



开篇

RHEL 软件配置

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1.

按照教程正常安装

pd 和 VMware 装的个数不一样 我装了好几遍

输入账号密码进去 没说的

2.

一开始 ping 不通 ifconfig 也出不来地址

判断是网卡没开

进如下目录搜索一下

```
[root@localhost ~]# ls /etc/sysconfig/network-scripts/
ifcfg-ens33  ifdown-ipp  ifdown-routes   ifup      ifup-ipv6    ifup-ppp      ifup-tunnel
ifcfg-lo     ifdown-ipv6  ifdown-sit     ifup-aliases  ifup-isdn   ifup-routes   ifup-wireless
ifdown       ifdown-isdn  ifdown-Team    ifup-bnep    ifup-plip   ifup-sit     init.ipv6-global
ifdown-bnep  ifdown-post  ifdown-TeamPort ifup-eth     ifup-plusb  ifup-Team    network-functions
ifdown-eth   ifdown-ppp   ifdown-tunnel  ifup-ipp   ifup-post   ifup-TeamPort network-functions-ipv
[root@localhost ~]#
```

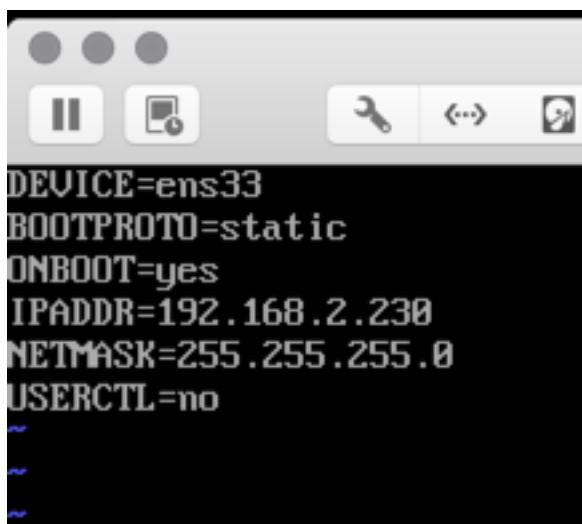
编辑 ifcfg-ens33

没用的去掉

ipaddr 改成需要的

onboot 改 yes 网卡打开

保存退出



service network restart 重启网络服务

显示 ok 保存成功

再 ifconfig 一波 看到了第二行的 ip 地址

第一题过

```
[root@localhost ~]# /etc/init.d/network restart
Restarting network (via systemctl): [ OK ]
[root@localhost ~]# ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
      inet 192.168.2.238 netmask 255.255.255.0 broadcast 192.168.2.255
        ether 00:0c:29:bb:e9:62 txqueuelen 1000 (Ethernet)
          RX packets 56 bytes 5980 (5.8 KiB)
          RX errors 0 dropped 0 overruns 0 frame 0
          TX packets 92 bytes 18347 (10.1 KiB)
          TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
      inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
          loop txqueuelen 1 (Local Loopback)
            RX packets 543 bytes 46824 (45.7 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 543 bytes 46824 (45.7 KiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

[root@localhost ~]#
```

3.

虚拟机 ping 主机(尾数 1)

通

```
[root@localhost ~]# ping 192.168.2.1
PING 192.168.2.1 (192.168.2.1) 56(84) bytes of data.
64 bytes from 192.168.2.1: icmp_seq=1 ttl=64 time=0.332 ms
64 bytes from 192.168.2.1: icmp_seq=2 ttl=64 time=0.222 ms
64 bytes from 192.168.2.1: icmp_seq=3 ttl=64 time=0.156 ms
64 bytes from 192.168.2.1: icmp_seq=4 ttl=64 time=0.270 ms
64 bytes from 192.168.2.1: icmp_seq=5 ttl=64 time=0.256 ms
^C
--- 192.168.2.1 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4004ms
rtt min/avg/max/mdev = 0.156/0.247/0.332/0.058 ms
```

