Setting Sysmon and Splunk Universal Forwarder For Read CMD and Powershell Command

Prerequisites

- Already Installed Universal Forwarder
- Windows OS

Config Powershell and Cmd read log

Config Powershell

1. Buat Kunci Registri untuk membaca logging

Buat path registry untuk Module Logging

```
New-Item -Path
"HKLM:\SOFTWARE\Policies\Microsoft\Windows\PowerShell\ModuleLogging" -Force
```

Aktifkan Module Logging

```
Set-ItemProperty -Path
"HKLM:\SOFTWARE\Policies\Microsoft\Windows\PowerShell\ModuleLogging" -Name
"EnableModuleLogging" -Value 1
```

Buat daftar modul yang akan dicatat

```
New-Item -Path
"HKLM:\SOFTWARE\Policies\Microsoft\Windows\PowerShell\ModuleLogging\ModuleName
s" -Force

Set-ItemProperty -Path
"HKLM:\SOFTWARE\Policies\Microsoft\Windows\PowerShell\ModuleLogging\ModuleName
s" -Name "*" -Value "*"
```

2. Aktifkan Script Block Logging

Buat path registri untuk Script Block Logging

```
New-Item -Path
"HKLM:\SOFTWARE\Policies\Microsoft\Windows\PowerShell\ScriptBlockLogging" -
Force
```

Aktifkan script block logging

```
Set-ItemProperty -Path
"HKLM:\SOFTWARE\Policies\Microsoft\Windows\PowerShell\ScriptBlockLogging" -
Name "EnableScriptBlockLogging" -Value 1
```

3. Verifikasi

1. Buka registry editor (Win + R) lalu type "regedit" kemudian enter.
2. Navigasikan ke
    - HKLM\SOFTWARE\Policies\Microsoft\Windows\PowerShell\ModuleLogging
    - HKLM\SOFTWARE\Policies\Microsoft\Windows\PowerShell\ScriptBlockLogging
3. Pastikan nilai registry ada dan sesuai

4. Terapkan Perubahan

Jika semua sudah dibikin untuk menerapkan perubahannya ketikan perintah berikut

```
gpupdate /force
```

5. Tes Logging

Untuk tes logging apakah dapat terbaca atau tidak bisa tuliskan perintah berikut :

```
Write-Host "Test PowerShell Log Zake"
```

