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Task 5: Log Rotation Documentation

# Script Overview

The provided shell script performs the following tasks:  
1. Rotates and compresses logs for specified services.  
2. Removes old compressed logs older than a specified retention period.  
3. Sends a notification email to the system administrator once the log rotation is complete.  
4. Provides a prompt indicating the script is running successfully.

# Variables

 **SERVICES**: An array of services for which logs will be rotated (e.g., httpd, sshd).

 **LOG\_FILES**: An array of log file paths corresponding to the services.

 **RETENTION\_DAYS**: The number of days to retain old compressed logs before deletion.

 **EMAIL**: The email address to send the notification to.

 **EMAIL\_SUBJECT**: The subject line of the notification email.

 **EMAIL\_BODY**: The file path for the temporary email body content.

# Log Rotation and Compression

The script iterates through each service and corresponding log file. It checks if the log file exists and, if it does, renames the log file with a timestamp, compresses it, and then touches a new empty log file to continue logging.

# Removing Old Compressed Logs

The script uses the find command to locate and delete old compressed log files (\*.log.\*.gz) older than the specified RETENTION\_DAYS.

# Notification Email

The script constructs an email body in EMAIL\_BODY and sends an email using sendmail with the constructed body and subject.

# Script Execution Confirmation

The script prints messages to indicate successful execution, including confirmation of email delivery.

# The Script

#!/bin/bash  
  
# Set variables  
SERVICES=("httpd" "sshd")  
LOG\_FILES=("/var/log/httpd/access\_log" "/var/log/secure")  
RETENTION\_DAYS=30  
EMAIL="secretchapshoorveer802@gmail.com"  
EMAIL\_SUBJECT="Log Rotation Complete"  
EMAIL\_BODY="/tmp/email\_body.txt"  
  
# Rotate and compress logs  
for INDEX in "${!SERVICES[@]}"; do  
 SERVICE=${SERVICES[$INDEX]}  
 LOG\_FILE=${LOG\_FILES[$INDEX]}  
   
 if [ -f "$LOG\_FILE" ]; then  
 # Rotate and compress the log file  
 TIMESTAMP=$(date +'%Y%m%d%H%M%S')  
 COMPRESSED\_FILE="$LOG\_FILE.$TIMESTAMP.gz"  
 mv "$LOG\_FILE" "$LOG\_FILE.$TIMESTAMP"  
 gzip "$LOG\_FILE.$TIMESTAMP"  
 touch "$LOG\_FILE"  
 echo "Rotated and compressed log for $SERVICE."  
 else  
 echo "Log file for $SERVICE not found."  
 fi  
done  
  
# Remove old compressed logs older than retention period  
find "$LOG\_DIR" -type f -name "\*.log.\*.gz" -mtime +$RETENTION\_DAYS -exec rm -f {} 2>/dev/null \;  
echo "Old compressed logs older than $RETENTION\_DAYS days have been removed."  
  
# Send notification email  
{  
 echo "The log rotation task has been completed successfully."  
 echo ""  
 echo "Logs for the following services have been rotated and compressed:"  
 for SERVICE in "${SERVICES[@]}"; do  
 echo "- $SERVICE"  
 done  
 echo ""  
 echo "Old compressed logs older than $RETENTION\_DAYS days have been removed."  
} > "$EMAIL\_BODY"  
  
# Send the email  
sendmail "$EMAIL" <<EOF  
Subject: $EMAIL\_SUBJECT  
$(cat $EMAIL\_BODY)  
EOF  
  
echo "Notification email sent to $EMAIL."  
  
# Prompt to indicate script is running  
echo "Log rotation script executed successfully."

# Verification Commands

1. **Check Log File Presence :**

To verify that the log files exist before running the script, use the following command

“ sudo ls -l /var/log/httpd/access\_log /var/log/secure ”

2. **Check Compressed Logs :**

After running the script, check for the existence of the compressed logs.