主机 ping 虚拟机

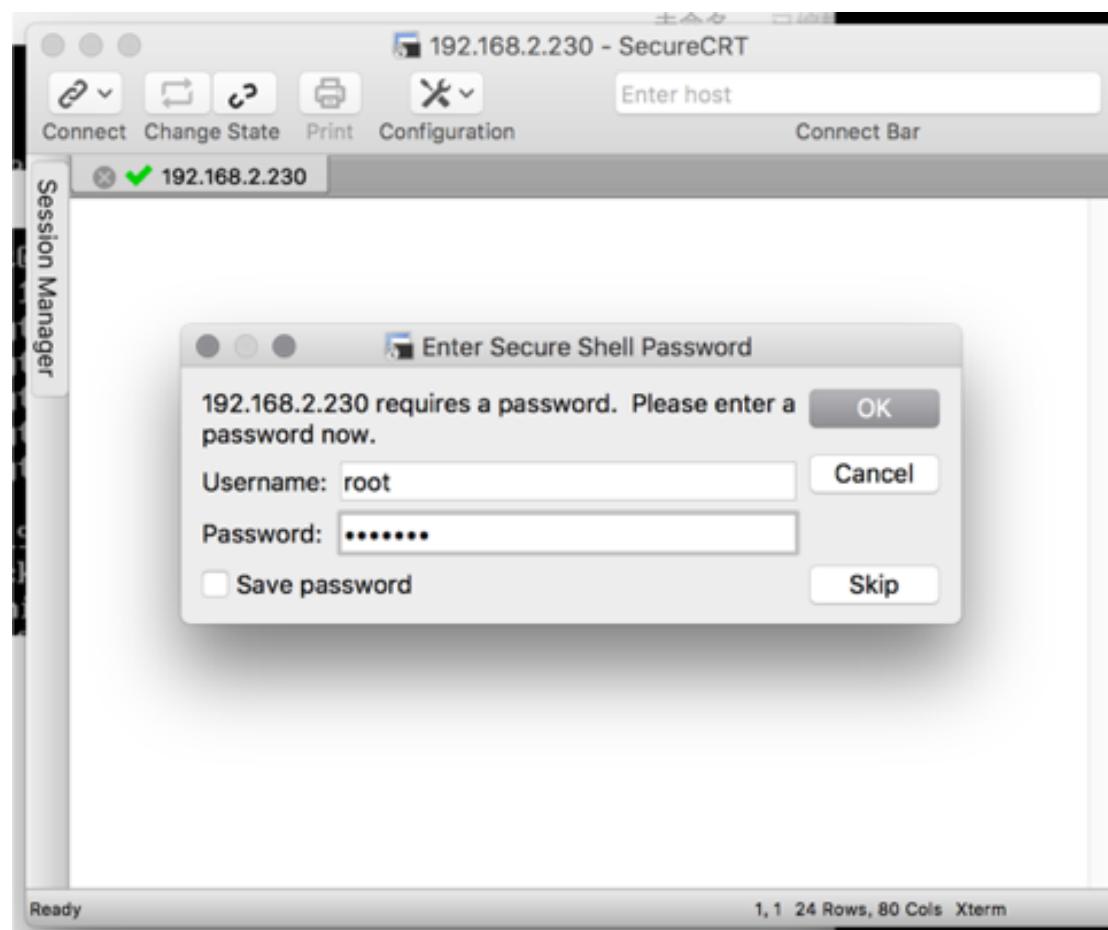
通

```
zby-MBP:~ zby$ ping 192.168.2.1
PING 192.168.2.1 (192.168.2.1): 56 data bytes
64 bytes from 192.168.2.1: icmp_seq=0 ttl=64 time=0.143 ms
64 bytes from 192.168.2.1: icmp_seq=1 ttl=64 time=0.080 ms
64 bytes from 192.168.2.1: icmp_seq=2 ttl=64 time=0.165 ms
64 bytes from 192.168.2.1: icmp_seq=3 ttl=64 time=0.081 ms
^C
--- 192.168.2.1 ping statistics ---
4 packets transmitted, 4 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 0.080/0.117/0.165/0.038 ms
zby-MBP:~ zby$
```

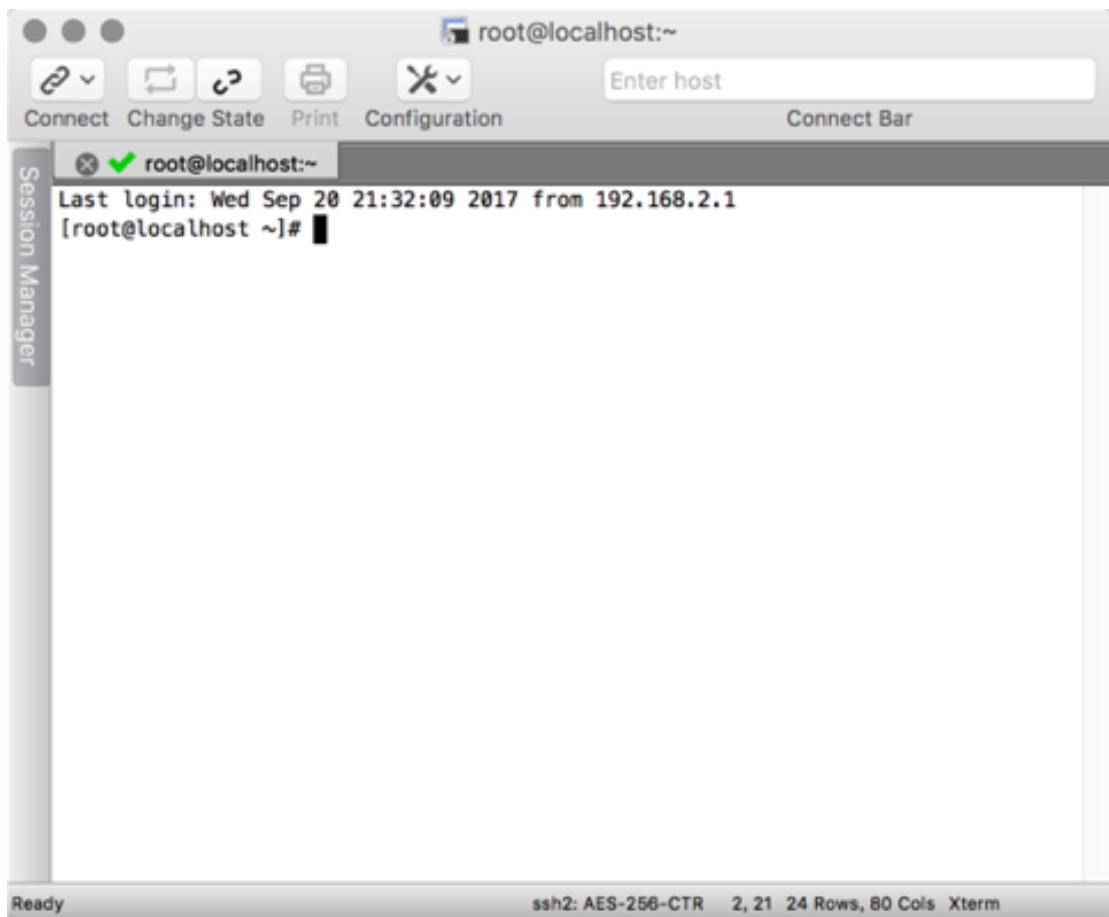
4.

