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| **DOCUMENT RULES:** | |
| **Task Number / Name:** | **Task / Firewall, SD-WAN, venders** |
| **Group name:** | IT Club |
| **Student name and surname:** | Mədinə Qulizadə |
| **E-mail:** |  |
| **WhatsApp number:** |  |

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| **#** | **Task names** | **Command steps and outputs** |
| **1** | *Firewall History* | *Firewalls have existed since the late 1980’s and started out as packet filters, which were networks set up to examine packets, or bytes, transferred between computers. Though packet filtering firewalls are still in use today, firewalls have come a long way as technology has developed throughout the decades.* |
| **2** | **What is Firewall?** | *A firewall is a system that is designed to prevent unauthorized access from entering a private network by filtering the information that comes in from the internet. A firewall blocks unwanted traffic and permits wanted traffic.*  *Creates a safety barrier between a private network and the public internet. Because out on the internet, there’s always going to be hackers and malicious traffic that may try to penetrate into a private network to cause harm.*  *A firewall is especially important to large organizations.*  *A network firewall and a structure firewall work in a similar way.* |
| **3** | **Firewall rules** | *A firewall works by filtering the incoming network data and determines by its rules if it is allowed to enter a network, these rules are also known as an access control list. These rules are customizable and are determined by the network administrator. The administrator decides not only what can enter a network but also what can leave a network. These rules either allows or denies permission. A list of IP addresses that have been allowed or denied by this firewall.*  *Firewalls rules can be based on:*   * *IP addresses* * *Domain names* * *Protocols* * *Programs* * *Ports* * *Key words* |
| **4** | **Firewall types** | 1. Host-based firewall   Software firewall that is installed on a computer. Protects that computer only. Zone Alarm is a popular 3rd party host-based firewall. A lot of antivirus programs come with a host-based firewall.   1. Network-based firewall   Combination of hardware and software. Protects an entire network. |
| **5** | **What is SD-WAN?** | The core of SDN- Software Defined Networking which logically separates the control layer and the data layer within the underlying infrastructure abstracting control so the infrastructure can be automated and programmed from a common controller via software. SD-WAN takes the principles of SDN and applies them to the wide area network. Simply put when is the highway that interconnects enterprise resources to each other, now when we talk about the land we talk about transports or methods of connectivity some examples are broadband Metro Ethernet T1, MPLS and LTE.  SD-WAN makes different LANs and converts what used to be separate disparate networks into one common Encrypted Network managed by software. |
| **6** | **Best SD-WAN Vendors** | 1. *On-Prem-Only* 2. *Cloud-Enabled* 3. *Cloud-Enabled Plus Backbone* |