Chapter 1: Labs

Activity 1.1: Create an Inbound Firewall Rule

In this lab, you will verify that the Windows Defender Firewall is enabled on a server and then create an inbound firewall rule that blocks file and printer sharing.

These lab instructions were written to run on a system running Windows Server 2019. The process for working on other versions of Windows Server is quite similar, although the exact names of services, options, and icons may differ slightly.

> You should perform this lab on a test system. Enabling file and printer sharing on a production system may have undesired consequences. The easiest way to get access to a Windows Server 2019 system is to create an inexpensive cloud instance through Amazon Web Services (AWS) or Microsoft Azure.

Part 1: Verify that Windows Defender Firewall is enabled

1. Open the Control Panel for your Windows Server.
2. Choose System and Security.
3. Under Windows Defender Firewall, click Check Firewall Status.
4. Verify that the Windows Defender Firewall state is set to On for Private networks. If it is not on, enable the firewall by using the “Turn Windows Defender Firewall on or off” link on the left side of the window.

Part 2: Create an inbound firewall rule that allows file and printer sharing

1. On the left side of the Windows Defender Firewall control panel, click “Allow an app or feature through Windows Defender Firewall.”
2. Scroll down the list of applications and find File and Printer Sharing.
3. Check the box to the left of that entry to block connections related to File and Printer Sharing.
4. Notice that the Private box to the right of that option was automatically selected. This allows File and Printer Sharing only for other systems on the same local network. The box for public access should be unchecked, specifying that remote systems are not able to access this feature.
5. Click OK to apply the setting.

Activity 1.2: Create a Group Policy Object

In this lab, you will create a Group Policy Object and edit its contents to enforce an organization's password policy.

These lab instructions were written to run on a system running Windows Server 2019. The process for working on other versions of Windows Server is quite similar, although the exact names of services, options, and icons may differ slightly. To complete this lab, your Windows Server must be configured as a domain controller.

1. Open the Group Policy Management Console. (If you do not find this console on your Windows Server, it is likely that it is not configured as a domain controller.)
2. Expand the folder corresponding to your Active Directory forest.
3. Expand the Domains folder.
4. Expand the folder corresponding to your domain.
5. Right-click the Group Policy Objects folder and click New on the pop-up menu.
6. Name your new GPO Password Policy and click OK.
7. Click on the Group Policy Objects folder.
8. Right-click the new Password Policy GPO and choose Edit from the pop-up menu.
9. When Group Policy Editor opens, expand the Computer Configuration folder.
10. Expand the Policies folder.
11. Expand the Windows Settings folder.
12. Expand the Security Settings folder.
13. Expand the Account Policies folder.
14. Click Password Policy.
15. Double-click Maximum Password Age.
16. In the pop-up window, select the Define This Policy Setting check box and set the expiration value to 90 days.
17. Click OK to close the window.
18. Click OK to accept the suggested change to the minimum password age.
19. Double-click the Minimum Password Length option.
20. As in the prior step, click the box to define the policy setting and set the minimum password length to 12 characters.
21. Click OK to close the window.
22. Double-click the Password Must Meet Complexity Requirements option.
23. Click the box to define the policy setting and change the value to Enabled.
24. Click OK to close the window.
25. Click the X to exit Group Policy Editor.

You have now successfully created a Group Policy Object that enforces the organization's password policy. You can apply this GPO to users and/or groups as needed.

Activity 1.3: Write a Penetration Testing Plan

For this activity, you will design a penetration testing plan for a test against an organization of your choosing. If you are employed, you may choose to use

your employer's network. If you are a student, you may choose to create a plan for a penetration test of your school. Otherwise, you may choose any organization, real or fictitious, of your choice.

Your penetration testing plan should cover the three main criteria required before initiating any penetration test:

- Timing
- Scope
- Authorization

One word of warning: You should not conduct a penetration test without permission of the network owner. This assignment only asks you to design the test on paper.

PURPOSE

The purpose of this penetration test is to detect and respond to vulnerabilities in XYZ's network.

