LNMP-环境搭建

0x00 环境准备:

操作系统: centos7 X64 位系统

Nginx 版本: nginx-1.12.2

MySQL 版本: mysq1 5.7.27

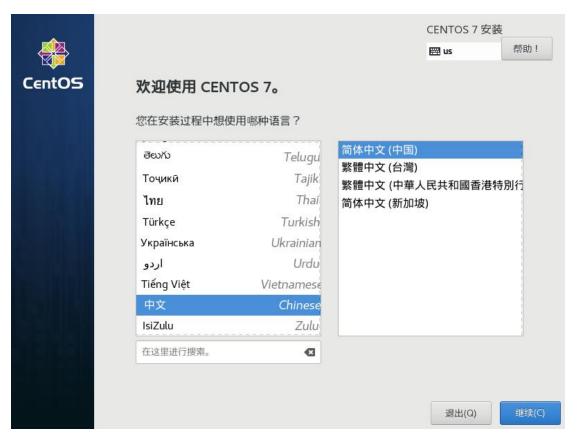
PHP 版本: php-7.2.19

0x01 安装 centos7 操作系统:

启动镜像,选择第一个选项,回车



选择,中文---简体中文



选择系统--安装位置,



选择, 我要配置分区, 点击完成



选择标准分区



然后单击 创建新的分区,分区提前规划好, /boot 分区 200M, 一般 swap 分区为物理内存的 1.5-2 倍,当物理机内存多于 16G 后,swap 分区给 8-16G 都可以。 /根分区 10G,实际工作中可以创建数据分区,一般把数据和系统分开。 创建 boot 分区:



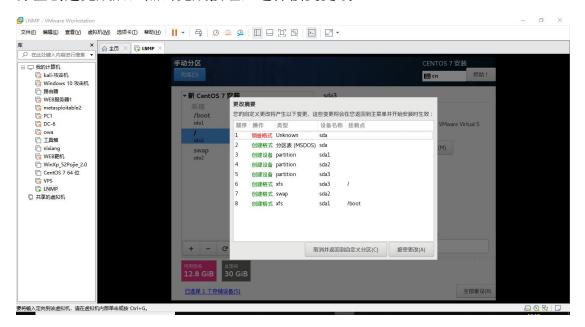
创建 swap 分区:



创建/分区:



分区创建完成后,点击完成按钮,选择接受更改



关闭 KDUMP 功能



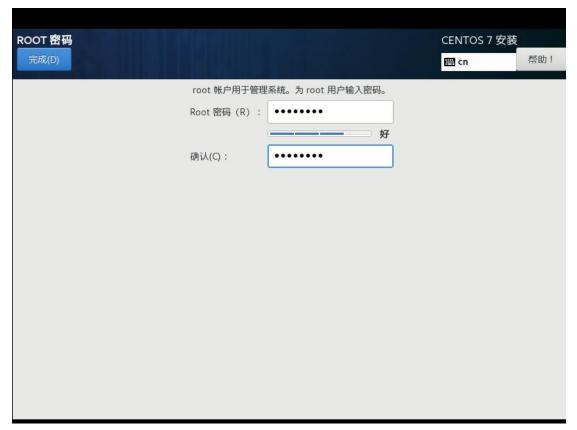
设置网络,选择打开,可以看到获得到 IP 地址,修改主机名称,点完成。如果为静态 IP,需要在配置选项里手动配置 IP 地址,DNS 等信息



全部配置完成后,点击开始安装



创建 root 密码



安装完成后,点重启,进入到系统



● 优化配置

查看是否安装 SSH

rpm -qa | grep ssh

如果未安装 进行安装 yum -y install openssh-server vim wget 配置 SSH: vim /etc/ssh/sshd config 去掉 port 22 前面的#号