按教程输各种参数 进

输密码



登录成功



echo 正常

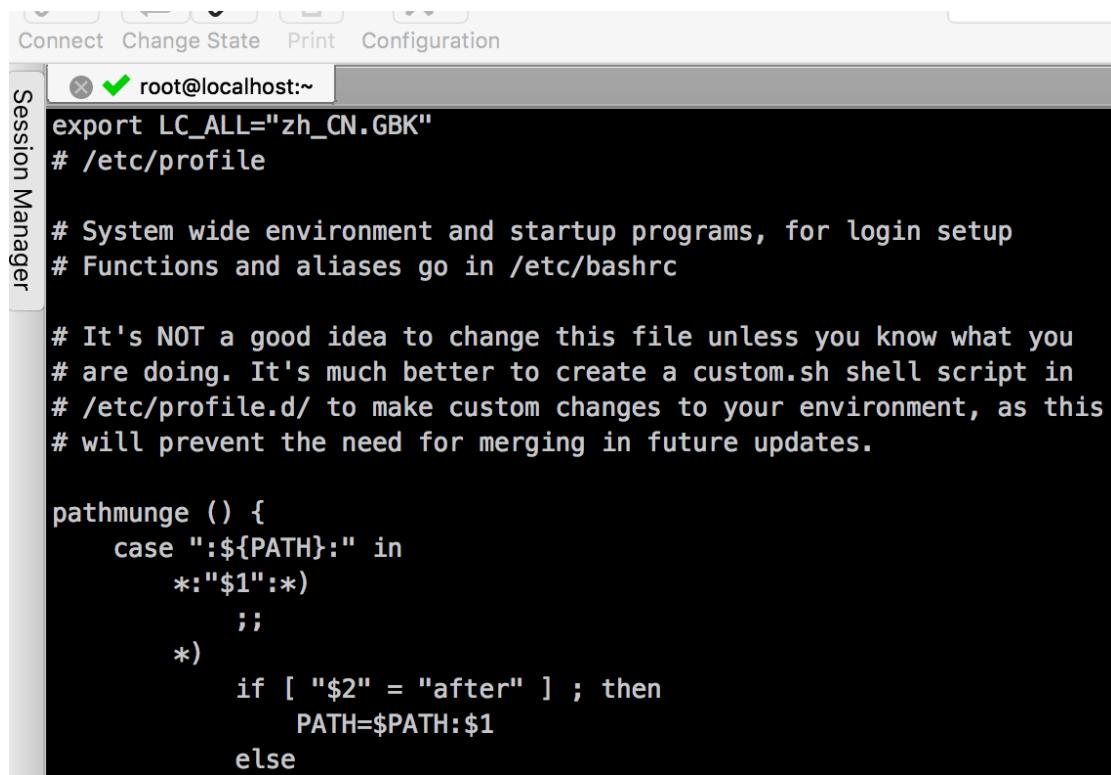
The screenshot shows a terminal window titled "root@localhost:~". The window includes a toolbar with icons for Connect, Change State, Print, and Configuration, and a "Connect Bar" with an "Enter host" field. A "Session Manager" sidebar is visible on the left. The main terminal area displays the following text:

```
Last login: Wed Sep 20 21:32:09 2017 from 192.168.2.1
[root@localhost ~]# echo Hello world!
Hello world!
[root@localhost ~]#
```

The status bar at the bottom indicates "Ready" and "ssh2: AES-256-CTR 4, 21 24 Rows, 80 Cols Xterm".

5.

改配置文件/etc/profile



The screenshot shows a terminal window titled "root@localhost:~". The window has a menu bar with "Connect", "Change State", "Print", and "Configuration". On the left, there is a "Session Manager" sidebar. The main terminal area displays the contents of the /etc/profile file. The file includes environment variable settings like LC_ALL, comments about startup programs and functions, and a function named pathmunge that manipulates the PATH variable based on arguments \$1 and \$2.

```
root@localhost:~$ export LC_ALL="zh_CN.GBK"
root@localhost:~$ # /etc/profile

# System wide environment and startup programs, for login setup
# Functions and aliases go in /etc/bashrc

# It's NOT a good idea to change this file unless you know what you
# are doing. It's much better to create a custom.sh shell script in
# /etc/profile.d/ to make custom changes to your environment, as this
# will prevent the need for merging in future updates.

pathmunge () {
    case ":${PATH}:" in
        *:"$1":*)
            ;;
        *)
            if [ "$2" = "after" ] ; then
                PATH=$PATH:$1
            else

```

显示正常

```
[root@localhost home]# ll
总用量 476
-rw-r--r--. 1 root root 473372 9月 21 08:18 17181-000101-W0101.第00章 作业 - 安装并配置RHEL7.4.pdf
-rw-r--r--. 1 root root 1138 9月 21 08:18 demo.php
-rw-r--r--. 1 root root 496 9月 21 08:18 demo.sql
-rw-r--r--. 1 root root 2259 9月 21 08:18 mysql_demo.cpp
[root@localhost home]#
Ready ssh2: AES-256-CTR 24, 24 24 Rows, 96 Cols Xterm
```

6.