SCOPE

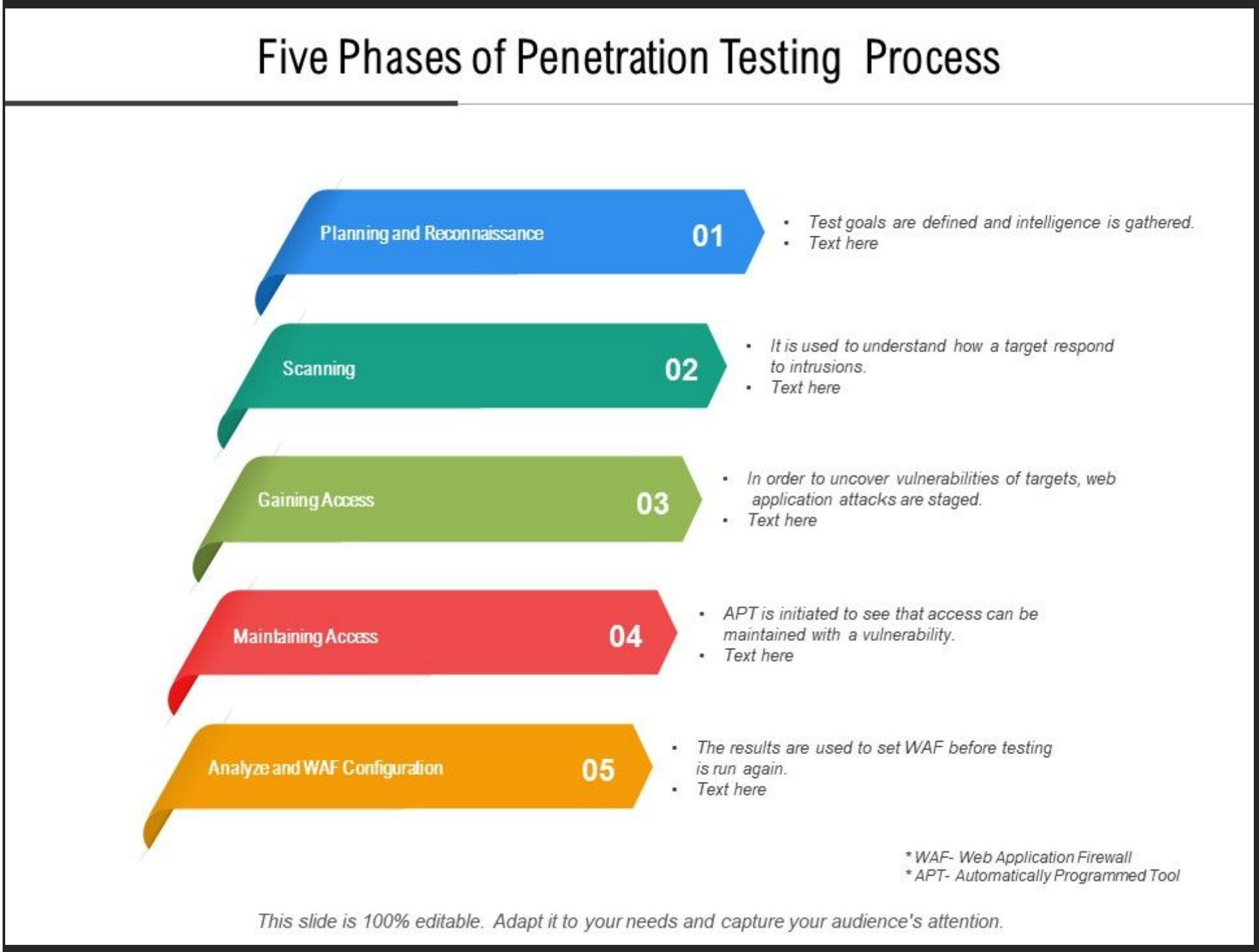
The scope includes all of XYZ's networks and devices, both wired and wireless. Social engineering? What is to be tested, and what is not to be tested?

TIMING

Staff will be informed about the testing. Passive recon will be conducted during business hours; active recon after hours. It will require three business days

AUTHORIZATION

XYZ's founder, Abracadabra, has given permission, but if needed, contact at XXXXXXXX.



DISCOVERY PHASE

What devices were discovered? Which tools were used to discover? Which exploits were discovered? How were those exploits leveraged?

