

部署 Ubuntu 服务器的 Delphi 开发环境

注意:不是 LINUX 图形工作站，没有图形界面，全是 dos 时代的命令符方式

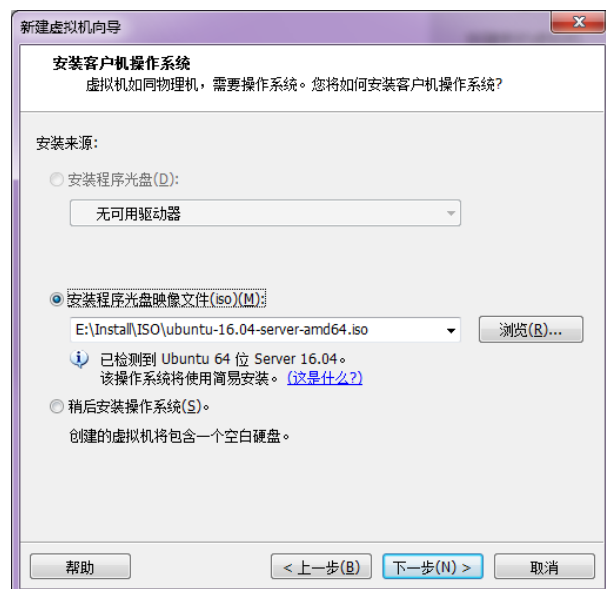
准备工作

自行在百度和 google 搜索和下载 ubuntu-16.04-server-amd64.iso (因为 Intel 出了泄漏指令事件)，注意对齐版本

- 1, 支持 Linux 的 Delphi, 至少 10.2 或以上版本
- 2, 准备好 VMware (因为简单), 我用的版本如下



- 3, 在 VMWare 安装 Ubuntu 16.04 server 要用简易安装，否则会经常跳出安装失败提示