先把这服务开了

自启动开了

```
[root@localhost ~]# systemctl start mariadb.service
[root@localhost ~]# systemctl enable mariadb.service
Created symlink from /etc/systemd/system/multi-user.target.wants/mariadb.service to /usr/lib/systemd/system/mariadb.service.
```

检查已启动

```
[root@localhost ~]# ps -ef | grep mysqld
mysql    12312     1  0 07:56 ?        00:00:00 /bin/sh /usr/bin/mysqld_safe --basedir=/usr
mysql    12473  12312  0 07:56 ?        00:00:00 /usr/libexec/mysqld --basedir=/usr --datadir=,
var/lib/mysql --plugin-dir=/usr/lib64/mysql/plugin --log-error=/var/log/mariadb/mariadb.log --pi
d-file=/var/run/mariadb/mariadb.pid --socket=/var/lib/mysql/mysql.sock
root      12580  12191  0 08:03 pts/0    00:00:00 grep --color=auto mysqld
```

登录 初始没密码 我按了半天 其实直接回车就进了

```
[root@localhost ~]# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 7
Server version: 5.5.56-MariaDB MariaDB Server

Copyright (c) 2000, 2017, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> 
```

如下操作改密码 记得命令结尾有分号

```
MariaDB [(none)]> USE mysql
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [mysql]> UPDATE user SET password=PASSWORD('bybywin') WHERE User='root' AND Host ='localhost'
->
-> ;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [mysql]> UPDATE user SET password=PASSWORD('bybywin') WHERE User='root' AND Host ='localhost';
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1  Changed: 0  Warnings: 0

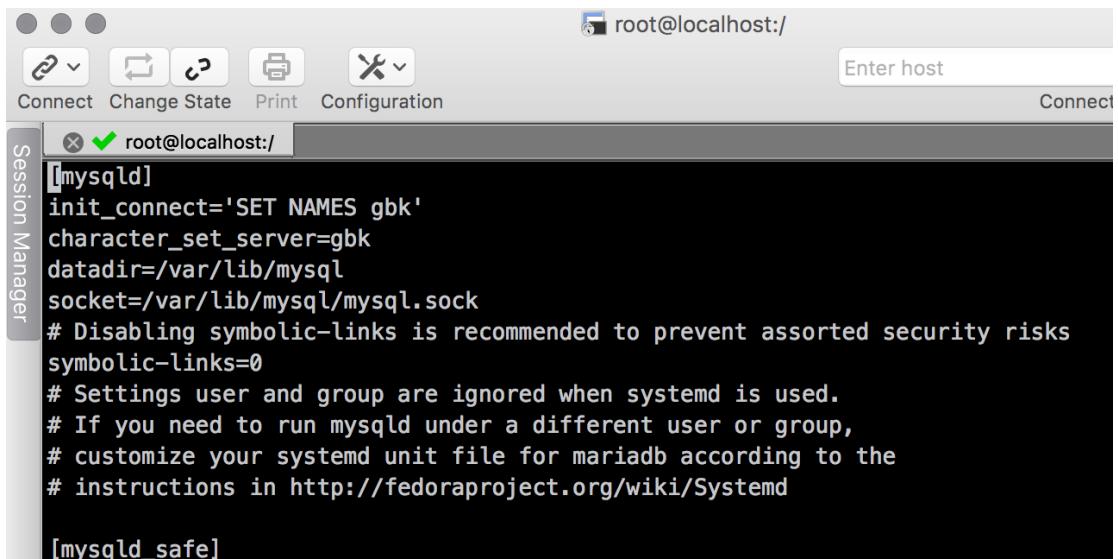
MariaDB [mysql]> FLUSH PRIVILEGES
-> ;
Query OK, 0 rows affected (0.00 sec)
```

7.

先到站点管理器把字符集改了



进配置文件改一波配置



The screenshot shows the MySQL Workbench Session Manager. A session named 'root@localhost:/' is selected. The content of the session shows the configuration for the mysqld and mysqld_safe services. Key settings include:

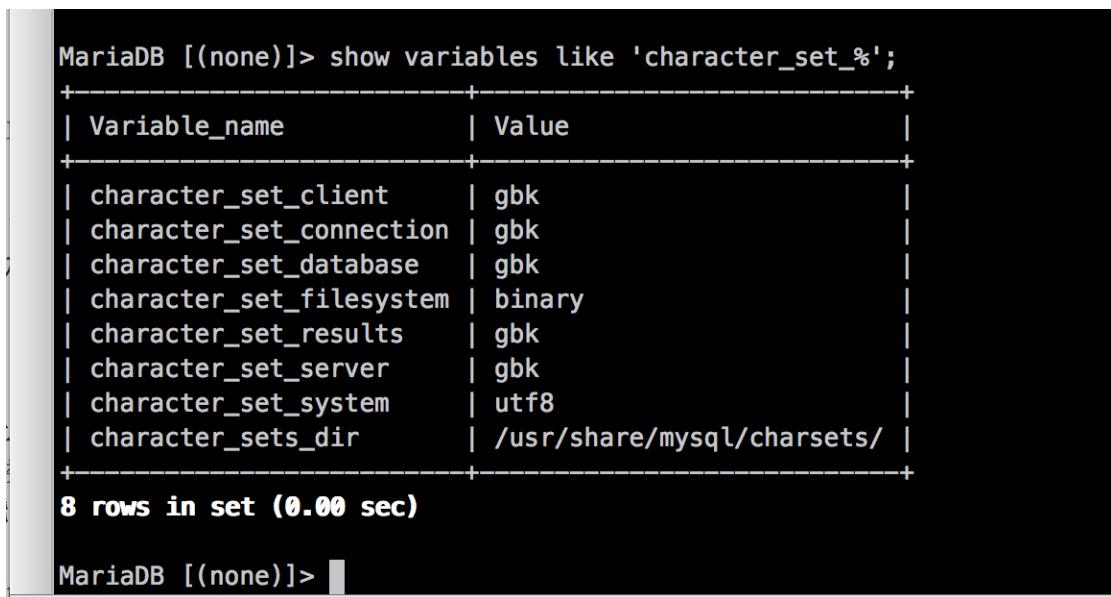
```
[mysqld]
init_connect='SET NAMES gbk'
character_set_server=gbk
datadir=/var/lib/mysql
socket=/var/lib/mysql/mysql.sock
# Disabling symbolic-links is recommended to prevent assorted security risks
symbolic-links=0
# Settings user and group are ignored when systemd is used.
# If you need to run mysqld under a different user or group,
# customize your systemd unit file for mariadb according to the
# instructions in http://fedoraproject.org/wiki/Systemd

[mysqld_safe]
```