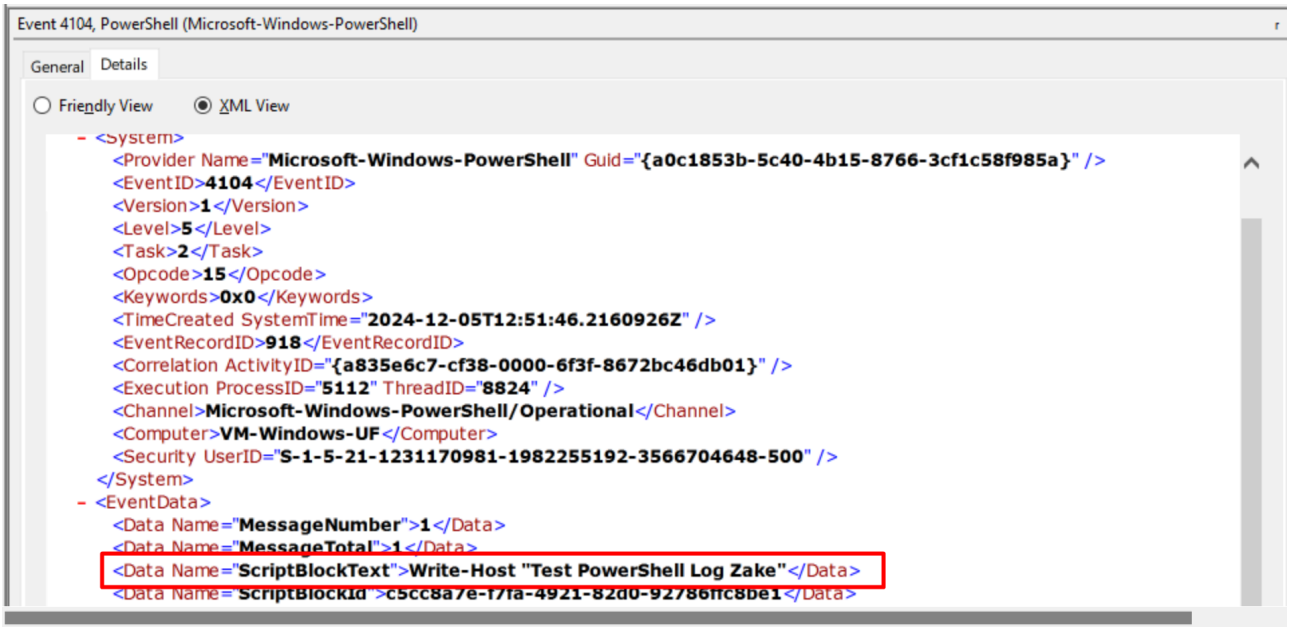
6. Verifikasi data log

Setelah log berhasil dibuat, check pada EventViewer untuk melihat apakah lognya berhasil dicatat.

1. Buka Eventviewer (Win + R) lalu type "eventvwr" kemudian enter.
2. Di panel kiri, ikutin path seperti ini

```
Applications and Services Logs > Microsoft > Windows > PowerShell > Operational
```

3. Pada "Operational" Click kanan terlebih dahulu, jika masih ada tulisan "Enable log" maka di click, jika tulisannya "Disable Log" biarkan saja dan lanjut di step selanjutnya (step 4)
4. Biasanya untuk Script block yang dijalankan akan berada pada ID 4104. Namun jika kesulitan menemukannya karena ditimpa event lain, bisa gunakan fitur "find" yang ada di panel kanan
5. Jika sudah ketemu dan scriptblock terlihat jelas maka tinggal setting ke Sysmon dan Universal Forwardernya.



Config CMD

1. Aktifkan Audit Process Creation

- Buka Local Group Policy Editor (gpedit.msc)
- Navigasikan ke :

```
Computer Configuration > Windows Settings > Security Settings > Advanced Audit Policy Configuration > System Audit Policies > Detailed Tracking
```

- Aktifkan opsi :
  - Audit Process Creation (Success / Failure) tergantung kebutuhan
  - Audit Command Line Process Creation (jika ada)

- Apply

2. Aktifkan Audit Process Creation

Jalankan perintah berikut pada powershell untuk memastikan audit command line aktif :

```
reg add "HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System\Audit"
/v ProcessCreationIncludeCmdLine_Enabled /t REG_DWORD /d 1 /f
```

Note : Perintah ini menginstruksikan Windows untuk mencatat perintah lengkap (termasuk argumen command line) pada Event ID 4688.

3. Verifikasi data

- Cek di registry editor (regedit)
- Navigasikan ke :

```
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System\Audit
```

- Pastikan kunci `ProcessCreationIncludeCmdLine_Enabled` ada dan bernilai `1`.

4. Terapkan perubahan

Jika semua sudah dibikin untuk menerapkan perubahannya ketikan perintah berikut

```
gpupdate /force
```

5. Tes Logging

Untuk tes logging apakah dapat terbaca atau tidak bisa tuliskan perintah berikut :