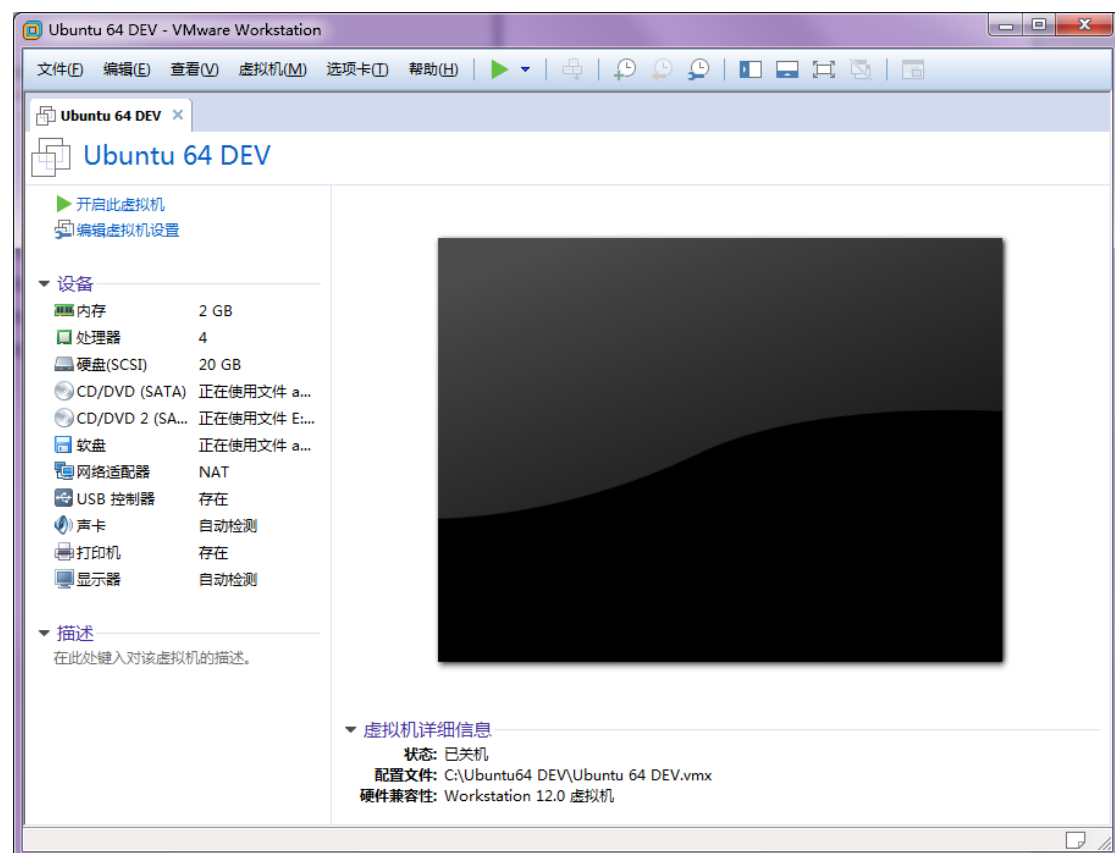


4, 点下一步

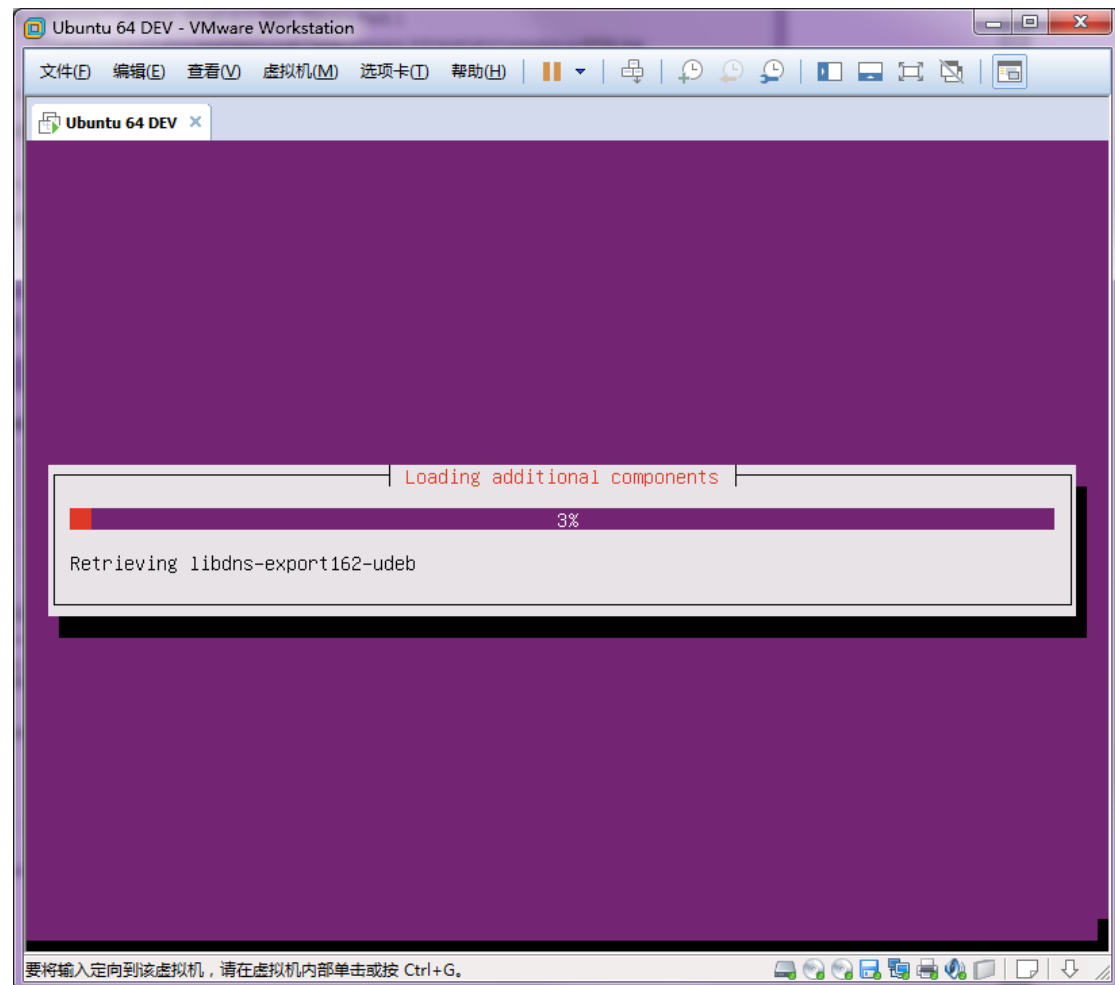
这里就是输入以后我们调试和发布用的 Linux 帐号，不能用 Root



5, 一直下一步直到完成, 然后把内存和 cpu 改高一点, 因为后面有个编译步骤会很慢



6, Ubuntu 开机运行系统会跳一堆这类安装进度条, 不管管它, 它会自动完成



由于安装过程需要访问官方更新, 这里会需要点时间, 一般来说 30 分钟以上, 1-2 个小时很正常, 发生长时间卡住不动的情况, 就重复上面的操作, 再装, 一直到装上为止

