## **Week 5 Homework Submission File: Archiving and Logging Data**

Please edit this file by adding the solution commands on the line below the prompt.

Save and submit the completed file for your homework submission.

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

1. Command to **extract** the TarDocs.tar archive to the current directory:  
   tar xvvf TarDcs..tar
2. Command to **create** the Javaless\_Doc.tar archive from the TarDocs/ directory, while excluding the TarDocs/Documents/Java directory:  
   Tar cvvf Javaless\_Docs.tar --exclude=’TarDocs/Documents/Java’ TarDocs/
3. Command to ensure Java/ is not in the new Javaless\_Docs.tar archive:

Tar -tvvf Javaless\_Docs.tar | grep “Java”

**Bonus**

* Command to create an incremental archive called logs\_backup\_tar.gz with only changed files to snapshot.file for the /var/log directory:

#### **Critical Analysis Question**

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

One is to create and the other is to extract.

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

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

0 6 \* \* 3 tar cvvf /auth\_backup.tgz /var/log/auth.log | gzip -t /auth\_backup.tgz ~/auth\_backup.txt

### **Step 3: Write Basic Bash Scripts**

1. Brace expansion command to create the four subdirectories:

Paste your system.sh script edits below:  
  
 #!/bin/bash

#! /bin/bash

#

#

free -h >> ~/backups/freemem/free\_mem.txt

df -h >> ~/backups/freedisk/free\_disk.txt

lsof >> ~/backups/openlist/open\_list.txt

du -h >> ~/backups/diskuse/diskusage.txt

1. Command to make the system.sh script executable:

Chmod +x ~/scripts.sh

**Optional**

* Commands to test the script and confirm its execution:

Sudo ./scripts.sh

/backups/freemem/less freemem.txt

**Bonus**

* Command to copy system to system-wide cron directory:

### **Step 4: Perform Various Log Filtering Techniques**

1. Command to return journalctl messages with priorities from emergency to error:

Journalctl -p 0..3

1. Command to check the disk usage of the system journal unit since the most recent boot:

Journal ctl -b systemd-journald --disk-usage

1. Comand to remove all archived journal files except the most recent two:

Sudo journalctl --vacuum-files=2

**Bonus**

* Command to filter all log messages with priority levels between zero and two, and save output to /home/sysadmin/Priority\_High.txt:
* Command to automate the last command in a daily cronjob:
* Add the edits made to the crontab file below:  
    
   [Your solution cron edits here]

### **Step 5. Create Priority-Based Log Files**

1. Command to record all mail log messages, except for debug, to /var/log/mail.log:  
   * Add the edits made to the configuration file below:

mail.!debug /var/log/mail.log

**Bonus**

* Command to record all boot log messages, except for info and debug, to /var/log/boot.log:  
  + Add the edits made to the configuration file below:
* [Your solution edits here]

### **Step 6. 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:

/var/log/auth.log {

Weekly

Rotate 7

Notifempty

compress

Missingok

}