadmin = Import-Credential -Path C:\temp\cred-localadmin
PS C:\> $hosts = cat C:\temp\hostlist-IPaddr.txt
PS C:\> cat C:\temp\hostlist-IPaddr.txt
192.168.10.10
192.168.10.20
192.168.10.101
192.168.10.102
PS C:\> Invoke-Command -ComputerName $hosts -ScriptBlock { hostname } -Credential $localadmin
Star-dc-01
Star-DC-02
star-app-02
star-app-01
PS C:\>
```

원격서버 연결 테스트

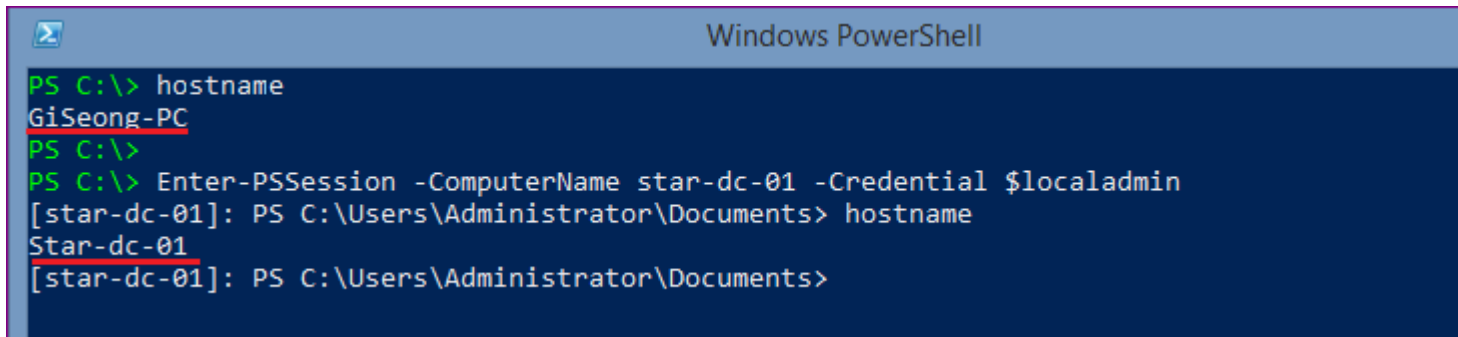


A screenshot of a Windows PowerShell window titled "Windows PowerShell". The command entered is `PS C:\> Get-NetTCPConnection -RemotePort 5985 | ft -AutoSize`. The output is a table with 6 columns: LocalAddress, LocalPort, RemoteAddress, RemotePort, State, and AppliedSetting. The table contains 16 rows of data, all showing a state of "TimeWait".

LocalAddress	LocalPort	RemoteAddress	RemotePort	State	AppliedSetting
192.168.10.1	51607	192.168.10.101	5985	TimeWait	
192.168.10.1	51606	192.168.10.102	5985	TimeWait	
192.168.10.1	51605	192.168.10.101	5985	TimeWait	
192.168.10.1	51604	192.168.10.20	5985	TimeWait	
192.168.10.1	51603	192.168.10.102	5985	TimeWait	
192.168.10.1	51602	192.168.10.10	5985	TimeWait	
192.168.10.1	51601	192.168.10.20	5985	TimeWait	
192.168.10.1	51600	192.168.10.10	5985	TimeWait	
192.168.10.1	51599	192.168.10.101	5985	TimeWait	
192.168.10.1	51598	192.168.10.102	5985	TimeWait	
192.168.10.1	51597	192.168.10.10	5985	TimeWait	
192.168.10.1	51596	192.168.10.20	5985	TimeWait	
192.168.10.1	51595	192.168.10.102	5985	TimeWait	
192.168.10.1	51594	192.168.10.101	5985	TimeWait	
192.168.10.1	51593	192.168.10.20	5985	TimeWait	
192.168.10.1	51592	192.168.10.10	5985	TimeWait	

PS C:\>

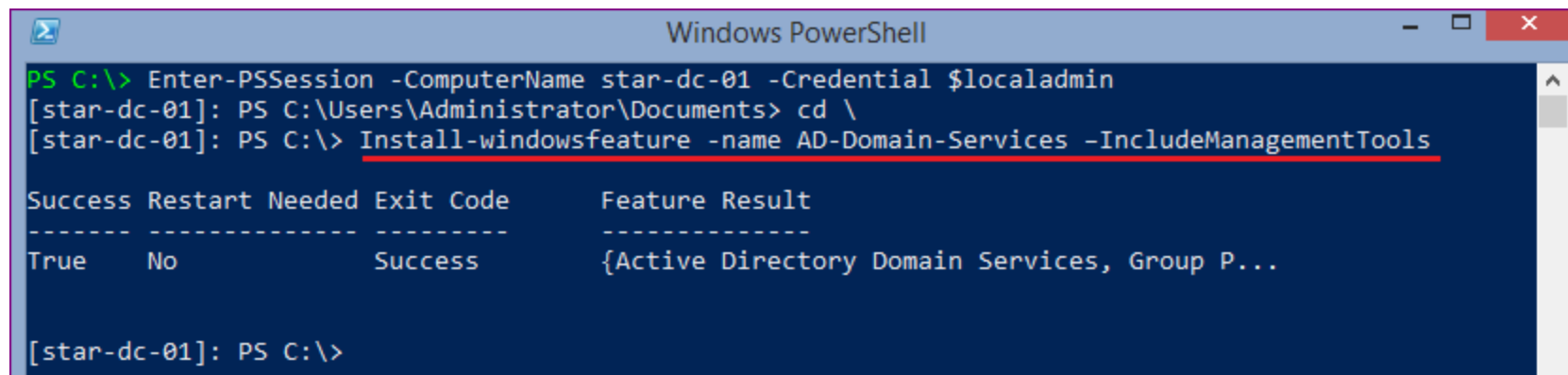
원격 서버 연결 테스트

A screenshot of a Windows PowerShell terminal window. The title bar is light blue and says "Windows PowerShell". The terminal background is dark blue. The text is white and green. The commands and output are as follows:

```
PS C:\> hostname
GiSeong-PC
PS C:\>
PS C:\> Enter-PSSession -ComputerName star-dc-01 -Credential $localadmin
[star-dc-01]: PS C:\Users\Administrator\Documents> hostname
Star-dc-01
[star-dc-01]: PS C:\Users\Administrator\Documents>
```

The first command 'hostname' returns 'GiSeong-PC'. The second command 'Enter-PSSession -ComputerName star-dc-01 -Credential \$localadmin' establishes a remote session. The prompt changes to '[star-dc-01]: PS C:\Users\Administrator\Documents>'. The 'hostname' command in the remote session returns 'Star-dc-01'.

Active Directory 설치



A screenshot of a Windows PowerShell window titled "Windows PowerShell". The window has a blue title bar with standard Windows window controls (minimize, maximize, close). The command prompt shows the following sequence of commands and output:

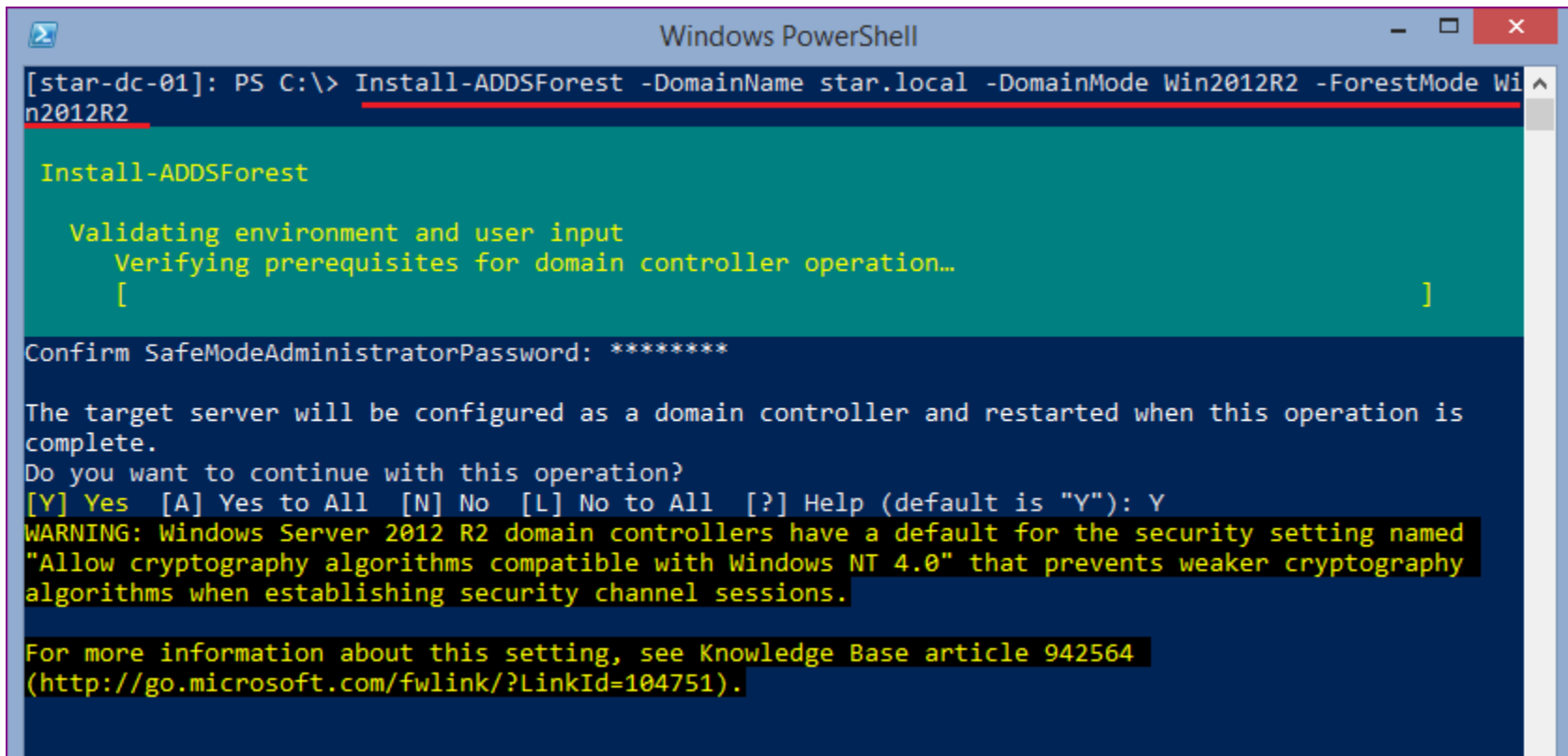
```
PS C:\> Enter-PSSession -ComputerName star-dc-01 -Credential $localadmin
[star-dc-01]: PS C:\Users\Administrator\Documents> cd \
[star-dc-01]: PS C:\> Install-windowsfeature -name AD-Domain-Services -IncludeManagementTools
```

The output of the command is a table with four columns: Success, Restart Needed, Exit Code, and Feature Result. The first row shows the results for the installation of Active Directory Domain Services.

Success	Restart Needed	Exit Code	Feature Result
True	No	Success	{Active Directory Domain Services, Group P...

The command prompt ends with the prompt [star-dc-01]: PS C:\>.

Active Directory 설치



