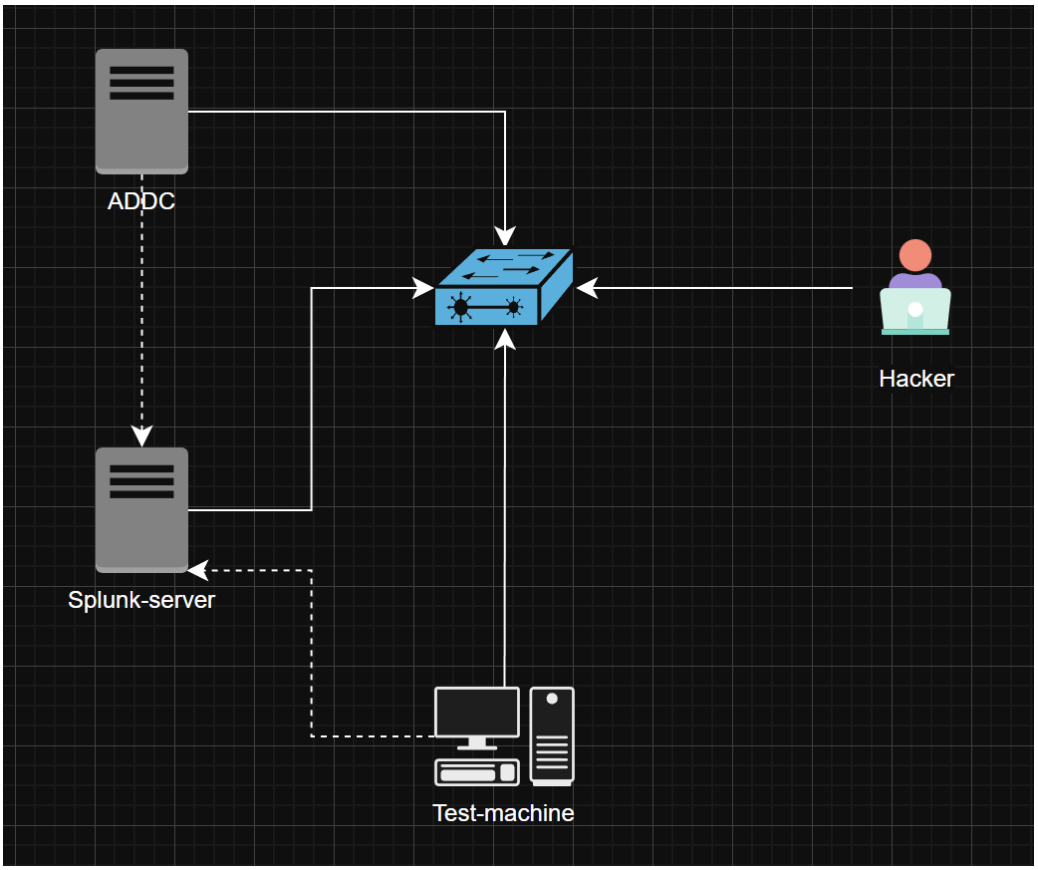
Active Directory 001

1. Mô hình



2, Tiến hành triển khai

1. Cài đặt AD và thêm user

Computer name	ADDC01
Domain	ducbahpb.local
Windows Defender Firewall	Domain: Off
Remote management	Enabled
Remote Desktop	Disabled
NIC Teaming	Disabled
Ethernet0	192.168.8.7, IPv6 enabled

```
PS C:\Users\Administrator> Get-ADDomain


AllowedDNSSuffixes                : {}
ChildDomains                      : {}
ComputersContainer                : CN=Computers,DC=ducbahpb,DC=local
DeletedObjectsContainer           : CN=Deleted Objects,DC=ducbahpb,DC=local
DistinguishedName                 : DC=ducbahpb,DC=local
DNSRoot                           : ducbahpb.local
DomainControllersContainer        : OU=Domain Controllers,DC=ducbahpb,DC=local
DomainMode                        : Windows2016Domain
DomainSID                         : S-1-5-21-4132880267-2153279017-2716968246
ForeignSecurityPrincipalsContainer : CN=ForeignSecurityPrincipals,DC=ducbahpb,DC=local
Forest                            : ducbahpb.local
InfrastructureMaster              : ADDC01.ducbahpb.local
LastLogonReplicationInterval      :
LinkedGroupPolicyObjects          : {CN={31B2F340-016D-11D2-945F-00C04FB984F9},CN=Polic
                                    ies,CN=System,DC=ducbahpb,DC=local}
LostAndFoundContainer             : CN=LostAndFound,DC=ducbahpb,DC=local
ManagedBy                         :
Name                              : ducbahpb
NetBIOSName                       : DUCBAHPB
ObjectClass                       : domainDNS
ObjectGUID                        : ef2cbadb-43b6-4d44-8a62-0540f6565c82
ParentDomain                      :
PDCEmulator                       : ADDC01.ducbahpb.local
PublicKeyRequiredPasswordRolling  : True
QuotasContainer                   : CN=NTDS Quotas,DC=ducbahpb,DC=local
ReadOnlyReplicaDirectoryServers   : {}
ReplicaDirectoryServers           : {ADDC01.ducbahpb.local}
RIDMaster                         : ADDC01.ducbahpb.local
SubordinateReferences             : {DC=ForestDnsZones,DC=ducbahpb,DC=local,
                                    DC=DomainDnsZones,DC=ducbahpb,DC=local,
                                    CN=Configuration,DC=ducbahpb,DC=local}
SystemsContainer                  : CN=System,DC=ducbahpb,DC=local
UsersContainer                    : CN=Users,DC=ducbahpb,DC=local
```

