Welcome

Cyber Defense Organization

Collegiate Cyber Defense Competition

We recently went...

1st time ever at regionals
Placed 5th out of 10th teams

Competition TIME!

Who is interested in being on a competition team?

UBNetDef is on **April 28th, 2018 from 9AM to 5PM**

Hosted at the University at Buffalo.

We are sending TWO teams! They will consist of 6 members each.

Also upcoming:

1. Eboard meeting Friday at 11am BB121
2. Board applications are coming soon!

Student Elections

Guest Dillion Asmus

Business Management Academic Seat -- Student Association
Email: dasmus@albany.edu

5-Minute Plan Philosophy & Windows Example

By Liam

What is a 5-minute plan?

5-Minute Plan

This is our plan of attack as soon as you walk on to the scene of an incident.

(In this case the competition).

While it can be longer than 5 minutes, it generally includes context-agnostic steps you want to take.

What does it actually look like?

A fancy checklist, often separated into modules/chunks.

Creating a checklist

- Have a factsheet you can fill out
- Be as specific as possible
- Bold the critical parts
- Don’t include anything you have never tried
- Don’t shorthand anything (funny story in Qualifier)
- Print it a little larger than you need
- Use the full path
- Use a good template that can automatically create a table of contents

Testing a checklist

Easy way:

1. Don’t look at it for a few days
2. Have a friend set up an environment
3. Go through your list step by step

Realistic way:

1. Realize that you have run out of time to build a list
2. Throw together something at the last minute
3. Travel in a car for 5 hours
4. Get to a cold hotel room
5. Barely sleep. (Bonus points if you get an allergic reaction).
6. Wake up at 6:30am
7. Feel too anxious/sick/nervous to eat
8. Listen to a boring person explain the importance of cyber
9. Lose the will to live
10. Run to your room
11. Not even have your coat off before scoring starts
12. Begin your checklist

My Steps:

Phase 1:

1. Initial Access
2. New Admin User
3. Backups
4. **Setting Auditing**
5. **General Hardening steps**
6. Downloading tools

Phase 2:

1. Service upkeep
2. Firefighting
3. Threat hunting

Phase 2:

Setting up Auditing

Why is this so important?

- It lets you get the “heartbeat” of your device
  - Staring at the desktop gives you nothing
- Logs are like a cellar of fine wine
  - It’s hard to have too much
  - And it takes time for them to be valuable