```
Windows PowerShell
[star-dc-01]: PS C:\> Install-ADDSForest -DomainName star.local -DomainMode Win2012R2 -ForestMode Win2012R2

Install-ADDSForest

Validating environment and user input
  Verifying prerequisites for domain controller operation...
  [

Confirm SafeModeAdministratorPassword: *****

The target server will be configured as a domain controller and restarted when this operation is complete.
Do you want to continue with this operation?
[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help (default is "Y"): Y
WARNING: Windows Server 2012 R2 domain controllers have a default for the security setting named
"Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography
algorithms when establishing security channel sessions.

For more information about this setting, see Knowledge Base article 942564
(http://go.microsoft.com/fwlink/?LinkId=104751).
```

Active Directory 설치

```
Windows PowerShell
[star-dc-01]: PS C:\> Install-ADDSForest -DomainName star.local -DomainMode Win2012R2 -ForestMode Win2012R2

Install-ADDSForest

Validating environment and user input
  All tests completed successfully
  [oooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo]
Installing new forest
  Creating directory partition: CN=Configuration,DC=star,DC=local; 286 objects remaining

The target server will be configured as a domain controller and restarted when this operation is complete.
Do you want to continue with this operation?
[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help (default is "Y"): Y
WARNING: Windows Server 2012 R2 domain controllers have a default for the security setting named
"Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography
algorithms when establishing security channel sessions.
```

Active Directory 설치

WARNING: A delegation for this DNS server cannot be created because the authoritative parent zone cannot be found or it does not run Windows DNS server. If you are integrating with an existing DNS infrastructure, you should manually create a delegation to this DNS server in the parent zone to ensure reliable name resolution from outside the domain "star.local". Otherwise, no action is required.

WARNING: Windows Server 2012 R2 domain controllers have a default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography algorithms when establishing security channel sessions.

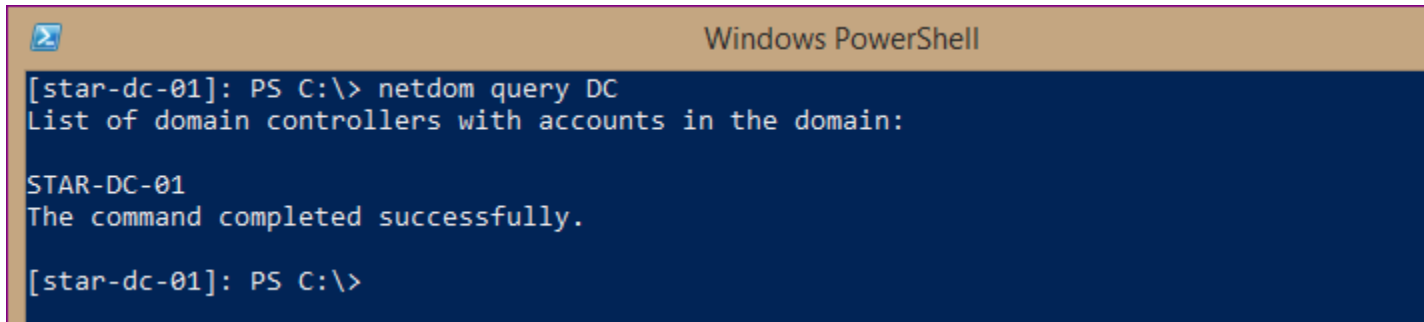
For more information about this setting, see Knowledge Base article 942564 (<http://go.microsoft.com/fwlink/?LinkId=104751>).

WARNING: A delegation for this DNS server cannot be created because the authoritative parent zone cannot be found or it does not run Windows DNS server. If you are integrating with an existing DNS infrastructure, you should manually create a delegation to this DNS server in the parent zone to ensure reliable name resolution from outside the domain "star.local". Otherwise, no action is required.

Message	Context	RebootRequired	Status
-----	-----	-----	-----
Operation completed s...	DCPromo.General.3	False	Success

PS C:\>

Active Directory 설치



```
Windows PowerShell

[star-dc-01]: PS C:\> netdom query DC
List of domain controllers with accounts in the domain:

STAR-DC-01
The command completed successfully.

[star-dc-01]: PS C:\>
```


Active Directory 2nd DC 설치

```
Windows PowerShell

PS C:\> $localadmin

UserName                                     Password
-----
Administrator                               System.Security.SecureString

PS C:\> $domainadmin

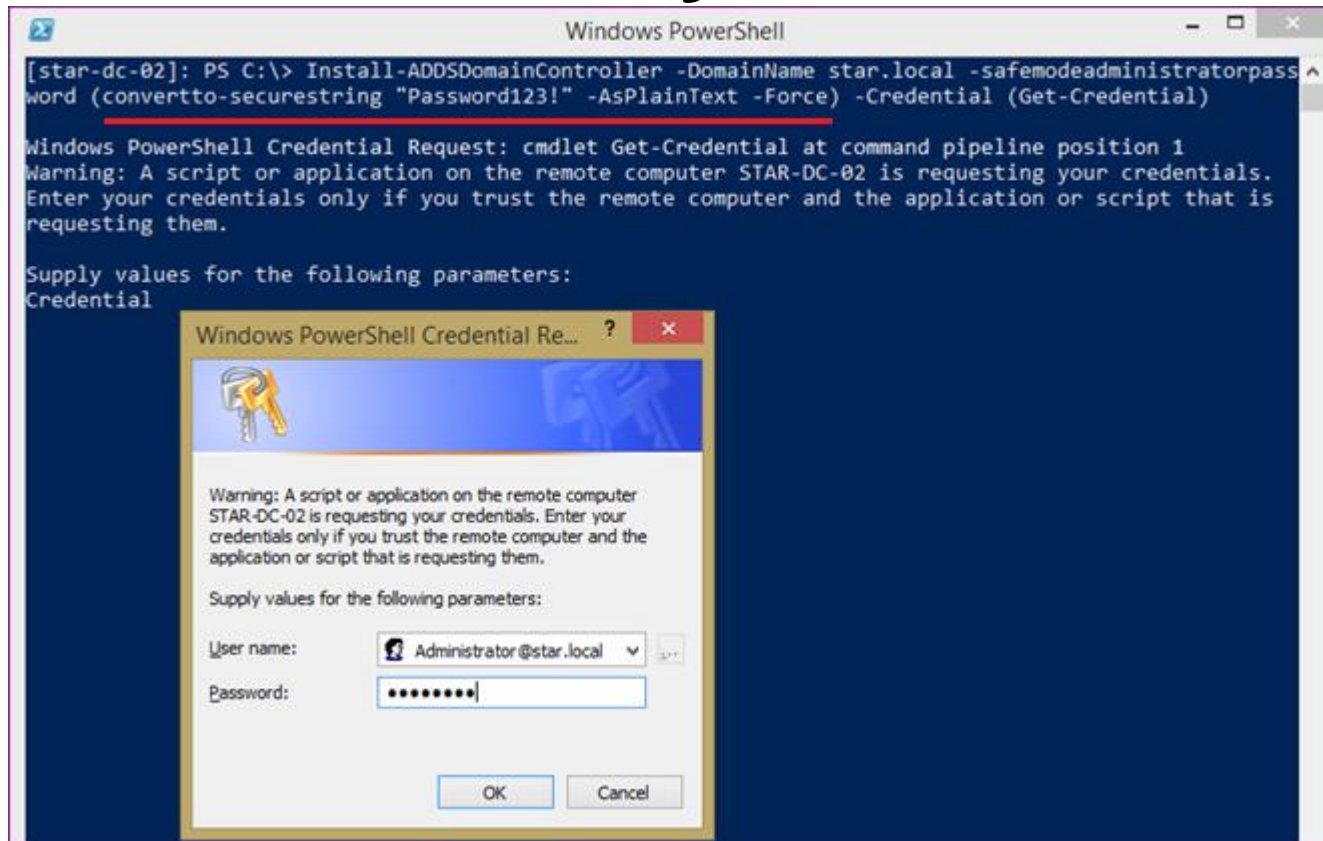
UserName                                     Password
-----
Administrator@star.local                     System.Security.SecureString

PS C:\> Enter-PSSession -ComputerName star-dc-02 -Credential $localadmin
[star-dc-02]: PS C:\Users\Administrator\Documents> Install-windowsfeature -name AD-Domain-Services -
IncludeManagementTools

Success Restart Needed Exit Code      Feature Result
-----
True     No                Success      {Active Directory Domain Services, Group P...