如果这里太慢, 可以用手动安装, 手动安装不用装自动更新, 会快很多

在安装过程中, 建议你学学 vi 的用法, 认真看, 因为后面我们需要修改更新源

<http://blog.csdn.net/chens364567628/article/details/52070915>

<http://blog.csdn.net/w383117613/article/details/47611179>

把 vi 的基本使用搞明白以后, 上帝保佑你一眼就学会, 希望这时 ubuntu 已经安装完成

这里有 4 个高速更新源

deb <http://mirrors.aliyun.com/ubuntu/xenial/main/restricted/universe/multiverse>

deb <http://mirrors.aliyun.com/ubuntu/xenial-security/main/restricted/universe/multiverse>

deb <http://mirrors.aliyun.com/ubuntu/xenial-updates/main/restricted/universe/multiverse>

deb <http://mirrors.aliyun.com/ubuntu/xenial-backports/main/restricted/universe/multiverse>

ubuntu16.04 LTS，其中的 LTS 是表示长期支持版本，大概是通过在线更新方式来做长期支持，使用 ubuntu16.04 做服务器可以用 5-10 年。

首次完成安装后的 Ubuntu，这里会等一下（大概 5 分钟），系统在干什么，我也不知道

接下来，我们终于可以登录了，使用刚才定义的管理员帐号登录

接下来，我们备份一次系统，直接关机，把 vm 目录复制一份，以免出现错误操作搞坏系统

现在，我们进入系统

我们先检查各项配置

```
sudo ip -r addr
```

然后

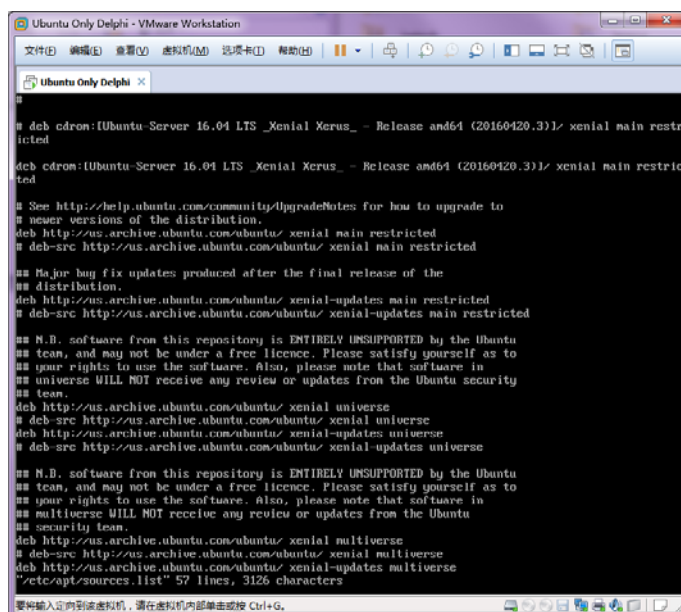
```
sudo ping www.163.com
```

Ping 通，说明 VM 正常，这一步如果不正常，后面不能继续

现在我们开始用 vi 设定更新源

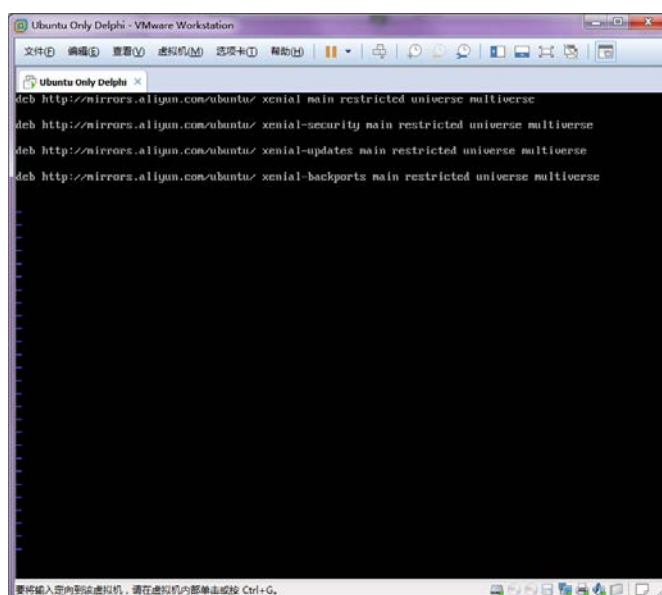
```
sudo vi /etc/apt/sources.list
```

我们刚才学习的 vi 使用方法，就是用在这里的



```
deb cdrom:[Ubuntu Server 16.04 LTS _Xenial Xerus_ - Release amd64 (20160420.3)]/ xenial main restricted
deb cdrom:[Ubuntu Server 16.04 LTS _Xenial Xerus_ - Release amd64 (20160420.3)]/ xenial main restricted
deb http://us.archive.ubuntu.com/ubuntu/ xenial main restricted
deb-src http://us.archive.ubuntu.com/ubuntu/ xenial main restricted
## Major bug fix updates produced after the final release of the
## distribution.
deb http://us.archive.ubuntu.com/ubuntu/ xenial-updates main restricted