● 解决中文乱码问题

安装语言包:

yum install kde-l10n-Chinese yum reinstall glibc-common 修改为中文:

vi /etc/locale.conf

LANG="zh CN. UTF-8"

source /etc/locale.conf

echo \$LANG

● 更换阿里源

```
cd /etc/yum.repos.d
```

mv CentOS-Base.repo CentOS-Base.repo.bak

Wget -0 CentOS-Base.repo http://mirrors.aliyun.com/repo/Centos-7.repo

Wget -0/etc/yum.repos.d/epel.repo http://mirrors.aliyun.com/repo/epel-

7. repo

yum clean all

yum makecache

更新所有源 yum update

● 关闭 SELinux

如果您想永久关闭 SELinux, 输入命令 vi /etc/selinux/config 编辑 SELinux 配置文件。回车后,把光标移动到 SELINUX=enforcing 这一行,按下 i 键进入编辑模式,修改为 SELINUX=disabled,按下 Esc 键,然后输入:wq 并回车以保存并关闭 SELinux 配置文件。

● 关闭防火墙

systemctl stop firewalld

systemctl disable firewalld

注:不关闭防火墙 web 界面打不开,解析不了

0x02 安装 nginx:

运行如下命令进行安装,

yum -y install nginx

```
[root@LNMP ~] # yum -y install nginx
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
  * base: mirrors.aliyun.com
  * extras: mirrors.aliyun.com
  * updates: mirrors.aliyun.com
Resolving Dependencies
--> Running transaction check
---> Package nginx.x86_64 1:1.12.2-3.e17 will be installed
--> Processing Dependency: nginx-all-modules = 1:1.12.2-3.e17 for package: 1:nginx-1.12.2-3.e17
  .x86_64
--> Processing Dependency: nginx-filesystem = 1:1.12.2-3.e17 for package: 1:nginx-1.12.2-3.e17.x86_64
--> Processing Dependency: nginx-filesystem for package: 1:nginx-1.12.2-3.e17.x86_64
--> Processing Dependency: libprofiler.so.0()(64bit) for package: 1:nginx-1.12.2-3.e17.x86_64
--> Package gperftools-libs.x86_64 0:2.6.1-1.e17 will be installed
---> Package nginx-all-modules.noarch 1:1.12.2-3.e17 will be installed
---> Processing Dependency: nginx-mod-http-geoip = 1:1.12.2-3.e17 for package: 1:nginx-all-modul es-1.12.2-3.e17.noarch
```

安装完成后,查看其版本 nginx -v,显示版本,说明安装成功

```
[root@LNMP ~]#
[root@LNMP ~]# nginx -v
nginx version: nginx/1.12.2
[root@LNMP ~]#
```

0x03 安装 Mysql 数据库:

将 mvsql 更新到源中

Rpm -Uvh http://dev.mysql.com/get/mysql57-community-release-el7-

9. noarch. rpm

使用 yum 安装 mysql 数据库,时间稍长

yum -y install mysql-community-server

查看版本,mysql -V ,显示版本安装成功

```
[root@LNMP ~]# mysql -V
mysql Ver 14.14 Distrib 5.7.27, for Linux (x86_64) using EditLine wrapper
[root@LNMP ~]#
```

0x04 安装 PHP:

更新 YUM 源

Yum install -y

http://dl.iuscommunity.org/pub/ius/stable/CentOS/7/x86_64/ius-release-1.0-15.ius.centos7.noarch.rpm

```
http://dl.iuscommunity.org/pub/ius/stable/CentOS/7/x86 64/ius-re
root@LNMP ~]# yum install -y nttp
ease-1.0-15.ius.centos7.noarch.rpm
.oaded plugins: fastestmirror
.us-release-1.0-15.ius.centos7.noarch.rpm
xamining /var/tmp/yum-root-0QPf0I/ius-release-1.0-15.ius.centos7.noarch.rpm: ius-release-1.0-1
arking /var/tmp/yum-root-OQPf0I/ius-release-1.0-15.ius.centos7.noarch.rpm to be installed
esolving Dependencies
-> Running transaction check
--> Package ius-release.noarch 0:1.0-15.ius.centos7 will be installed
  Processing Dependency: epel-release = 7 for package: ius-release-1.0-15.ius.centos7.noarch
oading mirror speeds from cached hostfile
 extras: mirrors.aliyun.com
* updates: mirrors.aliyun.com
-> Running transaction check
--> Package epel-release.noarch 0:7-11 will be installed
-> Finished Dependency Resolution
Dependencies Resolved
Package
installing:
ius-release
                 noarch 1.0-15.ius.centos7
                                                       /ius-release-1.0-15.ius.centos7.noarch
```

