

Lab02-2_PowershellBasics
SYS-320
Ben W
SP24

Deliverables:

Part 1.

1. IPv4 from Ethernet interface

```
4 (Get-NetIPAddress -AddressFamily IPv4 | ? { $_.InterfaceAlias -ilike "Ethernet0" }).IPAddress
```

```
PS C:\Windows\system32> C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2\ps_lab02-2_1.ps1
10.0.17.38
```

2. Ipv4 PrefixLength from Ethernet interface

```
3
4 (Get-NetIPAddress -AddressFamily IPv4 | ? { $_.InterfaceAlias -ilike "Ethernet0" }).PrefixLength
```

```
PS C:\Windows\system32> C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2\ps_lab02-2_1.ps1
24
```

3. Classes of Win32 library that start with net

```
4 Get-WmiObject -list | ? { $_.Name -ilike "Win32_Net*" }
```

```
PS C:\Windows\system32> C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2\ps_lab02-2_3.ps1
```

```
Namespace: ROOT\cimv2

Name                               Methods                               Properties
----                               -
Win32_NetworkAdapter              {SetPowerState, R...                 {AdapterType, AdapterTypeId, AutoSense, Availability...}
Win32_NetworkConnection          {}                                    {AccessMask, Caption, Comment, ConnectionState...}
Win32_NetworkProtocol            {}                                    {Caption, ConnectionlessService, Description, GuaranteesDelivery...}
Win32_NetworkClient               {}                                    {Caption, Description, InstallDate, Manufacturer...}
Win32_NetworkAdapterSetting       {}                                    {Element, Setting}
Win32_NetworkAdapterConfiguration {EnableDHCP, Rene...                 {ArpAlwaysSourceRoute, ArpUseEtherSNAP, Caption, DatabasePath...}
Win32_NetworkLoginProfile         {}                                    {AccountExpires, AuthorizationFlags, BadPasswordCount, Caption...}
```

4. Above, sorted alphabetically

```
4 Get-WmiObject -list | ? { $_.Name -ilike "Win32_Net*" } | Sort-Object
```

```
PS C:\Windows\system32> C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2\ps_lab02-2_3.ps1
```

```
Namespace: ROOT\cimv2

Name                               Methods                               Properties
----                               -
Win32_NetworkAdapter              {SetPowerState, R...                 {AdapterType, AdapterTypeId, AutoSense, Availability...}
Win32_NetworkAdapterConfiguration {EnableDHCP, Rene...                 {ArpAlwaysSourceRoute, ArpUseEtherSNAP, Caption, DatabasePath...}
Win32_NetworkAdapterSetting       {}                                    {Element, Setting}
Win32_NetworkClient               {}                                    {Caption, Description, InstallDate, Manufacturer...}
Win32_NetworkConnection          {}                                    {AccessMask, Caption, Comment, ConnectionState...}
Win32_NetworkLoginProfile         {}                                    {AccountExpires, AuthorizationFlags, BadPasswordCount, Caption...}
Win32_NetworkProtocol            {}                                    {Caption, ConnectionlessService, Description, GuaranteesDelivery...}
```

5. DHCP server IP

```
4 Get-CimInstance -ClassName Win32_NetworkAdapterConfiguration -Filter "DHCPEnabled=$true" | Select DHCPServer
```

```
PS C:\Windows\system32> C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2\ps_lab02-2_5-6.ps1
```

```
DHCPServer
```

```
10.0.17.2
```

6. Hide table headers

```
4 Get-CimInstance -ClassName Win32_NetworkAdapterConfiguration -Filter "DHCPEnabled=$true" | Select DHCPServer | Format-Table -hideTableHeaders
```

```
PS C:\Windows\system32> C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2\ps_lab02-2_5-6.ps1
```

```
10.0.17.2
```

7. DNS Server IPs for Ethernet interface, only first one displayed

```
4 (Get-DNSClientServerAddress -AddressFamily IPv4 | ? { $_.InterfaceAlias -ilike "Ethernet0" }).ServerAddresses[0]
```

```
PS C:\Windows\system32> C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2\ps_lab02-2_7.ps1
```

```
10.0.17.2
```

Part 2.

8. List all files in working directory

```
1 # Powershell Script
2 # SYS-320 - Ben W
3
4 cd $PSScriptRoot
5
6 $files=(ls -File)
7 for ($i=0; $i -le $files.Count; $i++) {
8     if ($files[$i].Name -ilike "*ps1") {
9         echo $files[$i].Name
10    }
11 }
```

```
PS C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2>
ps_lab02-2_1.ps1
ps_lab02-2_2.ps1
ps_lab02-2_3-4.ps1
ps_lab02-2_5-6.ps1
ps_lab02-2_7.ps1
ps_lab02-2_8.ps1
```

9. Create folder called "outfolder"

```
5
6 $folderpath="$PSScriptRoot\outfolder"
7 if (Test-Path $folderpath) {
8     echo "Folder Already Exists"
9 } else {
10     New-Item -ItemType Directory -Path $folderpath
11 }
```

```
Directory: C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2

Mode                LastWriteTime         Length Name
----                -
d-----           1/26/2024   6:17 PM                outfoder

PS C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2> C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2>
Folder Already Exists

PS C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2>
```

10. List all files in working directory

```
4 cd $PSScriptRoot
5 $files=(ls -File)
6
7 $folderpath="$PSScriptRoot\outfolder"
8 $filepath= Join-Path $folderpath "out.csv"
9
10 $files | ? { $_.Extension -eq ".ps1" } | Export-Csv -Path $filepath
```

```
PS C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2> C:\Users\champuser\doc
PS C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2> ls .\outfolder

Directory: C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2\outfolder

Mode                LastWriteTime         Length Name
----                -
-a----             1/26/2024   6:35 PM           9521 out.csv
```

11. Do operations recursively without changing the directory. Find every .csv and change them to .log then display

```
4 cd $PSScriptRoot
5
6 $files=(ls -recurse -File)
7 $files | Rename-Item -newname { $_.name -replace ".csv", ".log" }
8 ls -file -Recurse
9
```

```
Directory: C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2

Mode                LastWriteTime         Length Name
----                -
-a----             1/26/2024   11:42 AM           138 .ps1
-a----             1/26/2024    6:35 PM           236 ps_lab02-2_10.ps1
-a----             1/26/2024   11:43 AM           141 ps_lab02-2_2.ps1
-a----             1/26/2024   11:52 AM           114 ps_lab02-2_3-4.ps1
-a----             1/26/2024   12:12 PM           186 ps_lab02-2_5-6.ps1
-a----             1/26/2024   12:18 PM           157 ps_lab02-2_7.ps1
-a----             1/26/2024   12:40 PM           205 ps_lab02-2_8.ps1
-a----             1/26/2024    6:17 PM           231 ps_lab02-2_9.ps1

Directory: C:\Users\champuser\Documents\sys320git\PowershellLabs\Lab02-2\outfolder

Mode                LastWriteTime         Length Name
----                -
-a----             1/26/2024    6:35 PM           9521 out.log
```

12. <https://github.com/benjamin-weatherill/SYS-320/tree/main/PowershellLabs/Lab02-2>