2. Join test-machine vào domain

System

Processor:	AMD Ryzen 7 H 255 w/ Radeon 780M Graphics 3.79 GHz (2 processors)
Installed memory (RAM):	2.00 GB
System type:	64-bit Operating System, x64-based processor
Pen and Touch:	No Pen or Touch Input is available for this Display

Computer name, domain, and workgroup settings

Computer name:	test-machine
Full computer name:	test-machine.ducbahpb.local
Computer description:	
Domain:	ducbahpb.local

3. Cài Sysmon và Splunk universal forwarder trên ADDC và test-machine

test-machine:

Special Administration Cons...	Allows admi...		Manual	Local System
SplunkForwarder	SplunkForw...	Running	Automatic	Local System
Spot Verifier	Verifies pote...		Manual (Trigg...	Local System
SSDP Discovery	Discovers ne...		Disabled	Local Service
State Repository Service	Provides req...	Running	Manual	Local System
Still Image Acquisition Events	Launches ap...		Manual	Local System
Storage Service	Provides ena...	Running	Manual (Trigg...	Local System
Storage Tiers Management	Optimizes th...		Manual	Local System
SysMain	Maintains a...	Running	Automatic	Local System
Sysmon	System Mon...	Running	Automatic	Local System
System Event Notification S...	Monitors sy...	Running	Automatic	Local System

ADDC:

SplunkForwarder	SplunkForw...	Running	Automatic	Local System
Spot Verifier	Verifies pote...		Manual (Trigg...	Local System
SSDP Discovery	Discovers ne...		Disabled	Local Service
State Repository Service	Provides req...	Running	Manual	Local System
Still Image Acquisition Events	Launches ap...		Manual	Local System
Storage Service	Provides ena...	Running	Manual (Trigg...	Local System
Storage Tiers Management	Optimizes th...		Manual	Local System
SysMain	Maintains a...	Running	Automatic	Local System
Sysmon	System Mon...	Running	Automatic	Local System
System Event Notification S...	Monitors sy...	Running	Automatic	Local System

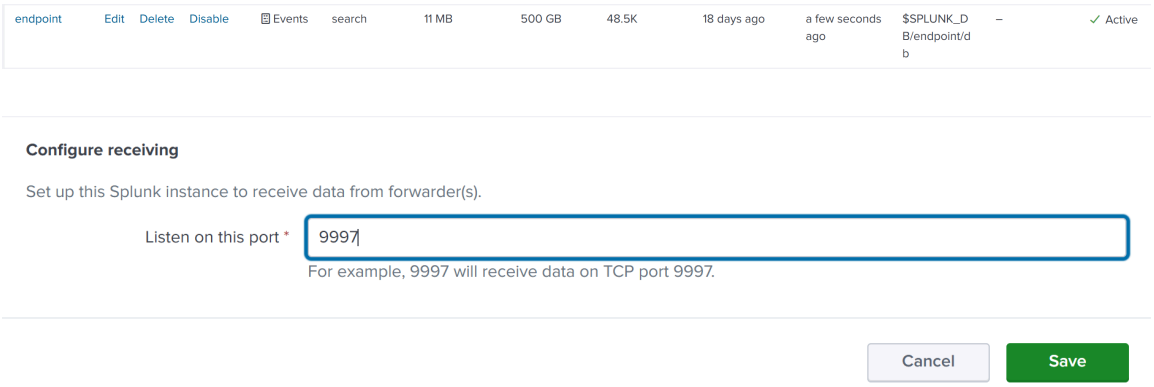
lưu ý: chạy ở Local System Account

4. thêm file inputs.conf vào C:\Program Files\SplunkUniversalForwarder\etc\system\local với nội dung như sau:

```
[WinEventLog://Application]
index = endpoint
disabled = false

[WinEventLog://Security]
index = endpoint
disabled = false

[WinEventLog://System]
index = endpoint
disabled = false

[WinEventLog://Microsoft-Windows-Sysmon/Operational]
index = endpoint
disabled = false
renderXml = true
source = XmlWinEventLog:Microsoft-Windows-Sysmon/Operational
```

