SHELL SCRIPT ASSIGNMENT

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Q1)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.

Answer:-

Whoami:- /home/sigmoid

Step 1:

Create a **Sig.conf :-**

The Sig.conf file is a configuration file that follows a specific format. Each line in the file represents a configuration entry.

format:- <view> ; <scale> ; <component name> ; ETL ; <prefix>= <count>

Step 2:

Create a shell Script **Sys.sh** that validates the inputs, constructs the appropriate

pattern, and replaces the matching line in the file. Here's a detailed step-by-step shell script to meet the requirements:

1)**User Input**:

- The script prompts the user for inputs related to component name, scale, view, and count, and keeps asking until valid input is provided.

```
read -p "Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: "
COMPONENT
while ! validate_component "$COMPONENT"; do
  read -p "Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: "
COMPONENT
 done

read -p "Enter Scale [MID/HIGH/LOW]: " SCALE
while ! validate_scale "$SCALE"; do
  read -p "Enter Scale [MID/HIGH/LOW]: " SCALE
done

read -p "Enter View [Auction/Bid]: " VIEW
 while ! validate_view "$VIEW"; do
    read -p "Enter View [Auction/Bid]: " VIEW
done

read -p "Enter Count [single digit number]: " COUNT
while ! validate_count "$COUNT"; do
  read -p "Enter Count [single digit number]: " COUNT
done
```

2)**Validation Functions**:

- **`validate_component()`**, **`validate_scale()`**, **`validate_view()`**, **and `validate_count()`** ensure that user inputs are valid according to the predefined options.

```
validate_component() {
  case "$1" in
    INGESTOR|JOINER|WRANGLER|VALIDATOR) return 0 ;;
```

```
        *) echo "Invalid Component Name. Choose from INGESTOR, JOINER, WRANGLER, VALIDATOR."; return 1 ;;
    esac
}
validate_scale() {
    case "$1" in
        MID|HIGH|LOW) return 0 ;;
        *) echo "Invalid Scale. Choose from MID, HIGH, LOW."; return 1 ;;
    esac
}
validate_view() {
    case "$1" in
        Auction|Bid) return 0 ;;
        *) echo "Invalid View. Choose from Auction, Bid."; return 1 ;;
    esac
}
validate_count() {
    if [[ "$1" =~ ^[0-9]$ ]]; then
        return 0
    else
        echo "Invalid Count. Enter a single digit number.";
        return 1
    fi
}
```

3)**Determine View Prefix**:

- Based on the user's choice of **`View`,** the correct prefix (vdopiasampleor `or` vdopiasample-bid) is set.

if ["$VIEW" == "Auction"]; then

VIEW_PREFIX="vdopia-etl"

elif ["$VIEW" == "Bid"]; then

VIEW_PREFIX="vdopia-bid"

Fi

4)Construct New Line:

- The new configuration line is constructed using the user's inputs.

NEW_LINE="$VIEW ; $SCALE ; $COMPONENT ; ETL ; $VIEW_PREFIX= $COUNT"

5)Replace the Matching Line Using `sed`

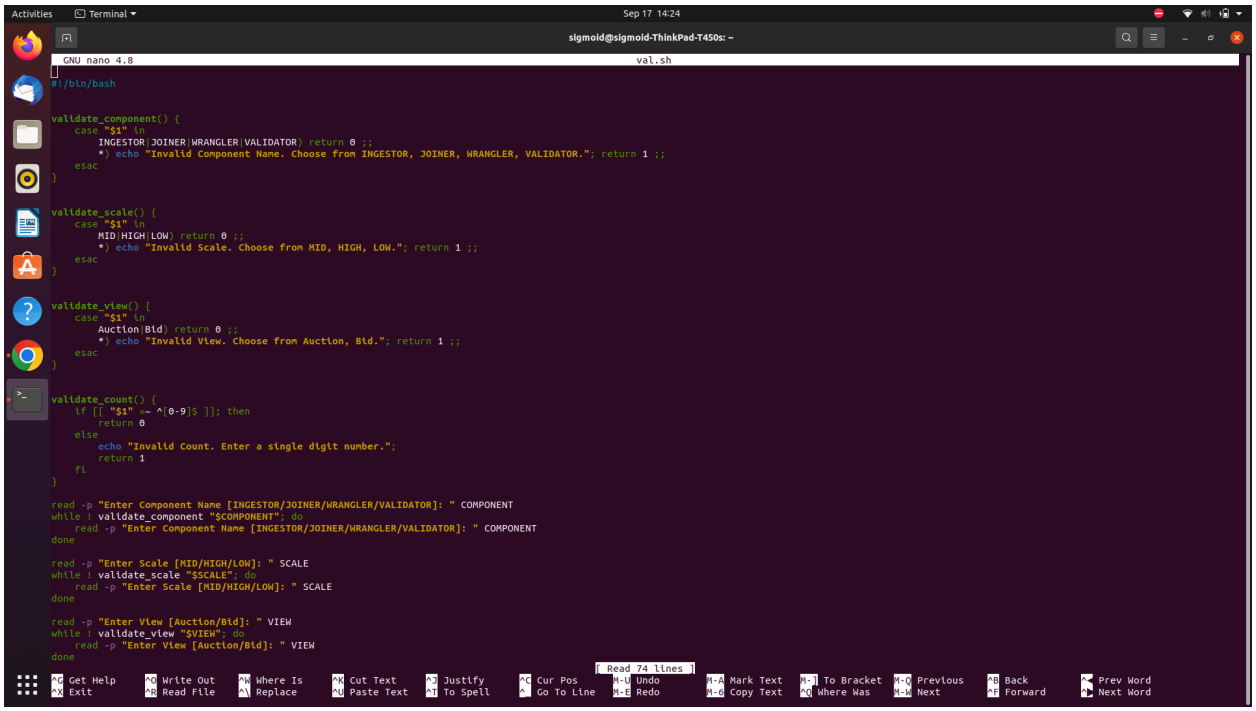
Use `sed` to find and replace the line in `sig.conf` that matches the pattern. The `sed` command will look for the exact line and replace it with the new configuration line