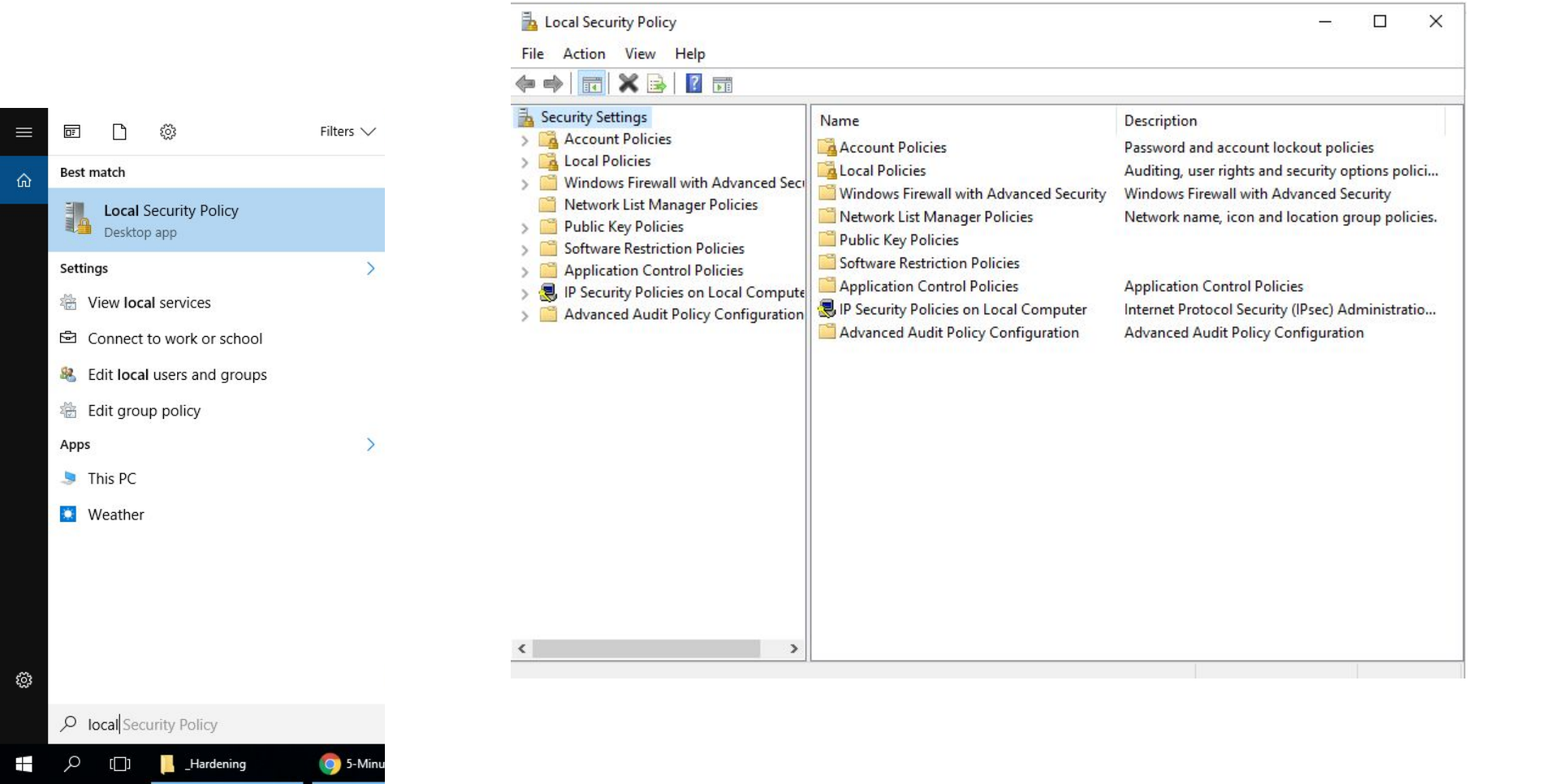
General Hardening Steps

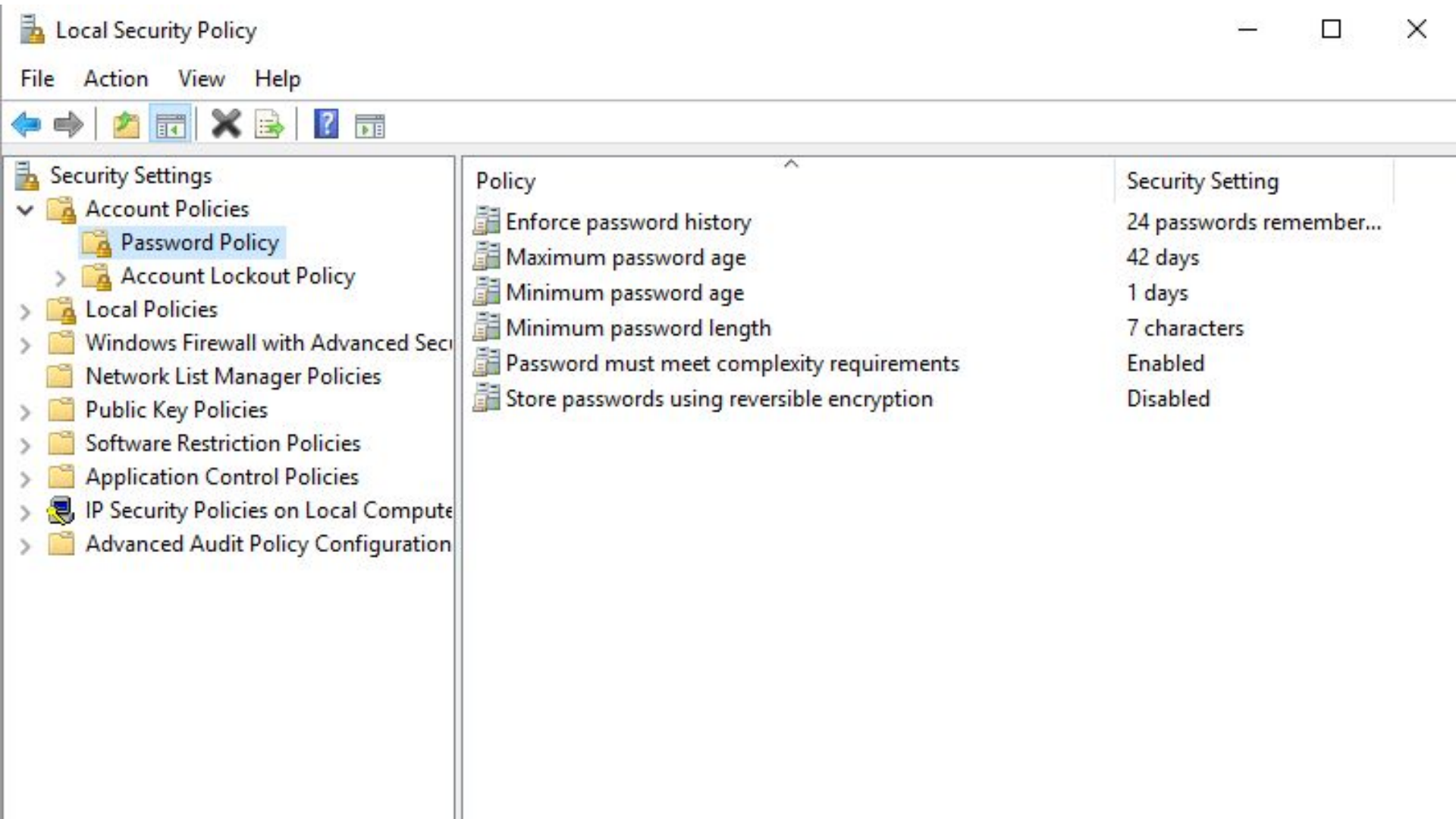
1. Mitigating Common Vectors
    a. Preventing connection on certain ports
2. Eliminating unnecessary functionality
    a. Turning off print spooling, or RDP
3. Setting Up Proactive Measures
    a. Vulnerability scanners (Microsoft Baseline Security Scanner)
    b. Antivirus (Windows Defender)

Workshop Plan

Cyberdeforg1

1. Auditing
    a. Enable logging of Logins, Privilege use, and policy changes
2. Hardening
    a. Disable Guest Account
    b. Set machine lockout threshold
    c. Enable password complexity requirements
    d. Disable services: print spooler, Remote Desktop
    e. Look for weird Firewall rules
    f. Block port 5968 (Remote execution)


Filters
Best match
Local Security Policy
Desktop app
Settings
View local services
Connect to work or school
Edit local users and groups
Edit group policy
Apps
This PC
Weather
local Security Policy
_Hardening
5-Minu
Local Security Policy
File Action View Help
Security Settings
Account Policies
Local Policies
Windows Firewall with Advanced Sec
Network List Manager Policies
Public Key Policies
Software Restriction Policies
Application Control Policies
IP Security Policies on Local Compute
Advanced Audit Policy Configuration
Name
Description
Account Policies
Password and account lockout policies
Local Policies
Auditing, user rights and security options polici...
Windows Firewall with Advanced Security
Windows Firewall with Advanced Security
Network List Manager Policies
Network name, icon and location group policies.
Public Key Policies
Software Restriction Policies
Application Control Policies
Application Control Policies
IP Security Policies on Local Computer
Internet Protocol Security (IPsec) Administratio...
Advanced Audit Policy Configuration
Advanced Audit Policy Configuration


