

Bash Scripting Assignment

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Question:

Write a shell script to change the values in a file(i.e sig.conf) according to the input passed to the script. The script should ask for all four inputs from the user & also validate the input.

Below are the details of input. In full bracket options are given, you have to restrict the user pass single value for each input from the provided options in the full bracket.

Input:-

- 1) Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]
- 2) Scale [MID/HIGH/LOW]
- 3) View [Auction/Bid]
- 4) Count [single digit number]

Explanation of a conf file line.

<view> ; <scale> ; <component name> ; ETL ; vdopia-etl= <count>

Note:- vdopiasample stands for Auction & vdopiasample-bid is for Bid

The script should change the values in the file according to the input provided. At a time only one line of the conf file should be altered.

Solution:

The following are the steps followed to solve the challenge:

1. Create the “files sig.conf” and “final_bash_assignment.sh”.
2. Get the inputs from the user accordingly and validate them with the possible inputs from the question.
3. There are 3 possible outputs:
 - a. If the entered inputs are not on the “sig.conf” file, we append them in the desired format.
 - b. If the inputs are already on the file with the same count, we will do nothing.
 - c. If the input parameters match with any of the line on the file except the count, we update the count value.
 - d. Finally we check the “sig.conf” file using “cat sig.conf”.

Below is the shell scripting code:

```
#!/bin/bash
#
#Shell script to change the value in the file sig.conf based on user input
validation.
#
conf_file="sig.conf"

while true; do
    read -p "Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: " component
    case "$component" in
        INGESTOR|JOINER|WRANGLER|VALIDATOR)
            break
            ;;
        *)
            echo "Invalid Component. Try again :)"
            ;;
    esac
done

while true; do
    read -p "Enter Scale [MID/HIGH/LOW]: " scale
    case "$scale" in
        MID|HIGH|LOW)
            break
            ;;
        *)
            echo "Invalid Scale. Try again :)"
            ;;
    esac
done

while true; do
    read -p "Enter View [Auction/Bid]: " view
    case "$view" in
        Auction)
            view_str="vdopiasample"
            break
    esac
done
```

```

        ;;
        Bid)
            view_str="vdopiasample-bid"
            break
        ;;
    *)
        echo "Invalid View. Try again :)"
        ;;
    esac
done

while true; do
    read -p "Enter Count (0-9): " count
    case "$count" in
        [0-9])
            break
        ;;
        *)
            echo "Invalid Count. Enter single digit (0-9) :)"
            ;;
    esac
done

echo "Got the valid inputs!"
echo "Finding the maching from the file $conf_file...."

match1="${view_str} ; ${scale} ; ${component} ; ETL ; vdopia-etl=$count"
match="${view_str} ; ${scale} ; ${component} ; ETL ;"

lineno=0
flag=0
while IFS= read -r line; do
    ((lineno++))
    if [[ "$line" == "$match1" ]]; then
        echo "This input is already present in the file. Try with different
values!"
        flag=1
        break
    fi
done

```

```

elif [[ "$line" == "$match"* ]]; then
    echo "Match found!!"
    echo "Updating the line."
    flag=2
    sed -i "s/$line/$match1/" "$conf_file"
    echo "Updated."
    echo "$lineno: $match1"
    break;
fi
done < "$conf_file"

if [[ $flag == 0 ]]; then
    echo -e "This input is not on the file.\nAppending this to the file."
    echo "$match1" >> $conf_file
fi

```

Below is the output of the shell script:

```

sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ ls
case.sh          even_odd.sh      greet.sh         loops.sh        read.sh         shellscrip.sh  work_with_files.sh
conditions.sh    final_bash_assignment.sh  hello.sh        mc1.sh         sample.sh      user_check.sh  work_with_files.txt
cpuinfo.sh      functions.sh      log_file.log     read_lines.sh  sample.txt     variables.sh
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ touch sig.conf
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ ls
case.sh          even_odd.sh      greet.sh         loops.sh        read.sh         shellscrip.sh  variables.sh
conditions.sh    final_bash_assignment.sh  hello.sh        mc1.sh         sample.sh      sig.conf       work_with_files.sh
cpuinfo.sh      functions.sh      log_file.log     read_lines.sh  sample.txt     user_check.sh  work_with_files.txt
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ cat sig.conf
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ ./final_bash_assignment.sh
Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: INGESTOR
Enter Scale [MID/HIGH/LOW]: LOW
Enter View [Auction/Bid]: Auction
Enter Count (0-9): 11
Invalid Count. Enter single digit (0-9) :)
Enter Count (0-9): 1
Got the valid inputs!
Finding the maching from the file sig.conf....
This input is not on the file.
Appending this to the file.
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ ./final_bash_assignment.sh
Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: INGESTOR
Enter Scale [MID/HIGH/LOW]: LOW
Enter View [Auction/Bid]: Auction
Enter Count (0-9): 1
Got the valid inputs!
Finding the maching from the file sig.conf....
This input is already present in the file. Try with different values!
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ ./final_bash_assignment.sh
Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: INGESTOR
Enter Scale [MID/HIGH/LOW]: HIGH
Enter View [Auction/Bid]: Bid
Enter Count (0-9): 4
Got the valid inputs!

```

```
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ ./final_bash_assignment.sh
Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: INGESTOR
Enter Scale [MID/HIGH/LOW]: HIGH
Enter View [Auction/Bid]: Bid
Enter Count (0-9): 4
Got the valid inputs!
Finding the matching from the file sig.conf....
This input is not on the file.
Appending this to the file.
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ cat sig.conf
vdopiasample ; LOW ; INGESTOR ; ETL ; vdopia-etl=1
vdopiasample-bid ; HIGH ; INGESTOR ; ETL ; vdopia-etl=4
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ ./final_bash_assignment.sh
Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: INGESTOR
Enter Scale [MID/HIGH/LOW]: HIGH
Enter View [Auction/Bid]: Bid
Enter Count (0-9): 7
Got the valid inputs!
Finding the matching from the file sig.conf....
Match found!!
Updating the line.
Updated.
2: vdopiasample-bid ; HIGH ; INGESTOR ; ETL ; vdopia-etl=4
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$ cat sig.conf
vdopiasample ; LOW ; INGESTOR ; ETL ; vdopia-etl=1
vdopiasample-bid ; HIGH ; INGESTOR ; ETL ; vdopia-etl=7
sigmoid@sigmoid-ThinkPad-E14:~/Desktop/doc$
```