   để Splunk thu thập các telemetry cần thiết bao gồm (Log ứng dụng, Log bảo mật, Log hệ thống, Log sysmon) từ test-machine và ADDC

5. thêm index và forwarding port trên splunk

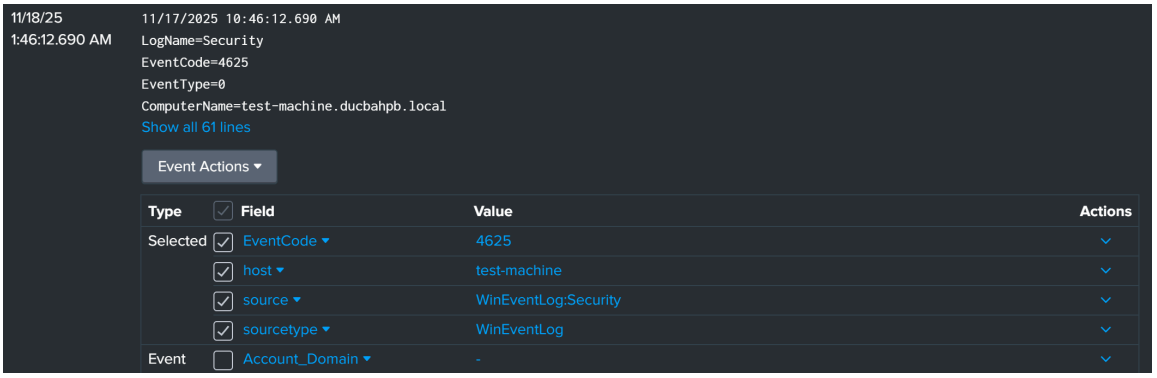


2. Test:

1. trên máy kali thực hiện RDP brute force test-machine

```
hydra -l ba1 -P /home/ducbahpb/ad-project/password.txt 192.168.8.8 rd
p
```