rpm -Uvh https://mirror.webtatic.com/yum/el7/webtatic-release.rpm

使用 yum 安装 PHP ,

yum -y install php72w-devel php72w.x86_64 php72w-c1i.x86_64 php72w-common.x86_64 php72w-gd.x86_64 php72w-ldap.x86_64 php72w-mbstring.x86_64 php72w-mcrypt.x86_64 php72w-pdo.x86_64 php72w-mysqlnd php72w-fpm php72w-opcache php72w-pecl-redis php72w-pecl-mongo

```
[root@LNNP ~] # yum -y install php72w-devel php72w.x86_64 php72w-cli.x86_64 php72w-common.x86_64
php72w-gd.x86_64 php72w-ldap.x86_64 php72w-mbstring.x86_64 php72w-mcrypt.x86_64 php72w-pdo.x8
5_64 php72w-mysqlnd php72w-fpm php72w-opcache php72w-pecl-redis php72w-pecl-mongo
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
    * base: mirrors.aliyun.com
    * extras: mirrors.aliyun.com
    * updates: mirrors.aliyun.com
    * updates: mirrors.aliyun.com
    * webtatic: us-east.repo.webtatic.com
    to package php72w.x86_64 available.
    Ho package php72w-mcrypt.x86_64 available.
    Ho package php72w-mcrypt.x86_64 available.
    Ho package php72w-mcrypt.x86_64 ovailable.
    Resolving Dependencies
    ---> Package php72w-cli.x86_64 0:7.2.19-1.w7 will be installed
    ---> Processing Dependency: libargon2.so.0()(64bit) for package: php72w-cli-7.2.19-1.w7.x86_64
    ---> Package php72w-devel.x86_64 0:7.2.19-1.w7 will be installed
    ---> Package php72w-devel.x86_64 0:7.2.19-1.w7 will be installed
    ---> Processing Dependency: automake for package: php72w-devel-7.2.19-1.w7.x86_64
    ---> Processing Dependency: automake for package: php72w-devel-7.2.19-1.w7.x86_64
    ---> Processing Dependency: automake for package: php72w-devel-7.2.19-1.w7.x86_64
    ---> Package php72w-fpm.x86_64 0:7.2.19-1.w7 will be installed
    ---> Package php72w-fpm.x86_64 0:7.2.19-1.w7 will be installed
    ---> Package php72w-fpm.x86_64 0:7.2.19-1.w7 will be installed
    ---> Package php72w-daye.x86_64 0:7.2.19-1.w7 will be installed
    ---> Package php72w-mcstring.x86_64 0:7.2.19-1
```

查看版本 php -v 显示版本号为安装成功

0x05 配置 Nginx

先将 nginx 配置文件备份一下(更改 linux 系统的配置文件,都要养成备份的好习惯)

```
命令: cp /etc/nginx/nginx.conf /etc/nginx/nginx.conf.bak
使用 vim 命令打开 nginx 配置文件 命令: vim /etc/nginx/nginx.conf
编辑内容, 放到 server { 编辑的内容 }
内容:
location / {
    index index.php index.html index.htm;
    } #配置 Nginx 通过 fastcgi 方式处理您的 PHP 请求
location ~ .php$ {
    root /usr/share/nginx/html;
    fastcgi_pass 127.0.0.1:9000; #Nginx 通过本机的 9000 端口将 PHP 请求转发给 PHP-FPM 进行处理。
    fastcgi_index index.php;
    include fastcgi params; #Nginx 调用 fastcgi 接口处理 PHP 请求
```

$fastcgi_param \quad SCRIPT_FILENAME \quad \$document_root\$fastcgi_script_name;$

启动 nginx

systemctl start nginx

设置开机自动启动 nginx

systemctl enable nginx

用浏览器访问 IP 地址 显示以下内容, nginx 正常

Welcome to **nginx** on Fedora!