deb-src http://us.archive.ubuntu.com/ubuntu/ xenial-updates main restricted
## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
## team, and may not be under a free licence. Please satisfy yourself as to
## your rights to use the software. Also, please note that software in
## universe WILL NOT receive any review or updates from the Ubuntu security
## team.
deb http://us.archive.ubuntu.com/ubuntu/ xenial universe
deb-src http://us.archive.ubuntu.com/ubuntu/ xenial universe
deb http://us.archive.ubuntu.com/ubuntu/ xenial-updates universe
deb-src http://us.archive.ubuntu.com/ubuntu/ xenial-updates universe
## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
## team, and may not be under a free licence. Please satisfy yourself as to
## your rights to use the software. Also, please note that software in
## multiverse WILL NOT receive any review or updates from the Ubuntu
## security team.
deb http://us.archive.ubuntu.com/ubuntu/ xenial multiverse
deb-src http://us.archive.ubuntu.com/ubuntu/ xenial multiverse
deb http://us.archive.ubuntu.com/ubuntu/ xenial-updates multiverse
deb-src http://us.archive.ubuntu.com/ubuntu/ xenial-updates multiverse
"/etc/apt/sources.list" 57 lines, 3126 characters
```

现在，我们在 vi 中删除原来的内容，用上面提到过的高速更新源地址替代



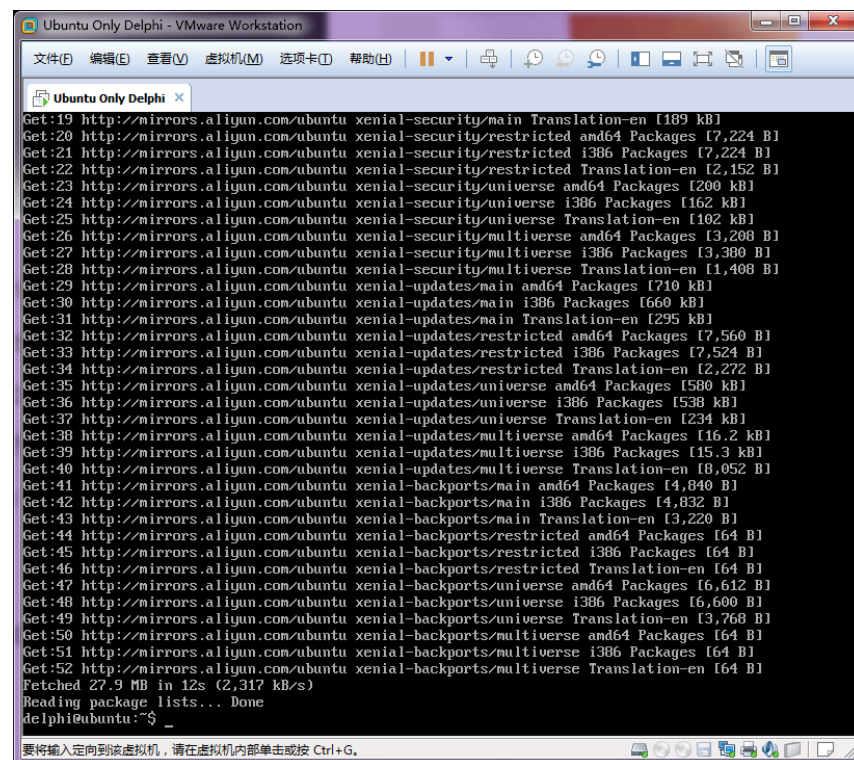
```
deb http://mirrors.aliyun.com/ubuntu/ xenial main restricted universe multiverse
deb http://mirrors.aliyun.com/ubuntu/ xenial-security main restricted universe multiverse
deb http://mirrors.aliyun.com/ubuntu/ xenial-updates main restricted universe multiverse
deb http://mirrors.aliyun.com/ubuntu/ xenial-backports main restricted universe multiverse
```

