一、安装过程

下载相关php安装包，进行解压，进入安装包，进行编译安装，编译

./configure

--prefix=/soft/php74

--with-config-file-path=/soft/php74/etc

--with-libdir=/usr/lib64

--with-freetype=/usr/include/freetype2/freetype/

--with-jpeg=/usr/lib64

--disable-rpath

--with-curl

--enable-gd

--with-gettext

--with-mysqli

--with-openssl

--with-openssl-dir

--with-iconv

--with-zip

--with-pdo-mysql

--with-pdo-sqlite

--with-xsl

--with-zlib

--with-bz2

--with-mhash

--enable-fpm

--enable-pdo

--enable-session

--enable-simplexml

--enable-bcmath

--enable-mbregex

--enable-mbstring

--enable-opcache

--enable-pcntl

--enable-shmop

--enable-soap

--enable-sockets

--enable-sysvmsg

--enable-sysvsem

--enable-sysvshm

--enable-mysqlnd

--enable-xml

--enable-phar

如果没有报错就进行编译安装

make && make install

在进行make的时候报错如下：make: *** [ext/phar/phar.php]

解决方法如下：make ZEND_EXTRA_LIBS='-liconv'

二、问题排查

安装的过程中基本没出现什么问题，主要问题出现在php启动的时候，本次的环境是进行php版本升级，由7.2升级到7.4，安装成功后查看phpinfo信息总是显示php版本为7.2，无法切换到新安装的版本。通过分析发现，nginx是通过fastcgi进程管理器与php进行通信，php-fpm为进程管理器的一种，所以初步判断是nginx无法正常与php通信造成的，中间的主要遇到的问题如下：

1、手动启动php-fpm,访问系统提示502，查看日志报错如下：

主要报错原因为nginx和php-fpm的配置sock方式不同，原有的nginx配置方式为为通过文件进行访问，内容如下

而新的php-fpm的访问方式为通过监听端口的方式（可通过查看配置文件，配置文件路径为php7_4/etc/php-fpm.d/www.conf），具体内容如下

```
; pool name ('www' here)
[www]

; Per pool prefix
; It only applies on the following directives:
; - 'access.log'
; - 'slowlog'
; - 'listen' (unixsocket)
; - 'chroot'
; - 'chdir'
; - 'php_values'
; - 'php_admin_values'
; When not set, the global prefix (or /usr/local/php7_4) applies instead.
; Note: This directive can also be relative to the global prefix.
; Default Value: none
;prefix = /path/to/pools/$pool

; Unix user/group of processes
; Note: The user is mandatory. If the group is not set, the default user's group
;       will be used.
user = nobody
group = nobody

; The address on which to accept FastCGI requests.
; Valid syntaxes are:
;   'ip.add.re.ss:port'    - to listen on a TCP socket to a specific IPv4 address on
;                            a specific port;
;   '[ip:6:addr:ess]:port' - to listen on a TCP socket to a specific IPv6 address on
;                            a specific port;
;   'port'                 - to listen on a TCP socket to all addresses
;                            (IPv6 and IPv4-mapped) on a specific port;
;   '/path/to/unix/socket' - to listen on a unix socket.
; Note: This value is mandatory.
listen = 127.0.0.1:9000

; Set listen(2) backlog.
; Default Value: 511 (-1 on FreeBSD and OpenBSD)
;listen.backlog = 511

; Set permissions for unix socket, if one is used. In Linux, read/write
; permissions must be set in order to allow connections from a web server. Many
; BSD-derived systems allow connections regardless of permissions. The owner
; and group can be specified either by name or by their numeric IDs.
; Default Values: user and group are set as the running user
;                 mode is set to 0660
;listen.owner = www-data
;listen.group = www-data
;listen.mode = 0660
; When POSIX Access Control Lists are supported you can set them using
; these options, value is a comma separated list of user/group names.
; When set, listen.owner and listen.group are ignored
```

解决方法:

修改enable-php.conf 文件，修改内容如下:

location ~ [^/].php(/|$)

{

try_files $uri =404;

fastcgi_pass 127.0.0.1:9000;

fastcgi_index index.php;

include fastcgi.conf;