[star-dc-02]: PS C:\Users\Administrator\Documents>
```

Active Directory 2nd DC 설치



Active Directory 2nd DC 설치

The target server will be configured as a domain controller and restarted when this operation is complete.

Do you want to continue with this operation?

[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help (default is "Y"): Y

WARNING: Windows Server 2012 R2 domain controllers have a default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography algorithms when establishing security channel sessions.

For more information about this setting, see Knowledge Base article 942564 (<http://go.microsoft.com/fwlink/?LinkId=104751>).

WARNING: A delegation for this DNS server cannot be created because the authoritative parent zone cannot be found or it does not run Windows DNS server. If you are integrating with an existing DNS infrastructure, you should manually create a delegation to this DNS server in the parent zone to ensure reliable name resolution from outside the domain "star.local". Otherwise, no action is required.

WARNING: Windows Server 2012 R2 domain controllers have a default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography algorithms when establishing security channel sessions.

Active Directory 2nd DC 설치

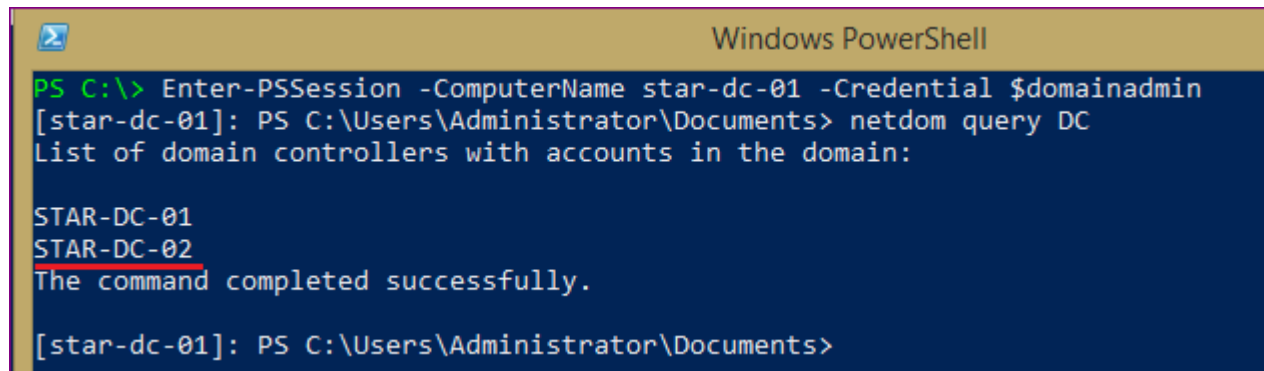
For more information about this setting, see Knowledge Base article 942564 (<http://go.microsoft.com/fwlink/?LinkId=104751>).

WARNING: A delegation for this DNS server cannot be created because the authoritative parent zone cannot be found or it does not run Windows DNS server. If you are integrating with an existing DNS infrastructure, you should manually create a delegation to this DNS server in the parent zone to ensure reliable name resolution from outside the domain "star.local". Otherwise, no action is required.

Message	Context	RebootRequired	Status
-----	-----	-----	-----
Operation completed s...	DCPromo.General.3	False	Success

[star-dc-02]: PS C:\>

Active Directory 2nd DC 설치



```
Windows PowerShell

PS C:\> Enter-PSSession -ComputerName star-dc-01 -Credential $domainadmin
[star-dc-01]: PS C:\Users\Administrator\Documents> netdom query DC
List of domain controllers with accounts in the domain:

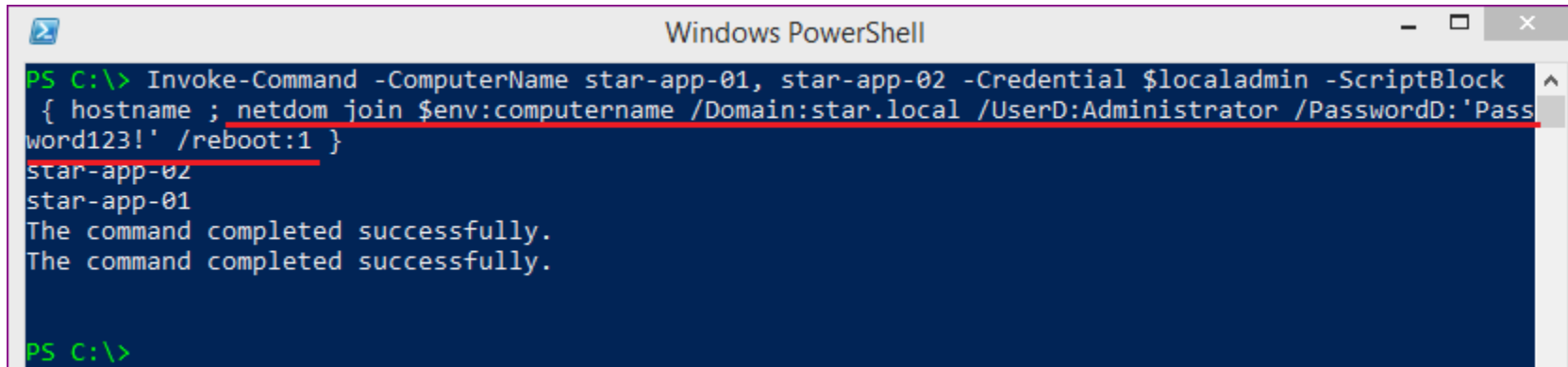
STAR-DC-01
STAR-DC-02
The command completed successfully.

[star-dc-01]: PS C:\Users\Administrator\Documents>
```

Active Directory 에 서버 추가

- 도메인에 가입할 서버가 다수...
- 한 대씩 처리하는 노가다는 싫어요 ☹

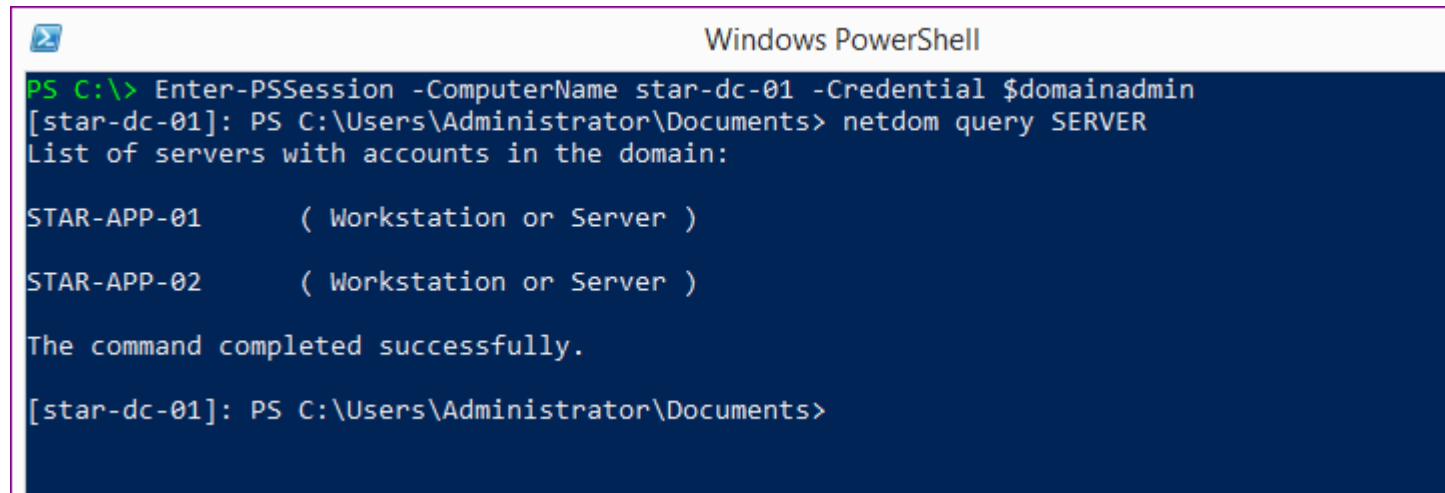
Active Directory 에 서버 추가

A screenshot of a Windows PowerShell window titled "Windows PowerShell". The window has a dark blue background. The command prompt shows a PowerShell command to join two servers, star-app-01 and star-app-02, to a domain named star.local. The command is: `Invoke-Command -ComputerName star-app-01, star-app-02 -Credential $localadmin -ScriptBlock { hostname ; netdom join $env:computername /Domain:star.local /UserD:Administrator /PasswordD:'Password123!' /reboot:1 }`. The output shows the command completed successfully for both servers. The prompt is `PS C:\>`.

```
PS C:\> Invoke-Command -ComputerName star-app-01, star-app-02 -Credential $localadmin -ScriptBlock { hostname ; netdom join $env:computername /Domain:star.local /UserD:Administrator /PasswordD:'Password123!' /reboot:1 }
star-app-02
star-app-01
The command completed successfully.
The command completed successfully.

PS C:\>
```

Active Directory 에 서버 추가



```
Windows PowerShell

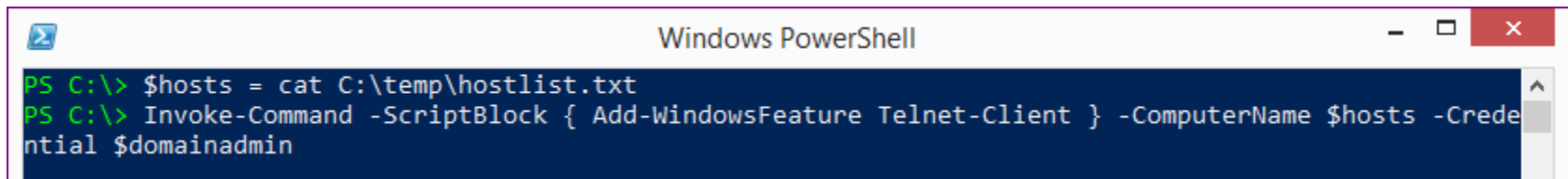
PS C:\> Enter-PSSession -ComputerName star-dc-01 -Credential $domainadmin
[star-dc-01]: PS C:\Users\Administrator\Documents> netdom query SERVER
List of servers with accounts in the domain:

STAR-APP-01      ( Workstation or Server )
STAR-APP-02      ( Workstation or Server )

The command completed successfully.

