**Week 5 Homework: Archiving and Logging Data**

**Lab Environment**

To set up your lab environment with the necessary files, complete the following steps.

* Log into your local virtual machine. Use the following credentials:
  + Username: sysadmin
  + Password: cybersecurity
* Open the terminal within your Ubuntu VM by pressing Ctrl+Alt+T for Windows users or Ctrl+Options+T for Mac users.
  + Alternatively, press Windows+A (Command+A for Mac users), type "Terminal" in the search bar, and select the terminal icon (not the Xfce Terminal icon).
* Create a directory called Projects in your /home/sysadmin/ directory.
* Download the following file (you can either slack it to yourself or use the Firefox browser in your Ubuntu machine), and move it to your ~/Projects directory before you get started:
  + [TarDocs.tar](https://drive.google.com/a/2tor.com/file/d/1fRjFS1vOdS7yfKJgpJxR02_UxeT_qI_u/view?usp=sharing)Text

    Description automatically generated

**Step 1: Create, Extract, Compress, and Manage tar Backup Archives**

**Text

Description automatically generated**

1. Command to **extract** the TarDocs.tar archive to the current directory:

**tar -xvf TarDocs.tar**

1. Command to **create** the Javaless\_Doc.tar archive from the TarDocs/ directory, while excluding the TarDocs/Documents/Java directory:

**tar -cvf Javaless\_Docs.tar –exclude=’TarDocs/Documents/Java’ TarDocs**

Text

Description automatically generated

1. Command to ensure Java/ is not in the new Javaless\_Docs.tar archive:

**tar -tf Javaless\_Docs.tar | Java**

**Critical Analysis Question**

* Why wouldn't you use the options -x and -c at the same with tar?

**C is not utilized during the extraction command with tar because we were not ls**

**creating an archive then with the create command with tar because we are not extracting data.**

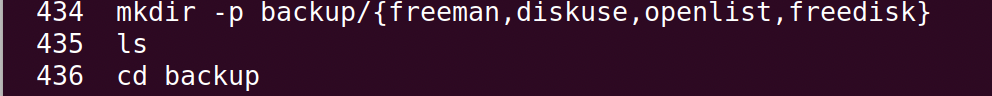
**Step 2: Create, Manage, and Automate Cron Jobs**

1. Cron job for backing up the /var/log/auth.log file:



**Step 3: Write Basic Bash Scripts**

1. Brace expansion command to create the four subdirectories:





1. Paste your system.sh script edits below:

Text, letter

Description automatically generated

1. #!/bin/bash

[Your solution script contents here]

1. Command to maText

   Description automatically generatedke the system.sh script executable:

**Step 4. Manage Log File Sizes**

1. Run sudo nano /etc/logrotate.conf to edit the logrotate configuration file.

Configure a log rotation scheme that backs up authentication messages to the /var/log/auth.log.

* + Add your config file edits below:

[Your logrotate scheme edits here]

Text

Description automatically generated