}

在nginx中引用该配置文件(nginx配置文件如下: /usr/local/nginx/conf/nginx.conf)，内容如下:

```
pwxt-admin.qdta.cn.conf  pwxt-admin.qdta.cn.conf--  pwxt-operator.qdta.cn.conf
[root@qilin-v10 vhost]# cat pwxt-admin.qdta.cn.conf
server
{
    listen 80;
        listen 443 ssl http2;
        server_name pwxt-admin.qdta.cn;
    index index.php index.html index.htm default.php default.htm default.html;
    root /home/wwwroot/pwxt-admin.qdta.cn/public;

    #SSL-START SSL相关配置，请勿删除或修改下一行带注释的404规则
    #error_page 404/404.html;
    ssl_certificate    /www/server/panel/vhost/cert/pwxt-admin.qdta.cn/pwxt-admin.qdta.cn_bundle.pem;
    ssl_certificate_key    /www/server/panel/vhost/cert/pwxt-admin.qdta.cn/pwxt-admin.qdta.cn.key;
    ssl_protocols TLSv1.1 TLSv1.2 TLSv1.3;
    ssl_ciphers EECDH+CHACHA20:EECDH+CHACHA20-draft:EECDH+AES128:RSA+AES128:EECDH+AES256:RSA+AES256:EECDH+3DES:RSA+3DES:!MD5;
    ssl_prefer_server_ciphers on;
    ssl_session_cache shared:SSL:10m;
    ssl_session_timeout 10m;
    add_header Strict-Transport-Security "max-age=31536000";
    error_page 497  https://$host$request_uri;

    #SSL-END

    #ERROR-PAGE-START  错误页配置，可以注释、删除或修改
    #error_page 404 /404.html;
    #error_page 502 /502.html;
    #ERROR-PAGE-END

    #PHP-INFO-START  PHP引用配置，可以注释或修改
    #include enable-php.conf;
    include /usr/local/nginx/conf/enable-php1.conf;
    #include /usr/local/nginx/conf/enable-php7.4.conf;
    #include /usr/local/nginx/conf/enable-php.conf;
    #PHP-INFO-END

    #REWRITE-START URL重写规则引用,修改后将导致面板设置的伪静态规则失效
    #include /www/server/panel/vhost/rewrite/pwxt-admin.yunyouqilu.com.conf;
    #REWRITE-END

    #禁止访问的文件或目录


    location /robot-web/ {
            proxy_pass http://192.168.215.196:8083/;
    }
```

2、修改后报错如下：

提示被拒绝，错误信息如下：

通过排查发现少修改了vhost下的enable-php，修改后即可成功

```
server
{
    listen 80;
        listen 443 ssl http2;
        server_name pwxt-admin.qdta.cn;
    index index.php index.html index.htm default.php default.htm default.html;
    root /home/wwwroot/pwxt-admin.qdta.cn/public;

    #SSL-START SSL相关配置，请勿删除或修改下一行带注释的404规则
    #error_page 404/404.html;
    ssl_certificate    /www/server/panel/vhost/cert/pwxt-admin.qdta.cn/pwxt-admin.qdta.cn_bundle.pem;
    ssl_certificate_key    /www/server/panel/vhost/cert/pwxt-admin.qdta.cn/pwxt-admin.qdta.cn.key;
    ssl_protocols TLSv1.1 TLSv1.2 TLSv1.3;
    ssl_ciphers EECDH+CHACHA20:EECDH+CHACHA20-draft:EECDH+AES128:RSA+AES128:EECDH+AES256:RSA+AES256:EECDH+3DES:RSA+3DES
    ssl_prefer_server_ciphers on;
    ssl_session_cache shared:SSL:10m;
    ssl_session_timeout 10m;
    add_header Strict-Transport-Security "max-age=31536000";
    error_page 497  https://$host$request_uri;

    #SSL-END

    #ERROR-PAGE-START   错误页配置，可以注释、删除或修改
    #error_page 404 /404.html;
    #error_page 502 /502.html;
    #ERROR-PAGE-END

    #PHP-INFO-START   PHP引用配置，可以注释或修改
    #include enable-php.conf;
    include /usr/local/nginx/conf/enable-php1.conf;
    #include /usr/local/nginx/conf/enable-php7.4.conf;
    #include /usr/local/nginx/conf/enable-php.conf;
    #PHP-INFO-END

    #REWRITE-START URL重写规则引用,修改后将导致面板设置的伪静态规则失效
    #include /www/server/panel/vhost/rewrite/pwxt-admin.yunyouqilu.com.conf;
    #REWRITE-END

    #禁止访问的文件或目录


    location /robot-web/ {
            proxy_pass http://192.168.215.196:8083/;
    }

location ~ ^/(\.user.ini|\.htaccess|\.git|\.env|\.svn|\.project|LICENSE|README.md)
{
```

备注：

手动启动php-fpm：php-fpm -c /usr/local/php7_4/lib/php.ini -y /usr/local/php7_4/etc/php-fpm.conf

当存在多版本php时，通过软连接进行版本切换：ln -sf /usr/local/php7_4/bin/php /usr/bin/php

断开所有php-fpm进程连接：pkill -9 php-fpm

重启php-fpm：

systemctl stop php-fpm

systemctl start php-fpm