[star-dc-01]: PS C:\Users\Administrator\Documents>
```


Telnet 설치



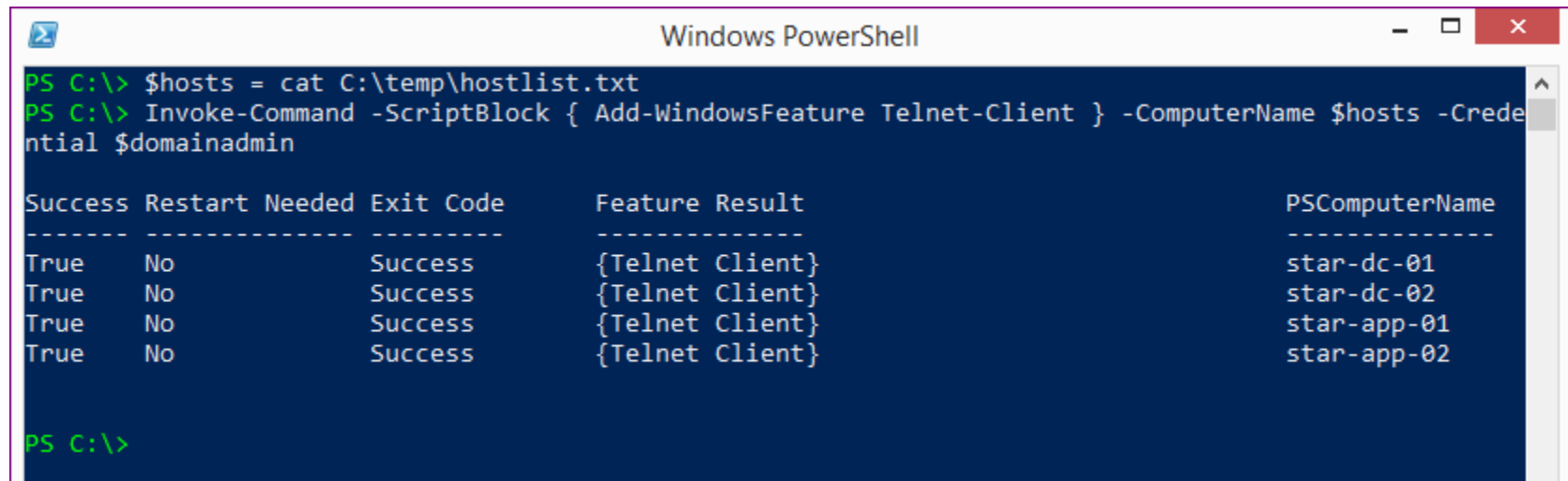
```
Windows PowerShell

PS C:\> $hosts = cat C:\temp\hostlist.txt
PS C:\> Invoke-Command -ScriptBlock { Add-WindowsFeature Telnet-Client } -ComputerName $hosts -Credential $domainadmin
```

Telnet 설치

[illegible]

Telnet 설치



A screenshot of a Windows PowerShell window titled "Windows PowerShell". The window has a dark blue background with white text. The command prompt shows the following commands and output:

```
PS C:\> $hosts = cat C:\temp\hostlist.txt
PS C:\> Invoke-Command -ScriptBlock { Add-WindowsFeature Telnet-Client } -ComputerName $hosts -Credential $domainadmin
```

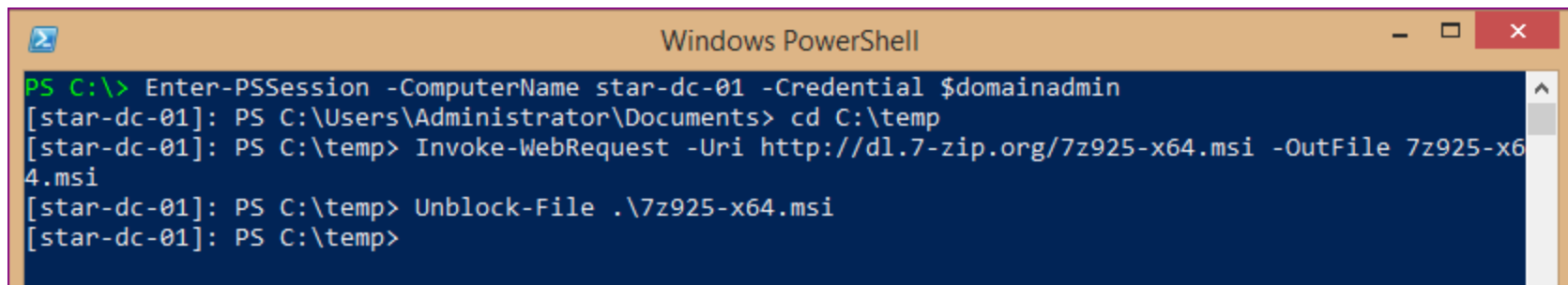
Success	Restart	Needed	Exit Code	Feature Result	PSComputerName
True	No		Success	{Telnet Client}	star-dc-01
True	No		Success	{Telnet Client}	star-dc-02
True	No		Success	{Telnet Client}	star-app-01
True	No		Success	{Telnet Client}	star-app-02

```
PS C:\>
```

Unattended Application 설치

- Setup.exe 클릭 노가다는 싫어요.

7zip 설치



```
Windows PowerShell

PS C:\> Enter-PSSession -ComputerName star-dc-01 -Credential $domainadmin
[star-dc-01]: PS C:\Users\Administrator\Documents> cd C:\temp
[star-dc-01]: PS C:\temp> Invoke-WebRequest -Uri http://dl.7-zip.org/7z925-x64.msi -OutFile 7z925-x64.msi
[star-dc-01]: PS C:\temp> Unblock-File .\7z925-x64.msi
[star-dc-01]: PS C:\temp>
```

7zip 설치

```
[star-dc-01]: PS C:\temp> dir *.msi
```

```
Directory: C:\temp
```

Mode	LastWriteTime	Length	Name
-a---	4/25/2014 5:37 PM	1385984	7z925-x64.msi

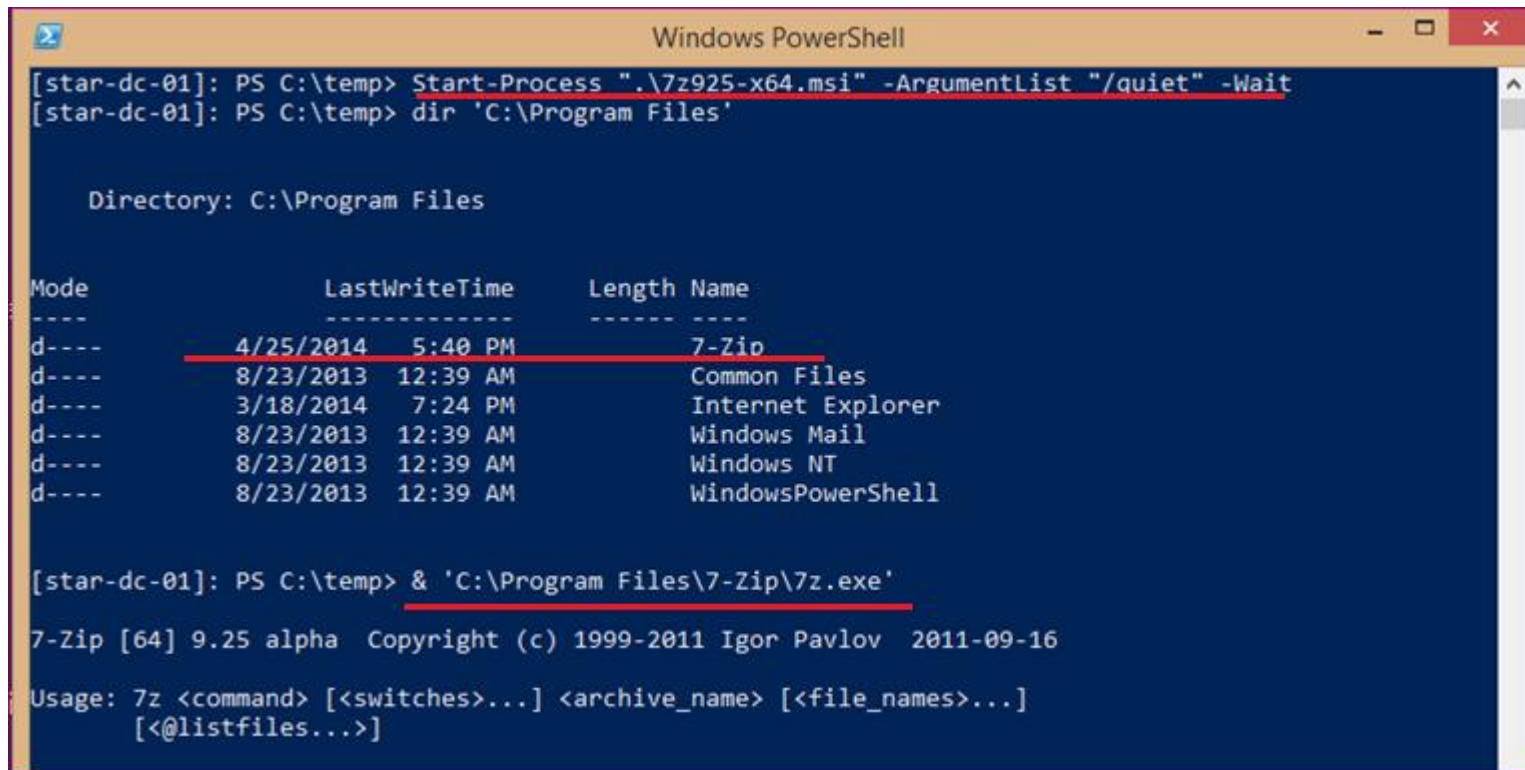
```
[star-dc-01]: PS C:\temp> dir 'C:\Program Files'
```

```
Directory: C:\Program Files
```

Mode	LastWriteTime	Length	Name
d----	8/23/2013 12:39 AM		Common Files
d----	3/18/2014 7:24 PM		Internet Explorer
d----	8/23/2013 12:39 AM		Windows Mail
d----	8/23/2013 12:39 AM		Windows NT
d----	8/23/2013 12:39 AM		WindowsPowerShell

```
[star-dc-01]: PS C:\temp>
```

7zip 설치



```
Windows PowerShell

[star-dc-01]: PS C:\\temp> Start-Process \"..\\7z925-x64.msi\" -ArgumentList \"/quiet\" -Wait
[star-dc-01]: PS C:\\temp> dir 'C:\\Program Files'

Directory: C:\\Program Files


Mode                LastWriteTime         Length Name
----                -
d----             4/25/2014   5:40 PM             7-Zip
d----             8/23/2013   12:39 AM          Common Files
d----             3/18/2014   7:24 PM        Internet Explorer
d----             8/23/2013   12:39 AM        Windows Mail
d----             8/23/2013   12:39 AM        Windows NT
d----             8/23/2013   12:39 AM      WindowsPowerShell