Local Security Policy
File
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Security Settings
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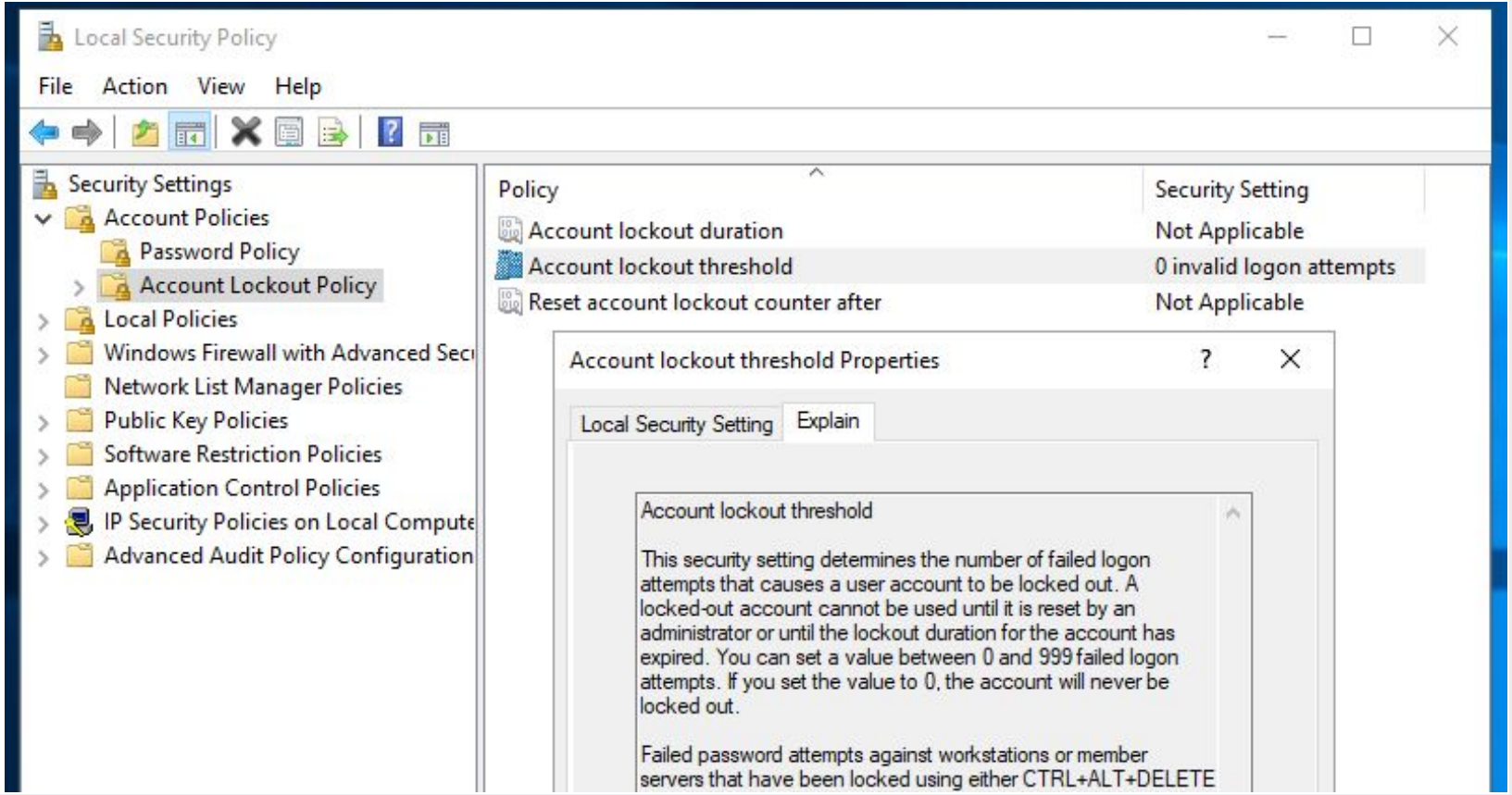
Password Policy
Account Lockout Policy
Local Policies
Windows Firewall with Advanced Sec
Network List Manager Policies
Public Key Policies
Software Restriction Policies
Application Control Policies
IP Security Policies on Local Compute
Advanced Audit Policy Configuration
Policy
Security Setting
Enforce password history
24 passwords remember...
Maximum password age
42 days
Minimum password age
1 days
Minimum password length
7 characters
Password must meet complexity requirements
Enabled
Store passwords using reversible encryption
Disabled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Windows Firewall with Advanced Sec
Network List Manager Policies
Public Key Policies
Software Restriction Policies
Application Control Policies
IP Security Policies on Local Compute
Advanced Audit Policy Configuration
Policy
Security Setting
Account lockout duration
Not Applicable
Account lockout threshold
0 invalid logon attempts
Reset account lockout counter after
Not Applicable
Account lockout threshold Properties
Local Security Setting
Explain
Account lockout threshold
This security setting determines the number of failed logon attempts that causes a user account to be locked out. A locked-out account cannot be used until it is reset by an administrator or until the lockout duration for the account has expired. You can set a value between 0 and 999 failed logon attempts. If you set the value to 0, the account will never be locked out.
Failed password attempts against workstations or member servers that have been locked using either CTRL+ALT+DELETE