Activity 1.4: Recognize Security Tools

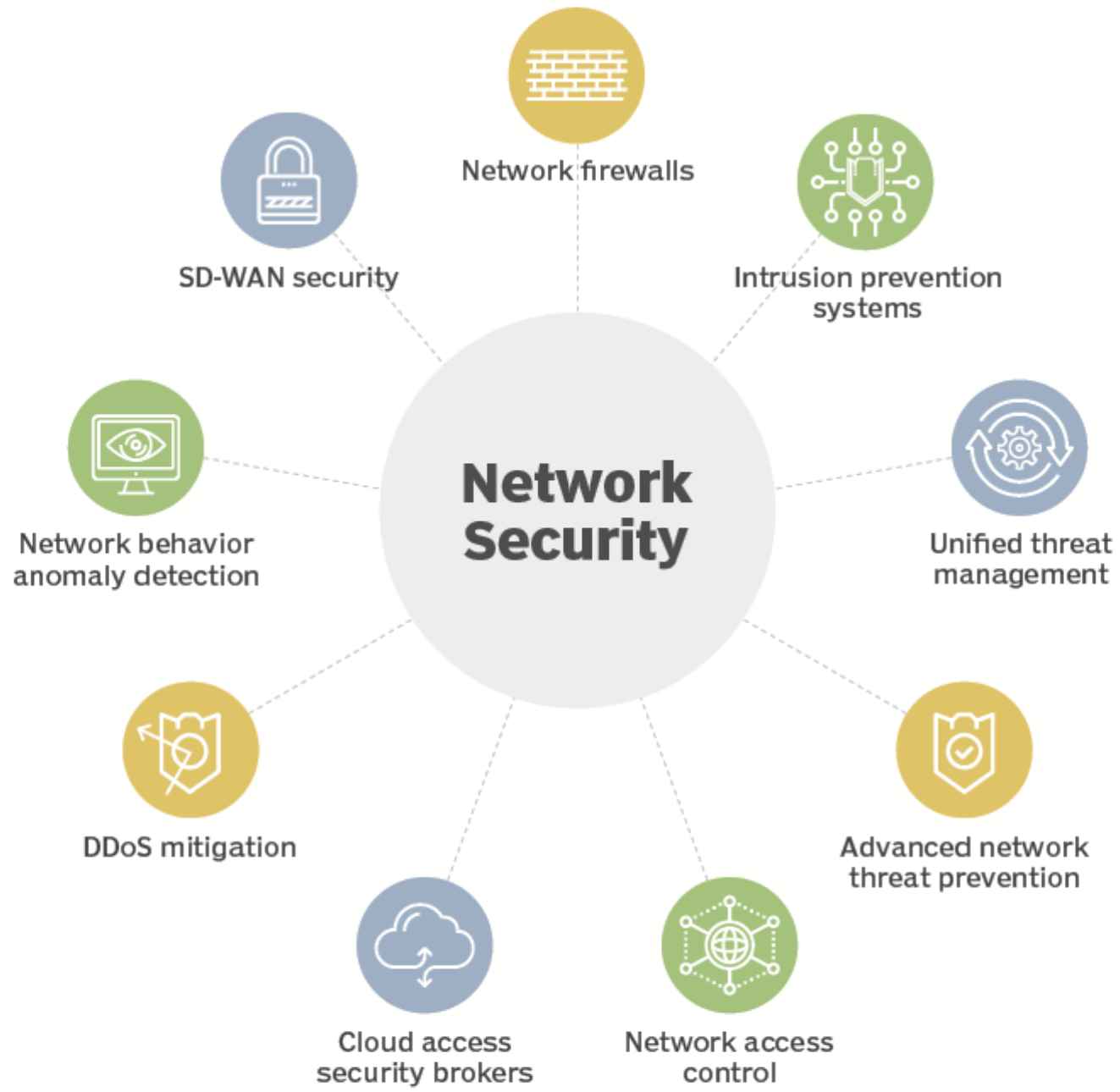
Match each of the security tools listed in this table with the correct description.

Firewall	Determines which clients may access a wired or wireless network
Decompiler	Creates a unique fingerprint of a file
Antivirus	Filters network connections based on source, destination, and port
NAC	System intentionally created to appear vulnerable
GPO	Attempts to recover source code from binary code
Hash	Scans a system for malicious software
Honeypot	Protects against SQL injection attacks

WAF Deploys configuration settings to multiple Windows systems

9 elements of network security

Network security encompasses multiple types of capabilities and features. Below are nine core and emerging areas enterprises should consider.



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