How To Manually Upgrade PHP version – Ubuntu Server LTS Tutorial

In this brief article we will show you how to manually install and update PHP version to the latest 7.x or 8.x version on Ubuntu LTS VPS server using apt package manager. If you are reluctant to perform this relatively easy procedure on a live server you can install Ubuntu Server LTS in a **virtual machine environment** and run a simulation or exercise in a sandbox first. Once everything goes well you can perform it again in a production environment, entire procedure shouldn't take more than 10-15 minutes to setup (assuming you regularly maintained your server software up to date).

> **WARNING:** If your server is running on an obsolete **Ubuntu 16** version (or lower) — you will not be able to follow this tutorial anymore! Reason is explained in the comments section below.

STEP 1: Perform Initial Packages Update / Upgrade

Login via SSH to your server (e.g. using **PuTTY**) and run following commands:

```
sudo apt update
```

```
sudo apt upgrade
```

STEP 2: Install 3rd Party Repository Support

In order to be able to use **add-apt-repository** command install required 3rd party repository support:

```
sudo apt install software-properties-common
```

STEP 3: Add Ondřej Surý's PPA repo

NOTE: confirm with ENTER after each command

```
sudo add-apt-repository ppa:ondrej/php
```

[*] if you use PHP as Apache module:

```
sudo add-apt-repository ppa:ondrej/apache2
```

[*] if you use PHP with Nginx:

```
sudo add-apt-repository ppa:ondrej/nginx
```

STEP 4: Perform Packages Update / Upgrade

NOTE: please ignore "The following packages have been kept back" message regarding old PHP 7.0.x components for the moment

```
sudo apt update
```

```
sudo apt upgrade
```

STEP 5: Install PHP 7.x or 8.x

Technically, PHP 7.3 is EOL / no longer in **active support**, so you should consider installing 7.4 or 8.0 version. Of course, you will still receive security updates until the end of 2021 if you decide to install 7.3 branch.

*NOTE: When prompted select option to **KEEP** local version of config file(s)!*

install PHP 7.3 with common components:

```
sudo apt install php7.3 php7.3-cli php7.3-fpm php7.3-apcu php7.3-opcache php7.3-common php7.3-pear php7.3-curl php7.3-zip php7.3-mcrypt php7.3-mysql php7.3-mbstring php7.3-xml php7.3-gd php7.3-gmagick php7.3-imagick php7.3-xmlrpc php7.3-geoip
```

install PHP 7.4 with common components:

```
sudo apt install php7.4 php7.4-cli php7.4-fpm php7.4-apcu php7.4-opcache php7.4-common php7.4-pear php7.4-curl php7.4-zip php7.4-mcrypt php7.4-mysql php7.4-mbstring php7.4-xml php7.4-gd php7.4-gmagick php7.4-imagick php7.4-xmlrpc php7.4-geoip
```

install PHP 8.0 with common components:

```
sudo apt install php8.0 php8.0-cli php8.0-fpm php8.0-apcu php8.0-opcache
php8.0-common php8.0-pear php8.0-curl php8.0-zip php8.0-mcrypt php8.0-mysql
php8.0-mbstring php8.0-xml php8.0-gd php8.0-gmagick php8.0-imagick php8.0-
xmlrpc php7.3-maxminddb
```

> *Note: php7.3-geoip / php7.4-geoip modules are no longer available in PHP 8.0 | more information here*