用:WQ保存并退出

敲入下面更新语句

sudo apt-get update

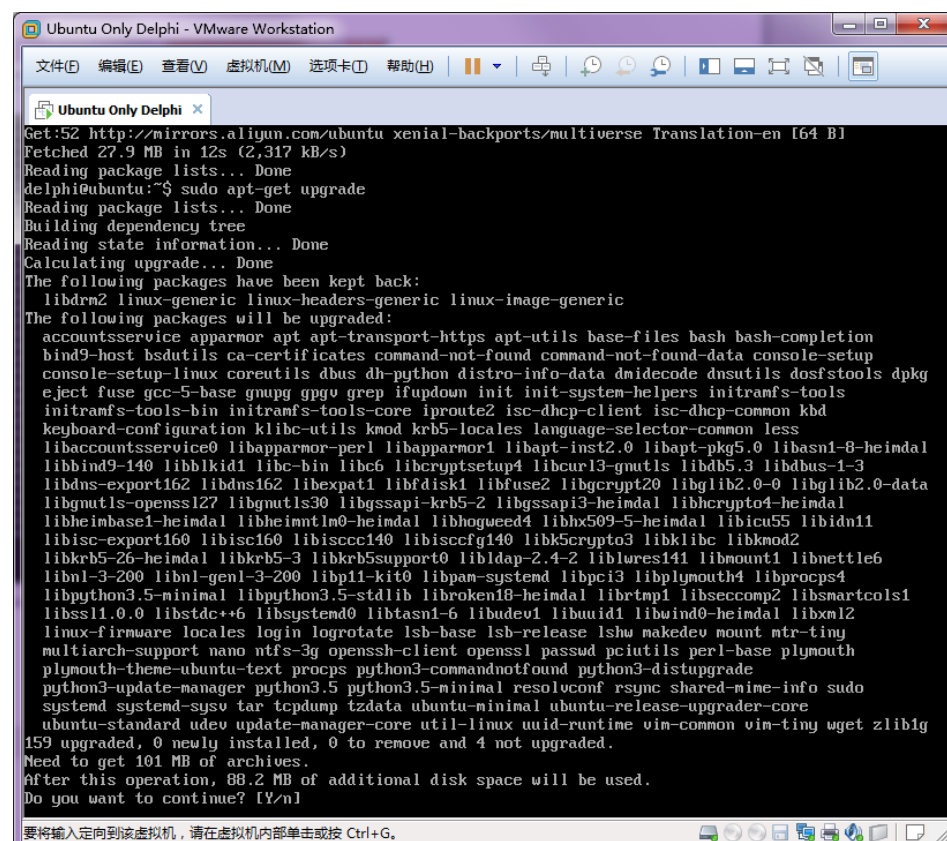
新的更新源快来飞起，10 秒后完成更新列表操作



```
Get:19 http://mirrors.aliyun.com/ubuntu xenial-security/main Translation-en [189 kB]
Get:20 http://mirrors.aliyun.com/ubuntu xenial-security/restricted amd64 Packages [7,224 B]
Get:21 http://mirrors.aliyun.com/ubuntu xenial-security/restricted i386 Packages [7,224 B]
Get:22 http://mirrors.aliyun.com/ubuntu xenial-security/restricted Translation-en [2,152 B]
Get:23 http://mirrors.aliyun.com/ubuntu xenial-security/universe amd64 Packages [200 kB]
Get:24 http://mirrors.aliyun.com/ubuntu xenial-security/universe i386 Packages [162 kB]
Get:25 http://mirrors.aliyun.com/ubuntu xenial-security/universe Translation-en [102 kB]
Get:26 http://mirrors.aliyun.com/ubuntu xenial-security/multiverse amd64 Packages [3,208 B]
Get:27 http://mirrors.aliyun.com/ubuntu xenial-security/multiverse i386 Packages [3,380 B]
Get:28 http://mirrors.aliyun.com/ubuntu xenial-security/multiverse Translation-en [1,408 B]
Get:29 http://mirrors.aliyun.com/ubuntu xenial-updates/main amd64 Packages [710 kB]
Get:30 http://mirrors.aliyun.com/ubuntu xenial-updates/main i386 Packages [660 kB]
Get:31 http://mirrors.aliyun.com/ubuntu xenial-updates/main Translation-en [295 kB]
Get:32 http://mirrors.aliyun.com/ubuntu xenial-updates/restricted amd64 Packages [7,560 B]
Get:33 http://mirrors.aliyun.com/ubuntu xenial-updates/restricted i386 Packages [7,524 B]
Get:34 http://mirrors.aliyun.com/ubuntu xenial-updates/restricted Translation-en [2,272 B]
Get:35 http://mirrors.aliyun.com/ubuntu xenial-updates/universe amd64 Packages [580 kB]
Get:36 http://mirrors.aliyun.com/ubuntu xenial-updates/universe i386 Packages [538 kB]
Get:37 http://mirrors.aliyun.com/ubuntu xenial-updates/universe Translation-en [234 kB]
Get:38 http://mirrors.aliyun.com/ubuntu xenial-updates/multiverse amd64 Packages [16.2 kB]
Get:39 http://mirrors.aliyun.com/ubuntu xenial-updates/multiverse i386 Packages [15.3 kB]
Get:40 http://mirrors.aliyun.com/ubuntu xenial-updates/multiverse Translation-en [8,052 B]
Get:41 http://mirrors.aliyun.com/ubuntu xenial-backports/main amd64 Packages [4,840 B]
Get:42 http://mirrors.aliyun.com/ubuntu xenial-backports/main i386 Packages [4,832 B]
Get:43 http://mirrors.aliyun.com/ubuntu xenial-backports/main Translation-en [3,220 B]
Get:44 http://mirrors.aliyun.com/ubuntu xenial-backports/restricted amd64 Packages [64 B]
Get:45 http://mirrors.aliyun.com/ubuntu xenial-backports/restricted i386 Packages [64 B]
Get:46 http://mirrors.aliyun.com/ubuntu xenial-backports/restricted Translation-en [64 B]
Get:47 http://mirrors.aliyun.com/ubuntu xenial-backports/universe amd64 Packages [6,612 B]
Get:48 http://mirrors.aliyun.com/ubuntu xenial-backports/universe i386 Packages [6,600 B]
Get:49 http://mirrors.aliyun.com/ubuntu xenial-backports/universe Translation-en [3,768 B]
Get:50 http://mirrors.aliyun.com/ubuntu xenial-backports/multiverse amd64 Packages [64 B]
Get:51 http://mirrors.aliyun.com/ubuntu xenial-backports/multiverse i386 Packages [64 B]
Get:52 http://mirrors.aliyun.com/ubuntu xenial-backports/multiverse Translation-en [64 B]
Fetched 27.9 MB in 12s (2,317 kB/s)
Reading package lists... Done
delphi@ubuntu:~$
```

