

Project Title: Bash Scripting Suite for System Maintenance

1. Introduction

I have developed a System Maintenance Suite, a set of Bash scripts designed to simplify basic system maintenance tasks on Windows or Linux using Git Bash. This suite allows me to perform backups of important documents, clean temporary files, and monitor system logs, all from a simple menu-driven interface.

2. Project Objectives

- Automate the backup of critical files.
 - Clean temporary files and empty the Recycle Bin.
 - Monitor Windows system logs for errors.
 - Provide an easy-to-use menu interface to perform maintenance tasks efficiently.
-

3. Project Codes

backup.sh

```
#!/bin/bash
# backup.sh - Backup Documents folder

SOURCE_DIR="/c/Users/HP/Documents"
BACKUP_DIR="/c/Users/HP/Desktop/AbhijitBehura/MaintenanceSuite/backups"
LOG_DIR="/c/Users/HP/Desktop/AbhijitBehura/MaintenanceSuite/logs"
LOG_FILE="$LOG_DIR/backup.log"
DATE=$(date +'%Y-%m-%d_%H-%M-%S')
BACKUP_FILE="$BACKUP_DIR/backup_$DATE.tar.gz"

mkdir -p "$BACKUP_DIR" "$LOG_DIR"

echo "[ $(date) ] Starting backup..." | tee -a "$LOG_FILE"

tar -czf "$BACKUP_FILE" "$SOURCE_DIR" >>"$LOG_FILE" 2>&1
if [ $? -eq 0 ]; then
    echo "☑ Backup successful: $BACKUP_FILE" | tee -a "$LOG_FILE"
else
    echo "☒ Backup failed! Check $LOG_FILE for details." | tee -a
"$LOG_FILE"
fi
```

update_cleanup.sh

```
#!/bin/bash
# update_cleanup.sh - Clean temporary files

LOG_DIR="/c/Users/HP/Desktop/AbhijitBehura/MaintenanceSuite/logs"
LOG_FILE="$LOG_DIR/cleanup.log"
mkdir -p "$LOG_DIR"

echo "[ $(date) ] Starting cleanup..." | tee -a "$LOG_FILE"

echo "⌚ Cleaning temporary files..." | tee -a "$LOG_FILE"
rm -rf /c/Users/HP/AppData/Local/Temp/* >>"$LOG_FILE" 2>&1

echo "♻️ Emptying Recycle Bin..." | tee -a "$LOG_FILE"
powershell.exe -NoProfile -Command "Clear-RecycleBin -Confirm:$false"
>>"$LOG_FILE" 2>&1

echo "☑ Cleanup completed!" | tee -a "$LOG_FILE"
```

log_monitor.sh

```
#!/bin/bash
# log_monitor.sh - Monitor Windows Event Logs for errors

LOG_DIR="/c/Users/HP/Desktop/AbhijitBehura/MaintenanceSuite/logs"
ALERT_FILE="$LOG_DIR/log_alerts.txt"
LOG_FILE="$LOG_DIR/log_monitor.log"

mkdir -p "$LOG_DIR"
echo "[ $(date) ] Checking Windows event logs..." | tee -a "$LOG_FILE"

powershell.exe -NoProfile -Command "Get-EventLog -LogName System -Newest 100"
> "$ALERT_FILE" 2>>"$LOG_FILE"

grep -i "error" "$ALERT_FILE" > "$LOG_DIR/errors_found.txt" || true

if [ -s "$LOG_DIR/errors_found.txt" ]; then
    echo "⚠️ Errors found! Check: $LOG_DIR/errors_found.txt" | tee -a "$LOG_FILE"
else
    echo "☑ No recent errors found." | tee -a "$LOG_FILE"
fi
```

