

Bash Scripting Suite for System Maintenance

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Branch: CSE

Wipro Batch Name: Batch 9

CODE:

Day 1:

```
#!/bin/bash

echo "Current user is : $USER"

# Directories to back up
source_dir="/var/backups"

# Destination folder
dest_dir="/home/$USER/system_backups"

# Create destination folder if it doesn't exist
mkdir -p "$dest_dir"

# Create timestamp
timestamp=$(date +"%Y-%m-%d_%H-%M-%S")

# Backup filename
dest_file="$dest_dir/system_backup_$timestamp.tar.gz"

echo "System backup starting ..."

# Create the tar archive
```

```
sudo tar -czf "$dest_file" $source_dir

# Check the exit status of tar command
if [ $? -eq 0 ]; then
    echo "Backup done successfully!"
    echo "File saved at: $dest_file"
else
    echo "Backup failed!"
    exit 1
fi
```

Day-2

```
#!/bin/bash

#System update and clean the system
sudo apt update -y && sudo apt upgrade -y
sudo apt autoremove -y
sudo apt autoclean -y

echo "System update/clean successful."

# apt update refreshes package lists.
# apt upgrade installs the latest versions.
# autoremove deletes unused packages.
# autoclean removes cached package files.
```

Day-3

```
#!/bin/bash

# Script to monitor logs

LOGS="/var/log/syslog"
ALERT_FILE="/tmp/alerts.txt"

# Check if alert file exists, else create it
if [ ! -f "$ALERT_FILE" ]; then
    echo "Alert file not found. Creating $ALERT_FILE..."
    touch "$ALERT_FILE"
```

```
fi

echo "Checking logs for errors..."
grep -i "error" "$LOGS" > "$ALERT_FILE"

# Check if the alert file is not empty
if [ -s "$ALERT_FILE" ]; then
    echo "Errors found in system logs! ->"
    cat "$ALERT_FILE"
else
    echo "No errors found."
fi
```

Day-4

```
#!/bin/bash

#Main maintenance suite menu

while true; do
    echo "1. System Backup"
    echo "2. System Update and Cleanup"
    echo "3. Log Monitoring"
    echo "4. Exit"
    read -p "Enter your choice: " num

    case $num in
        1) ./Day1.sh ;;
        2) ./Day2.sh ;;
        3) ./Day3.sh ;;
        4) echo "Exiting..."; exit 0 ;;
        *) echo "Invalid choice! Please try again." ;;
    esac
done
```

Day-5

```
#!/bin/bash
```

```
LOGFILE="$HOME/maintenance.log"
{
    echo "System Update at $(date)"
    sudo apt update -y && sudo apt upgrade -y
    sudo apt autoremove -y && sudo apt autoclean -y
    echo "Update Completed at $(date)"
} >> "$LOGFILE" 2>&1

if [ $? -eq 0 ]; then
    echo "System update successful. Log saved to $LOGFILE"
    cat $LOGFILE
else
    echo "System update failed. Check $LOGFILE for details."
fi
```

