

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

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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 libatk-bridge2.0-0
  libatk1.0-0 libatk1.0-data libatspi2.0-0 libavahi-client3 libavahi-common-data libavahi-common3 libcairo-gobject2 libcairo2 libcolor2
  libcups2 libdat1 libdconf1 libdrm-amdgpu1 libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libeatmydata1 libegl-mesa0 libegl1 libepoxy0
  libfdisk1 libgbm1 libgdk-pixbuf2.0-0 libgdk-pixbuf2.0-bin libgdk-pixbuf2.0-common libgl1 libgl1-amd-dri libgl1-mesa-dri libglapi-mesa
  libglvnd0 libglx-mesa0 libglx0 libgraphite2-3 libgtk-3-0 libgtk-3-bin libgtk-3-common libharfbuzz0b liblcms2-2 libllvmlib1 libpango-1.0-0
  libpangocairo-1.0-0 libpangoft2-1.0-0 libpciaccess0 libpixmap-1-0 librsync2-2 librsync2-common libsensors-config libsensors5 libthai-data
  libthai0 libwayland-client0 libwayland-cursor0 libwayland-egl1 libwayland-server0 libx11-xcb1 libxcb-dri2-0 libxcb-dri3-0 libxcb-glx0
  libxcb-present0 libxcb-randr0 libxcb-render0 libxcb-shm0 libxcb-sync1 libxcb-xf86vm1 libxcomposite1 libxcursor1 libxdamage1 libxfixes3 libxi6
  libxinerama1 libxkbcommon0 libxrandr2 libxrender1 libxshmfence1 libxtst6 libxxf86vm1 python-babel-localedata 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
asish@DESKTOP-069XDL:~/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ chmod +x Day4.sh
asish@DESKTOP-069XDL:~/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: asish
System backup starting...
tar: Removing leading '/' from member names
Backup done successfully
File saved at: /home/asish/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
Get:1 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 [118 kB]
Hit:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease
Fetched 222 kB in 3s (64.4 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
8 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 have been kept back:
libnss-systemd libnss-systemd libsystemd0 libudev1 systemd systemd-timesyncd udev
0 upgraded, 0 newly installed, 0 to remove and 8 not upgraded.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
0 upgraded, 0 newly installed, 0 to remove and 8 not upgraded.
System update/line successful.
1. System Backup
2. System Update and Cleanup
3. Log Monitoring
4. Exit
Enter your choice: 3
Checking logs for errors...
Errors found in system logs! ->
Nov 9 22:18:17 DESKTOP-069XDL networkd-dispatcher[202]: ERROR:Unknown state for interface NetworkctlListState(id=1, name='lo', type='loopback', operational='n/a', administrative='unmanaged'): n/a
Nov 9 22:18:17 DESKTOP-069XDL networkd-dispatcher[202]: ERROR:Unknown state for interface NetworkctlListState(id=2, name='eth0', type='ether', operational='n/a', administrative='unmanaged'): n/a
Nov 9 22:18:40 DESKTOP-069XDL kernel: [ 12.618844] MD (242) (ERR): checkConnection: getaddrinfo() failed -5
Nov 9 08:27:00 DESKTOP-069XDL systemd[1]: Condition check resulted in Process error reports when automatic reporting is enabled (file watch) being skipped.
Nov 9 08:27:00 DESKTOP-069XDL kernel: [ 1.869313] BRC Correctable errors collector initialized.
Nov 9 08:27:00 DESKTOP-069XDL networkd-dispatcher[106]: ERROR:Unknown state for interface NetworkctlListState(id=1, name='lo', type='loopback', operational='n/a', administrative='unmanaged'): n/a
Nov 9 08:27:00 DESKTOP-069XDL networkd-dispatcher[106]: ERROR:Unknown state for interface NetworkctlListState(id=2, name='eth0', type='ether', operational='n/a', administrative='unmanaged'): n/a
Nov 9 08:27:15 DESKTOP-069XDL kernel: [ 7.406577] MD (242) (ERR): checkConnection: getaddrinfo() failed -5
Nov 9 08:27:25 DESKTOP-069XDL kernel: [ 626.690955] platform regulatory.db: Direct firmware load for regulatory.db failed with error -2
Nov 9 08:37:25 DESKTOP-069XDL systemd.eventd[405]: systemd/eventd/apply-udevaction1.conf:8
Nov 9 08:37:25 DESKTOP-069XDL systemd.eventd[405]: systemd/eventd/apply-udevaction1.conf:8

File Edit Selection View Go Run Terminal Help
WiproProject[1]
EXPLORER
WIPROJECT[1]
WiproProject
Day1.sh
Day2.sh
Day3.sh
Day4.sh
Day5.sh
WiproProject > $ Day5.sh
1 #!/bin/bash
2
3 LOGFILE="$HOME/maintenance.log"
4 {
asish@DESKTOP-069XDL:~/mnt/c/Users/HP/OneDrive/Documents/WiproProject[1]/WiproProject$ ./Day5.sh
[sudo] password for asish:
System update successful. Log saved to /home/asish/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 libnss-systemd libsystemd0 libudev1 systemd 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
Ln 3, Col 15 Spacing: 4 UTF-8 LF ( ) Shell Script Go Live Prettier
```

The screenshot shows the Visual Studio Code interface with a terminal window open. The Explorer sidebar on the left shows a project named 'WiproProject' with several files named 'Day1.sh' through 'Day5.sh'. The terminal window, titled 'Day5.sh', shows the output of an 'apt update' command. The output includes the following text:

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