

Install:

1. zlib
2. libpng
3. libjpeg
4. apache httpd
5. php (и като интерпретатор, и като модул за apache)

1.Install zlib:

Get the source

```
$ scp zlib-1.2.8.tar.gz root@192.168.56.101:/usr/src
```

Extract

```
$ cd /usr/src
$ tar -xvzf zlib-1.2.8.tar.gz
$ rm zlib-1.2.8.tar.gz
```

Install

```
$ cd /usr/src/zlib-1.2.8
$ ./configure --prefix=/opt/zlib-1.2.8
$ make
$ make install
```

Test:

```
$ make test
```

Tests are OK

2. Install libpng

Get the source

```
$ scp libpng-1.6.26.tar.gz root@192.168.56.101:/usr/src
```

Extract

```
$ cd /usr/src
$ tar -xvzf libpng-1.6.26.tar.gz
```

Install

```
$ ./configure --prefix /opt/libpng-1.6.26 --with-zlib-
prefix=/opt/zlib-1.2.8/
```

Error:

```
...
checking for zlibVersion in -lz... no
checking for /opt/zlibVersion in -lz... no
configure: error: zlib not installed
```

As of the INSTALL file, it is necessary to export some variables:

```
ZLIBLIB=/opt/zlib-1.2.8/lib export ZLIBLIB
ZLIBINC=/opt/zlib-1.2.8/include export ZLIBINC
CPPFLAGS="-I$ZLIBINC" export CPPFLAGS
LDFLAGS="-L$ZLIBLIB" export LDFLAGS
LD_LIBRARY_PATH="$ZLIBLIB:$LD_LIBRARY_PATH" export
LD_LIBRARY_PATH
```

Try again

```
$ ./configure --prefix /opt/libpng-1.6.26 --with-zlib-  
prefix=/opt/zlib-1.2.8/ # OK  
$ make check # all pass  
$ make install  
$ make test # all pass
```

3. Install libjpeg

Get the source

```
$ scp jpegsrc.v6b.tar.gz root@192.168.56.101:/usr/src
```

Extract

```
$ cd /usr/src  
$ tar -xvzf jpegsrc.v6b.tar.gz
```

```
$ cd /usr/src/jpeg-6b  
$ ./configure --prefix=/opt/jpeg-6b  
$ make  
$ make test  
$ make install
```

ERROR: missing folders so create them create:

```
mkdir -p /opt/jpeg-6b/include/  
mkdir -p /opt/jpeg-6b/bin  
mkdir -p /opt/jpeg-6b/man/man1
```

Then make install again:

```
$ make install # OK
$ make test # OK
```

4. Install apache httpd

Get the source

```
$ scp httpd-2.4.23.tar.gz root@192.168.56.101:/usr/src
```

Extract:

```
$ tar -xvzf httpd-2.4.23.tar.gz
$ rm httpd-2.4.23.tar.gz
```

Install:

```
$ ./configure --prefix=/opt/httpd-2.4.23
configure: Configuring Apache Portable Runtime library...
configure:
checking for APR... no
configure: error: APR not found. Please read the
documentation.
```

ERROR:: No Apache Portable Runtime Library. Download their source and move them to the vm

```
scp ap* root@192.168.56.101:/usr/src
```

Extract APR and move to the correct location :

```
$ tar -xvzf apr-1.5.2.tar.gz
$ tar -xvzf apr-util-1.5.4.tar.gz
```

```
$ cp -r /usr/src/ap* httpd-2.4.23/src/lib/  
$ mv apr-1.5.2 apr  
$ mv apr-util-1.5.4 apr-util
```

Configure again

```
$ ./configure --prefix=/opt/httpd-2.4.23 --with-included-  
apr
```

ERROR: PCRE not found

```
checking for gcc option to accept ISO C99... -std=gnu99  
checking for pcre-config... false  
configure: error: pcre-config for libpcre not found. PCRE  
is required and available from http://pcre.org/
```

Get PCRE(pcre2-10.21):

```
scp ~/Downloads/pcre2-10.21.tar.gz  
root@192.168.56.101:/usr/src
```