OUTPUT SCREENSHOTS

```
asish@DESKTOP-0G9MJDL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ chmod +x Day1.sh
asish@DESKTOP-0G9MJDL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ ./backup_system.sh
-bash: ./backup_system.sh: No such file or directory
asish@DESKTOP-0G9MJDL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ ./Day1.sh
Current user is : asish
System backup starting ...
[sudo] password for asish:
tar: Removing leading `/' from member names
Backup done successfully!
File saved at: /home/asish/system_backups/system_backup_2025-11-09_16-00-53.tar.gz
asish@DESKTOP-0G9MJDL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$
```

```
asish@DESKTOP-0G9MJDL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ chmod +x Day2.sh
asish@DESKTOP-0G9MJDL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ ./Day2.sh
Hit:1 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:2 http://archive.ubuntu.com/ubuntu jammy InRelease
Hit:3 http://archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
64 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  htop libnl-3-200 libnl-genl-3-200
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  adwaita-icon-theme at-spi2-core bc cloud-guest-utils cloud-init dconf-gsettings-backend dconf-service eatmydata fdisk fontconfig gdisk
  gsettings-desktop-schemas gtk-update-icon-cache hicolor-icon-theme humanity-icon-theme landscape-client landscape-common libatk2-0-0
  libatk1-0-0 libatk1-0-data libatspi2-0-0 libavahi-client3 libavahi-common-data libavahi-common3 libcairo-gobject2 libcairo2 libcolord2
  libcurl2 libdatrie1 libdconf1 libdrm-amdgpu1 libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libeatmydata1 libegl-mesa0 libegl1 libepoxy0
  libfdisk1 libgbm1 libgdk-pixbuf-2.0-0 libgdk-pixbuf2.0-bin libgdk-pixbuf2.0-common libgl1 libgl1-amber-dri libgl1-mesa-dri libglapi-mesa
  libglvnd0 libglx-mesa0 libglx0 libgraphite2-3 libgtk-3-0 libgtk-3-bin libgtk-3-common libharfbuzz0b liblcms2-2 liblomm15 libpango-1.0-0
  libpangocairo-1.0-0 libpangoft2-1.0-0 libpixman-1-0 librsvg2-2 librsvg2-common libsensors-conf libsensors5 libthai-data
  libthai0 libwayland-client0 libwayland-cursor0 libwayland-egl1 libwayland-server0 libxcb1 libxcb-dri2-0 libxcb-dri3-0 libxcb-glx0
  libxcb-present0 libxcb-randr0 libxcb-render0 libxcb-shm0 libxcb-sync1 libxcb-xfixes0 libcomposite1 libxcursor1 libxdamage1 libxfixed3 libxi6
  libxinerama1 libxkbcommon0 libxrandr2 libxrender1 libxshmfence1 libxtst6 libxf86ml python-babel-locatedata python3-attr python3-automat
```

```
asish@DESKTOP-0G9MJDL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ chmod +x Day3.sh
asish@DESKTOP-0G9MJDL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ ./Day3.sh
Alert file not found. Creating /tmp/alerts.txt...
Checking logs for errors...
Errors found in system logs! ->
Nov  8 22:10:17 DESKTOP-0G9MJDL networkd-dispatcher[202]: ERROR:Unknown state for interface NetworkctlListState(idx=1, name='lo', type='loopback'
, operational='n/a', administrative='unmanaged'): n/a
Nov  8 22:10:17 DESKTOP-0G9MJDL networkd-dispatcher[202]: ERROR:Unknown state for interface NetworkctlListState(idx=2, name='eth0', type='ether',
operational='n/a', administrative='unmanaged'): n/a
Nov  8 22:10:48 DESKTOP-0G9MJDL kernel: [    12.613844] wSL (242) ERROR: CheckConnection: getaddrinfo() failed: -5
Nov  9 00:27:09 DESKTOP-0G9MJDL systemd[1]: Condition check resulted in Process error reports when automatic reporting is enabled (file watch) be
ing skipped.
Nov  9 00:27:09 DESKTOP-0G9MJDL systemd[1]: Condition check resulted in Process error reports when automatic reporting is enabled (timer based) b
eing skipped.
Nov  9 00:27:09 DESKTOP-0G9MJDL kernel: [    1.867811] RAS: Correctable Errors collector initialized.
Nov  9 00:27:09 DESKTOP-0G9MJDL networkd-dispatcher[196]: ERROR:Unknown state for interface NetworkctlListState(idx=1, name='lo', type='loopback'
, operational='n/a', administrative='unmanaged'): n/a
Nov  9 00:27:09 DESKTOP-0G9MJDL networkd-dispatcher[196]: ERROR:Unknown state for interface NetworkctlListState(idx=2, name='eth0', type='ether',
operational='n/a', administrative='unmanaged'): n/a
Nov  9 00:27:16 DESKTOP-0G9MJDL kernel: [    7.406737] wSL (247) ERROR: CheckConnection: getaddrinfo() failed: -5
Nov  9 00:37:25 DESKTOP-0G9MJDL kernel: [   620.690955] platform regulatory:0: Direct firmware load for regulatory.db failed with error -2
Nov  9 00:37:25 DESKTOP-0G9MJDL subiquity_event.405[405]: subiquity/Error/apply_autoinstall_config
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS

```
ashish@DESKTOP-B69M0DL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ chmod +x Day4.sh
ashish@DESKTOP-B69M0DL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ ./Day4.sh
1. System Backup
2. System Update and Cleanup
3. Log Monitoring
4. Exit

Enter your choice: 1
Current user is : ashish
System backup starting...
tar: creating tar archive from member names
Backup done successfully!
File saved at: /home/ashish/system_backups/system_backup_2025-11-09_16-15-15.tar.gz
1. System Backup
2. System Update and Cleanup
3. Log Monitoring
4. Exit

Enter your choice: 2
Gett http://security.ubuntu.com/ubuntu jammy-security InRelease [129 kB]
Hit:2 http://archive.ubuntu.com/ubuntu jammy InRelease
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
Hit:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease
Fetched 257 kB in 3s (94.4 kB/s)
Reading package lists...
Reading state information... Done
0 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists...
Building dependency tree... Done
Building state information... Done
Calculating upgrade... Done
The following packages have been kept back:
 libnss-systemd libpam-systemd libudev1 systemd-sysv systemd-timesyncd udev
0 upgraded, 0 newly installed, 0 to remove and 8 not upgraded.
Reading package lists...
Building dependency tree... Done
Reading state information... Done
Building dependency tree... Done
Reading state information... Done
System update successful.
1. System Backup
2. System Update and Cleanup
3. Log Monitoring
4. Exit