Now Try:

1. Auditing
    a. Enable logging of Logins, Privilege use, and policy changes
2. Hardening
    a. Disable Guest Account
    b. Set machine lockout threshold
    c. Enable password complexity requirements

(Hint, expand all the top level options!)

Enable Firewall logs

Method 1: Windows Firewall GUI

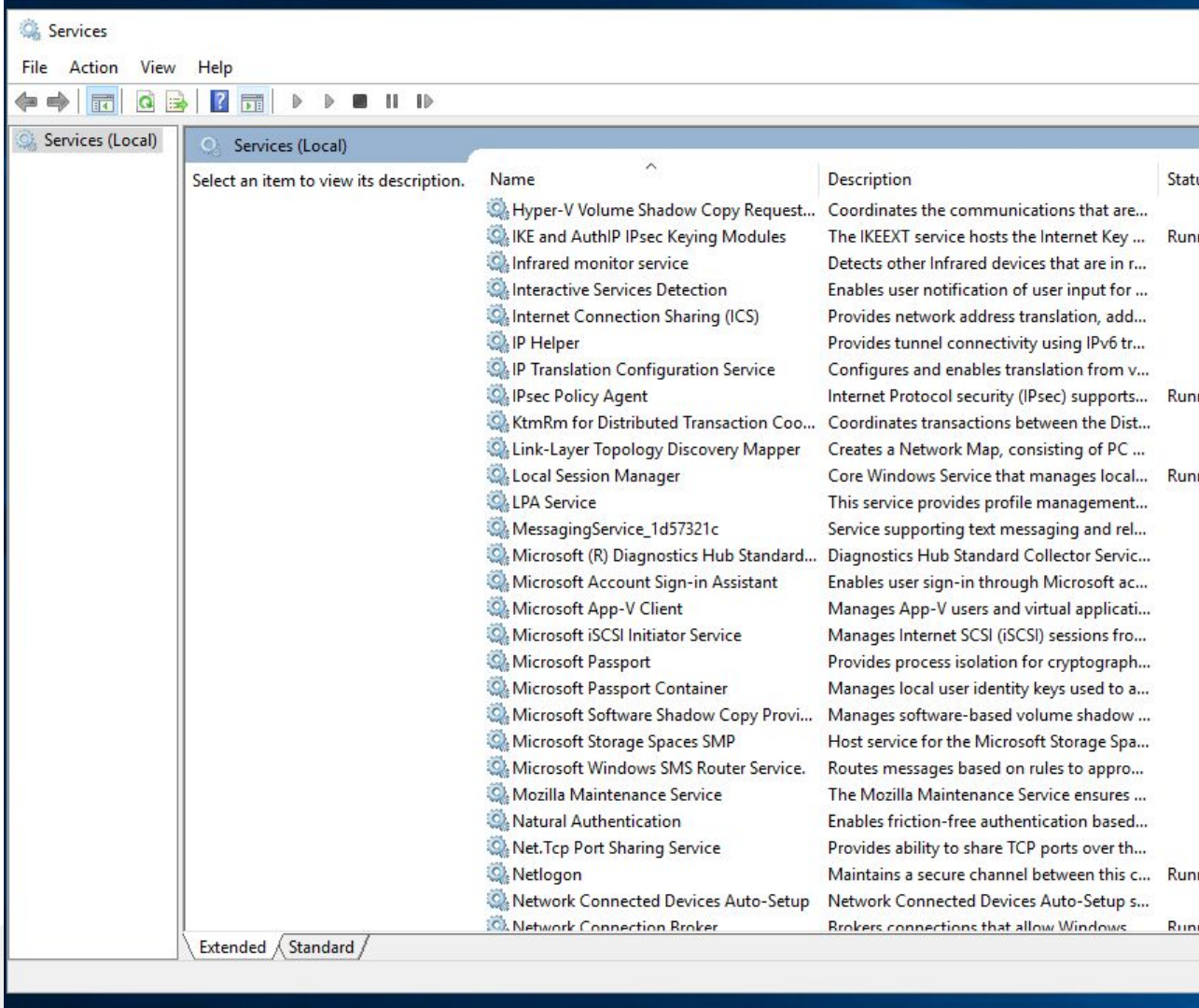
1. Open the **Advanced Firewall Management** Snap-in (WF.msc)
2. Select the **Action** | **Properties** from the main menu
3. On the **Domain Profile** tab, click **Customize** under the **Logging** section.
4. Increase the file maximum size.
5. Turn on **logging for dropped packets**
6. Turn on **logging for successful connections**