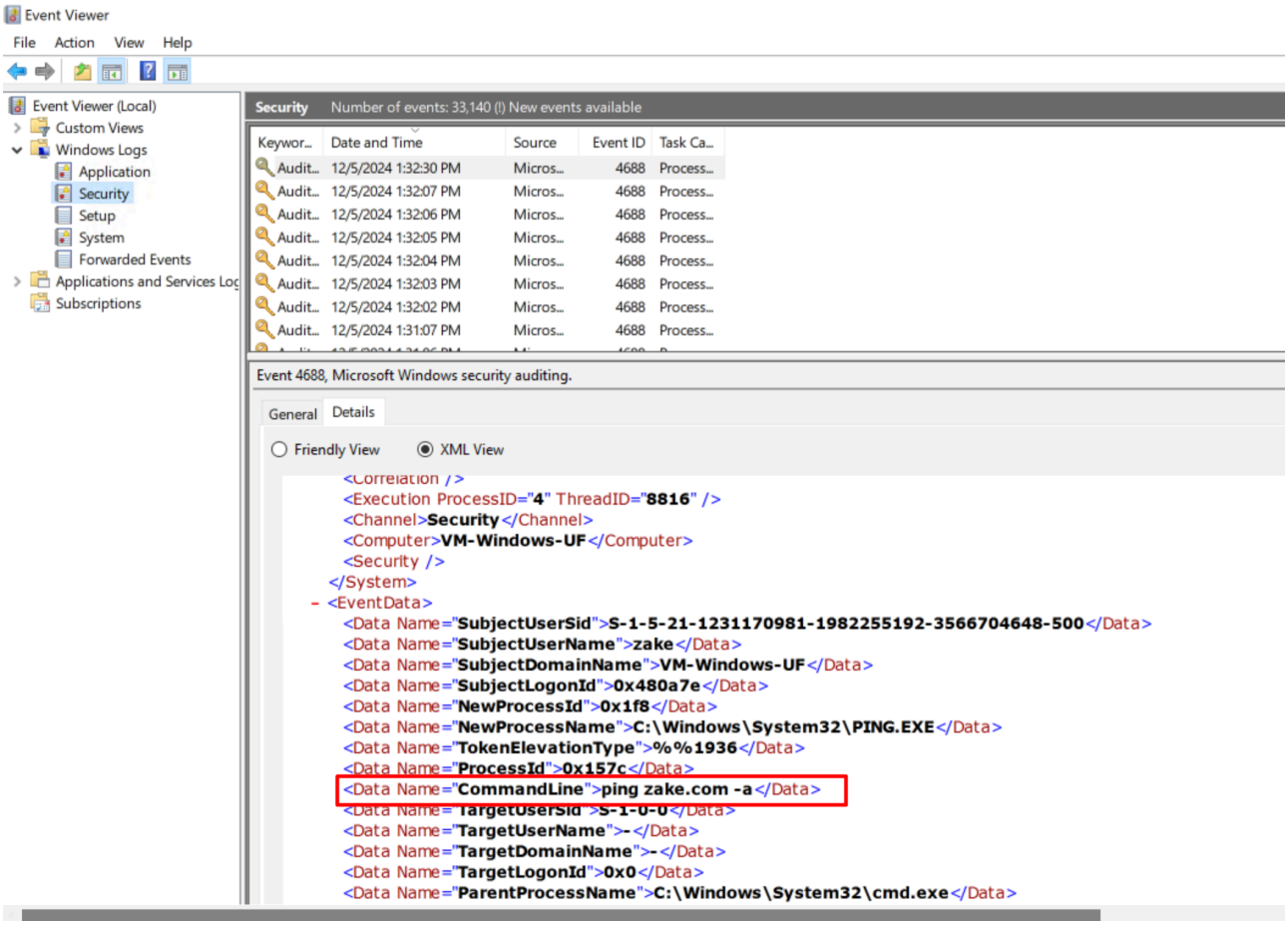
```
Write-Host "ping zake.com -a"
```

6. Verifikasi Data Log

1. Buka EventViewer (eventvwr)
2. Navigasikan ke :

```
Windows Logs > Security
```

3. Terlihat bahwa log tersebut bisa dibaca



4. Jika sudah ketemu terlihat jelas maka tinggal setting ke Sysmon dan Universal Forwardernya.

Install dan Config Sysmon

1. Untuk bahan awal download Sysmon pada Official Website Microsoft https://learn.microsoft.com/en-us/sysinternals/downloads/sysmon
2. Kemudian download file xml custom by zake di Github
3. Open cmd dengan "Run As Administrator" lalu jalankan perintah berikut

```
sysmon.exe -i sysmonconfig-custom-by-zake.xml -accepteula
```

4. Jika sudah selesai lanjut config ke Universal Forwarder

Setting Universal Forwarder

Pada Universal Forwarder, harus di setting agar membaca file sysmon yang sudah di custom ini. Tetapi harap diperhatikan jika settingan sudah sama selanjutnya hanya tinggal perlu merestart Universal Forwardernya saja .