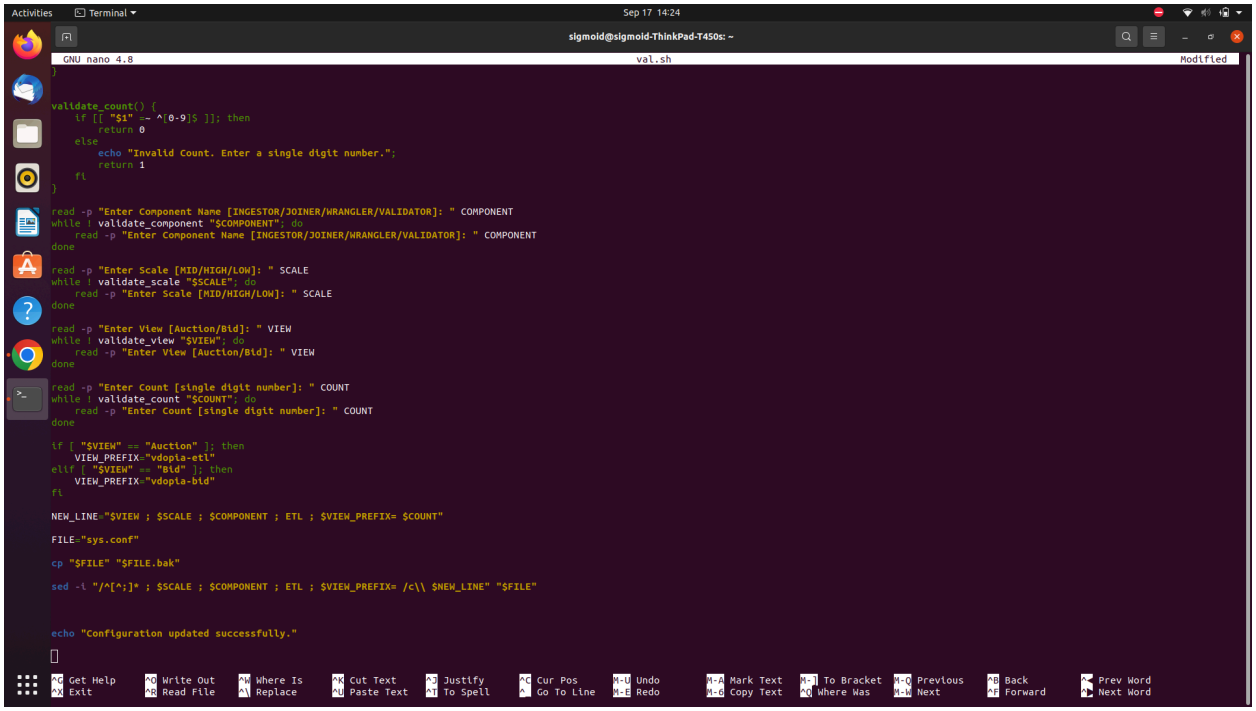
sed -i "/^[^;]* ; $SCALE ; $COMPONENT ; ETL ; $VIEW_PREFIX= /c\\ $NEW_LINE" "$FILE"