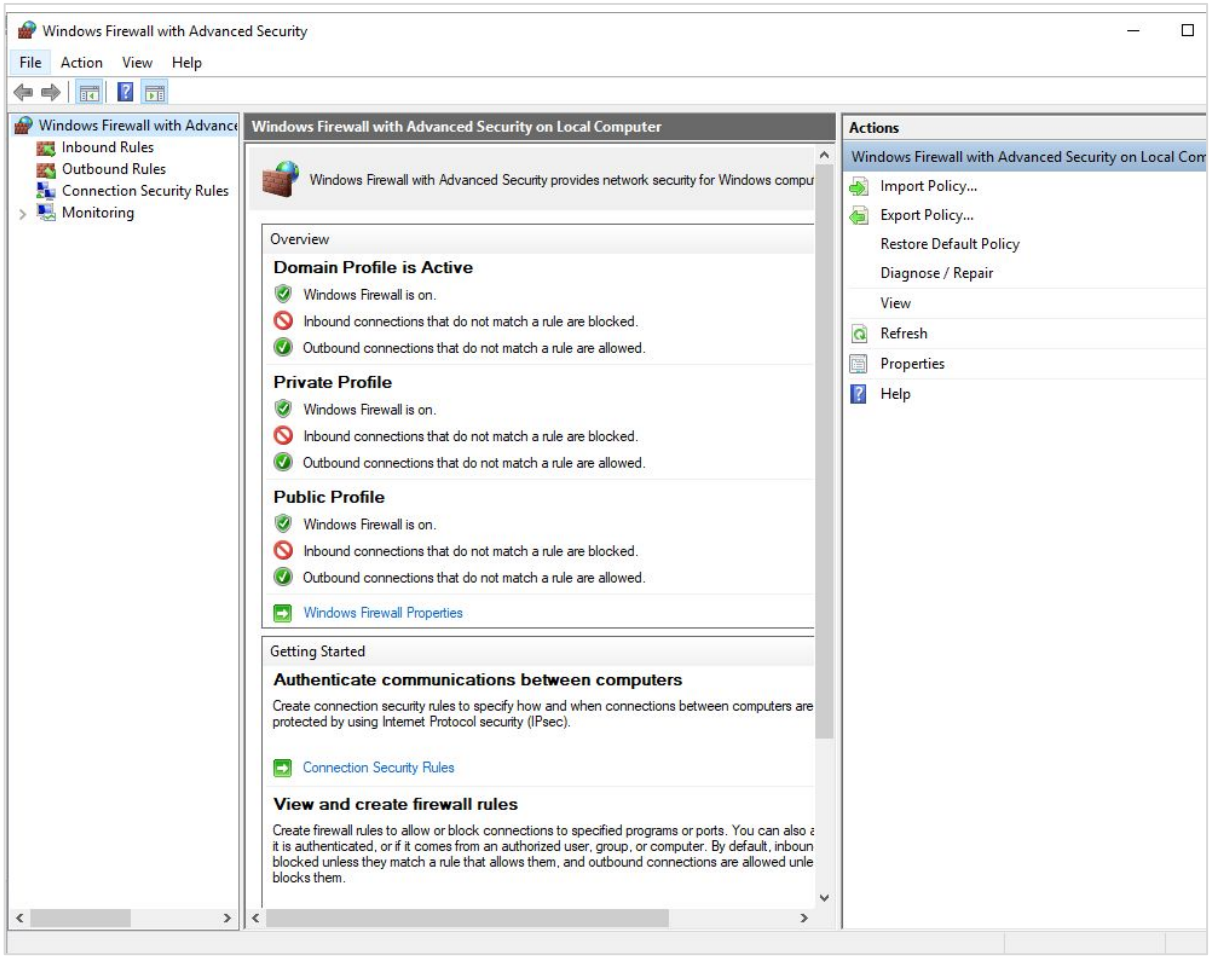
Method 2 – PowerShell

1. Open a **PowerShell** window as *Administrator* and execute:
2. Set-NetFirewallProfile -name domain -LogMaxSizeKilobytes 10240 -LogAllowed true -LogBlocked true

By default your firewall will start logging to **%systemroot%\system32\LogFiles\Firewall\pfirewall.log**. You may like to change this to a central logging server.

Find and disable: print spooler & remote desktop





Look for weird rules, and remove them.