然后，我们 开始下载更新现有的升级包，出现提示，全部 y

sudo apt-get upgrade

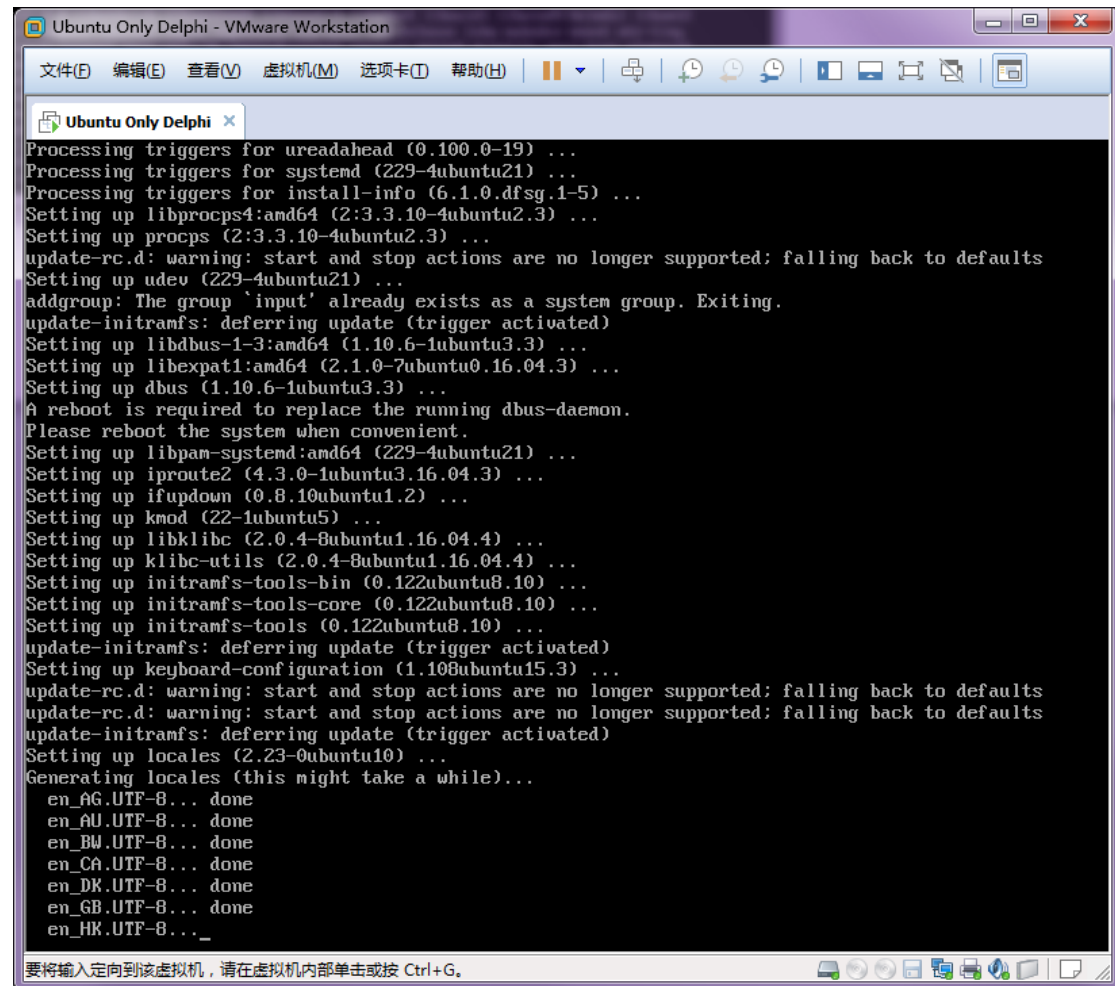


```
Get:52 http://mirrors.aliyun.com/ubuntu xenial-backports/multiverse Translation-en [64 B]
Fetched 27.9 MB in 12s (2,317 kB/s)
Reading package lists... Done
delphi@ubuntu:~$ sudo apt-get upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following packages have been kept back:
  libdrm2 linux-generic linux-headers-generic linux-image-generic
The following packages will be upgraded:
  accountsservice apparmor apt apt-transport-https apt-utils base-files bash bash-completion
  bind9-host bsdtls ca-certificates command-not-found command-not-found-data console-setup
  console-setup-linux coreutils dbus dh-python distro-info-data dmidecode dnsutils dosfstools dpkg
  eject fuse gcc-5-base gnupg gpgv grep ifupdown init init-system-helpers initscripts-tools
  initscripts-tools-bin initscripts-tools-core iproute2 isc-dhcp-client isc-dhcp-common kbd
  keyboard-configuration klibc-utils kmod krb5-locales language-selector-common less
  libaccountsservice0 libapparmor-perl libapparmor1 libapt-inst2.0 libapt-pkg5.0 libasn1-8-heimdal
  libbind9-140 libblkid1 libc-bin libc6 libcryptsetup4 libcurl3-gnutls libdb5.3 libdbus-1-3
  libdns-export162 libdns162 libexpat1 libfdisk1 libfuse2 libgcrypt20 libgl1.0-0 libgl1.0-0-data
  libgnutls-openssl12 libgnutls30 libgssapi-krb5-2 libgssapi3-heimdal libhcrypto4-heimdal