[star-dc-01]: PS C:\\temp> & 'C:\\Program Files\\7-Zip\\7z.exe'

7-Zip [64] 9.25 alpha  Copyright (c) 1999-2011 Igor Pavlov  2011-09-16

Usage: 7z <command> [<switches>...] <archive_name> [<file_names>...]
[<@listfiles...>]
```

SQL Server 2012 설치

```
Windows PowerShell

PS C:\> get-vm star-*

Name          State      CPUUsage(%) MemoryAssigned(M) Uptime        Status
-----
STAR-DC-02    Running 0           1024              02:41:53      Operating normally
STAR-DC-01    Running 0           1024              03:50:37      Operating normally
STAR-App-02   Running 0           1024              01:27:12      Operating normally
STAR-App-01   Running 0           1024              00:03:07      Operating normally

PS C:\> stop-vm star-app-01
PS C:\> Get-VMemory star-app-01

VMName          DynamicMemoryEnabled Minimum(M) Startup(M) Maximum(M)
-----
STAR-App-01     False                512        1024      1048576

PS C:\> Set-VMemory -VMName star-app-01 -StartupBytes 4GB
PS C:\> Get-VMemory star-app-01

VMName          DynamicMemoryEnabled Minimum(M) Startup(M) Maximum(M)
-----
STAR-App-01     False                512        4096      1048576

PS C:\> start-vm star-app-01
PS C:\> get-vm star-app-01

Name          State      CPUUsage(%) MemoryAssigned(M) Uptime        Status
-----
STAR-App-01    Running 0           4096              00:00:09      Operating normally
```


SQL Server 2012 설치

```
Windows PowerShell

PS C:\> get-vm star-*

Name          State      CPUUsage(%) MemoryAssigned(M) Uptime        Status
-----
STAR-DC-02    Running 0           1024             02:41:53      Operating normally
STAR-DC-01    Running 0           1024             03:50:37      Operating normally
STAR-App-02   Running 0           1024             01:27:12      Operating normally
STAR-App-01   Running 0           1024             00:03:07      Operating normally

PS C:\> stop-vm star-app-01
PS C:\> Get-VMemory star-app-01

VMName          DynamicMemoryEnabled Minimum(M) Startup(M) Maximum(M)
-----
STAR-App-01     False                512       1024     1048576

PS C:\> Set-VMemory -VMName star-app-01 -StartupBytes 4GB
PS C:\> Get-VMemory star-app-01

VMName          DynamicMemoryEnabled Minimum(M) Startup(M) Maximum(M)
-----
STAR-App-01     False                512       4096     1048576

PS C:\> start-vm star-app-01
PS C:\> get-vm star-app-01

Name          State      CPUUsage(%) MemoryAssigned(M) Uptime        Status
-----
STAR-App-01    Running 0           4096             00:00:09      Operating normally
```

SQL Server 2012 설치

```
Windows PowerShell

PS C:\> get-vm star-*

Name          State      CPUUsage(%) MemoryAssigned(M) Uptime        Status
-----
STAR-DC-02    Running 0           1024              02:41:53      Operating normally
STAR-DC-01    Running 0           1024              03:50:37      Operating normally
STAR-App-02    Running 0           1024              01:27:12      Operating normally
STAR-App-01    Running 0           1024              00:03:07      Operating normally

PS C:\> stop-vm star-app-01
PS C:\> Get-VMemory star-app-01

VMName          DynamicMemoryEnabled Minimum(M) Startup(M) Maximum(M)
-----
STAR-App-01     False                512        1024      1048576

PS C:\> Set-VMemory -VMName star-app-01 -StartupBytes 4GB
PS C:\> Get-VMemory star-app-01

VMName          DynamicMemoryEnabled Minimum(M) Startup(M) Maximum(M)
-----
STAR-App-01     False                512        4096      1048576

PS C:\> start-vm star-app-01
PS C:\> get-vm star-app-01

Name          State      CPUUsage(%) MemoryAssigned(M) Uptime        Status
-----
STAR-App-01    Running 0           4096              00:00:09      Operating normally
```

SQL Server 2012 설치

```
Administrator: Windows PowerShell

[ ] HTTP Activation          NET-HTTP-Activation    Available
[ ] Non-HTTP Activation      NET-Non-HTTP-Activ    Available

Start Installation...
68%
[ooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo]

[ ] Message Queuing (MSMQ) Activation  NET-WCF-MSMQ-Activat... Available
[ ] Named Pipe Activation              NET-WCF-Pipe-Activat... Available
[ ] TCP Activation                     NET-WCF-TCP-Activati... Available
[X] TCP Port Sharing                  NET-WCF-TCP-PortShar... Installed
[ ] BitLocker Network Unlock          BitLocker-NetworkUnlock Available
[ ] Internet Printing Client          Internet-Print-Client   Available
[X] Telnet Client                     Telnet-Client           Installed
[ ] Telnet Server                     Telnet-Server           Available
[ ] .NET Environment 3.5              WAS-NET-Environment    Available
[ ] Wireless LAN Service              Wireless-Networking     Available

PS C:\> ADD-WindowsFeature -Name NET-Framework-Core
```

SQL Server 2012 설치

```
PS C:\> ADD-WindowsFeature -Name NET-Framework-Core
```

Success	Restart Needed	Exit Code	Feature Result
True	No	Success	{.NET Framework 3.5 (includes .NET 2.0 and...

```
PS C:\>
```

SQL Server 2012 설치

```
Administrator: Windows PowerShell

PS C:\temp> hostname
star-app-01
PS C:\temp> Mount-DiskImage -ImagePath 'C:\temp\SQL_Svr_Enterprise_Core_2012_w_SP1_English
_Download_Only_64bit_-2_X18-78092.ISO' -Verbose
PS C:\temp> Get-PSDrive -PSProvider FileSystem

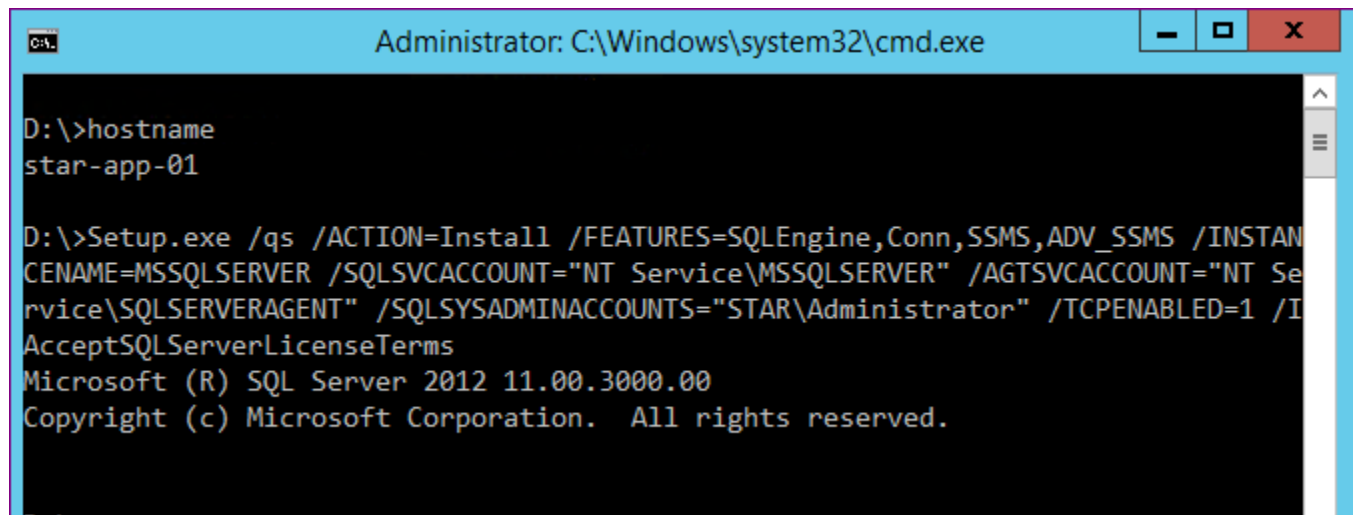
Name          Used (GB)    Free (GB) Provider      Root
-----
C              13.88       131.90  FileSystem    C:\
D              3.63                FileSystem    D:\

PS C:\temp> dir d:\

Directory: D:\

Mode                LastWriteTime         Length Name
----
d----          11/14/2012   6:45 AM             1033_ENU_LP
d----          11/14/2012   6:48 AM             PCUSOURCE
d----          11/14/2012   6:50 AM             StreamInsight
d----          11/14/2012   6:50 AM              Tools
d----          11/14/2012   6:48 AM             boxstub sql
```

SQL Server 2012 설치



A screenshot of a Windows command prompt window titled "Administrator: C:\Windows\system32\cmd.exe". The window has a blue title bar and standard Windows window controls (minimize, maximize, close). The command prompt shows the following text:

```
D:\>hostname  
star-app-01  
  
D:\>Setup.exe /qs /ACTION=Install /FEATURES=SQLEngine,Conn,SSMS,ADV_SSMS /INSTAN  
CENAME=MSSQLSERVER /SQLSVCACCOUNT="NT Service\MSSQLSERVER" /AGTSVCACCOUNT="NT Se  
rvice\SQLSERVERAGENT" /SQLSYSADMINACCOUNTS="STAR\Administrator" /TCPENABLED=1 /I  
AcceptSQLServerLicenseTerms  
Microsoft (R) SQL Server 2012 11.00.3000.00  
Copyright (c) Microsoft Corporation. All rights reserved.
```

SQL Server 2012 설치

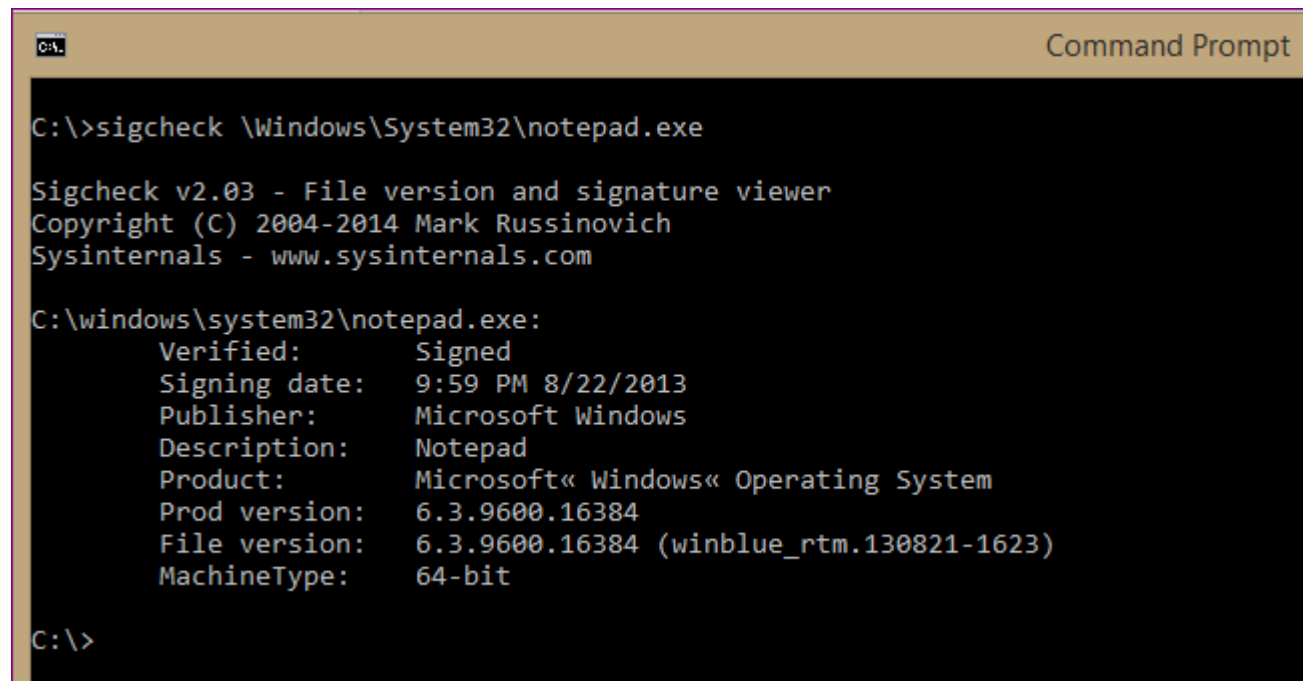
```
Administrator: Windows PowerShell
PS C:\> gcim Win32_Product | ? { $_.Name -like '*SQL*' } | ft Name

Name
----
Microsoft SQL Server System CLR Types
SQL Server 2012 Client Tools
Microsoft SQL Server 2012 Policies
SQL Server Browser for SQL Server 2012
SQL Server 2012 Management Studio
SQL Server 2012 Management Studio
Microsoft SQL Server 2008 R2 Management Objects
Microsoft System CLR Types for SQL Server 2012 (x64)
SQL Server 2012 Client Tools
SQL Server 2012 Common Files
Microsoft SQL Server 2012 Native Client
SQL Server 2012 Database Engine Services
Microsoft SQL Server 2012 Transact-SQL ScriptDom
Microsoft SQL Server 2008 Setup Support Files
SQL Server 2012 Database Engine Shared
SQL Server 2012 Database Engine Services
Sql Server Customer Experience Improvement Program
Microsoft SQL Server 2012 Transact-SQL Compiler Service
Microsoft SQL Server 2012 RsFx Driver
SQL Server 2012 Database Engine Shared
SQL Server 2012 Common Files
```

Productive Tools for Shell

- 세상에는 좋은 도구들이 많이 있습니다.

Sysinternals Suite



The screenshot shows a Windows Command Prompt window with a gold title bar that reads "Command Prompt". The window has a black background with white text. The command prompt shows the execution of the `sigcheck` command on `\Windows\System32\notepad.exe`. The output includes the version of the tool (v2.03), copyright information (© 2004-2014 Mark Russinovich), and the Sysinternals website. Below this, the details for `notepad.exe` are listed, including its verification status (Signed), signing date (9:59 PM 8/22/2013), publisher (Microsoft Windows), description (Notepad), product (Microsoft Windows Operating System), and version (6.3.9600.16384).

```
C:\>sigcheck \Windows\System32\notepad.exe

Sigcheck v2.03 - File version and signature viewer
Copyright (C) 2004-2014 Mark Russinovich
Sysinternals - www.sysinternals.com

C:\windows\system32\notepad.exe:
    Verified:      Signed
    Signing date:  9:59 PM 8/22/2013
    Publisher:     Microsoft Windows
    Description:    Notepad
    Product:        Microsoft« Windows« Operating System
    Prod version:   6.3.9600.16384
    File version:   6.3.9600.16384 (winblue_rtm.130821-1623)
    MachineType:    64-bit

C:\>
```

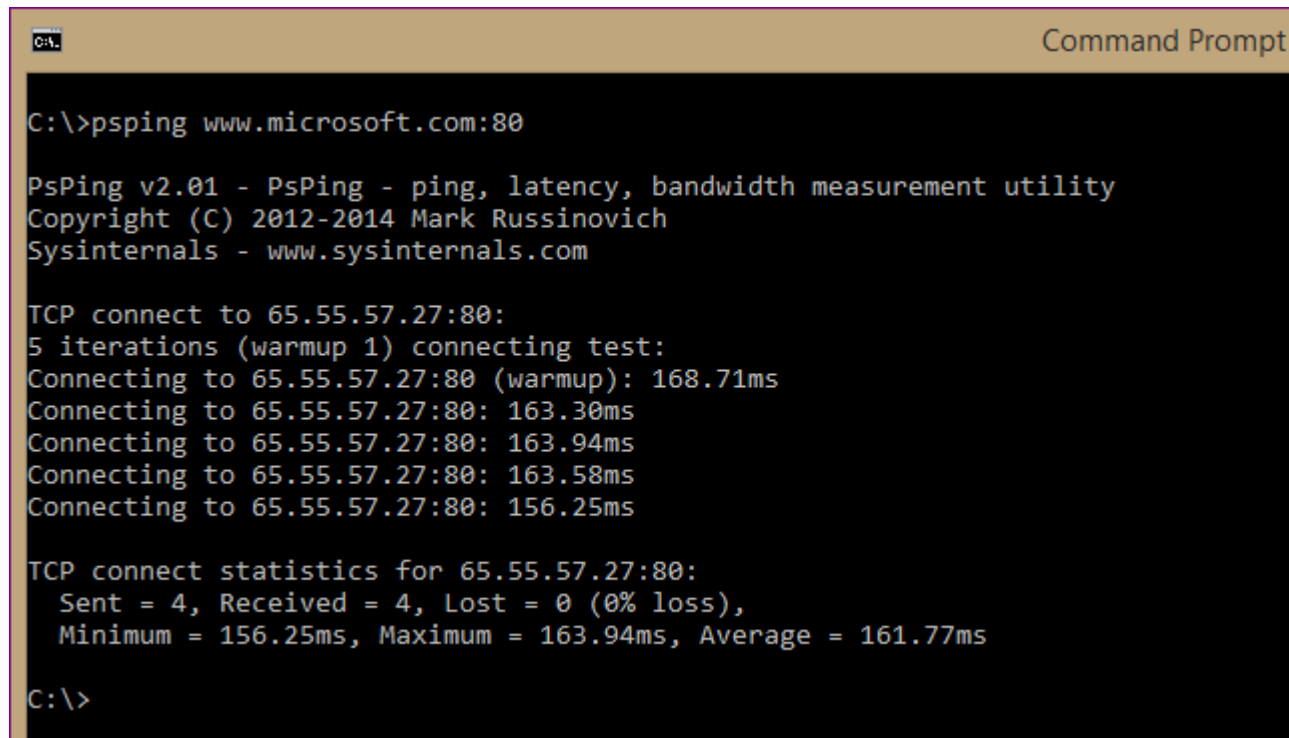
Sysinternals Suite

```
C:\>tcpvcon -nc

TCPView v3.01 - TCP/UDP endpoint viewer
Copyright (C) 1998-2010 Mark Russinovich and Bryce Cogswell
Sysinternals - www.sysinternals.com

TCP,svchost.exe,852,ESTABLISHED,10.1.5.171,10.1.4.151
TCP,Dropbox.exe,4112,ESTABLISHED,10.1.5.171,10.1.5.172
TCP,Dropbox.exe,4112,ESTABLISHED,10.1.5.171,10.1.4.142
TCP,Dropbox.exe,4112,ESTABLISHED,127.0.0.1,127.0.0.1
TCP,System,4,ESTABLISHED,10.1.5.171,10.1.4.151
TCP,spoolsv.exe,1432,ESTABLISHED,10.1.5.171,10.0.0.95
TCP,spoolsv.exe,1432,ESTABLISHED,10.1.5.171,10.0.0.95
TCP,spoolsv.exe,1432,ESTABLISHED,10.1.5.171,10.0.0.95
TCP,explorer.exe,3276,ESTABLISHED,10.1.5.171,111.221.72.110
TCP,Dropbox.exe,4112,ESTABLISHED,127.0.0.1,127.0.0.1
TCP,Dropbox.exe,4112,ESTABLISHED,10.1.5.171,108.160.162.35
TCP,Dropbox.exe,4112,ESTABLISHED,10.1.5.171,10.1.4.142
TCP,Dropbox.exe,4112,ESTABLISHED,10.1.5.171,10.1.5.172
TCP,googledrivesync.exe,4348,ESTABLISHED,10.1.5.171,74.125.1
TCP,unsecapp.exe,32,ESTABLISHED,10.1.5.171,10.1.4.152
TCP,unsecapp.exe,32,ESTABLISHED,10.1.5.171,10.1.4.151
TCP,chrome.exe,1524,ESTABLISHED,10.1.5.171,74.125.128.125
TCP,chrome.exe,1524,ESTABLISHED,10.1.5.171,74.125.23.188
TCP,System,4,ESTABLISHED,10.1.5.171,10.1.4.151
```

Sysinternal Suite



```
Command Prompt

C:\>psping www.microsoft.com:80

PsPing v2.01 - PsPing - ping, latency, bandwidth measurement utility
Copyright (C) 2012-2014 Mark Russinovich
Sysinternals - www.sysinternals.com