重启 mysql 登录

show variables like 'character_set_%' 看看字符集

改好了



The screenshot shows the MySQL Workbench command line interface. The command 'show variables like 'character_set_%'' is executed, and the results are displayed in a table:

Variable_name	Value
character_set_client	gbk
character_set_connection	gbk
character_set_database	gbk
character_set_filesystem	binary
character_set_results	gbk
character_set_server	gbk
character_set_system	utf8
character_sets_dir	/usr/share/mysql/charsets/

8 rows in set (0.00 sec)

MariaDB [(none)]>

导入一波之前传入的 sql

```
MariaDB [(none)]> source /home/demo.sql
Query OK, 1 row affected (0.00 sec)

Query OK, 1 row affected (0.00 sec)

Database changed
Query OK, 0 rows affected, 1 warning (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 1 row affected (0.00 sec)
```

达到预期状态

```
MariaDB [demo]> select * from student;
```

sno	sname	ssex	sage	sdept
200215121	李勇	男	20	CS
200215122	刘晨	女	19	CS
200215123	王敏	女	18	MA
200215125	张立	男	19	IS

```
4 rows in set (0.00 sec)
```

```
MariaDB [demo]> select * from student;
```

8.

先把 iso 扔进虚拟机 我竟然少了这步 我说怎么一直挂不上
然后就是正常的挂载步骤

改一下配置文件/etc/yum.repos.d/cdrom.repo

```
[root@localhost ~]# cat /etc/yum.repos.d/cdrom.repo
[base]
name=RedHat
baseurl=file:///media/cdrom
enabled=1
gpgcheck=0
gpgkey=file:///media/cdrom/RPM-GPG-KEY-redhat-release
~
```

df 查询挂载情况

yum clean all 来清空缓存

然后 yum install php 来安装

```
[root@localhost ~]# mount /home/rhel-server-7.4-x86_64-dvd.iso /media/cdrom/
mount: /dev/loop0 写保护，将以只读方式挂载
[root@localhost ~]# df
文件系统      1K-块    已用    可用  已用% 挂载点
/dev/mapper/rhel-root 17811456 5852800 11958656  33% /
devtmpfs        1921572      0 1921572   0% /dev
tmpfs          1932652   8916 1923736   1% /run
tmpfs          1932652      0 1932652   0% /sys/fs/cgroup
/dev/sda1       1038336 148560  889776  15% /boot
/dev/loop0       3963760 3963760      0 100% /media/cdrom
[root@localhost ~]# yum clean all
已加载插件: langpacks, product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-manager to
Repository 'repository_url': Error parsing config: Error parsing "baseurl = 'repository_url'"
ftp, file or https not ""
姝 e 儿劳鍚嗚蒋浠舵簪鏞
Cleaning up everything
Maybe you want: rm -rf /var/cache/yum, to also free up space taken by orphaned data from discs
[root@localhost ~]# yum install php
已加载插件: langpacks, product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-manager to
Repository 'repository_url': Error parsing config: Error parsing "baseurl = 'repository_url'"
ftp, file or https not ""
base
(1/2): base/group_gz
(2/2): base/primary_db
正在解决依赖关系
--> 正在检查事务
--> 软件包 php.x86_64.0.5.4.16-42.el7 将被 安装
--> 正在处理依赖关系 httpd-mmn = 20120211x8664, 它被软件包 php-5.4.16-42.el7.x86_64 需要
--> 正在处理依赖关系 php-common(x86-64) = 5.4.16-42.el7, 它被软件包 php-5.4.16-42.el7.x86_64 需要
--> 正在处理依赖关系 php-cli(x86-64) = 5.4.16-42.el7, 它被软件包 php-5.4.16-42.el7.x86_64 需要
--> 正在处理依赖关系 httpd, 它被软件包 php-5.4.16-42.el7.x86_64 需要
--> 正在检查事务
--> 软件包 httpd.x86_64.0.2.4.6-67.el7 将被 安装
--> 正在处理依赖关系 httpd-tools = 2.4.6-67.el7, 它被软件包 httpd-2.4.6-67.el7.x86_64 需要
--> 正在处理依赖关系 /etc/mime.types, 它被软件包 httpd-2.4.6-67.el7.x86_64 需要
```

秒装

```
正在安装 : php-common-5.4.16-42.el7.x86_64
正在安装 : php-cli-5.4.16-42.el7.x86_64
正在安装 : mailcap-2.1.41-2.el7.noarch
正在安装 : httpd-tools-2.4.6-67.el7.x86_64
正在安装 : httpd-2.4.6-67.el7.x86_64
正在安装 : php-5.4.16-42.el7.x86_64
base/productid
验证中 : httpd-2.4.6-67.el7.x86_64
验证中 : httpd-tools-2.4.6-67.el7.x86_64
验证中 : php-cli-5.4.16-42.el7.x86_64
验证中 : mailcap-2.1.41-2.el7.noarch
验证中 : php-5.4.16-42.el7.x86_64
验证中 : libzip-0.10.1-8.el7.x86_64
验证中 : php-common-5.4.16-42.el7.x86_64

已安装:
php.x86_64 0:5.4.16-42.el7

作为依赖被安装:
httpd.x86_64 0:2.4.6-67.el7      httpd-tools.x86_64 0:2.4.6-67.el7      libzip.x86_64 0:0.
mailcap.noarch 0:2.1.41-2.el7      php-cli.x86_64 0:5.4.16-42.el7      php-common.x86_64
```

启动

设自启

```
[root@localhost ~]# systemctl start httpd.service
[root@localhost ~]# systemctl enable httpd.service
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/l
evice.
[root@localhost ~]#
```