1. Buka file inputs.conf (defaultnya berada pada directory berikut)

```
C:\Program Files\SplunkUniversalForwarder\etc\system\local\inputs.conf
```

2. Didalam inputs.conf tambahkan konfigurasi seperti ini

```
[WinEventLog://Security]
disabled = 0
index = <yourindex>
sourcetype = Wineventlog:Security

[WinEventLog://System]
disabled = 0
index = <yourindex>
sourcetype = Wineventlog:System

[WinEventLog://Microsoft-Windows-PowerShell/Operational]
disabled = 0
index = <yourindex>
sourcetype = WinEventLog:PowerShell
```

Note : ganti nama index sesuai dengan sebenarnya.

3. Kemudian save lalu restart Universal Forwarder dengan perintah berikut

```
net stop splunkforwarder
net start splunkforwarder
```

Proof Screenshots from this configuration

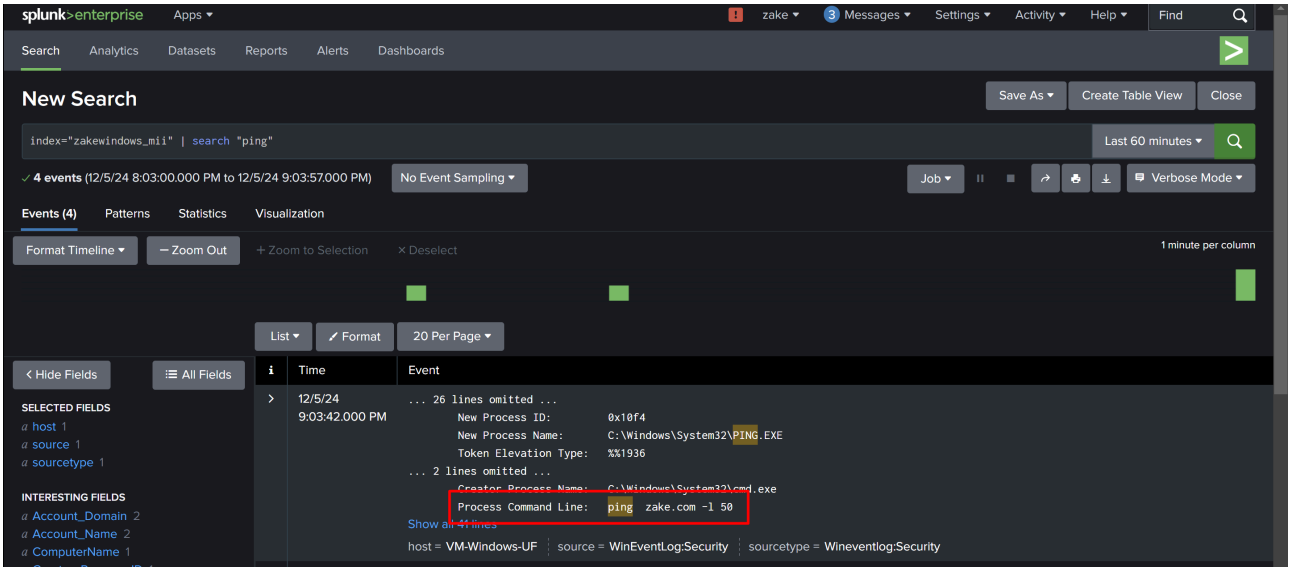
1. Proof cmd log history
   From windows :

```
C:\Sysmon>ping zake.com -l 50

Pinging zake.com [3.33.130.190] with 50 bytes of data:
Reply from 3.33.130.190: bytes=50 time=2ms TTL=244
Reply from 3.33.130.190: bytes=50 time=1ms TTL=244
Reply from 3.33.130.190: bytes=50 time=1ms TTL=244
Reply from 3.33.130.190: bytes=50 time=1ms TTL=244

Ping statistics for 3.33.130.190:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

From Splunk :



2. Proof Powershell Log

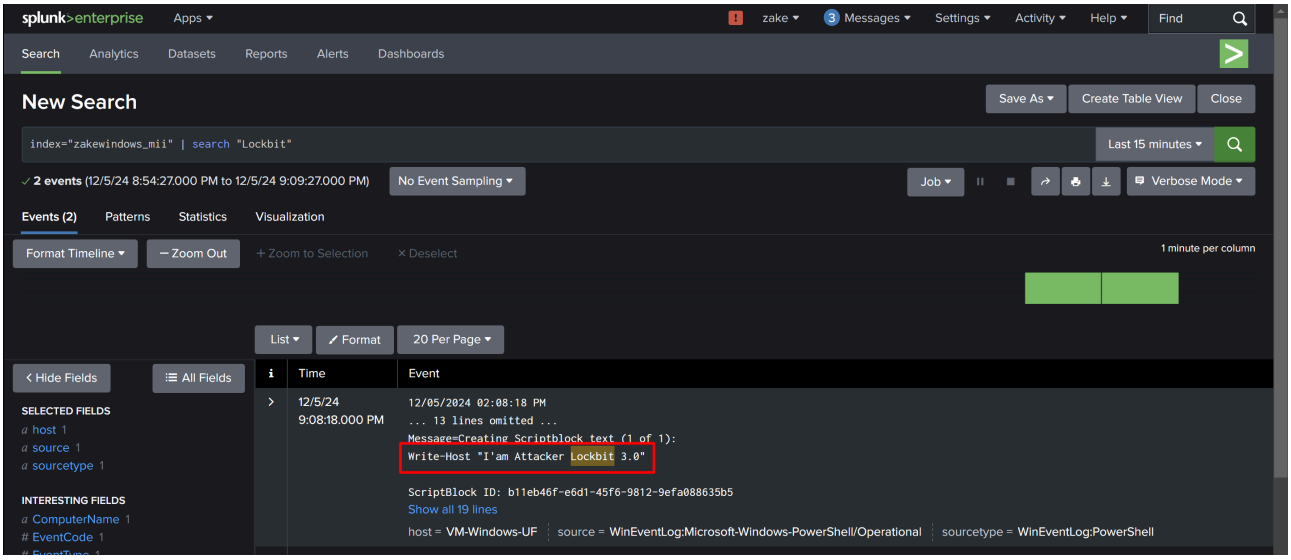
From Windows :