Extract and Install:

```
$ cd /usr/src  
$ tar -xvzf pcre2-10.21.tar.gz  
$ rm pcre2-10.21.tar.gz  
$ ./configure --prefix=/opt/pcre2-10.21  
$ make  
$ make check # OK  
$ make install
```

Try installing http again:

```
$ ./configure --prefix=/opt/pcre2-10.21 --with-
```

```
pcre=/opt/pcre2-10.21/bin/pcre2-config
```

```
$ make
...
util_pcre.c:49:18: fatal error: pcre.h: No such file or
directory
#include "pcre.h"
               ^
compilation terminated.
/usr/src/httpd-2.4.23/build/rules.mk:206: recipe for
target 'util_pcre.lo' failed
make[2]: *** [util_pcre.lo] Error 1
make[2]: Leaving directory '/usr/src/httpd-2.4.23/server'
/usr/src/httpd-2.4.23/build/rules.mk:75: recipe for target
'all-recursive' failed
make[1]: *** [all-recursive] Error 1
make[1]: Leaving directory '/usr/src/httpd-2.4.23/server'
/usr/src/httpd-2.4.23/build/rules.mk:75: recipe for target
'all-recursive' failed
```

Researched and found in the official site a comment:

Please note that compilation with pcre2 don't work. One must choose older and discontinued version of pcre > (like pcre-8.37) for compiling apache2 (tested using version 2.4.20).

Get the real PCRE(pcre-8.38):

```
scp ~/Downloads/pcre-8.38.tar.gz
root@192.168.56.101:/usr/src
```

Extract and Install:

```
$ cd /usr/src
```

```
$ tar -xvzf pcre-8.38.tar.gz
$ rm pcre2-10.21.tar.gz
$ ./configure --prefix=/opt/pcre-8.38
$ make
$ make check # OK
$ make install
```

Try installing http again:

```
$ cd /usr/src/httpd-2.4.23
$ ./configure --prefix=/opt/httpd-2.4.23 --with-
pcre=/opt/pcre-8.38/bin/pcre-config --with-included-apr
$ make
$ make install
```

5. Install php

Get the source

```
$ scp ~/Downloads/php-5.6.29.tar.gz
root@192.168.56.101:/usr/src
```

Configure:

```
$ cd /usr/src/
$ tar -xvzf php-5.6.29.tar.gz
$ cd php-5.6.29
```

Error: configure: error: xml2-config not found. Please check your libxml2 installation.

Intsall LibXml:

```
$ wget ftp://xmlsoft.org/libxml2/libxml2-2.9.4.tar.gz
```

```
$ tar -xvzf libxml2-2.9.4.tar.gz
$ cd libxml2-2.9.4
$ ./configure --prefix=/opt/libxml2-2.9.4
$ make
$ make check # OK
$ make install
```

Install Sqlite3

```
$ cd /usr/src/sqlite-autoconf-3150200
$ ./configure --prefix=/opt/sqlite3
$ make
$ make install
```

Configure again and install:

```
$ ./configure --with-apxs2=/opt/httpd-2.4.23/bin/apxs --
with-libxml-dir=/opt/libxml2-2.9.4/
$ make
```

Setup your php.ini

```
$ cp php.ini-dist /usr/local/lib/php.ini
```

Edit httpd.conf by adding:

```
LoadModule php5_module modules/libphp5.so
<FilesMatch \.php$>
    SetHandler application/x-httpd-php
</FilesMatch>
    <FilesMatch "\.phps$">
        SetHandler application/x-httpd-php-source
</FilesMatch>
```


Start the server:

```
$ /opt/httpd-2.4.23/bin/apachectl start
```

As of httpd.conf

```
# DocumentRoot: The directory out of which you will serve
your
# documents. By default, all requests are taken from this
directory, but
# symbolic links and aliases may be used to point to other
locations.
```

```
DocumentRoot "/opt/httpd-2.4.23/htdocs"
```

Port listening on:

```
Listen 80
```

Create the file

```
$ vim /opt/httpd-2.4.23/htdocs/info.php
```

Get the file:

```
$ get localhost:80/info.php
```

```
$ scp root@192.168.56.101:/home/info.php .
```