This page is used to test the proper operation of the **nginx** HTTP server after it has been installed. If you can read this page, it means that the web server installed at this site is working properly.

```
Website Administrator

This is the default index. html page that is distributed with nginx on Fedora. It is located in /usr/share/nginx/html.

You should now put your content in a location of your choice and edit the root configuration directive in the nginx configuration file /ets/nginx/nginx.conf.
```



0x06 配置 MySQL 数据库

启动数据库服务

命令: systemctl start mysqld

设置开机自动启动

命令: systemctl enable mysgld

查看安装时 mysql 日志文件,找到初始数据库密码

命令: grep 'temporary password' /var/log/mysqld.log

红色标注为初始数据库密码

```
[root@LNMP nginx]  
[root@
```

配置 Mysal 安全性

命令: mysql_secure_installation

重置密码

```
[root@LNMP nginx]# mysql_secure_installation

Securing the MySQL server deployment.

Enter password for user root: 输入上述标红初始数据库密码

The existing password for the user account root has expired. Please set a new password.
```

```
New password: 輸入新的数据库密码,必须大小写、数字、特殊字符,缺一不可
Re-enter new password: 重复输入密码
The 'validate_password' plugin is installed on the server.
The subsequent steps will run with the existing configuration of the plugin.
Using existing password for root.

Estimated strength of the password: 100
Change the password for root? ((Press y|Y for Yes, any other key for No): n

... skipping.

By default, a MySQL installation has an anonymous user, allowing anyone to log into MySQL without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother.
You should remove them before moving into a production environment.
```

删除匿名用户帐号

```
Remove anonymous users? (Press y|Y for Yes, any other key for No): y Success.

删除匿名用户,选y

Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network.
```

禁止 root 帐号选程登陆

```
Disallow root login remotely? (Press y|Y for Yes, any other key for No) : y Success. 禁止root用户远程登陆, 这里选y
```

删除 test 数据库

```
By default, MySQL comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment.

Remove test database and access to it? (Press y|Y for Yes, any other key for No): y - Dropping test database...
Success.

- Removing privileges on test database...
Success.
```

加载授权表

```
Reloading the privilege tables will ensure that all changes made so far will take effect immediately.

Reload privilege tables now? (Press y|Y for Yes, any other key for No) : y Success.

All done!

[root@LNMP nginx]#
```

0x07 配置 PHP

启动 php-fpm

命令: systemctl start php-fpm

设置开机自动启动

命令: systemctl enable php-fpm

```
[root@LNNP nginx]#
[root@LNNP nginx]# systemctl enable php-fpm
Created symlink from /etc/systemd/system/multi-user.target.wants/php-fpm.service to /usr/lib/systemd/system/php-fpm.service.
[root@LNNP nginx]#
```

输入 netstat -tunlp ,显示以下端口开启,说明配置成功

0x08 测试

● nginx解析 php

将 a. php 脚本放到 /usr/share/nginx/html/ 目录下,在 nginx 配置里设置的路径下 a. php 脚本内容: <?php echo phpinfo(); ?>

在浏览器上输入 IP 地址/a. php,显示出 phpinfo 信息,说明解析正常

PHP Version 7.2.19	
System	Linux LNMP 3.10.0-957.el7.x86_64 #1 SMP Thu Nov 8 23:39:32 UTC 2018 x86_64
Build Date	Jun 2 2019 09:52:22
Server API	FPM/FastCGI
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc
Loaded Configuration File	/etc/php.ini
Scan this dir for additional .ini files	/etc/php.d
Additional .ini files parsed	/etc/php.d/bz2.ini, /etc/php.d/calendar.ini, /etc/php.d/ctype.ini, /etc/php.d/curl.ini, /etc/php.d/com.ini, /etc/php.d/gd.ini,
PHP API	20170718
PHP Extension	20170718
Zend Extension	320170718