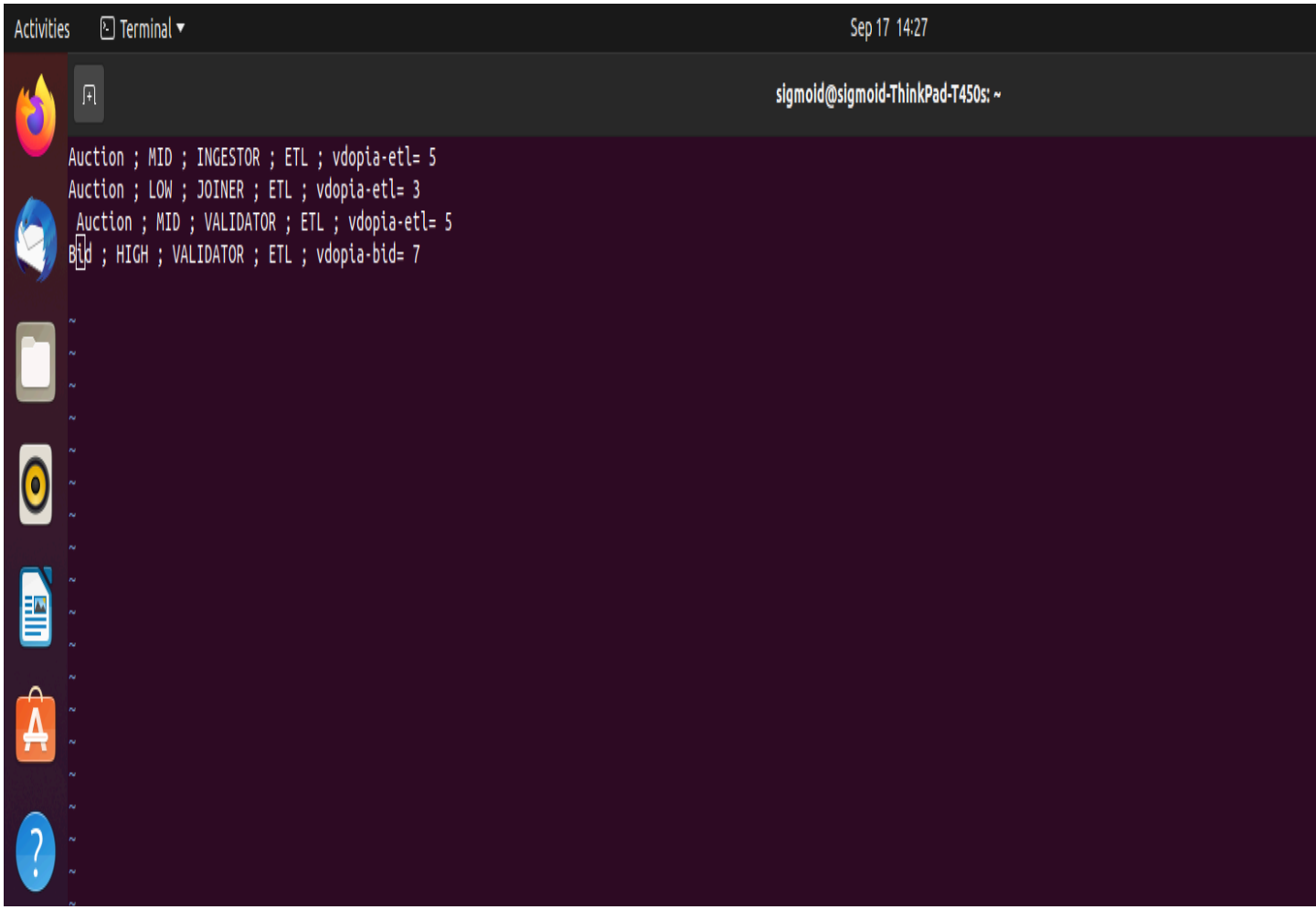
6)Confirms the Update:

- The script prints a message indicating that the configuration has been updated successfully.

echo "Configuration updated successfully."


