

Catonsville Ubuntu-MD Loco Meeting

October 22, 2016

1. View the file `/var/log/syslog` one page at a time
 - a. `cat /var/log/syslog |more`
2. Declare variables for `/var/log/syslog` and `/etc/logrotate.conf`
 - a. `SYSLOG="/var/log/syslog"`
 - b. `LOGROTATE="/etc/logrotate.conf"`
3. View the first 5 lines of `/var/log/syslog` using the declared variable
 - a. `head -n5 $SYSLOG`
4. View a live view of the last 5 lines of `/var/log/syslog` using the declared variable
 - a. `tail -n5 -f $SYSLOG`
5. Search for all instances of the words `log` and `rotate` in `/etc/logrotate.conf` using the declared variable
 - a. `grep -Ew 'log|rotate' $LOGROTATE`
6. Count all instances of the word `log` or `rotate` in `/etc/logrotate.conf` using the declared variable
 - a. `grep -Ewc 'log|rotate' $LOGROTATE`
7. Count all instances of blank lines in `/etc/logrotate.conf` using the declared variable
 - a. `grep -c '^$' $LOGROTATE`
8. Count all the words in `/etc/logrotate.conf` using the declared variable
 - a. `cat $LOGROTATE | wc -w`
9. Create a new group account... `student`
 - a. `groupadd student`
10. Create a new standard user account... `student1`, primary group is `student`
 - a. `useradd -gstudent student1`
11. Create a new privileged user account... `instructor`
 - a. `useradd -Gsudo instructor`
12. Create a new directories called `projects`, `assignments`, `quizzes`, `tests` in `/data`
 - a. `mkdir -p /data/{projects,assignments,quizzes,tests}`
13. Assign all files created in `quizzes` and `tests` directories with the group `instructor`
 - a. `chmod g+s /data/{quizzes,tests}`
14. Create new files called `assignment_1.txt` thru `assignment_9.txt` in the home directory
 - a. `touch ~/assignment_{1..9}.txt`
15. Create new files called `quiz_a.txt` thru `quiz_g.txt` in the student's home directory
 - a. `touch ~/quiz_{a..g}.txt`
16. Create new files called `test_initial.txt`, `test_midterm`, `test_final.txt` in the tests directory
 - a. `touch /data/tests/test_{initial,midterm,final}.txt`
17. Copy all assignment files into the `assignments` directory
 - a. `cp ~/assignment_{1..9}.txt /data/assignments`
18. Move all quiz files into the `quizzes` directory
 - a. `mv ~/quiz_{a..g}.txt /data/quizzes`
19. Delete `test_initial.txt` from the tests directory
 - a. `rm /data/tests/test_initial.txt`
20. Delete the `projects` directory
 - a. `rmdir /data/projects`
21. Change owner of all files in the `quizzes` directory to `instructor`
 - a. `chown instructor /data/quizzes/*`
22. Change group of all files in the `quizzes` directory to `instructor`
 - a. `chgrp instructor /data/quizzes/*`
23. Change permission on the `quizzes` directory and all its files to read-only for the group and none for others

- a. `chmod -R g=rX,o= /data/quizzes/`
- 24. Search for then install the Apache web server
 - a. `apt-cache search web`
 - b. `apt-get install apache2`
 - c. `http://localhost.localdomain`
- 25. View all processes
 - a. `top`
- 26. Kill the apache process
 - a. `kill apache2`
- 27. Verify the network configuration
 - a. `ifconfig`
 - b. `route`
 - c. `ping`
- 28. Verify the number of CPUs, memory and storage available to the system
 - a. `lscpu | grep '^CPU(s):'`
 - b. `free -m | grep '^Mem'`
 - c. `fdisk -l | grep '^Disk '`
- 29. Create a symbolic link from `/data/assignment` to `/home/student1` called `assignments`
 - a. `ln -s /data/assignment/ /home/student1/assignments`
- 30. Verify the symbolic links were created successfully
 - a. `ls -l /home/student1/`

- 31. Create a guess game Bash script that will...
 - a. Ask you to guess a number between 1 and 10
 - b. Read input from command line
 - c. Determine if you are right or wrong
 - d. ask for another answer if you are wrong
 - e. end when you are correct with a message

```
#!/bin/bash
# Guess the number game.
```

```
ANSWER=5      # The correct answer
```

```
CORRECT=false # The correct flag
```

```
while [ "$CORRECT" != "true" ]  
do  
    # Ask the user for the number...  
    echo "Guess a number between 1 and 10. "  
    read NUM  
  
    # Validate the input...  
    if [ "$NUM" -lt 1 ] || [ "$NUM" -gt 10 ]; then  
        echo "The number must be between 1 and 10!"  
    elif [ "$NUM" -eq "$ANSWER" ]; then  
        echo "You got the answer correct!"  
        CORRECT=true  
    else  
        echo "Sorry, incorrect."  
    fi  
done
```

32. Find all files in /etc on the system that are over 500 KB in size, send errors to /dev/null
 - a. `find /etc -size +500k 2>/dev/null`
33. Re-run the find command, this time send the results to /data/large_files.txt and standard out
 - a. `find /etc -size +500k 2>/dev/null | tee /data/large_files.txt`
34. Compress and archive all files in /data to /home/instructor/backup_data_22-10-2016.tar.bz2
 - a. `tar -cjf /home/instructor/backup_data_$(date --date="yesterday" +"%d-%m-%Y").tar.bz2 /data`