maintenance_menu.sh

```
#!/bin/bash
# maintenance_menu.sh - Main menu for Maintenance Suite
```

```

BASE_DIR="/c/Users/HP/Desktop/AbhijitBehura/MaintenanceSuite"

while true; do
    clear
    echo "====="
    echo "  └ System Maintenance Suite"
    echo "====="
    echo "1) Backup Documents"
    echo "2) System Cleanup"
    echo "3) Log Monitoring"
    echo "4) Exit"
    echo "-----"
    read -p "Choose an option [1-4]: " choice

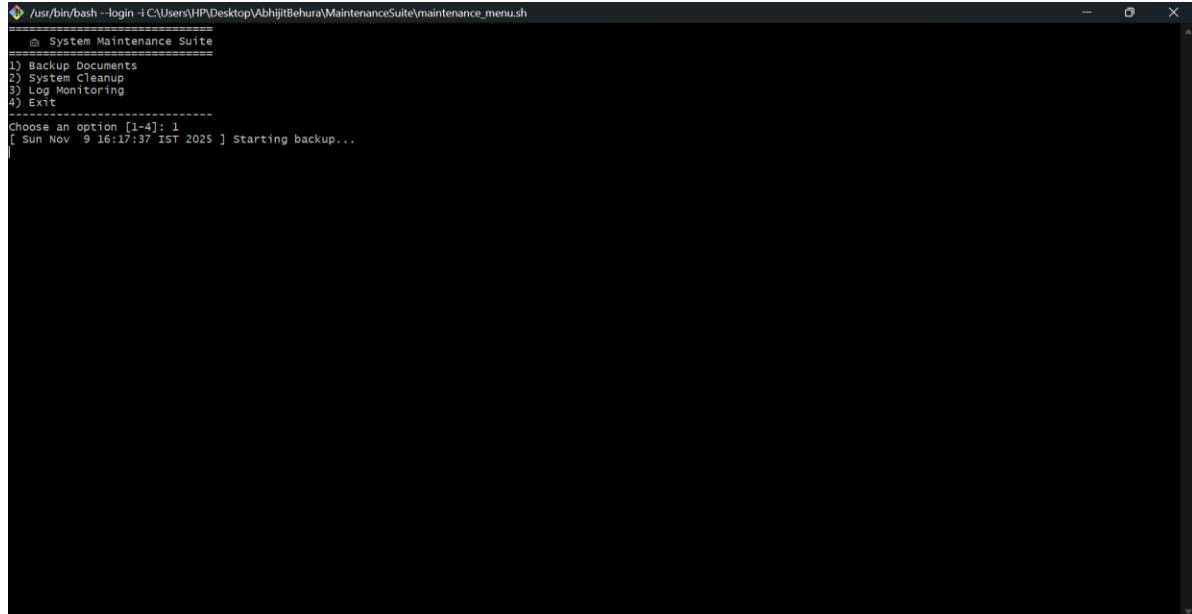
    case $choice in
        1) bash "$BASE_DIR/backup.sh" ;;
        2) bash "$BASE_DIR/update_cleanup.sh" ;;
        3) bash "$BASE_DIR/log_monitor.sh" ;;
        4) echo "✋ Exiting..."; exit 0 ;;
        *) echo "❌ Invalid option, try again." ;;
    esac

    echo ""
    read -p "Press Enter to continue..."
done

```

4. Full Screenshots

- Backup Execution Screenshot:



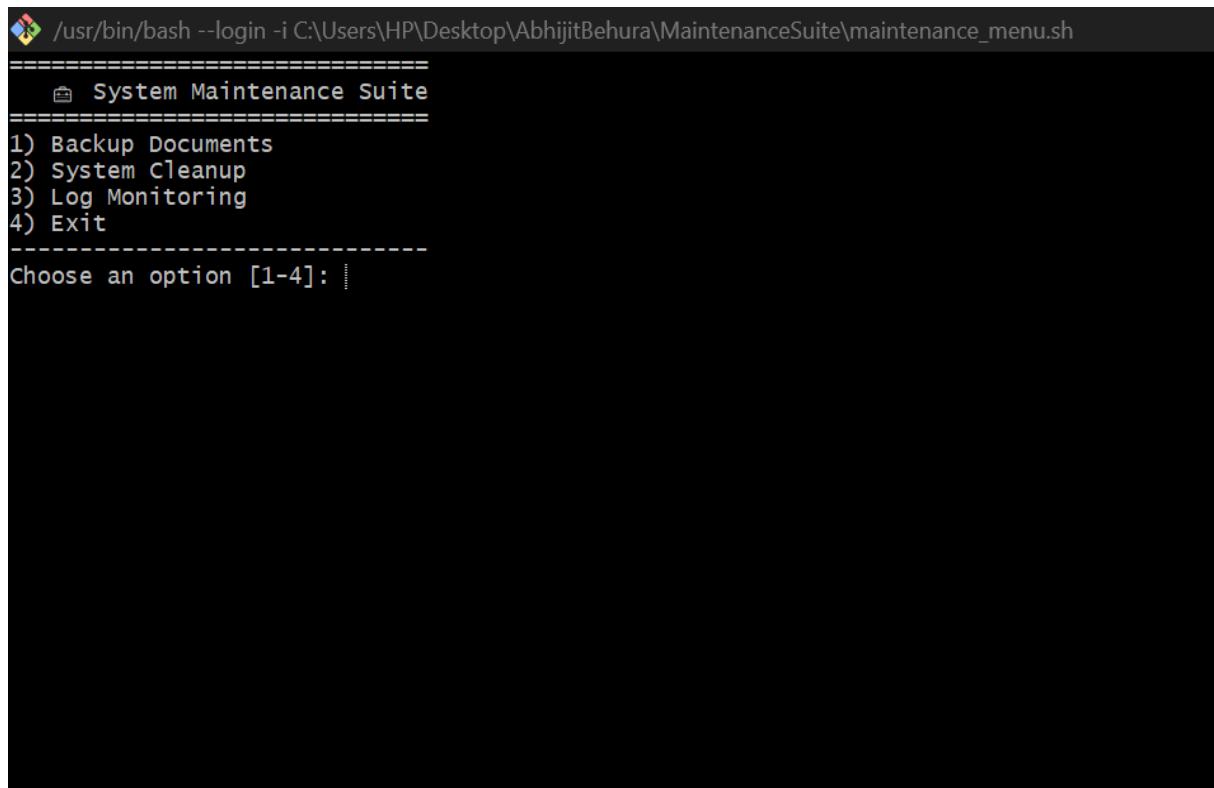
- Cleanup Script Screenshot:

```
/usr/bin/bash --login -i C:\Users\HP\Desktop\AbhijitBehura\MaintenanceSuite\maintenance_menu.sh
=====
  System Maintenance Suite
=====
1) Backup Documents
2) System Cleanup
3) Log Monitoring
4) Exit
-----
Choose an option [1-4]: 2
[ Sun Nov 9 16:15:33 IST 2025 ] Starting cleanup...
  Cleaning temporary files...
  Emptying Recycle Bin...
  Cleanup completed!
Press Enter to continue...|
```

- Log Monitoring Screenshot:

```
/usr/bin/bash --login -i C:\Users\HP\Desktop\AbhijitBehura\MaintenanceSuite\maintenance_menu.sh
=====
  System Maintenance Suite
=====
1) Backup Documents
2) System Cleanup
3) Log Monitoring
4) Exit
-----
Choose an option [1-4]: 3
[ Sun Nov 9 16:16:47 IST 2025 ] Checking windows event logs...
  Errors found! Check: /c/Users/HP/Desktop/AbhijitBehura/MaintenanceSuite/logs/errors_found.txt
Press Enter to continue...|
```

- Menu Interface Screenshot:



The screenshot shows a terminal window with a black background and white text. At the top, it displays the command: "/usr/bin/bash --login -i C:\Users\HP\Desktop\AbhijitBehura\MaintenanceSuite\maintenance_menu.sh". Below this, there is a menu titled "System Maintenance Suite" with a dashed border. The menu options are listed as follows:

```
=====
  System Maintenance Suite
=====
1) Backup Documents
2) System Cleanup
3) Log Monitoring
4) Exit
-----
Choose an option [1-4]: |
```

5. GitHub Repository

The public GitHub repository for this project is:

<https://github.com/W-h-i-t-e-d-e-v-i-l/MaintenanceSuite>

6. Conclusion

This project demonstrates the creation of a simple yet effective system maintenance suite for Windows using Bash scripts. It automates backups, cleans temporary files, and monitors system logs through an easy-to-use menu, showcasing practical scripting skills and system management techniques.