Activities
Terminal
Sep 17 14:24
sigmoid@sigmoid-ThinkPad-T450s: ~
GNU nano 4.8
val.sh
#!/bin/bash
validate_component() {
case "$1" in
INGESTOR|JOINER|WRANGLER|VALIDATOR) return 0 ;;
*) echo "Invalid Component Name. Choose from INGESTOR, JOINER, WRANGLER, VALIDATOR."; return 1 ;;
esac
}
validate_scale() {
case "$1" in
MID|HIGH|LOW) return 0 ;;
*) echo "Invalid Scale. Choose from MID, HIGH, LOW."; return 1 ;;
esac
}
validate_view() {
case "$1" in
Auction|Bid) return 0 ;;
*) echo "Invalid View. Choose from Auction, Bid."; return 1 ;;
esac
}
validate_count() {
if [["$1" =~ ^[0-9]$]]; then
return 0
else
echo "Invalid Count. Enter a single digit number.";
return 1
fi
}
read -p "Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: " COMPONENT
while ! validate_component "$COMPONENT"; do
read -p "Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: " COMPONENT
done
read -p "Enter Scale [MID/HIGH/LOW]: " SCALE
while ! validate_scale "$SCALE"; do
read -p "Enter Scale [MID/HIGH/LOW]: " SCALE
done
read -p "Enter View [Auction/Bid]: " VIEW
while ! validate_view "$VIEW"; do
read -p "Enter View [Auction/Bid]: " VIEW
done
[Read 74 lines]
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos M-U Undo M-A Mark Text M-] To Bracket M-Q Previous ^B Back ^← Prev Word
^X Exit ^R Read File ^\ Replace ^U Paste Text ^T To Spell ^_ Go To Line M-E Redo M-6 Copy Text ^Q Where Was M-W Next ^F Forward ^→ Next Word