创建并修改 /var/www/html/info.php

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

关防火墙

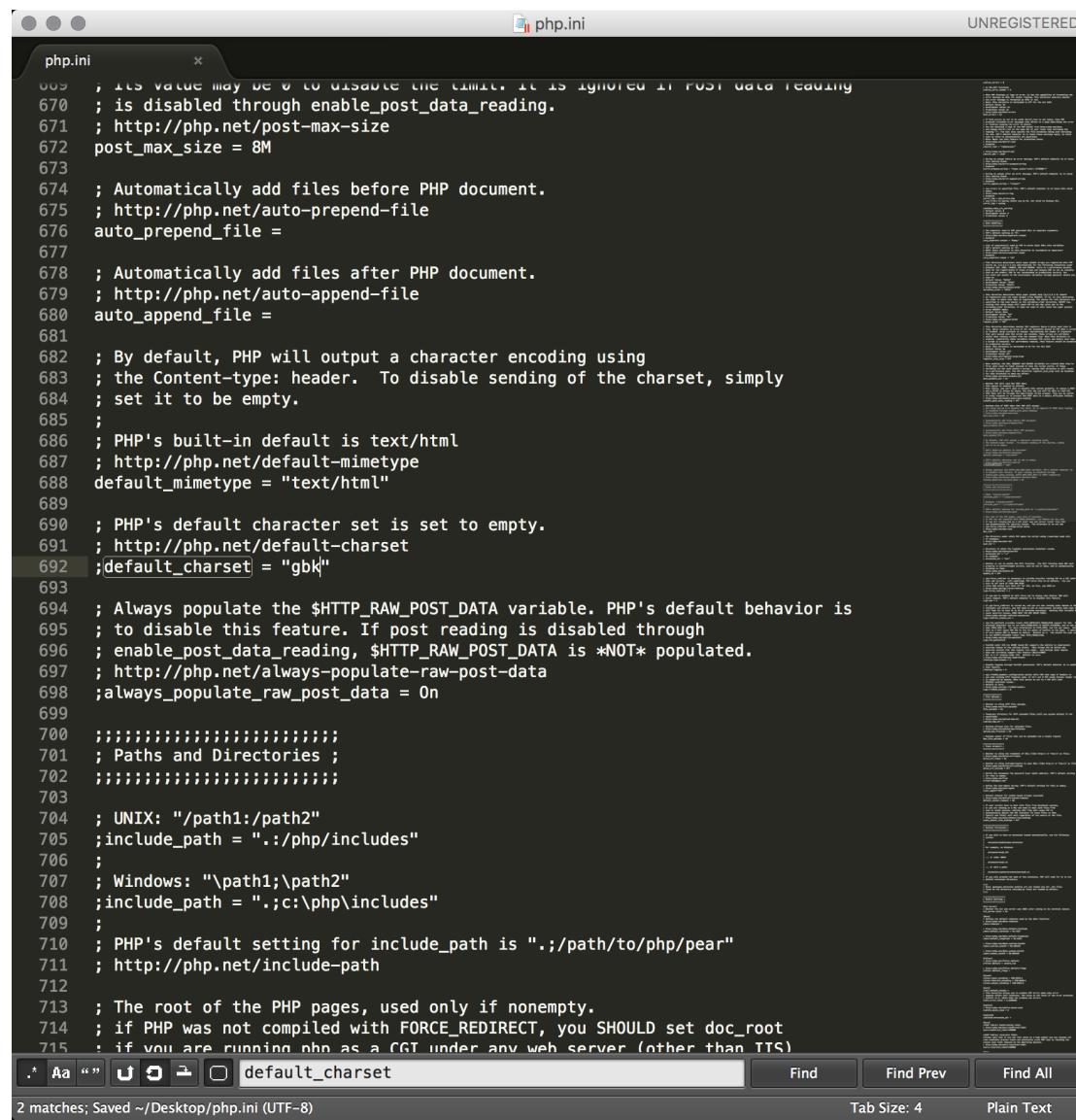
装 php-mysql

```
[root@localhost ~]# vi /var/www/html/info.php
[root@localhost ~]# systemctl stop firewalld.service
[root@localhost ~]# yum install php-mysql.x86_64
已加载插件: langpacks, product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-manager to register.
Repository 'repository_url': Error parsing config: Error parsing "baseurl = 'repository_url)": URL must be http,
ftp, file or https not ""
正在解决依赖关系
--> 正在检查事务
--> 软件包 php-mysql.x86_64.0.5.4.16-42.el7 将被 安装
--> 正在处理依赖关系 php-pdo(x86-64) = 5.4.16-42.el7, 它被软件包 php-mysql-5.4.16-42.el7.x86_64 需要
```

进 php.ini 修改

这文件太大了 我导出用查找修改再导回去了

改那个字符集成 gbk



```
php.ini      x
UNREGISTERED

009 ; its value may be 0 to disable the limit. It is ignored if POST data reading
670 ; is disabled through enable_post_data_reading.
671 ; http://php.net/post-max-size
672 post_max_size = 8M
673
674 ; Automatically add files before PHP document.
675 ; http://php.net/auto-prepend-file
676 auto_prepend_file =
677
678 ; Automatically add files after PHP document.
679 ; http://php.net/auto-append-file
680 auto_append_file =
681
682 ; By default, PHP will output a character encoding using
683 ; the Content-type: header. To disable sending of the charset, simply
684 ; set it to be empty.
685 ;
686 ; PHP's built-in default is text/html
687 ; http://php.net/default-mimetype
688 default_mimetype = "text/html"
689
690 ; PHP's default character set is set to empty.
691 ; http://php.net/default-charset
692 ;default_charset = "gbk"
693
694 ; Always populate the $HTTP_RAW_POST_DATA variable. PHP's default behavior is
695 ; to disable this feature. If post reading is disabled through
696 ; enable_post_data_reading, $HTTP_RAW_POST_DATA is *NOT* populated.
697 ; http://php.net/always-populate-raw-post-data
698 ;always_populate_raw_post_data = On
699
700 ;::::::::::::::::::;
701 ; Paths and Directories ;
702 ;::::::::::::::::::;
703
704 ; UNIX: "/path1:/path2"
705 ;include_path = "./:php/includes"
706 ;
707 ; Windows: "\path1;\path2"
708 ;include_path = ".;c:\php\includes"
709 ;
710 ; PHP's default setting for include_path is "./:/path/to/php/pear"
711 ; http://php.net/include-path
712
713 ; The root of the PHP pages, used only if nonempty.
714 ; if PHP was not compiled with FORCE_REDIRECT, you SHOULD set doc_root
715 ; if you are running php as a CGI under any web server (other than IIS)
```

