

Homework 3

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Module 1 & 2 Questions

1. What are the main characteristics of a network operating system?

The main components of a network operating system is to link a series of computers over a network, in which they will be able to share data, such as files, and different hardware's, and also communicate with one another. Furthermore, the network operating system, provides single sign on using a domain and a domain controller environment. This Network operating system, doe also include security tools as well, for both protecting the system, such as Microsoft defender advance threat protection (ATP). And ones for admin use, such as support for file and folder permissions, compression, Encrypting File System (EFS) and authentication. However administrators control the system, to make certain that users, aren't abusing their access limits, and no data is tampered with by the wrong party.

2. Compare DHCP with APIPA. What are the benefits of having both of these protocols available within a network?

DHCP stands for the dynamic host configuration protocol, and this networking protocol automatically assigns a IP address to every host, that is located on the specified network. However, APIPA stands for, automatic private IP addressing protocol, and it allows devices to assign Ip addresses deliberately for themselves, when they haven't received one from a DHCP server. The benefits of having both protocols, is that APIPA can be used as a backup for when the DHCP server is down, which can leave devices to still communicate amongst one another, on

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a local network. Furthermore, both protocols, can be used hand and hand for troubleshooting network issues.

3.What are the main differences between a PowerShell variable and a constant?

The main difference between a PowerShell variable and a constant, is a PowerShell variable, are values that can be changed after being set, and normally start with a \$, and they are not case sensitive. While a PowerShell constant are values, that cannot be changed, and they use a option constant to the Set-Variable cmdlet, to create a constant variable.

4.Compare the System File Checker tool to the File Signature Verification tool (Sigverif). What are the benefits of having both of these tools available within PowerShell?

The system file checker tool scans the system and verifies the integrity of system files, plus it restores overwritten or damaged files with the correct version. While the File Signature Verification tool (Sigverif), only scans files, to look for if it has a signature or not. The benefits of having both of these tools within a organization, is that when a unknown user sends a file over, they can use both tools to their advantages, in which the system file checker tool, will verify the integrity of the file and to see if it was modified with some malware, and the Sigverif tool can authenticate the signature given within that file.

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Listen to “Episode #53: Shadow Brokers” of the DarkNet Diaries podcast which can be found at <https://darknetdiaries.com/episode/53/Links> to an external site.

Based on the podcast, answer the following questions

5. The Shadow Brokers are believed to be affiliated with which country, and what do we know about their origins and allegiances?

The shadow broker group are believed to be affiliated with the country of Russia, but not much information is given on the group. We are aware however, that their main language is not English, due to their tools dump post, being in broken English, and not being aware of what they are totally asking. What originated the Shadow brokers hacking group to the world, is that they were dumping secretive NSA tools on the web for free, and that they were going to dump the rest of the tools on the web for a million dollars in bitcoin. Furthermore, we know that they have some alliance with President Donald Trump, due to the fact that they said, we voted for you and trusted you, but it seemed, President Trump wasn't staying true to his end of the deal, so that aggravated them.

6. The Shadow Brokers declared their allegiance to which President of the United States, and what implications did this decision have?

The shadow brokers had declared their alliance with president Donald Trump, in which they stated in their tweet, which they had released around April, claiming to have supported him,

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while also saying that there was a deal involved within the two parties, that according to the shadow brokers, trump wasn't fulfilling, what he claimed he owned them. Furthermore the election was hacked in 2017, in which implications was from Russia, which further leads me to the reasoning, that the Shadow brokers were a group originated, within the Russian government.

7. Once the Shadow Brokers group stole NSA hacking tools, what did they attempt to do with stolen tools, and should we have questions about the security of government networks and the safety of confidential data?

Once the shadow brokers, were able to steal the NSA hacking tools, they wanted to auction the tools for the price of bitcoin. Which is really smart, due to the fact that the bitcoin cannot be traced and is not a form of foreign currency. However, they ended up only getting, around 964 dollars of currency, which lead them to the second option of just dumping the NSA secretive tools on the internet, for anyone to use, such as eternalblue. This is a very big security issue for the NSA, do the fact that these tools, should have never been leaked to the public in the first place. I feel that we should have questions about the security of government networks and the safety of confidential data, because the fact that the shadow brokers group, was able to know information about Cedric Williams, and his past employment with the NSA. This can lead to many dangerous issues, down the road for him and his family, due to the fact the public is aware of what data he worked with in the past. Furthermore, this is concerning, due to the fact that there are so many sensitive data files, that the government controls, and if they are in the hands of the wrong group of individuals, such as the shadow brokers, it can cause major damage to societies if they found out about the sensitive information.