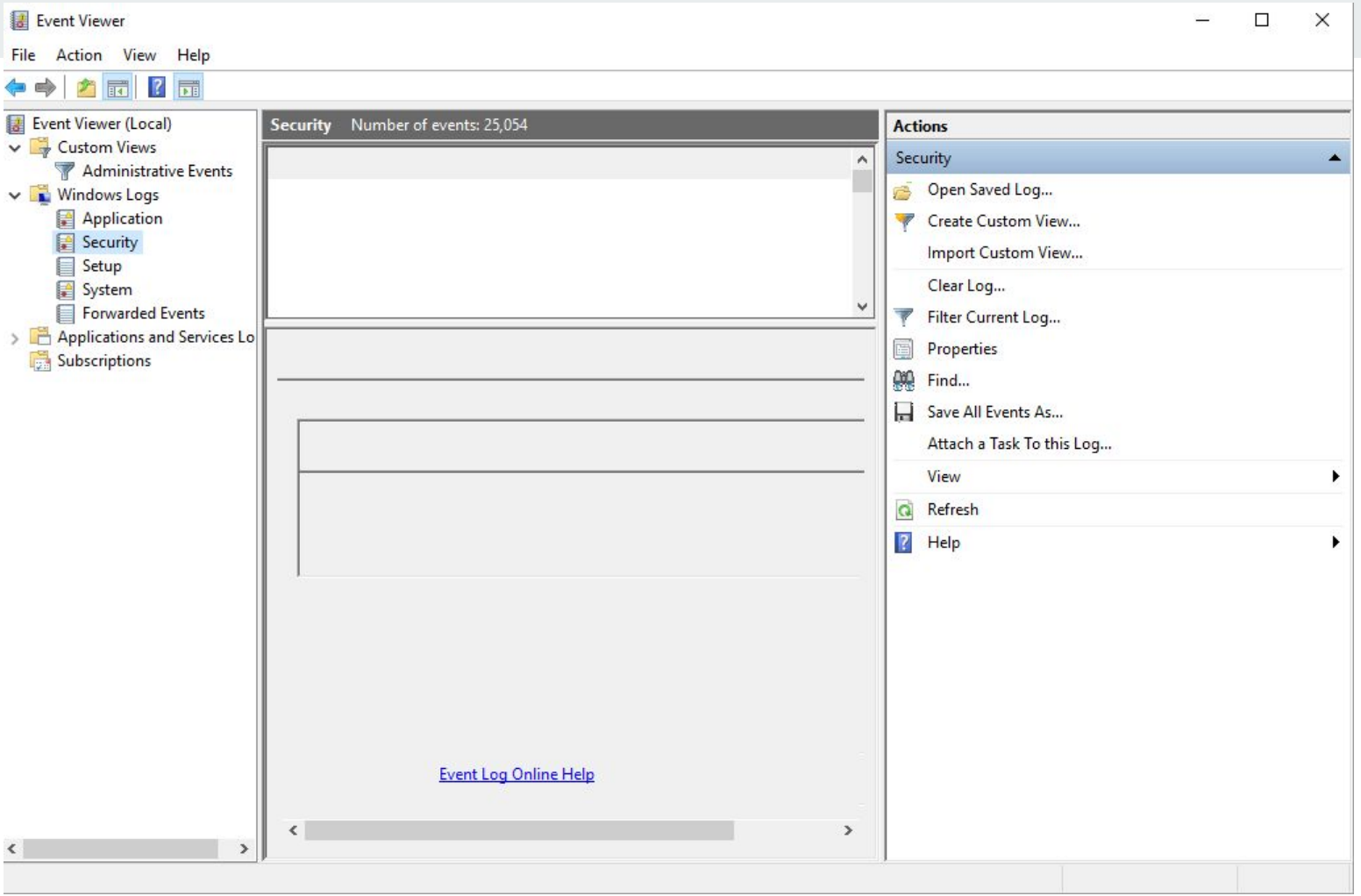
Create a new inbound rule, block port 5968.

Finally:

Remember those audit policies?

They *should* have been logging all the actions you have been taking!

They are all in Event Viewer!


Event Viewer
File Action View Help
Event Viewer (Local)
Custom Views
Administrative Events
Windows Logs
Application
Security
Setup
System
Forwarded Events
Applications and Services Lo
Subscriptions
Security Number of events: 25,054
Event Log Online Help
Actions
Security
Open Saved Log...
Create Custom View...
Import Custom View...
Clear Log...
Filter Current Log...
Properties
Find...
Save All Events As...
Attach a Task To this Log...
View
Refresh
Help

Things we did not cover

- Active Directory User, Group, Computer and OU Management
- Creating a new Administrator
- Creation, implementation, and testing of Group Policy
- Monitoring, Testing, Backing Up, and Managing DNS
- Monitoring, Testing, Backing Up, and Managing DHCP
- Understanding sysinternal tools (procmon, procexplorer, tcpview)
- Running and Understanding a Microsoft Security Baseline Analyzer
- Powershell

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New logo -- Ideas? Email them to us at cyberdefenseorg@albany.edu

Whats coming up again?

1. UBNETDEF
2. Eboard meeting Friday at 11am BB121
3. Board applications are coming soon!