

## How to Automate IT Tasks on Linux Using Shell Scripts

Automação de TI (IT Automation) is a critical aspect of modern IT management, enabling administrators to streamline repetitive tasks, improve efficiency, and reduce the risk of human error. In the Linux environment, automation can be effectively achieved using shell scripts, which are powerful tools for automating command-line tasks.

This article will guide you through the basics of creating and running shell scripts to automate common IT tasks on a Linux system. We will cover the importance of automation, how to write a basic shell script, and provide practical examples to help you get started.

### Examples:

- 1. Automating System Updates:** Keeping your system up to date is crucial for security and performance. A simple shell script can automate the process of updating your system.

```
#!/bin/bash
# Script to update and upgrade the system

echo "Updating system..."
sudo apt-get update -y
sudo apt-get upgrade -y
echo "System updated successfully."
```

Save this script as `update_system.sh`, make it executable with `chmod +x update_system.sh`, and run it with `./update_system.sh`.

- 2. Automating Backup Tasks:** Regular backups are essential for data protection. The following script automates the backup of a specified directory to a backup location.

```
#!/bin/bash
# Script to backup a directory

SOURCE_DIR="/path/to/source"
BACKUP_DIR="/path/to/backup"
TIMESTAMP=$(date +"%Y%m%d%H%M%S")
BACKUP_FILE="$BACKUP_DIR/backup_${TIMESTAMP}.tar.gz"

echo "Starting backup of $SOURCE_DIR to $BACKUP_FILE"
tar -czf $BACKUP_FILE $SOURCE_DIR
echo "Backup completed successfully."
```

Save this script as backup.sh, make it executable with `chmod +x backup.sh`, and run it with `./backup.sh`.

- 3. Automating Log Rotation:** Managing log files is important to prevent disk space issues. The following script automates the rotation of log files.

```
#!/bin/bash
# Script to rotate logs

LOG_DIR="/var/log/myapp"
ARCHIVE_DIR="/var/log/myapp/archive"
TIMESTAMP=$(date +"%Y%m%d%H%M%S")

echo "Rotating logs in $LOG_DIR"
mkdir -p $ARCHIVE_DIR
mv $LOG_DIR/*.log $ARCHIVE_DIR/logs_$TIMESTAMP.tar.gz
echo "Log rotation completed successfully."
```

Save this script as `log_rotate.sh`, make it executable with `chmod +x log_rotate.sh`, and run it with `./log_rotate.sh`.