TCP connect to 65.55.57.27:80:
5 iterations (warmup 1) connecting test:
Connecting to 65.55.57.27:80 (warmup): 168.71ms
Connecting to 65.55.57.27:80: 163.30ms
Connecting to 65.55.57.27:80: 163.94ms
Connecting to 65.55.57.27:80: 163.58ms
Connecting to 65.55.57.27:80: 156.25ms

TCP connect statistics for 65.55.57.27:80:
  Sent = 4, Received = 4, Lost = 0 (0% loss),
  Minimum = 156.25ms, Maximum = 163.94ms, Average = 161.77ms

C:\>
```

Sysinternals Suite

C:\

```
C:\>du c:\Windows\System32
```

```
Du v1.5 - report directory disk usage  
Copyright (C) 2005-2013 Mark Russinovich  
Sysinternals - www.sysinternals.com
```

```
Files:          16132  
Directories:    1307  
Size:           3,596,272,098 bytes  
Size on disk:   3,520,537,312 bytes
```

Sysinternal Suite

```
C:\>whois www.microsoft.com
```

```
Whois v1.11 - Domain information lookup utility  
Sysinternals - www.sysinternals.com  
Copyright (C) 2005-2012 Mark Russinovich
```

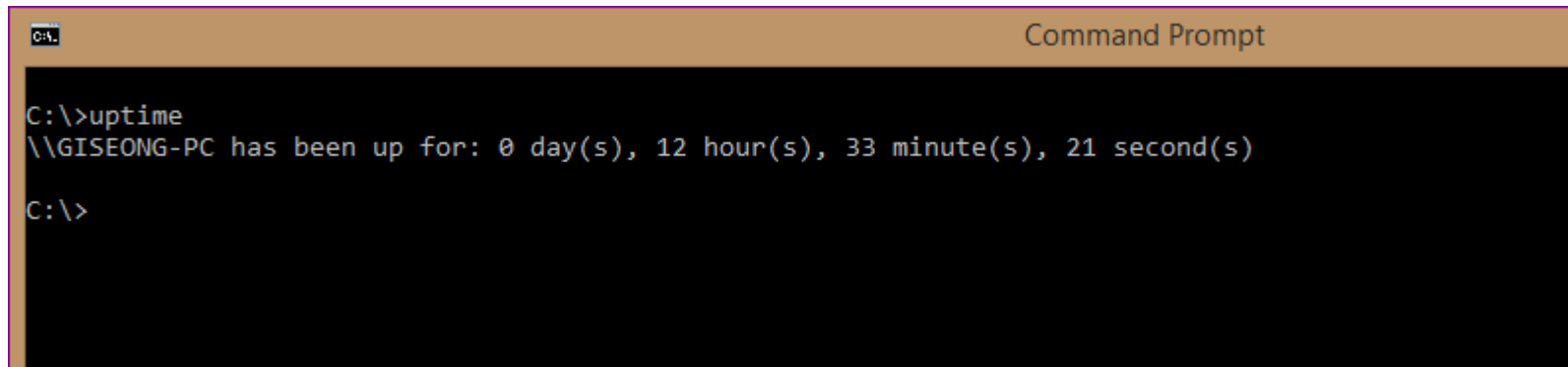
```
Connecting to COM.whois-servers.net...  
Connecting to COM.whois-servers.net...  
Connecting to whois.markmonitor.com...
```

```
Domain ID: 2724960_DOMAIN_COM-VRSN  
Registrar WHOIS Server: whois.markmonitor.com  
Registrar URL: http://www.markmonitor.com  
Updated Date: 2013-08-11T04:00:51-0700  
Creation Date: 2011-08-09T13:02:58-0700  
Registrar Registration Expiration Date: 2021-05-02T21:00:00-0700  
Registrar: MarkMonitor, Inc.  
Registrar IANA ID: 292  
Registrar Abuse Contact Email: compliance@markmonitor.com  
Registrar Abuse Contact Phone: +1.2083895740  
Domain Status: clientUpdateProhibited  
Domain Status: clientTransferProhibited  
Domain Status: clientDeleteProhibited  
Registry Registrant ID:  
Registrant Name: Domain Administrator  
Registrant Organization: Microsoft Corporation  
Registrant Street: One Microsoft Way,  
Registrant City: Redmond  
Registrant State/Province: WA  
Registrant Postal Code: 98052  
Registrant Country: US
```

Native Win32 ports of some GNU utilities

- 장 점
 - 간편하게 Unix 도구를 사용할 수 있다.
 - 설치할 필요가 없음.
 - Curl, md5sum, wget, tail, sed, gawk 등등
- 단 점
 - 32-bit 제약
 - 다국어 파일 처리는 한계.
 - 개발이 중지된 상태

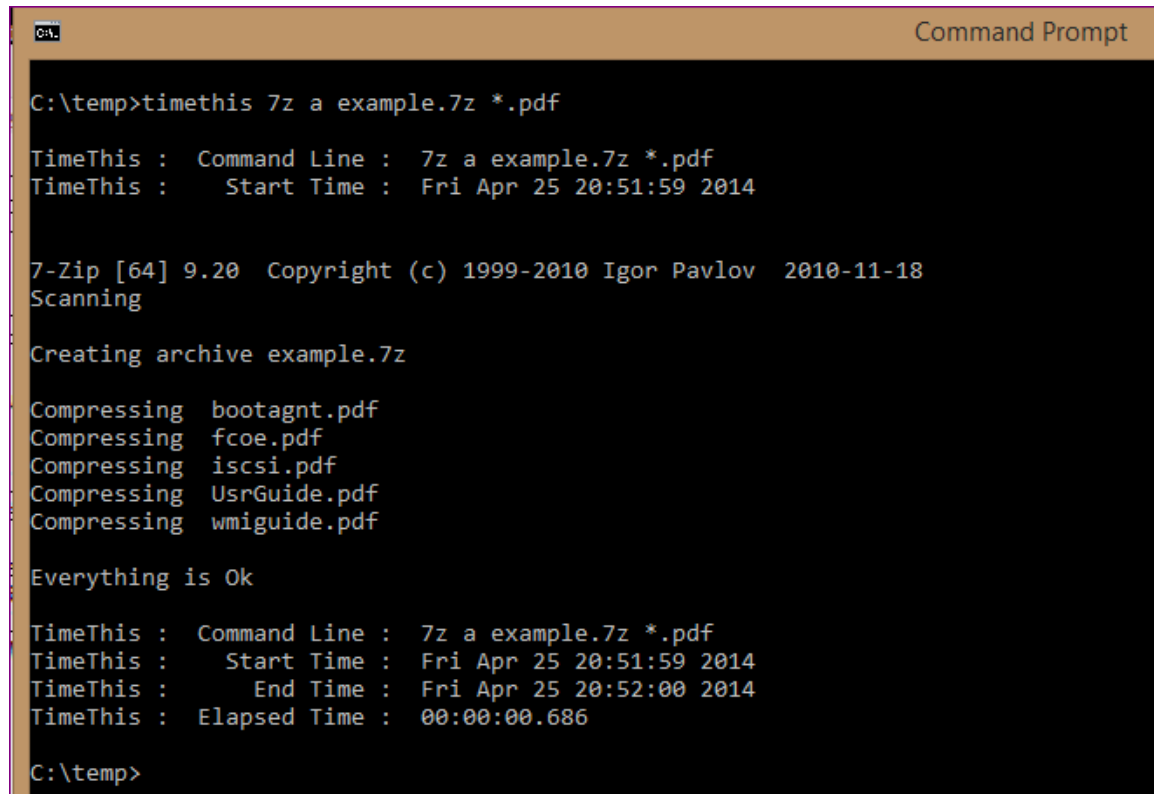
Windows 2000/2003 Resource Kit



A screenshot of a Windows Command Prompt window. The title bar is orange and contains the text "Command Prompt". The main area is black with white text. The prompt is "C:\>". The command entered is "uptime". The output is "\\GISEONG-PC has been up for: 0 day(s), 12 hour(s), 33 minute(s), 21 second(s)". The prompt "C:\>" is shown again at the bottom.

```
C:\>uptime
\\GISEONG-PC has been up for: 0 day(s), 12 hour(s), 33 minute(s), 21 second(s)
C:\>
```

Windows 2000/2003 Resource Kit



```
C:\temp>timethis 7z a example.7z *.pdf

TimeThis : Command Line : 7z a example.7z *.pdf
TimeThis : Start Time : Fri Apr 25 20:51:59 2014