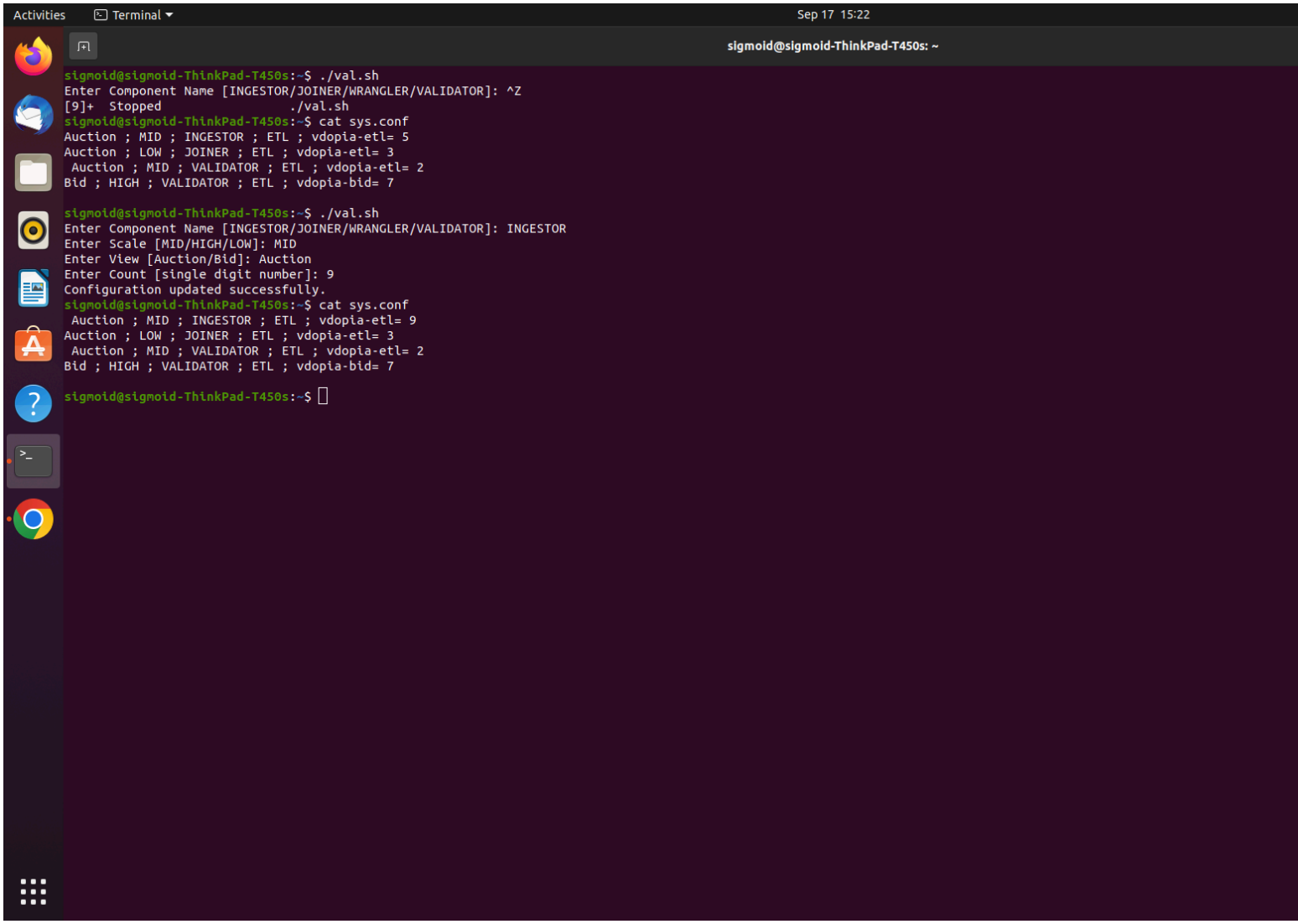

Activities
Terminal
Sep 17 14:24
sigmoid@sigmoid-ThinkPad-T450s: ~
GNU nano 4.8
val.sh
Modified
}
validate_count() {
if [["$1" =~ ^[0-9]$]]; then
return 0
else
echo "Invalid Count. Enter a single digit number.";
return 1
fi
}
read -p "Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: " COMPONENT
while ! validate_component "$COMPONENT"; do
read -p "Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: " COMPONENT
done
read -p "Enter Scale [MID/HIGH/LOW]: " SCALE
while ! validate_scale "$SCALE"; do
read -p "Enter Scale [MID/HIGH/LOW]: " SCALE
done
read -p "Enter View [Auction/Bid]: " VIEW
while ! validate_view "$VIEW"; do
read -p "Enter View [Auction/Bid]: " VIEW
done
read -p "Enter Count [single digit number]: " COUNT
while ! validate_count "$COUNT"; do
read -p "Enter Count [single digit number]: " COUNT
done
if ["$VIEW" == "Auction"]; then
VIEW_PREFIX="vdopia-etl"
elif ["$VIEW" == "Bid"]; then
VIEW_PREFIX="vdopia-bid"
fi
NEW_LINE="$VIEW ; $SCALE ; $COMPONENT ; ETL ; $VIEW_PREFIX= $COUNT"
FILE="sys.conf"
cp "$FILE" "$FILE.bak"
sed -i "/^[^;]* ; $SCALE ; $COMPONENT ; ETL ; $VIEW_PREFIX= /c\\ $NEW_LINE" "$FILE"
echo "Configuration updated successfully."
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos M-U Undo M-A Mark Text M-] To Bracket M-Q Previous ^B Back ^← Prev Word
^X Exit ^R Read File ^\ Replace ^U Paste Text ^T To Spell ^_ Go To Line M-E Redo M-6 Copy Text ^Q Where Was M-W Next ^F Forward ^→ Next Word



sigmoid@sigmoid-ThinkPad-T450s:~$ ./Sys.sh
Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: VALIDATOR
Enter Scale [MID/HIGH/LOW]: MID
Enter View [Auction/Bid]: Auction
Enter Count [single digit number]: 2
Configuration updated successfully.

>**cat sys.sh**

Auction ; MID ; INGESTOR ; ETL ; vdopia-etl= 9
Auction ; LOW ; JOINER ; ETL ; vdopia-etl= 3
Auction ; MID ; VALIDATOR ; ETL ; vdopia-etl= 2
Bid ; HIGH ; VALIDATOR ; ETL ; vdopia-bid= 7


Activities
Terminal
Sep 17 15:22
sigmoid@sigmoid-ThinkPad-T450s: ~
sigmoid@sigmoid-ThinkPad-T450s:~$ ./val.sh
Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: ^Z
[9]+ Stopped ./val.sh
sigmoid@sigmoid-ThinkPad-T450s:~$ cat sys.conf
Auction ; MID ; INGESTOR ; ETL ; vdopia-etl= 5
Auction ; LOW ; JOINER ; ETL ; vdopia-etl= 3
Auction ; MID ; VALIDATOR ; ETL ; vdopia-etl= 2
Bid ; HIGH ; VALIDATOR ; ETL ; vdopia-bid= 7
sigmoid@sigmoid-ThinkPad-T450s:~$ ./val.sh
Enter Component Name [INGESTOR/JOINER/WRANGLER/VALIDATOR]: INGESTOR
Enter Scale [MID/HIGH/LOW]: MID
Enter View [Auction/Bid]: Auction
Enter Count [single digit number]: 9
Configuration updated successfully.
sigmoid@sigmoid-ThinkPad-T450s:~$ cat sys.conf
Auction ; MID ; INGESTOR ; ETL ; vdopia-etl= 9
Auction ; LOW ; JOINER ; ETL ; vdopia-etl= 3
Auction ; MID ; VALIDATOR ; ETL ; vdopia-etl= 2
Bid ; HIGH ; VALIDATOR ; ETL ; vdopia-bid= 7
sigmoid@sigmoid-ThinkPad-T450s:~$