Fix time differences between Ubuntu and Windows

**A. To fix the UTC / local time difference between Ubuntu and Windows from Ubuntu** by making Ubuntu use local time.

Before proceeding, note that according to the Ubuntu wiki, "*the advantage of having the hardware clock as UTC is that you don't need to change the hardware clock when moving between timezones or when Daylight Savings Time (DST) begins or ends as UTC does not have DST or timezone offsets*". So this is not recommended and if you can, you should use method B., and fix this from Windows.

**For Ubuntu 16.04 and newer, run the following command (thanks to Erwinson Pagtalunan for the update!):**

timedatectl set-local-rtc 1

You can then check if Ubuntu uses local time, you can then use the following command:

timedatectl

Which should display the following "RTC in local TZ: yes". A warning will also be displayed. Here's the full command output:

$ timedatectl

Local time: Lu 2016-04-25 12:18:22 EEST

Universal time: Lu 2016-04-25 09:18:22 UTC

RTC time: Lu 2016-04-25 12:18:22

Time zone: Europe/Bucharest (EEST, +0300)

Network time on: yes

NTP synchronized: no

RTC in local TZ: yes

Warning: The system is configured to read the RTC time in the local time zone.

This mode can not be fully supported. It will create various problems

with time zone changes and daylight saving time adjustments. The RTC

time is never updated, it relies on external facilities to maintain it.

If at all possible, use RTC in UTC by calling

'timedatectl set-local-rtc 0'.

**For Ubuntu versions older than 16.04:** you must edit the */etc/default/rcS* file and replace "UTC=yes" with "UTC=no" (both without the quotes). To do this automatically, simply copy/paste the following command in a terminal:

sudo sed -i 's/UTC=yes/UTC=no/' /etc/default/rcS

And then reboot.

**B. To fix this from Windows** (it should work with Vista SP2, Windows 7, Server 2008 R2 and Windows 8/8.1), by making it use UTC instead of local time, download [**THIS**](https://help.ubuntu.com/community/UbuntuTime?action=AttachFile&do=get&target=WindowsTimeFixUTC.reg) Windows registry file and simply double click it.

Then, to disable the Windows Time service (which still writes local time to RTC regardless of the registry setting above, on shutdown), run Command Prompt as Administrator and paste this command:

sc config w32time start= disabled

And reboot.

How to revert the changes

**A. From Ubuntu:** reverting this change from Ubuntu is pretty easy.  
  
**Ubuntu 16.04 and newer:** to revert the changes, simply run the following command:

timedatectl set-local-rtc 0

**Ubuntu versions older than 16.04:** all you have to do is replace "UTC=no" with "UTC=yes" in the */etc/default/rcS* file. To do this automatically, copy/paste the command below in a terminal:

sudo sed -i 's/UTC=no/UTC=yes/' /etc/default/rcS

And then reboot your computer.

**B. From Windows:** reverting this change is a bit more complicated from Windows.

Firstly, open the .reg file downloaded when applying the fix for Windows (see download link above) with a text editor and change the "RealTimeIsUniversal" value from "dword:00000001" to "-" (without the quotes). Here's how the file should look like after making this change:

Windows Registry Editor Version 5.00

[HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Control\TimeZoneInformation]

"RealTimeIsUniversal"=-

Then save the file and double click it. 

Next, run the following command in Command Prompt (which you need to run as Administrator) to re-enable the Windows Time service:

sc config w32time start= demand

And finally, reboot.