

Ubuntu Terminal and Shell Scripting

In this fictional scenario, I have been hired by Lucky Duck Casino as a security analyst. The company has lost a significant amount of money on the roulette tables over a one-month period, with the largest losses occurring on March 10, 12, and 15. My manager believes there is a player working with a Lucky Duck dealer to steal money at the roulette tables.

I have been tasked with navigating, modifying, and analyzing data files from the casino's database to gather evidence on the rogue player and dealer.

Step 1: Investigation Preparation

The first task was to set up directories to prepare for the investigation, starting with "Roulette_Loss_Investigation".

Within it, I created the subdirectories:

"Player_Analysis" to investigate casino players.

"Dealer Analysis" to investigate the dealers.

"Player_Dealer_Correlation" to summarize my findings of the collusion.

Each subdirectory contained "Note" files, to store investigative notes.

```
sysadmin@UbuntuDesktop:~/Lucky_Duck_Investigations$ cd Roulette_Loss_Investigation
sysadmin@UbuntuDesktop:~/Lucky_Duck_Investigations/Roulette_Loss_Investigation$ ls
Dealer_Analysis  Player_Dealer_Correlation
sysadmin@UbuntuDesktop:~/Lucky_Duck_Investigations/Roulette_Loss_Investigation$
```

Step 2: Gathering Evidence

Lucky Duck Casino provided me with files to assist in the investigation.

The directory, "Dealer_Schedules_0310" contains the dealer schedules.

"Roulette_Player_WinLoss_0310" contains the data for player wins and losses.

```
sysadmin@UbuntuDesktop:~/Lucky_Duck_Investigations$ ls
3-HW-setup-evidence  Dealer_Schedules_0310  Roulette_Loss_Investigation  Roulette_Player_WinLoss_0310
sysadmin@UbuntuDesktop:~/Lucky_Duck_Investigations$
```

Since losses occurred on March 10, 12, and 15, the schedules for those days were moved into "Dealer_Analysis". And the files for those days were moved to

"Player_Analysis".

```
sysadmin@UbuntuDesktop:~/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ls
0310_Dealer_schedule.txt  0315_Dealer_schedule.txt  Player_Dealer_Correlation  roulette_dealer_finder_by_time.sh
0312_Dealer_schedule.txt  Dealer_schedule_Line_Count  roulette_dealer_finder_by_time
sysadmin@UbuntuDesktop:~/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$
```

Step 3: Correlating the Evidence

Using the "grep" command, I was able to isolate all of the losses that occurred on March 10, 12, and 15. These results were placed into the file, "Roulette_Losses". I noted that **Mylie Schmidt** appears at every time of loss.

```
0310_win_loss_player_data.txt:05:00:00 AM    -$82,348    Amirah Schneider,Nola Portillo, Mylie Schmidt,Suhayb Maguire,Mil
licent Betts,Avi Graves
0310_win_loss_player_data.txt:08:00:00 AM    -$97,383    Chanelle Tapia, Shelley Dodson , Valentino Smith, Mylie Schmidt
0310_win_loss_player_data.txt:02:00:00 PM    -$82,348    Jaden Clarkson, Kaidan Sheridan, Mylie Schmidt
0310_win_loss_player_data.txt:08:00:00 PM    -$65,348    Mylie Schmidt, Trixie Velasquez, Jerome Klein ,Rahma Buckley
0310_win_loss_player_data.txt:11:00:00 PM    -$88,383    Mcfadden Wasin, Norman Cooper, Mylie Schmidt
0312_win_loss_player_data.txt:05:00:00 AM    -$182,300   Montana Kirk, Alysia Goodman, Halima Little, Etienne Brady, Myli
e Schmidt
0312_win_loss_player_data.txt:08:00:00 AM    -$97,383    Rimsha Gardiner,Fern Cleveland, Mylie Schmidt,Kobe Higgins
0312_win_loss_player_data.txt:02:00:00 PM    -$82,348    Mae Hail, Mylie Schmidt,Ayden Beil
0312_win_loss_player_data.txt:08:00:00 PM    -$65,792    Tallulah Rawlings,Josie Dawe, Mylie Schmidt,Hakim Stott, Esther
Callaghan, Claron Villanueva
0312_win_loss_player_data.txt:11:00:00 PM    -$88,229    Vlad Hatfield,Kerys Frazier,Mya Butler, Mylie Schmidt,Lex Oakley
,Elin Wormald
0315_win_loss_player_data.txt:05:00:00 AM    -$82,844    Arjan Guzman,Sommer Mann, Mylie Schmidt
0315_win_loss_player_data.txt:08:00:00 AM    -$97,001    Lillianna Devlin,Brendan Lester, Mylie Schmidt,Blade Robertson,De
rrick Schroeder
0315_win_loss_player_data.txt:02:00:00 PM    -$182,419   Mylie Schmidt, Corey Huffman
```

The "Dealer_Analysis" directory contained the dealer schedules for various Lucky Duck Casino games. Using my findings from the player analysis, I used the "awk", "pipe" and "grep" commands to isolate the following fields:

- Time
- a.m./p.m.
- The first and last name of the roulette dealer

This information was added to the file, "Dealers_working_during_losses". We can see that the dealer working during the time of loss was always **Billy Jones**.

```

layer_Dealer_Correlation$ cat Dealers_working_during_losses
05:00:00 AM Billy Jones
08:00:00 AM Billy Jones
02:00:00 PM Billy Jones
08:00:00 PM Billy Jones
11:00:00 PM Billy Jones
05:00:00 AM Billy Jones
08:00:00 AM Billy Jones
02:00:00 PM Billy Jones
08:00:00 PM Billy Jones
11:00:00 PM Billy Jones
05:00:00 AM Billy Jones
08:00:00 AM Billy Jones
02:00:00 PM Billy Jones

```

The correlation between roulette dealer Billy Jones and player Mylie Schmidt is added to the note file.

Step 4: Scripting My Tasks

Finally, I created a shell script that would easily analyze future employee schedules. This was named "roulette_dealer_finder_by_time.sh".

```

GNU nano 2.9.3 roulette_dealer_finder_by_time.sh
#!/bin/bash
cat $1_Dealer_schedule | awk -F" " '{print $1, $2, $5, $6}' | grep "$2"

```

After running the script, we can see who is working at a specific time. In this example, I used 2:00 PM on 03/12.

```

sysadmin@UbuntuDesktop:~/Lucky_Duck_Investigations/Roulette_Loss_Investigation/D
ealer_Analysis$ sh roulette_dealer_finder_by_time.sh 0312 '02:00:00 PM'
02:00:00 PM Billy Jones

```