khi đó trên splunk sẽ hiện các log có event id: 4625 là failed logon

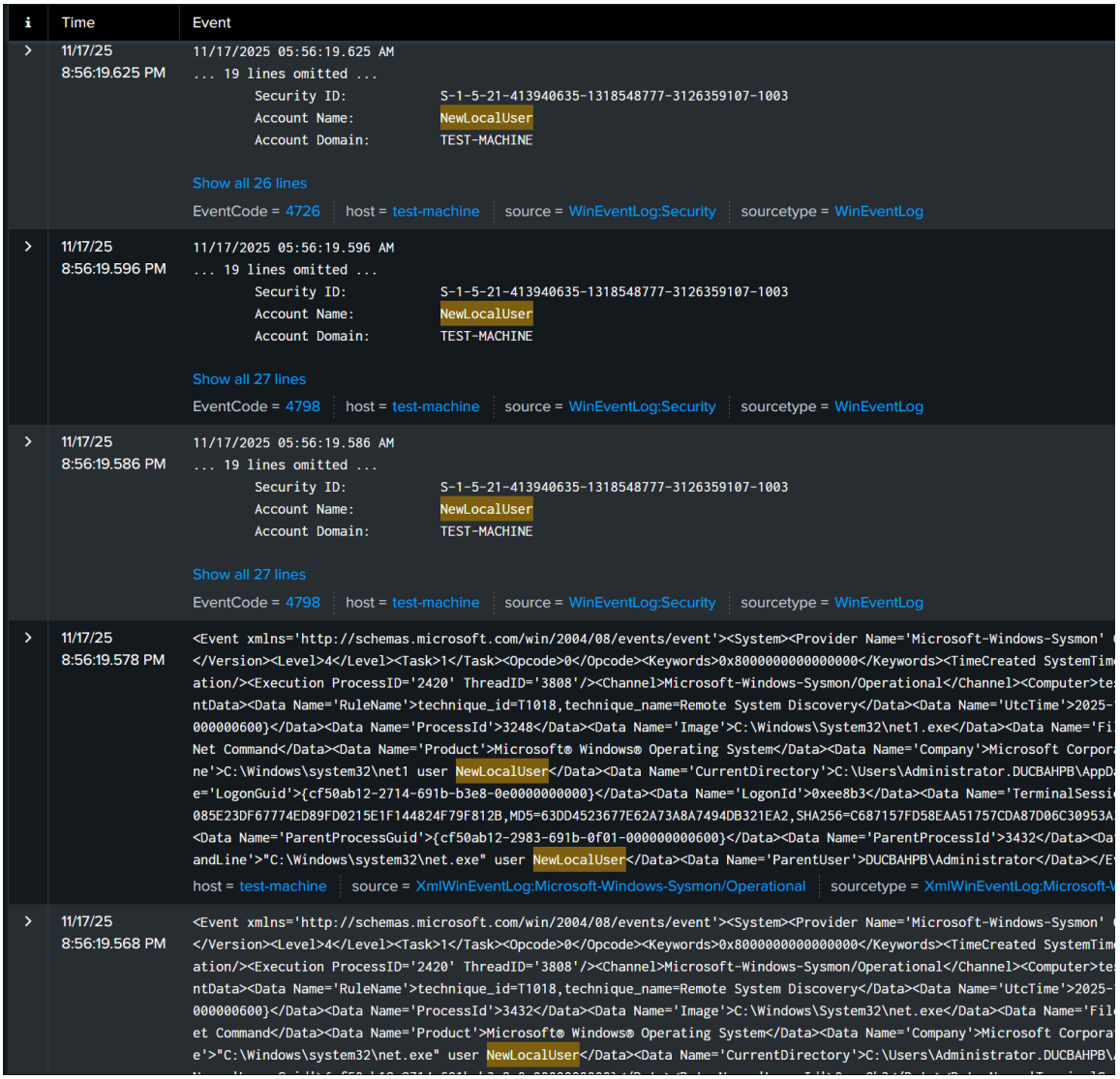


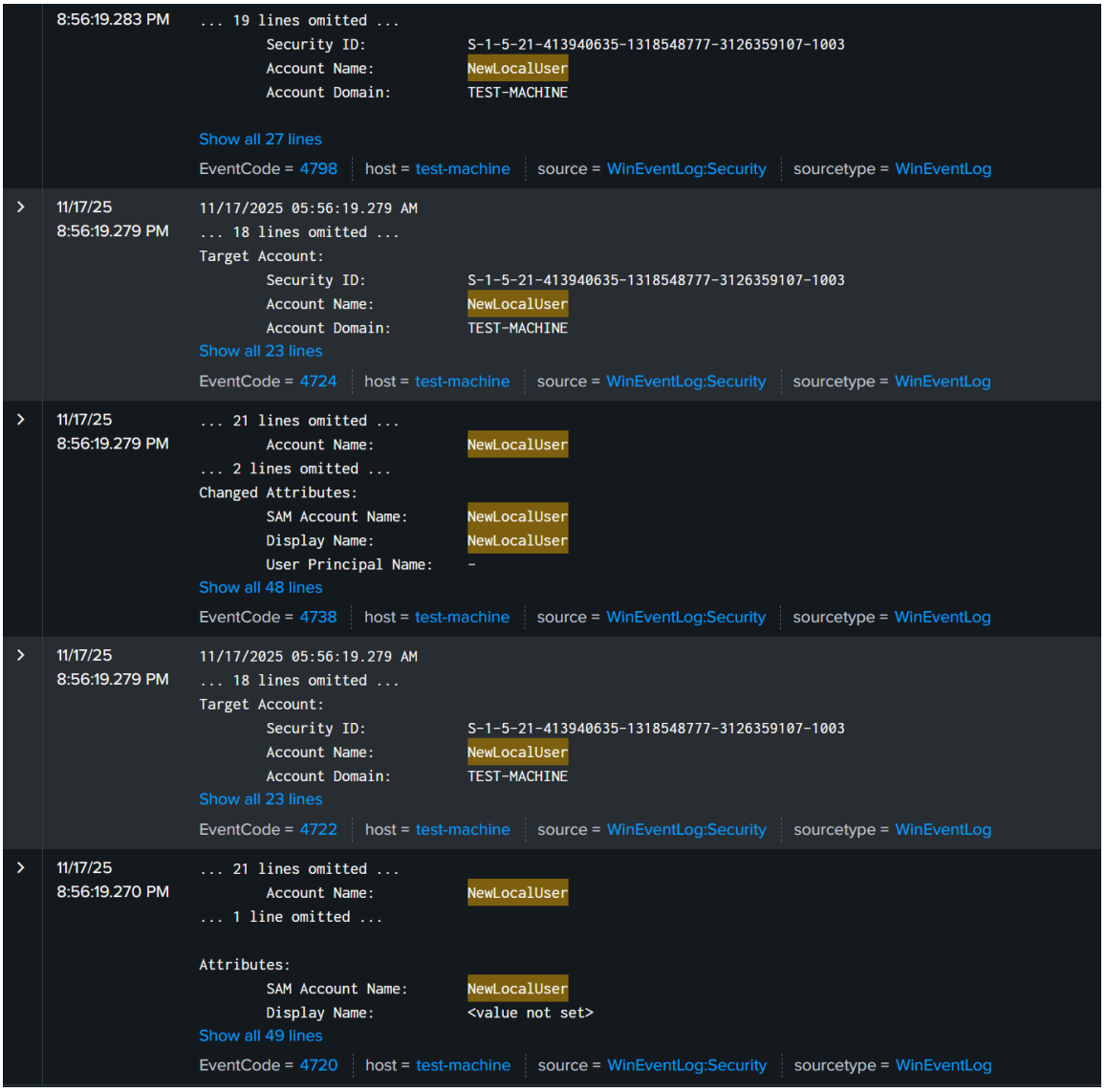
và nó hiện thị luôn cả IP máy hacker:

2. kiểm tra hoạt động của splunk và splunk bằng Atomic Red Team

   giả lập hành động một kẻ tấn công tạo ra một tài khoản người dùng local mới trên máy tính của bạn. `Invoke-AtomicTest T1136.001`

```
PS C:\Windows\system32> Invoke-AtomicTest T1136.001
PathToAtomicsFolder = C:\AtomicRedTeam\atomics

Executing test: T1136.001-4 Create a new user in a command prompt
The password does not meet the password policy requirements. Check the minimum password length, password complexity
 and password history requirements.
More help is available by typing NET HELPMSG 2245.
Exit code: 2
Done executing test: T1136.001-4 Create a new user in a command prompt
Executing test: T1136.001-5 Create a new user in PowerShell
Name                 Enabled Description
----                 ------- -----------
T1136.001_PowerShell True
Exit code: 0
Done executing test: T1136.001-5 Create a new user in PowerShell
Executing test: T1136.001-8 Create a new Windows admin user
The command completed successfully.
The command completed successfully.
Exit code: 0
Done executing test: T1136.001-8 Create a new Windows admin user
Executing test: T1136.001-9 Create a new Windows admin user via .NET
This script creates a new user, adds it to a local administrator group and then deletes the user.
User 'NewLocalUser' created successfully.
User 'NewLocalUser' added to the 'Administrators' group.
Newly Created User Info:
User name                    NewLocalUser
Full Name                    NewLocalUser
Comment
User's comment
Country/region code          000 (System Default)
Account active               Yes
Account expires              Never
Password last set            11/17/2025 5:56:19 AM
Password expires             Never
Password changeable          11/18/2025 5:56:19 AM
Password required            Yes
User may change password     No
Workstations allowed         All
Logon script
User profile
```


Time
Event
11/17/25 8:56:19.625 PM
11/17/2025 05:56:19.625 AM
... 19 lines omitted ...
Security ID: S-1-5-21-413940635-1318548777-3126359107-1003
Account Name: NewLocalUser
Account Domain: TEST-MACHINE
Show all 26 lines
EventCode = 4726 host = test-machine source = WinEventLog:Security sourcetype = WinEventLog
11/17/25 8:56:19.596 PM
11/17/2025 05:56:19.596 AM
... 19 lines omitted ...
Security ID: S-1-5-21-413940635-1318548777-3126359107-1003
Account Name: NewLocalUser
Account Domain: TEST-MACHINE
Show all 27 lines
EventCode = 4798 host = test-machine source = WinEventLog:Security sourcetype = WinEventLog
11/17/25 8:56:19.586 PM
11/17/2025 05:56:19.586 AM
... 19 lines omitted ...
Security ID: S-1-5-21-413940635-1318548777-3126359107-1003
Account Name: NewLocalUser
Account Domain: TEST-MACHINE
Show all 27 lines
EventCode = 4798 host = test-machine source = WinEventLog:Security sourcetype = WinEventLog
11/17/25 8:56:19.578 PM
host = test-machine source = XmlWinEventLog:Microsoft-Windows-Sysmon/Operational sourcetype = XmlWinEventLog:Microsoft-
11/17/25 8:56:19.568 PM



> Splunk query: `index="ducbahpb" NewLocalUser`

4720: A user account was created

4722: A user account was enabled

4738: A user account was changed

4724: An attempt was made to reset an account's password

4798: A user's local group membership was enumerated

4726: A user account was deleted