- 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.
- Plagiarism will not be tolerated.
- Unless noted, all lab sections must be done as unprivileged login.

Lab 09: CIFS Networking, NTP and Cron

9.1. Each part is worth two points for a maximum of twenty-five points. Upload each section answer to the D2L Bright Space Assignment section 9.1 before the due date found in the 2224a.pdf document. Use the **script** command or a **putty log file** to create the file. Your answers must appear in your answer in the same order as the lab. The file must be human readable text only and must show your login name and all entered commands. Submit a Windows or UNIX text file with the appropriate Windows extension.

9.1.1. Install the class VPN software on your class virtual machine. Connect to the class VPN server before completing the following commands. [2 points]

9.1.2. Use the **ip addr sh** command to report your class virtual machine IP addresses. Please label your answer. [2 points]

9.1.3. Use the **ip -s link sh** command. Please label your answer. [2 points]

9.1.4. Use the **ip route** command. Please label your answer. [2 points]

9.1.5. Use the **ip maddr sh** command. Please label your answer. [2 points]

9.1.6. Use the **ip neigh sh** command. Please label your answer. [2 points]

9.1.7. Use the **ip tunnel sh** command. Please label your answer. [2 points]

9.1.8. Use the **ip rule sh** command. Please label your answer. [2 points]

9.1.9. Successfully use the ping command in your Linux system. [2 points]

9.1.10. Successfully use the ping6 command in your Linux system. [2 points]

9.1.11. Successfully use the traceroute command in your Linux system. (/usr/sbin/) [2 points]

9.1.12. Show the result of running the fortune program. Please label your answer. [2 points]

9.1.13. Identify if an AI type program was used to complete this lab section. If an AI program is used, identify the AI system used. [1 point]

9.2. Each part is worth six points for a maximum of twenty-five points. Upload each section answer to the D2L Bright Space Assignment section 9.2 before the due date found in the 2224a.pdf document. Use the **script** command or a **putty log file** to create the file. Your answers must appear in your answer in the same order as the lab. The file must be human readable text only and must show your login name and all entered commands. Submit a Windows or UNIX text file with the appropriate Windows extension.

9.2.1. Provide evidence your class Linux VM successfully connected to a remote CIFS or SMB share. Please label your answer. [6 points]

9.2.2. Provide evidence of listing files on a CIFS or BMS share. Please label your answer. [6 points]

9.2.3. Provide evidence of successfully coping at least five files from the SMB share to your class Linux system. [6 points]

9.2.4. Provide documentation that explains how to connect to an SMB share and copy files from the share to the local host. [6 points]

9.2.5. Identify if an AI type program was used to complete this lab section. If an AI program is used, identify the AI system used. [1 point]

9.3. Each part is worth eight points for a maximum of twenty-five points. Upload each section answer to the D2L Bright Space Assignment section 9.3 before the due date found in the 2224a.pdf document. Use the **script** command or a **putty log file** to create the file. Your answers must appear in your answer in the same order as the lab. The file must be human readable text only and must show your login name and all entered commands. Submit a Windows or UNIX text file with the appropriate Windows extension.

9.3.1. Successfully configure your Linux system to synchronize time using at least one NTP European pool server. Provide the contents of your NTP configuration file showing your login name, system name, and at least one NTP pool server. The configuration file must show at least one change you made. Please label your answer. [8 points]

9.3.2. Show the log file or command line operation of successful time synchronization with NTP. Please label your answer. Consider using the command, "timedatectl status". It must show European NTP servers. [8 points]

9.3.3. On the command line only, provide the complete output of "/etc/chrony.conf" and "/etc/chrony.d/pool.conf" files. [8 points]

9.3.4. Identify if an AI type program was used to complete this lab section. If an AI program is used, identify the AI system used. [1 point]

9.4. Each part is worth five points for a maximum of twenty-five points. Upload each section answer to the D2L Bright Space Assignment section 9.4 before the due date found in the 2224a.pdf document. The text must be readable by the instructor. Submit a Windows or UNIX text file with the appropriate Windows extension.

9.4.1. The script will have remarks identifying the author, creation date, outside help credit, and script purpose. [5 points]

9.4.2. The script will write the current day and time to a file. [4 points]

9.4.3. The script will write the current output of the fortune program to the same file. [5 points]

9.4.4. Provide the output file showing the file has run at least four times. Note: the system must have AC power to work using the crontab or at commands. All runs will occur at the same time each hour. [5 points]

9.4.5. Provide a copy of the source code in a separate document. [5 points]

9.4.6. Identify if an AI type program was used to complete this lab section. If an AI program is used, identify the AI system used. [1 point]