

# Steps to verify digital signatures

1) **Install [GnuPG](#)**. Depending on the operating system, install the GnuPG key management software ([Windows](#), [Mac OS](#)) or ensure it is pre-installed on GNU/Linux.

## 2) Import the Tor Developers signing key

(0xEF6E286DDA85EA2A4BA7DE684E2C6E8793298290) by opening GnuPG and entering the following:

```
gpg --auto-key-locate nodefult,wkd --locate-keys torbrowser@torproject.org
```

3) **Save the key to a file** by typing in the following. The Tor Developers key should be saved in the same folder as the key that needs verification.

```
gpg --output ./tor.keyring --export 0xEF6E286DDA85EA2A4BA7DE684E2C6E8793298290
```

4) **Verify the signature**. Compare the downloaded .asc file against the Tor browser installer to ensure its integrity and authenticity.

- **For Windows users**, in the Command terminal (cmd.exe), type:  

```
gpgv --keyring ./tor.keyring Downloads\torbrowser-install-win64-13.0.13.exe.asc  
Downloads\torbrowser-install-win64-13.0.13.exe
```
- **For macOS users**, in the Terminal (under “Applications”), type:  

```
gpgv --keyring ./tor.keyring ~/Downloads/Torbrowser-13.0.13-osx64_en-US.dmg.asc  
~/Downloads/Torbrowser-13.0.13-osx64.dmg
```
- **For GNU/Linux users** (change 64 to 32 if you have the 32-bit package), in a terminal window, type:  

```
gpgv --keyring ./tor.keyring  
~/Downloads/tor-browser-linux64-13.0.13.tar.xz.asc  
~/Downloads/tor-browser-linux64-13.0.13.tar.xz$
```

5) **Check the positive result**. The display result should produce the following result (date and time change according to each person):

```
gpgv: Signature made 07/08/19 04:03:49 Pacific Daylight Time
```

```
gpgv: using RSA key EB774491D9FF06E2
```

```
gpgv: Good signature from "Tor Browser Developers (signing key) <torbrowser@torproject.org>"
```