.* Aa “” ⌂ ⌂ ⌂ default_charset

Find Find Prev Find All

2 matches; Saved ~/Desktop/php.ini (UTF-8) Tab Size: 4 Plain Text

覆盖

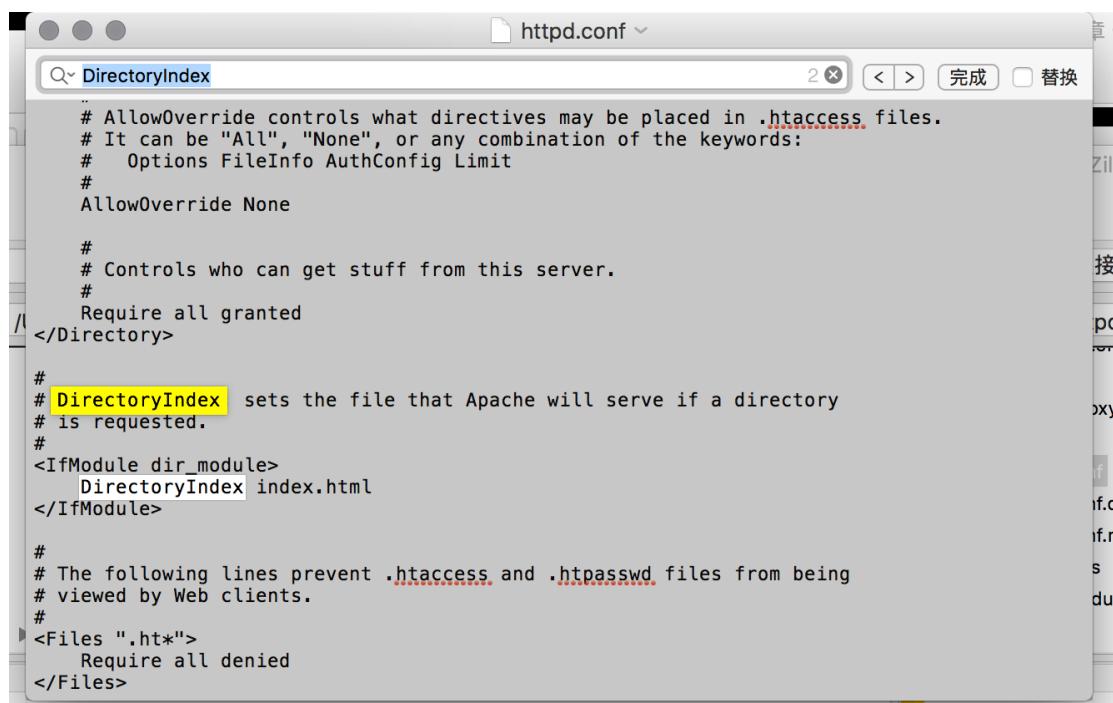


在浏览器下走一个192.168.1.230/info.php

The screenshot shows a web browser window with the address bar set to 192.168.2.230. The page title is "PHP Version 5.4.16". The content area displays a table of PHP configuration details. The table has two columns: "System" and "Value".

System	Value
Build Date	Aug 5 2016 07:51:30
Server API	Apache 2.0 Handler
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/curl.ini, /etc/php.d/fileinfo.ini, /etc/php.d/json.ini, /etc/php.d/mysql.ini, /etc/php.d/mysqli.ini, /etc/php.d/pdo.ini, /etc/php.d/pdo_mysql.ini, /etc/php.d/pdo_sqlite.ini, /etc/php.d/phar.ini, /etc/php.d/sqlite3.ini, /etc/php.d/zip.ini
PHP API	20100412
PHP Extension	20100525
Zend Extension	220100525
Zend Extension Build	API20100525,NTS
PHP Extension Build	API20100525,NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	disabled
Zend Memory Manager	enabled
Zend Multibyte	disabled