  libheimbase1-heimdal libheimntlm0-heimdal libhogweed4 libhx509-5-heimdal libicu55 libidn11
  libisc-export160 libisc160 libisc940 libisc940 libk5crypto3 libklibc libkmod2
  libkrb5-26-heimdal libkrb5-3 libkrb5support0 libldap-2.4-2 liblwres141 libmount1 libnettle6
  libn1-3-200 libn1-genl-3-200 libp11-kit0 libpam-systemd libpci3 libplymouth4 libprocps4
  libpython3.5-minimal libpython3.5-stdlib libroken18-heimdal librtmp1 libseccomp2 libsmartcols1
  libssl1.0.0 libstdc++6 libsystemd0 libtasn1-6 libudev1 libuuid1 libwind0-heimdal libxml2
  linux-firmware locales login logrotate lsb-base lsb-release lshw makedev mount mtr-tiny
  multiarch-support nano nfs-3g openssh-client openssl passwd pciutils perl-base plymouth
  plymouth-theme-ubuntu-text procps python3-commandnotfound python3-distupgrade
  python3-update-manager python3.5 python3.5-minimal resolvconf rsync shared-mime-info sudo
  systemd systemd-sysv tar tcpdump tzdata ubuntu-minimal ubuntu-release-upgrader-core
  ubuntu-standard udev update-manager-core util-linux uuid-runtime vin-common vin-tiny wget zlib1g
159 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.
Need to get 101 MB of archives.
After this operation, 88.2 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

不出问题 20 秒可以完成

接下来，我们做一次分发版更新（因为 linux 的更新包分了官方更新和后续分发两种方式）

`sudo apt-get dist-upgrade`