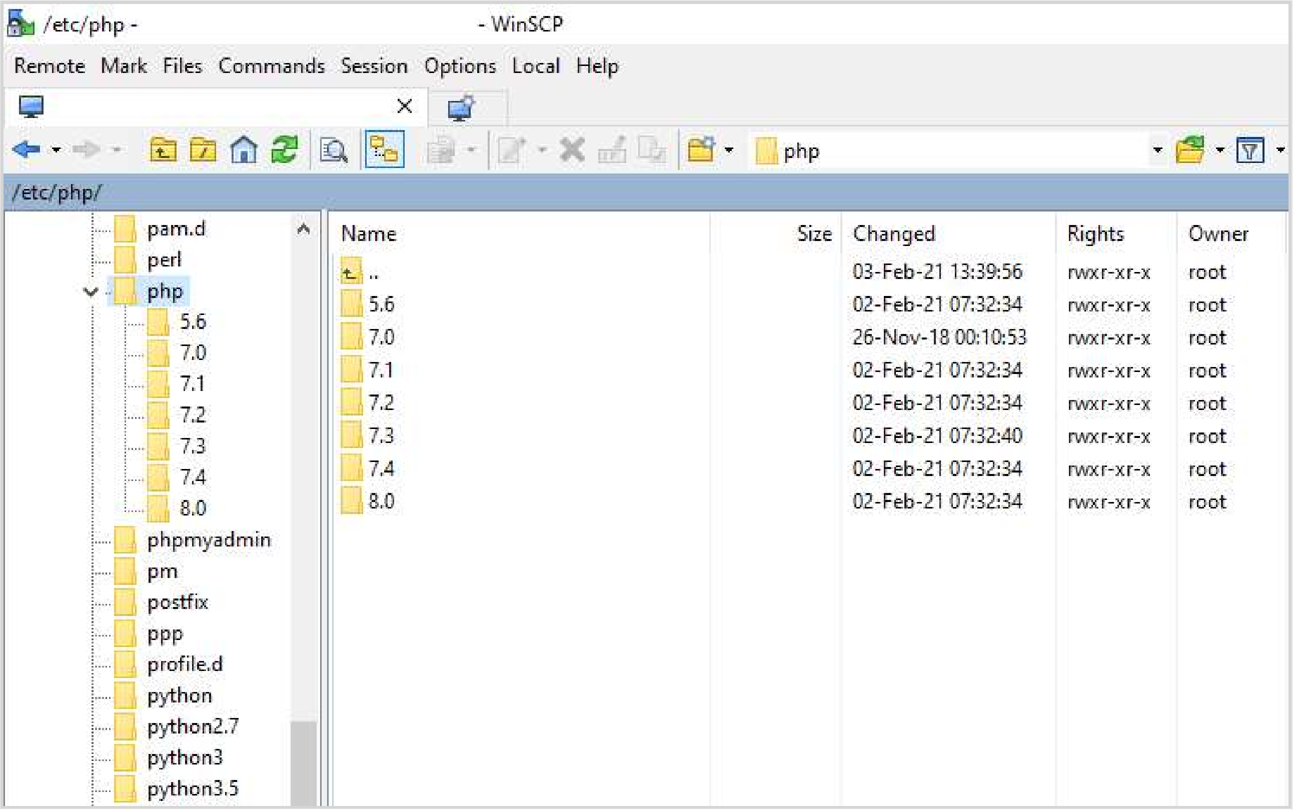
If you wish to manually install additional or specific **PHP modules** depending on your application's requirements, use following command in order to see all **available** modules for particular PHP version:

```
apt-cache search --names-only ^php
```

STEP 6: Configure PHP .ini file

*NOTE: Use terminal via **SSH** or **FTP/SFTP client** and text editor (e.g. Notepad++) for this purpose.*

Depending on your server setup (e.g. **Apache** or **Nginx** or some other server and PHP interface) you will have to configure appropriate PHP configuration **.ini** file and PHP handler manually.



Name	Size	Changed	Rights	Owner
..		03-Feb-21 13:39:56	rwxr-xr-x	root
5.6		02-Feb-21 07:32:34	rwxr-xr-x	root
7.0		26-Nov-18 00:10:53	rwxr-xr-x	root
7.1		02-Feb-21 07:32:34	rwxr-xr-x	root
7.2		02-Feb-21 07:32:34	rwxr-xr-x	root
7.3		02-Feb-21 07:32:40	rwxr-xr-x	root
7.4		02-Feb-21 07:32:34	rwxr-xr-x	root
8.0		02-Feb-21 07:32:34	rwxr-xr-x	root

PHP Config Files – etc Folder – Ubuntu 16.04 LTS Server via WinSCP SFTP Client

If you run PHP as apache2 module visit **/etc/php/php7.3/apache2/php.ini** or **/etc/php/php7.4/apache2/php.ini** or **/etc/php/php8.0/apache2/php.ini** and configure PHP variables (e.g. MEMORY SIZE, APPEND FILE, EXEC TIME LIMIT, FORBIDDEN COMMANDS etc.).