修改/etc/httpd/conf/httpd.conf 文件

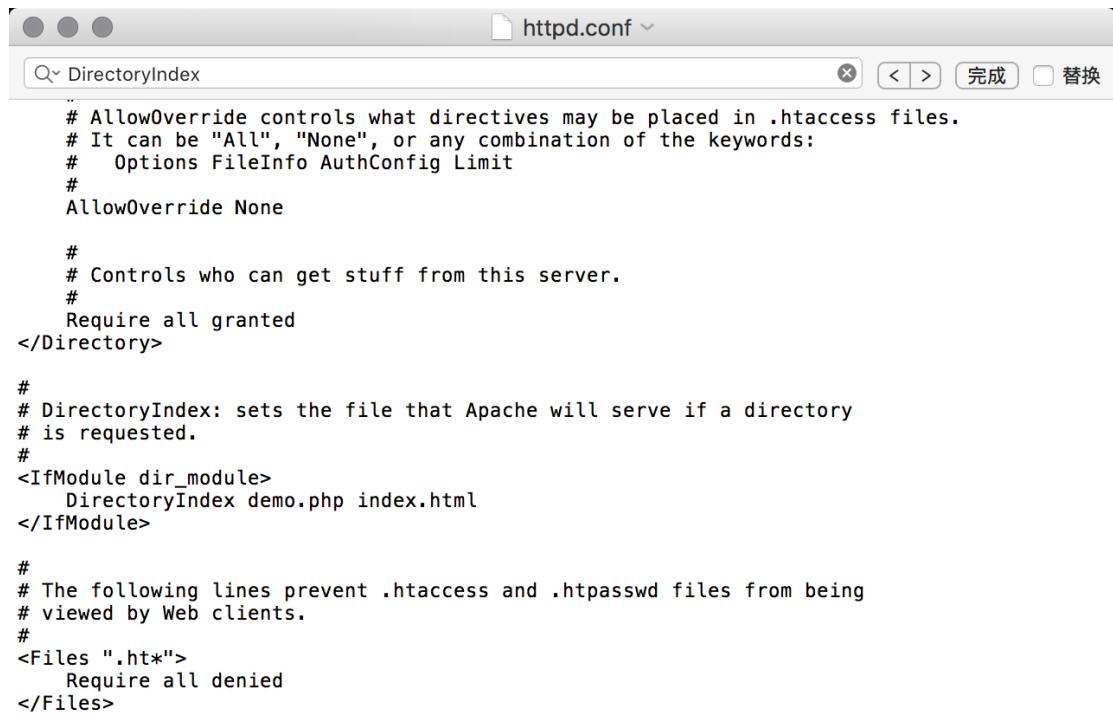


```
# AllowOverride controls what directives may be placed in .htaccess files.
# It can be "All", "None", or any combination of the keywords:
#   Options FileInfo AuthConfig Limit
#
AllowOverride None

#
# Controls who can get stuff from this server.
#
Require all granted
</Directory>

#
# DirectoryIndex sets the file that Apache will serve if a directory
# is requested.
#
<IfModule dir_module>
    DirectoryIndex index.html
</IfModule>

#
# The following lines prevent .htaccess and .htpasswd files from being
# viewed by Web clients.
#
<Files ".ht*">
    Require all denied
</Files>
```



```
# AllowOverride controls what directives may be placed in .htaccess files.
# It can be "All", "None", or any combination of the keywords:
#   Options FileInfo AuthConfig Limit
#
AllowOverride None

#
# Controls who can get stuff from this server.
#
Require all granted
</Directory>

#
# DirectoryIndex: sets the file that Apache will serve if a directory
# is requested.
#
<IfModule dir_module>
    DirectoryIndex demo.php index.html
</IfModule>

#
# The following lines prevent .htaccess and .htpasswd files from being
# viewed by Web clients.
#
<Files ".ht*">
    Require all denied
</Files>
```

重启网络服务 更新配置

```
[root@RHEL-zby /]# systemctl restart httpd.service
```

发现已经默认页修改成功



The screenshot shows a web browser window with the address bar set to 192.168.2.231. The page content displays a table titled "列表" (List) with five columns: 学号 (Student ID), 姓名 (Name), 性别 (Gender), 年龄 (Age), and 系部 (Department). The table contains five rows of data:

学号	姓名	性别	年龄	系部
200215121	李勇	男	20	CS
200215122	刘晨	女	19	CS
200215123	王敏	女	18	MA
200215125	张立	男	19	IS

Below the table, a message indicates the page load time: 打开网页耗时: 0.00087499618530273秒。

9.

装编译器

```
[root@localhost ~]# mount /home/rhel-server-7.4-x86_64-dvd.iso /media/cdrom/
mount: /dev/loop0 写保护，将以只读方式挂载
[root@localhost ~]# yum clean all
已加载插件: langpacks, product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-
Repository 'repository_url': Error parsing config: Error parsing "baseurl = '"
ftp, file or https not ""
姝 e 儿劳鐸鳴蒋浠舵簪鏮
Cleaning up everything
Maybe you want: rm -rf /var/cache/yum, to also free up space taken by orphaned
s
[root@localhost ~]# yum install mysql-devel
已加载插件: langpacks, product-id, search-disabled-repos, subscription-manag
```

过

```
mariadb-devel.x86_64 1.5.5.30-2.el7
作为依赖被安装：
keyutils-libs-devel.x86_64 0:1.5.8-3.el7
libcom_err-devel.x86_64 0:1.42.9-10.el7
libselinux-devel.x86_64 0:2.5-11.el7
libverto-devel.x86_64 0:0.2.5-4.el7
pcre-devel.x86_64 0:8.32-17.el7
krb5-devel.x86_64 0:1.15.1-8.el7
libkadm5.x86_64 0:1.15.1-8.el7
libsepol-devel.x86_64 0:2.5-6.el7
openssl-devel.x86_64 1:1.0.2k-8.el7
zlib-devel.x86_64 0:1.2.7-17.el7

完毕!
[root@localhost ~]#
y
ssh2: AES-256-CTR 42, 21 42 Rows, 11
```

编译(这要先改一下源文件里的密码)

走一波

```
[root@localhost home]# g++ mysql_demo.cpp -I/usr/include/mysql -L/usr/lib64/mysql -lmysqlclient
[root@localhost home]# ./a.out
select return 4 records
学号: 200215121 姓名: 李勇 性别: 男 年龄: 20 系部: CS
学号: 200215122 姓名: 刘晨 性别: 女 年龄: 19 系部: CS
学号: 200215123 姓名: 王敏 性别: 女 年龄: 18 系部: MA
学号: 200215125 姓名: 张立 性别: 男 年龄: 19 系部: IS
[root@localhost home]#
```

10.

之前已经搞定 这里不再赘述