7-Zip [64] 9.20 Copyright (c) 1999-2010 Igor Pavlov 2010-11-18
Scanning

Creating archive example.7z

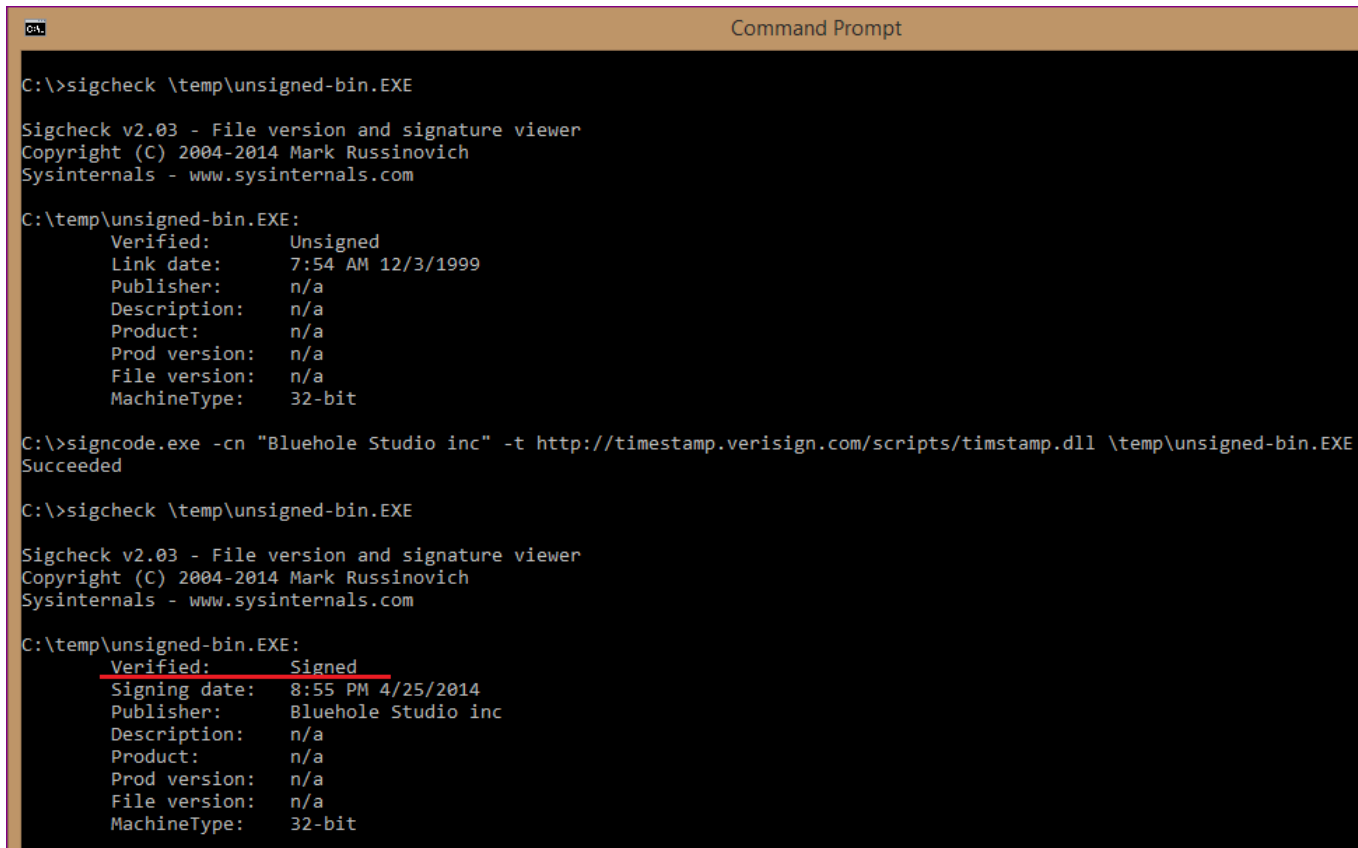
Compressing bootagnt.pdf
Compressing fcoe.pdf
Compressing iscsi.pdf
Compressing UsrGuide.pdf
Compressing wmguid.pdf

Everything is Ok

TimeThis : Command Line : 7z a example.7z *.pdf
TimeThis : Start Time : Fri Apr 25 20:51:59 2014
TimeThis : End Time : Fri Apr 25 20:52:00 2014
TimeThis : Elapsed Time : 00:00:00.686

C:\temp>
```


Signcode.exe



```
GA. Command Prompt

C:\>sigcheck \temp\unsigned-bin.EXE

Sigcheck v2.03 - File version and signature viewer
Copyright (C) 2004-2014 Mark Russinovich
Sysinternals - www.sysinternals.com

C:\temp\unsigned-bin.EXE:
  Verified:      Unsigned
  Link date:     7:54 AM 12/3/1999
  Publisher:     n/a
  Description:   n/a
  Product:       n/a
  Prod version:  n/a
  File version:  n/a
  MachineType:   32-bit

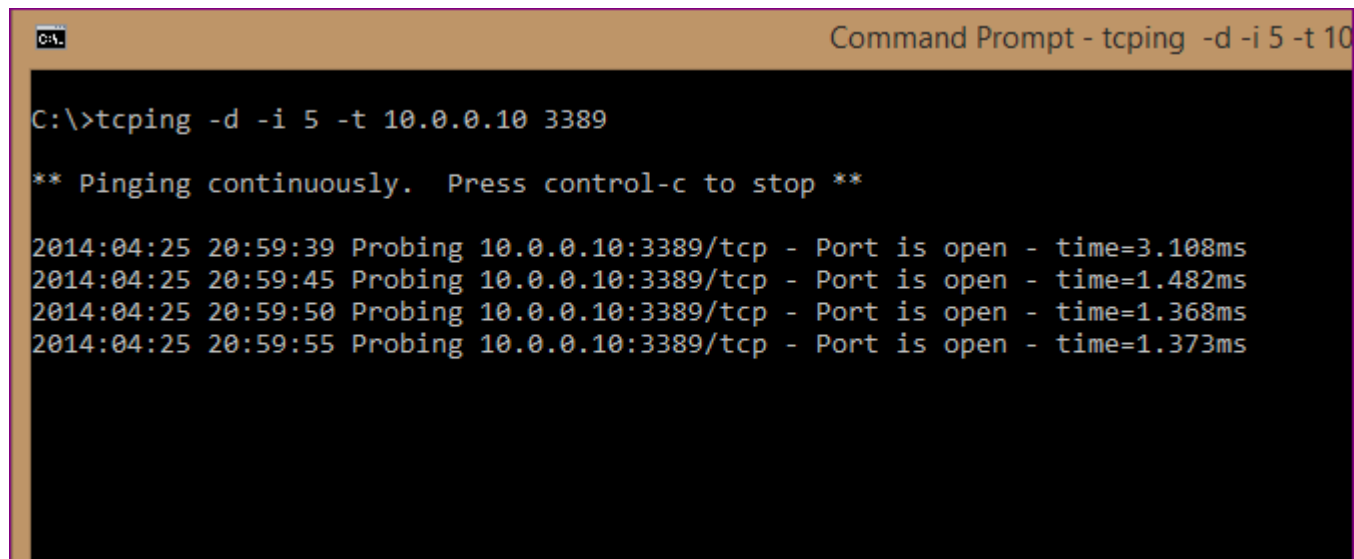
C:\>signcode.exe -cn "Bluehole Studio inc" -t http://timestamp.verisign.com/scripts/timestamp.dll \temp\unsigned-bin.EXE
Succeeded

C:\>sigcheck \temp\unsigned-bin.EXE

Sigcheck v2.03 - File version and signature viewer
Copyright (C) 2004-2014 Mark Russinovich
Sysinternals - www.sysinternals.com

C:\temp\unsigned-bin.EXE:
  Verified:      Signed
  Signing date:    8:55 PM 4/25/2014
  Publisher:       Bluehole Studio inc
  Description:     n/a
  Product:         n/a
  Prod version:    n/a
  File version:    n/a
  MachineType:     32-bit
```

Tcping.exe



A screenshot of a Windows Command Prompt window. The title bar is brown and contains the text "Command Prompt - tcping -d -i 5 -t 10". The command prompt icon is visible on the left. The background is black, and the text is white. The command entered is "C:\>tcping -d -i 5 -t 10.0.0.10 3389". The output shows four lines of status messages, each indicating that the port is open and providing a response time.

```
C:\>tcping -d -i 5 -t 10.0.0.10 3389

** Pinging continuously. Press control-c to stop **

2014:04:25 20:59:39 Probing 10.0.0.10:3389/tcp - Port is open - time=3.108ms
2014:04:25 20:59:45 Probing 10.0.0.10:3389/tcp - Port is open - time=1.482ms
2014:04:25 20:59:50 Probing 10.0.0.10:3389/tcp - Port is open - time=1.368ms
2014:04:25 20:59:55 Probing 10.0.0.10:3389/tcp - Port is open - time=1.373ms
```



요약

요약

Shell == 즐거움!!

감사합니다

명령어/스크립트 다운로드

<http://1drv.ms/1ISgHXy>

참고자료

- What is Shell? Wikipedia
[http://en.wikipedia.org/wiki/Shell_\(computing\)](http://en.wikipedia.org/wiki/Shell_(computing))
<http://ko.wikipedia.org/wiki/셸>
- console emulator
 - cmdr <http://bliker.github.io/cmdr/>
 - conemu-maximus5 <https://code.google.com/p/conemu-maximus5/>
 - clink <http://mridgers.github.io/clink/>
 - ckw <http://d.hatena.ne.jp/hideden/20071115/1195229532>
- To run scripts using the command-line-based script host (Cscript.exe)
<http://goo.gl/6UkQMV>
- To run scripts using the Windows-based script host (Wscript.exe)
<http://goo.gl/ThUyqx>

참고자료

- MS12-020: Description of the security update for Terminal Server Denial of Service Vulnerability: March 13, 2012
<http://support.microsoft.com/kb/2667402/en-us>
- svchost.exe_TermService crashes after installation of KB2621440
<http://goo.gl/tzHO5b>
- DiskPart Command-Line Options
[http://technet.microsoft.com/en-us/library/cc766465\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/cc766465(WS.10).aspx)
- Installing SQL Server 2012 on Server Core 2012
<http://www.maxtblog.com/2012/07/installing-sql-server-2012-on-server-core-2012/>
- Installing SQL Server 2012 on Windows Server Core Part 3
<http://www.mssqltips.com/sqlservertip/2725/installing-sql-server-2012-on-windows-server-core-part-3/>

참고자료

- Quick Guide to the Virtual Switch in Hyper-V Server 2012
<http://www.altaro.com/hyper-v/virtual-switch-hyper-v-server-2012/>
- Manage Hyper-V with PowerShell
<http://windowsitpro.com/hyper-v/manage-hyperv-powershell>
- How to Change Your IP Address Using PowerShell
<http://www.howtogeek.com/112660/how-to-change-your-ip-address-using-powershell/>
- PowerShell remoting between two workgroup machines
<http://blogs.msdn.com/b/wmi/archive/2009/07/24/powershell-remoting-between-two-workgroup-machines.aspx>
- Install Active Directory Domain Services (Level 100)
<http://technet.microsoft.com/en-us/library/hh472162.aspx>
- Install a Replica Windows Server 2012 Domain Controller in an Existing Domain (Level 200)
<http://technet.microsoft.com/en-us/library/jj574134.aspx>

참고자료

- Netdom query
<http://technet.microsoft.com/en-us/library/cc835089.aspx>
- Invoke-WebRequest
<http://technet.microsoft.com/en-us/library/hh849901.aspx>
- How to join a domain from the command line
<http://support.microsoft.com/kb/150493/en-us>
- Set-VMMemory
<http://technet.microsoft.com/en-us/library/hh848572.aspx>
- Mount-DiskImage
<http://technet.microsoft.com/en-us/library/hh848706.aspx>
- GNU utilities for Win32
<http://unxutils.sourceforge.net/>
- Tcping
<http://www.elifulkerson.com/projects/>