If you run PHP through FastCGI Process Manager (FPM) interface, corresponding PHP .ini file is located in **/etc/php/7.x/fpm/php.ini** or **/etc/php/8.x/fpm/php.ini** and server configuration procedure is different. You have to update server configuration file to use new PHP-FPM as you did before when configuring original php-7.0 FastCGI version.

STEP 7: Set PHP 7.x or PHP 8.x as default PHP version

Default Ubuntu PHP 7.0.x binary is still handling all PHP requests, we need to change it:

for PHP 7.3

```
sudo update-alternatives --set php /usr/bin/php7.3
```

for PHP 7.4

```
sudo update-alternatives --set php /usr/bin/php7.4
```

for PHP 8.0

```
sudo update-alternatives --set php /usr/bin/php8.0
```

NOTE: following commands are only in case you run PHP as apache2 module!

Disable old PHP apache2 module version:

```
sudo a2dismod php7.0
```

Enable new PHP apache2 module version:

for PHP 7.3

```
sudo a2enmod php7.3
```

for PHP 7.4

```
sudo a2enmod php7.4
```

for PHP 8.0

```
sudo a2enmod php8.0
```

STEP 8: Restart Server

restart Apache server service:

```
sudo service apache2 restart
```

or

```
sudo systemctl restart apache2
```

restart Nginx server service:

```
sudo service nginx restart
```

or

```
sudo systemctl restart nginx
```

DONE!

STEP 9: Installation Verification

You can check inside your application, for example:

> WordPress Admin > Tools > Site Health > Info tab > Server > **PHP version** row

Or you can create a simple **check.php** file with following command:

```
<?php phpinfo(); ?>
```

Save it and upload it to your site's root folder and access it via **https://yoursite.com/check.php** with your browser. If everything went right, you should get a PHP information page containing version number and other configuration details.

> *NOTE: Remember to **DELETE** check.php file from your server afterwards for security reasons!*

Remember to at least once a week (or two) perform regular server software update and upgrade tasks in order to keep up with relevant bug fixes, security patches and new features!

Also, don't forget to check plugins and themes compatibility with particular PHP version and resolve any issues before or immediately after you perform PHP upgrade, although you should generally be fine as no drastic changes were made between 7.0.x and later 7.x.0 branches that should normally cause any serious issues (well, except maybe this one, but it's definitely not critical).

STEP 10: Clean-up (Remove) Old Packages

After several weeks or months, when you make sure everything works, you can optionally remove unused and old packages with following command:

```
sudo apt autoremove
```

This step is optional, but keep in mind that some old PHP version packages will be kept back, check your server response message after running **apt update/upgrade** commands periodically.

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Comments

4 Comments

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1. **emi**

if you don't install libapache2-mod-php7.X you won't have /etc/php/php7.X/apache2 folders…

March 30th, 2021 REPLY

2. **LEMPer Stack**

Due to Ubuntu 16.04 (Xenial) has reached End of Standard Support, the php packages have also been removed from Ondrej repository. This installation method does not work anymore on Xenial.

Any alternative?

July 21st, 2021 REPLY

3. **TehnoBlog** (In reply to **LEMPer Stack**)

Yeah, that's a real shame. Answer and alternative (paid) can be found here: https://github.com/oerdnj/deb.sury.org/issues/1567

Seriously, though, moving to a new server (or upgrading existing one if possible) should be considered at this moment, anyway.

July 21st, 2021 REPLY

4. **Craig** (In reply to **LEMPer Stack**)

This got me for a few days until I seen this comment, made sense as had beem getting a lot of errors on sudo apt update