

Enterprise Network Technologies  
CPTR 2245  
Lab 02

- Contact your instructor with your questions about the assignments.
- The student must insure all the answers are free from any malware.
- The student must insure all answers are legal as defined by the class syllabus.
- All parts of your answers must be neat and easy to read.
- Paragraphs are at least four properly constructed English sentences.
- Embedding documents within documents does not work with the D2L Bright Space assignments.
- All videos must be viewable in the VLC player.

**Lab 02: Technical Foundations**

- 2.1 Each part is worth five points for a maximum of twenty-five points. Upload your document(s) to the D2L Bright Space Assignment section 2.1 before the due date found in the 2245a.pdf document. The text must be readable by the instructor. Submit a Portable Document Format (PDF) or word processing file containing your answers.
  - 2.1.1 Document the building of a router with NAT/PAT virtual machine with the following. A pfSense router is recommended.
    - 2.1.1.1 Provide a Visio or similar diagram showing the network design and IPv4 and IPv6 address assignments.
    - 2.1.1.2 Show the virtual machine is current with updates
    - 2.1.1.3 Show the NAT/PAT settings
    - 2.1.1.4 Show the firewall settings
    - 2.1.1.5 Show the IPv4 and IPv6 address settings on the host.
- 2.2 Each part is worth five points for a maximum of twenty-five points. Upload your answer to the D2L Bright Space Assignment section 2.2 before the due date found in the 2245a.pdf document. The text must be readable by the instructor. Submit a Portable Document Format (PDF) or word processing file containing your answers.
  - 2.2.1 Provide evidence of configuring the following on your host01 on the local VM network.
    - 2.2.1.1 IPv4 and IPv6 address on the local VM network served by your router.
    - 2.2.1.2 Successful time synchronization with the NTP pool.
    - 2.2.1.3 Successful check for updates.
    - 2.2.1.4 The configuration of auditd to monitor the access of a file.
    - 2.2.1.5 The report from auditd a file has been accessed.
- 2.3 Each part is worth five points for a maximum of twenty-five points. Upload your answer to the D2L Bright Space Assignment section 2.3 before the due date found in the 2245a.pdf document. The text must be readable by the instructor. Submit a Windows or Unix text file with the appropriate Windows extension.
  - 2.3.1 Provide evidence of configuring the following on your host02 on the local VM network.
    - 2.3.1.1 IPv4 and IPv6 address on the local VM network served by your router.
    - 2.3.1.2 Successful time synchronization with the NTP pool.
    - 2.3.1.3 Successful check for updates.
    - 2.3.1.4 The configuration of auditd to monitor the access of a file.
    - 2.3.1.5 The report from auditd a file has been accessed.
- 2.4 Each part is worth five points for a maximum of twenty-five points. Upload your answer document to the D2L Bright Space Assignment section 2.4 before the due date found in the 2245a.pdf document. The text must be readable by the instructor. Submit a Portable Document Format (PDF) or word processing file containing your answers.
  - 2.4.1 Provide evidence of configuring host02 to run Docker containers as non-administrator.
  - 2.4.2 Provide evidence of running Docker hello world.
  - 2.4.3 Provide evidence of running Docker whale say or similar.
  - 2.4.4 Provide the Docker container network configuration
  - 2.4.5 Provide an explanation of the difference between VM and containers.