

TimeZone Date Time for Debian and Ubuntu.

?? System Maintenance & Timezone Setup Script

A production-ready, interactive Bash script for **Debian 10-13** and **Ubuntu 18-24** that automates system updates, timezone configuration, and NTP time synchronization — all wrapped in a clean, colored terminal interface with full logging and error handling.

? Features

- **Beautiful TUI** — Colorized output with spinners, progress bars, and ASCII-bordered sections
 - **Auto OS Detection** — Detects Debian 10-13 and Ubuntu 18-24 automatically; exits gracefully on unsupported systems
 - **Smart Privilege Handling** — Works as `root` or detects `sudo` availability automatically
 - **System Update** — Shows full list of upgradable packages (`name → new_version`), runs `upgrade`, `dist-upgrade`, `autoremove`, `autoclean` with live progress
 - **Timezone Configuration** — Interactive menu with common zones, custom input, and full Debian-specific handling
 - **NTP Synchronization** — Enables and verifies `systemd-timesyncd` with real-time sync confirmation
 - **Full Logging** — Every action logged to `/var/log/system-maintenance.log` with timestamps
 - **Config Backups** — Automatically backs up `/etc/timezone` and `/etc/localtime` before any changes
 - **Reboot Prompt** — Detects kernel updates and prompts for reboot if needed
 - **Error Handling** — Uses `set -euo pipefail` + `trap ERR` for bulletproof execution
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? Requirements

Requirement	Notes
Bash 4.0+	Pre-installed on all target distros

Requirement	Notes
systemd	Required (all target distros use it)
apt	Debian/Ubuntu package manager
sudo or root	For system-level changes

“ Missing dependencies (`lsb-release` , `pv` , `systemd-timesyncd`) are **automatically installed** by the script.

? Usage

? One-Line Download & Execute :

```
apt update && apt install -y curl && clear && \  
curl -s https://docs.greenhome.stream/attachments/72 -o /tmp/timezone-setup.sh && \  
bash /tmp/timezone-setup.sh
```

OR

1. Download and make executable

```
chmod +x system-maintenance.sh
```

2. Run as root or with sudo

```
# As root  
./system-maintenance.sh  
  
# As a sudo-capable user  
sudo ./system-maintenance.sh
```

? What the Script Does (Step by Step)

Step 1 — Privilege Check

Detects if running as `root`. If not, verifies `sudo` access before proceeding.

Step 2 — OS Detection

Reads `/etc/os-release` or uses `lsb_release` to identify the distro and version. Exits with a clear error message if the OS is unsupported.

Step 3 — Dependency Check

Silently refreshes the apt cache and installs any missing required packages (`lsb-release`, `pv`, `systemd-timesyncd`).

Step 4 — System Update (*optional, prompted*)

- Prompts: **"Perform full system update? [Y/n]"** (defaults to Yes after 30s)
- Displays a formatted list of all upgradable packages with version arrows (`1.2.0 → 1.3.0`)
- Detects kernel updates and flags for reboot
- Runs with live spinners: `apt upgrade` → `dist-upgrade` → `autoremove` → `autoclean`

Step 5 — Timezone Configuration (*optional, prompted*)

- Shows the current active timezone
- Prompts: **"Set timezone? Default: Europe/Athens [Y/n]"**
- Presents a menu of 9 common timezones + custom input option
- Validates the chosen timezone against `/usr/share/zoneinfo/`
- Backs up existing config before applying changes
- **On Debian:** additionally updates `/etc/localtime` symlink, writes `/etc/timezone`, and runs `dpkg-reconfigure tzdata`
- **On Ubuntu:** `timedatectl set-timezone` alone is sufficient
- Verifies the applied timezone matches the selection

Step 6 — NTP Synchronization (*optional, prompted*)

- Prompts: **"Enable NTP sync with systemd-timesyncd? [Y/n]"**
- Runs `timedatectl set-ntp true`
- Enables and starts `systemd-timesyncd` via `systemctl`
- Waits up to 15 seconds for sync confirmation with a live progress bar
- Displays service status and full `timedatectl status` output

Step 7 — Final Summary

Prints a formatted table with:

- Detected OS and version
 - Active timezone
 - NTP enabled/synchronized state
 - Current date and time
 - Log file path
 - Reboot prompt if a kernel update was applied
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? Log File

All actions are recorded in: `/var/log/system-maintenance.log` If the script lacks write permission to `/var/log/`, it falls back to: `/tmp/system-maintenance.log`

Log entries include timestamps and status for every operation performed.

? Supported Timezones (Built-in Menu)

#	Timezone	Offset
1	Europe/Athens (<i>default</i>)	UTC+2/+3
2	Europe/London	UTC+0/+1
3	Europe/Berlin	UTC+1/+2
4	Europe/Paris	UTC+1/+2
5	America/New_York	UTC-5/-4
6	America/Chicago	UTC-6/-5
7	America/Denver	UTC-7/-6
8	America/Los_Angeles	UTC-8/-7
9	UTC	UTC+0
0	Custom	Manual input

? Compatibility Matrix

OS	Versions	Tested
Debian	10 (Buster), 11 (Bullseye), 12 (Bookworm), 13 (Trixie)	<input type="checkbox"/>
Ubuntu	18.04, 20.04, 22.04, 24.04	<input type="checkbox"/>
Other	Any non-Debian/Ubuntu	<input type="checkbox"/> Exits gracefully

?? Notes

- The script is **idempotent** — safe to run multiple times without side effects
 - Config files are backed up with a timestamp suffix before any modification
 - All prompts have a **30-second timeout** that defaults to the safe/recommended option
 - `systemd-timesyncd` and `chrony` should **not** run simultaneously; this script only manages `timesyncd`
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