“ sudo ls -l /var/log/httpd/access\_log.\*.gz /var/log/secure.\*.gz ”

3. **Check Removed Old Logs :**

To verify that old logs have been removed, use

“ sudo find /var/log/httpd -type f -name "\*.log.\*.gz" -mtime +30 “

“ sudo find /var/log -type f -name "secure.\*.gz" -mtime +30 “

# Cron Job Setup

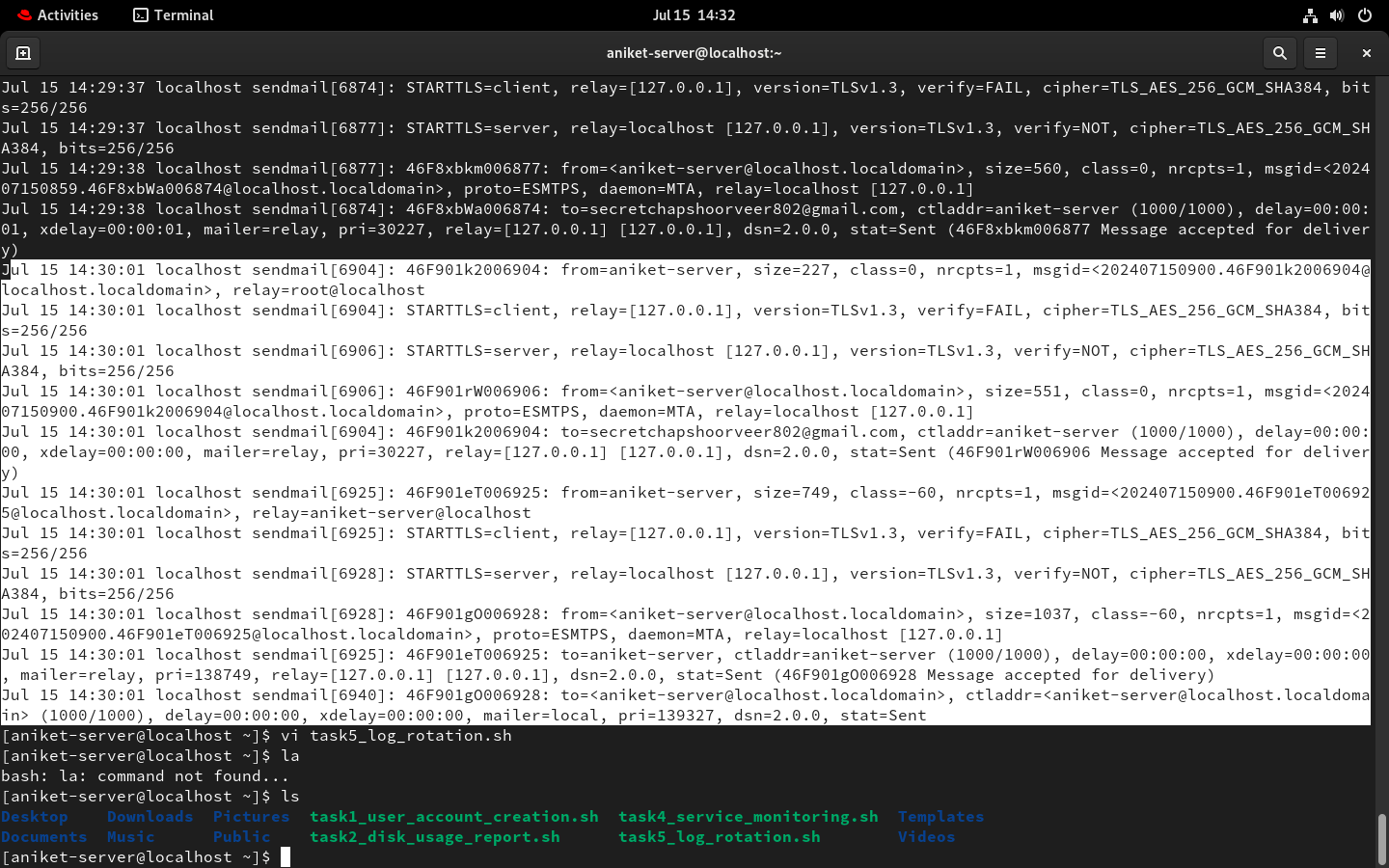
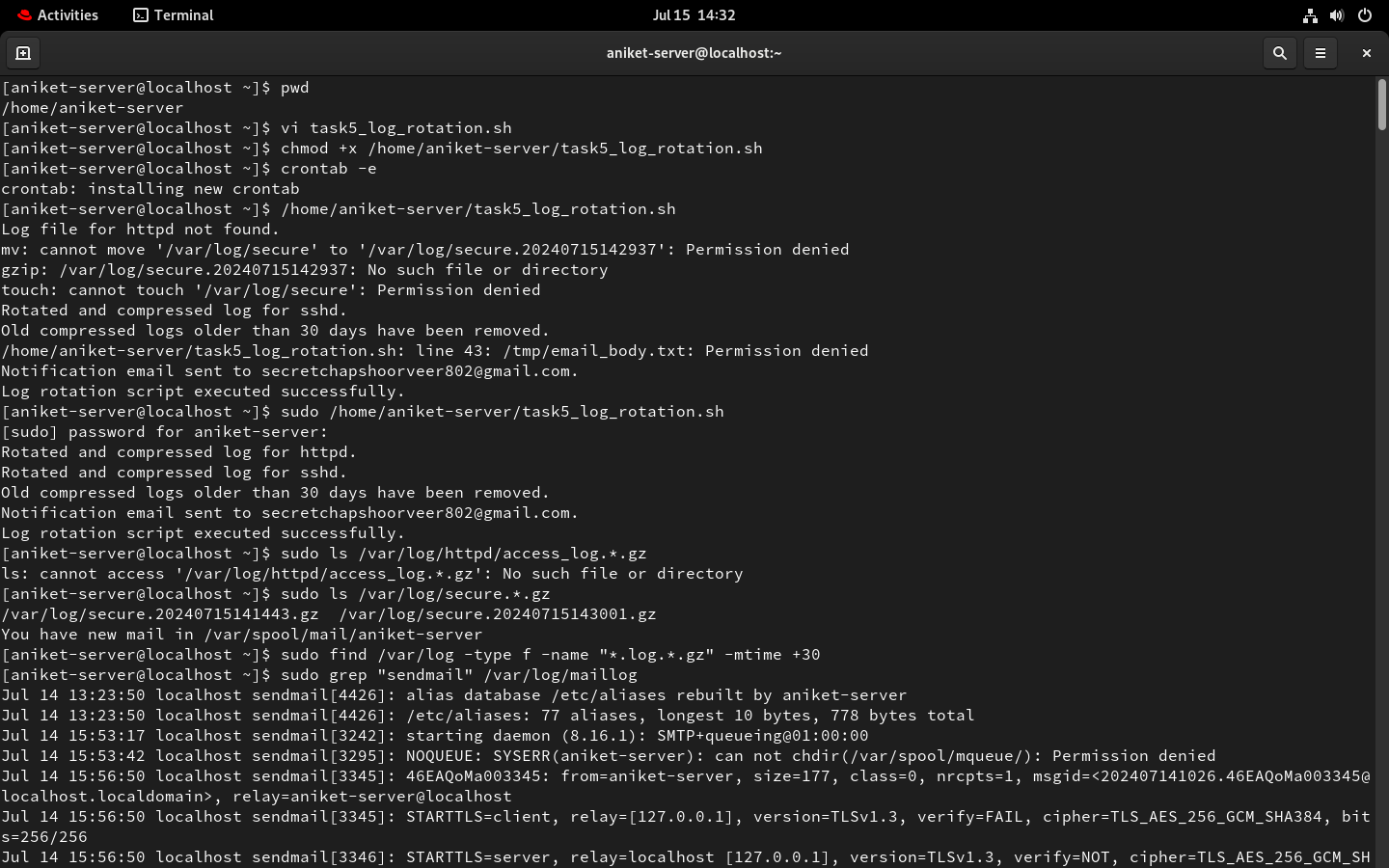
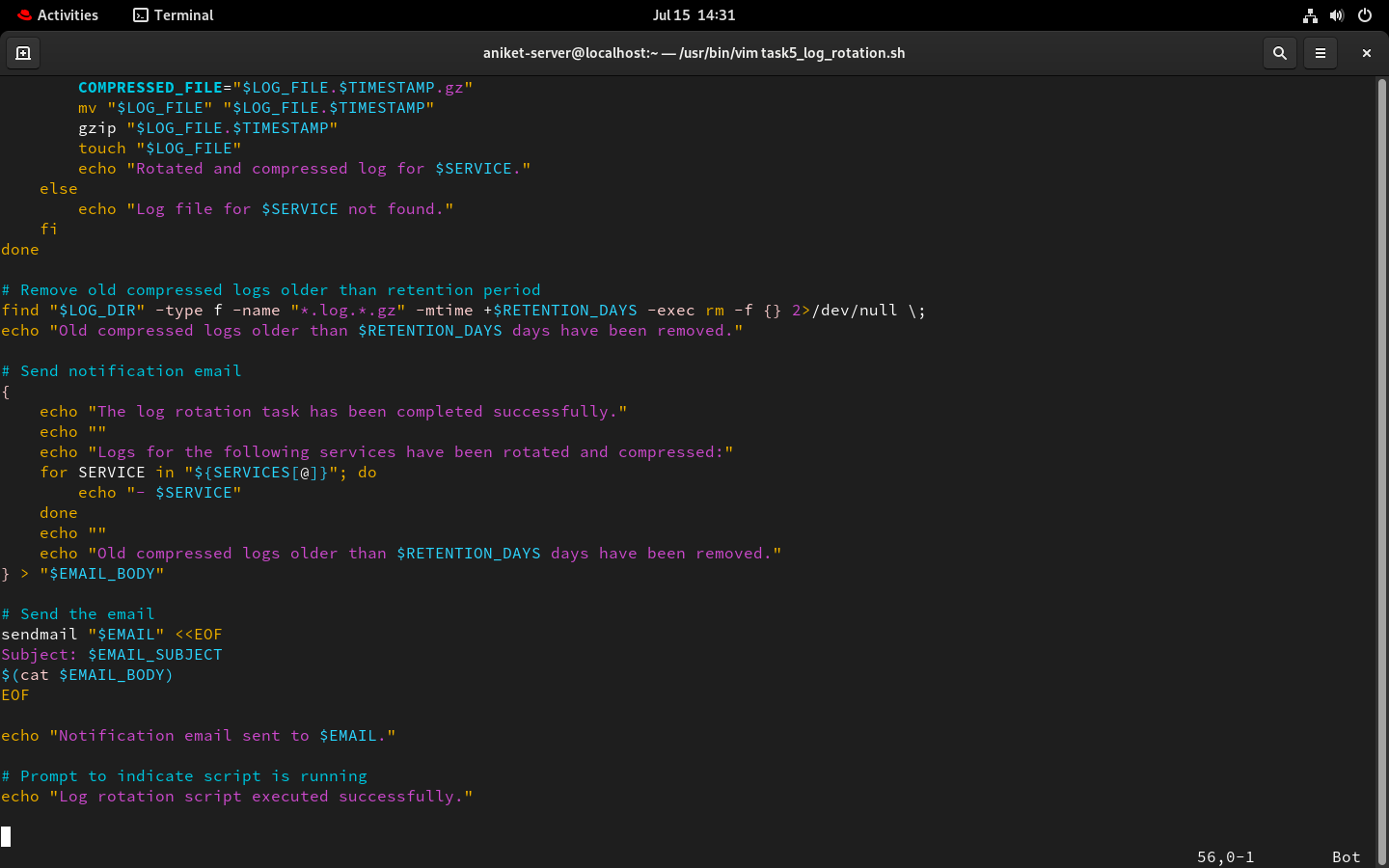
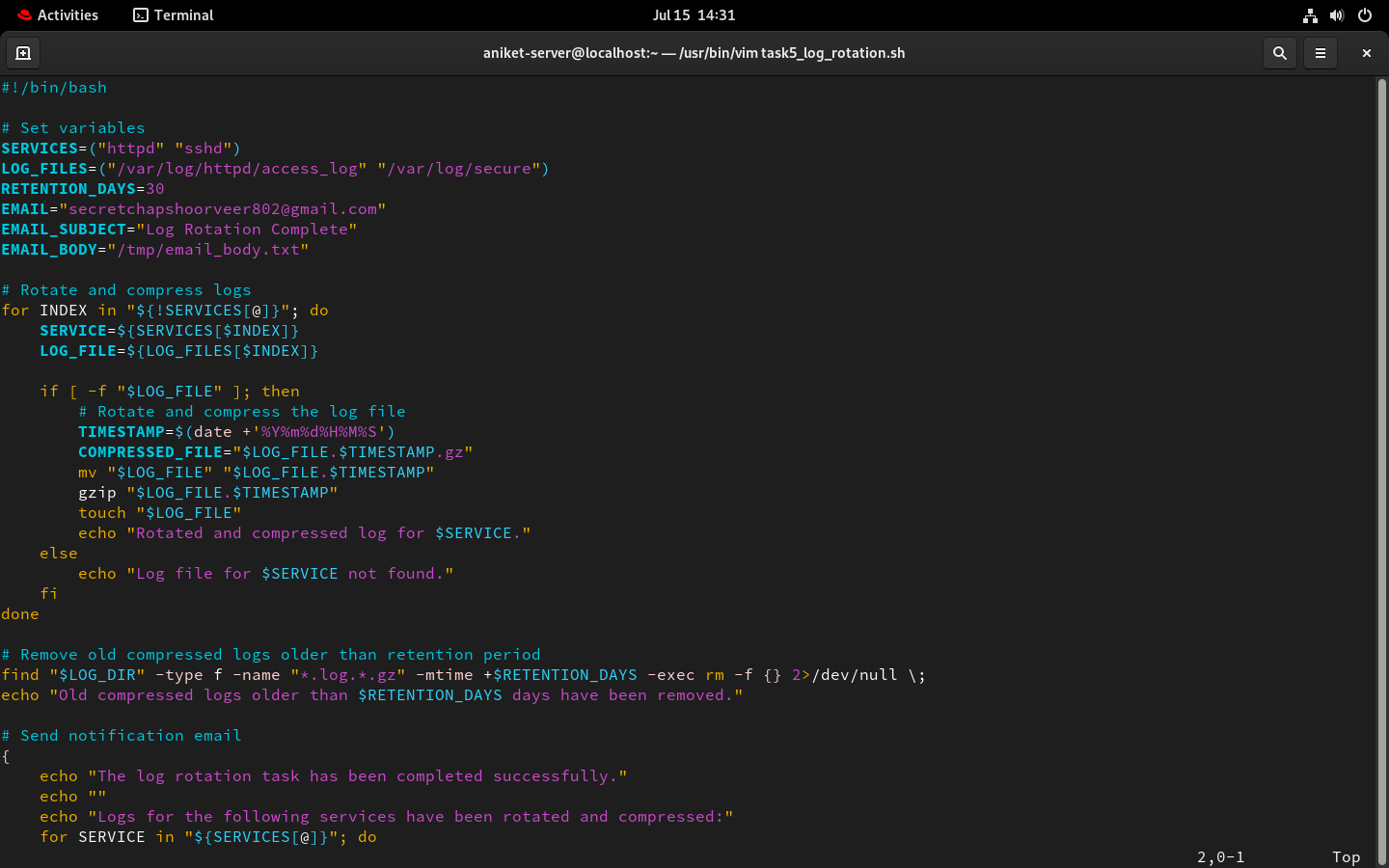
To automate the log rotation process, add a cron job. Below is the example of how to set up a weekly cron job. The following line schedules the script to run weekly at 2 AM on Sundays.

“ 0 2 \* \* 0 /home/aniket-server/task5\_log\_rotation.sh “

# Conclusion

This script automates the process of log rotation and compression for specified services, ensuring logs do not consume excessive disk space. It also sends a notification email to inform the user of the task completion.

# Script’s Screenshots:

A screenshot of a computer

Description automatically generated