● php 连接 mysql

```
echo "Successful connection";
}
mysql_close($conn);//关闭连接
?>
在浏览器中输入 IP 地址/b. php,数据库连接成功显示: Successful connection
```

← → C ① 不安全 | 192.168.83.183/b.php

Successful connection

0x09 nginx 加固

- nginx.conf 配置文件
- 日志格式配置

(http 标签内,在所有的 server 标签内可以调用): log_format main '\$remote_addr - \$remote_user [\$time_local] "\$request" ' '\$status \$body_bytes_sent "\$http_referer" ' '"\$http_user_agent" "\$http_x_forwarded_for";

• 限制 HTTP 请求方法

```
if ($request_method !~ ^(GET|HEAD|POST)$ ) { return 444; } if ($http_range ~ "\d{9,}") { return 444; }
```

• 设置超时时间

client_body_timeout 10; #设置客户端请求主体读取超时时间client_header_timeout 10; #设置客户端请求头读取超时时间keepalive_timeout 5; #第一个参数指定客户端连接保持活动的超时时间,第二个参数是可选的,它指定了消息头保持活动的有效时间send_timeout10; #指定响应客户端的超时时间

屏蔽 IP 地址(不全面)

```
if (\$geoip country code !~ (CN|US)\$) { return 403; }
```

封掉不正常的 user-agent (不全面)

• 强制使用域名访问

```
if ( $host !* 'XXXX.com' ) { return 403; }
```

url 参数过滤敏感字(可以自行添加)

```
if ($query_string ~* "union.*select.*\(") { rewrite ^/(.*)$ $host
permanent; } if ($query_string ~* "concat.*\(") { rewrite ^/(.*)$ $host
permanent; }
```

强制要求 referer 访问

```
if ($http_referer = "" ) { return 403; }
```

● http {}模块

• 禁止目录浏览

autoindex off;

• 错误页面重定向

http { ... fastcgi_intercept_errors on; error_page 401 /401.html; error_page 402 /402.html; error_page 403 /403.html; error_page 404 /404.html; error_page 405 /405.html; error_page 500 /500.html; ... } 修改内容: ErrorDocument 400 /custom400.html ErrorDocument 401 /custom401.html ErrorDocument 403 /custom403.html ErrorDocument 404 /custom404.html ErrorDocument 405 /custom405.html ErrorDocument 500 /custom500.html 其中

401. html、402. html、403. html、404. html、405. html、500. html 为要指定的错误提示页面。

隐藏版本信息

server_tokens off;

• 定义日志路径

access_log /var/log/nginx/access.log main;

```
[root@LNMP nginx]#
[root@LNMP nginx]# ls /var/log/nginx/
access.log error.log
[root@LNMP nginx]#
```

● server {} 模块

• 限制 IP 访问

location / { deny 192.168.1.1; #拒绝 IP allow 192.168.1.0/24; #允许 IP allow 10.1.1.0/16; #允许 IP deny all; #拒绝其他所有 IP }

• 限制并发和速度

```
limit_zone one $binary_remote_addr 10m; server { listen 80; server_name
XXX.XXXX.com; index index.html index.htm index.php; root
/usr/share/nginx/html; #Zone limit; location / { limit_conn one 1;
limit_rate 20k; } }
```

个人简介:

个人在知识星球中的 ID 个人在知识星球中的 ID: 880

常用名: ven0m

联系方式: QQ 1005941254

目前职业: 在职

所在地区: 北京

熟悉的编程语言: php/python 会,不太熟练

自我介绍:

小白一枚,自学安全,所有东西都是会一点,但都不精。希望大佬多带带,急需一良 师。