```
PS C:\Users\zake> whoami
vm-windows-uf\zake
PS C:\Users\zake> Write-Host "I'am Attacker Lockbit 3.0"
I'am Attacker Lockbit 3.0
PS C:\Users\zake> whoami
vm-windows-uf\zake
PS C:\Users\zake> ping zake.com -a

Pinging zake.com [3.33.130.190] with 32 bytes of data:
Reply from 3.33.130.190: bytes=32 time=1ms TTL=244
Reply from 3.33.130.190: bytes=32 time=1ms TTL=244
Reply from 3.33.130.190: bytes=32 time=3ms TTL=244
Reply from 3.33.130.190: bytes=32 time=1ms TTL=244

Ping statistics for 3.33.130.190:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 3ms, Average = 1ms
PS C:\Users\zake> _
```

From Splunk :


splunk>enterprise
Apps
zake
Messages
Settings
Activity
Help
Find
Search
Analytics
Datasets
Reports
Alerts
Dashboards
New Search
Save As
Create Table View
Close
index="zakewindows_mii" | search "Lockbit"
Last 15 minutes
2 events (12/5/24 8:54:27.000 PM to 12/5/24 9:09:27.000 PM)
No Event Sampling
Job
Verbose Mode
Events (2)
Patterns
Statistics
Visualization
Format Timeline
Zoom Out
Zoom to Selection
Deselect
1 minute per column
List
Format
20 Per Page
Hide Fields
All Fields
SELECTED FIELDS
host 1
source 1
sourcetype 1
INTERESTING FIELDS
ComputerName 1
EventCode 1
Time
Event
12/5/24
9:08:18.000 PM
12/05/2024 02:08:18 PM
... 13 lines omitted ...
Message=Creating Scriptblock text (1 of 1):
Write-Host "I'am Attacker Lockbit 3.0"
ScriptBlock ID: b11eb46f-e6d1-45f6-9812-9efa088635b5
Show all 19 lines
host = VM-Windows-UF
source = WinEventLog:Microsoft-Windows-PowerShell/Operational
sourcetype = WinEventLog:PowerShell