Enter your choice: 3
Checking logs for errors...
[error] No errors found.
Nov 9 22:10:17 DESKTOP-B69M0DL networkd-dispatcher[202]: ERRO[Unknown state for interface NetworkCllistState(id=1, name='lo', type='loopback', operational='n/a', administrative='unmanaged'): n/a
Nov 9 22:10:17 DESKTOP-B69M0DL networkd-dispatcher[202]: ERRO[Unknown state for interface NetworkCllistState(id=2, name='eth0', type='ether', operational='n/a', administrative='unmanaged'): n/a
Nov 9 22:10:48 DESKTOP-B69M0DL kernel: [ 12.613844] WSL (242) ERRR: CheckConnection: getaddrinfo failed: -5
Nov 9 00:27:09 DESKTOP-B69M0DL systemd[1]: condition check resulted in Process error reports when automatic reporting is enabled (file watch) being skipped.
Nov 9 00:27:09 DESKTOP-B69M0DL kernel: [ 1.867811] WSL: correctable errors collector initialized.
Nov 9 00:27:10 DESKTOP-B69M0DL networkd-dispatcher[16]: ERRO[Unknown state for interface NetworkCllistState(id=1, name='lo', type='loopback', operational='n/a', administrative='unmanaged'): n/a
Nov 9 00:27:10 DESKTOP-B69M0DL kernel: [ 1.868022] WSL (247) ERRR: CheckConnection: getaddrinfo failed: -5
Nov 9 00:37:25 DESKTOP-B69M0DL kernel: [ 620.690955] platform regulatory: Direct firmware load for regulatory.db failed with error -2
Nov 9 00:37:25 DESKTOP-B69M0DL subsystem_event[405:405]: subaudit/error/apply_autostart_config
Nov 9 00:37:25 DESKTOP-B69M0DL subsystem_event[405:405]: subaudit/error/apply_adminstart_config

File Edit Selection View Go Run Terminal Help ← → C_WiproProject[1]

EXPLORER $ Day5.sh ×
WIPROPROJECT[1]
  WiproProject
    $ Day1.sh
    $ Day2.sh
    $ Day3.sh
    $ Day4.sh
    $ Day5.sh

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS
ashish@DESKTOP-B69M0DL:/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ ./Day5.sh
[sudo] password for ashish:
System update successful. Log saved to /home/ashish/maintenance.log
System Update at Sun Nov  9 16:37:32 IST 2025

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Hit:1 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:2 http://archive.ubuntu.com/ubuntu jammy InRelease
Hit:3 http://archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease
Reading package lists...
Building dependency tree...
Reading state information...
8 packages can be upgraded. Run 'apt list --upgradable' to see them.

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Reading package lists...
Building dependency tree...
Reading state information...
Calculating upgrade...
The following packages have been kept back:
 libnss-systemd libpam-systemd libudev1 systemd-sysv
 systemd-timesyncd udev
0 upgraded, 0 newly installed, 0 to remove and 8 not upgraded.

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Reading package lists...
Building dependency tree...
Reading state information...
0 upgraded, 0 newly installed, 0 to remove and 8 not upgraded.

> OUTLINE
> TIMELINE
> RUNNING TASKS
Cloud Code - Sign in
Ln 3 Col 15 Spaces: 4 UFT-8 LF ⌂ Shell Script ⌂ Go Live ⌂ Prettier ⌂
```

The screenshot shows a terminal window in the VS Code interface. The title bar indicates the current workspace is 'WiproProject[1]'. The terminal tab is selected, showing the command '\$ Day5.sh' and its execution. The output of the script is displayed, which includes several apt commands to update packages from the 'jammy' repository. The output shows that 8 packages are upgradable, and it concludes with a warning about the apt CLI interface.

```
WiproProject > $ Day5.sh
1 #!/bin/bash
2
3 LOGFILE="$HOME/maintenance.log"
4

Hit:1 http://archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease
Reading package lists...
Building dependency tree...
Reading state information...
8 packages can be upgraded. Run 'apt list --upgradable' to see them.

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Reading package lists...
Building dependency tree...
Reading state information...
Calculating upgrade...
The following packages have been kept back:
  libnss-systemd libpam-systemd libsystemd0 libudev1 systemd systemd-sysv
  systemd-timesyncd udev
0 upgraded, 0 newly installed, 0 to remove and 8 not upgraded.

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Reading package lists...
Building dependency tree...
Reading state information...
0 upgraded, 0 newly installed, 0 to remove and 8 not upgraded.

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Reading package lists...
Building dependency tree...
Reading state information...
Update Completed at Sun Nov 9 16:39:38 IST 2025
```