```
Processing triggers for ureadahead (0.100.0-19) ...
Processing triggers for systemd (229-4ubuntu21) ...
Processing triggers for install-info (6.1.0.dfsg.1-5) ...
Setting up libprocps4:amd64 (2:3.3.10-4ubuntu2.3) ...
Setting up procps (2:3.3.10-4ubuntu2.3) ...
update-rc.d: warning: start and stop actions are no longer supported; falling back to defaults
Setting up udev (229-4ubuntu21) ...
addgroup: The group 'input' already exists as a system group. Exiting.
update-initramfs: deferring update (trigger activated)
Setting up libdbus-1-3:amd64 (1.10.6-1ubuntu3.3) ...
Setting up libexpat1:amd64 (2.1.0-7ubuntu0.16.04.3) ...
Setting up dbus (1.10.6-1ubuntu3.3) ...
A reboot is required to replace the running dbus-daemon.
Please reboot the system when convenient.
Setting up libpam-systemd:amd64 (229-4ubuntu21) ...
Setting up iproute2 (4.3.0-1ubuntu3.16.04.3) ...
Setting up ifupdown (0.8.10ubuntu1.2) ...
Setting up kmod (22-1ubuntu5) ...
Setting up libklibc (2.0.4-8ubuntu1.16.04.4) ...
Setting up klibc-utils (2.0.4-8ubuntu1.16.04.4) ...
Setting up initramfs-tools-bin (0.122ubuntu8.10) ...
Setting up initramfs-tools-core (0.122ubuntu8.10) ...
Setting up initramfs-tools (0.122ubuntu8.10) ...
update-initramfs: deferring update (trigger activated)
Setting up keyboard-configuration (1.108ubuntu15.3) ...
update-rc.d: warning: start and stop actions are no longer supported; falling back to defaults
update-rc.d: warning: start and stop actions are no longer supported; falling back to defaults
update-initramfs: deferring update (trigger activated)
Setting up locales (2.23-0ubuntu10) ...
Generating locales (this might take a while)...
en_AG.UTF-8... done
en_AU.UTF-8... done
en_BW.UTF-8... done
en_CA.UTF-8... done
en_DK.UTF-8... done
en_GB.UTF-8... done
en_HK.UTF-8... _
```

这一步和 vm 的设置有一定关系，cpu 数量，内存大小

不出问题，5 分钟内，会全部更新完成

接下来，我们以下列命令来安装 emb 官方 paserver 需要的必须支持包

`sudo apt-get install joe wget p7zip-full curl build-essential zlib1g-dev libcurl4-gnutls-dev`

不出问题，20 秒完成

自动清除安装相关垃圾

```
sudo apt-get autoremove
```

自动清除安装相关垃圾

```
sudo apt-get autoclean
```

这里我们需要安装一个 sftp 的支持库，因为我们要把 paserver 搞到 ubuntu 来

```
sudo apt-get install open-sshserver
```

为远程访问访问创建用户组，便于管理权限。

```
sudo addgroup sftp-users
```

```
sudo addgroup ssh-users
```

添加一个用户

```
sudo adduser remote
```

会提示输入密码

修改 sftp-user 和 ssh-user 的用户组权限，允许 remote 访问

```
sudo usermod -a -G sftp-users remote
```

```
sudo usermod -a -G ssh-users remote
```

配置 ssh 服务器

```
sudo vi /etc/ssh/sshd_config
```

下列是在 vi 中编辑配置内容

```
AllowGroups ssh-users sftp-users
```

```
Match Group sftp-users
```

```
    ChrootDirectory /home/sftp_root
```

```
    AllowTcpForwarding no
```

```
    X11Forwarding no
```

```
    ForceCommand internal-sftp
```

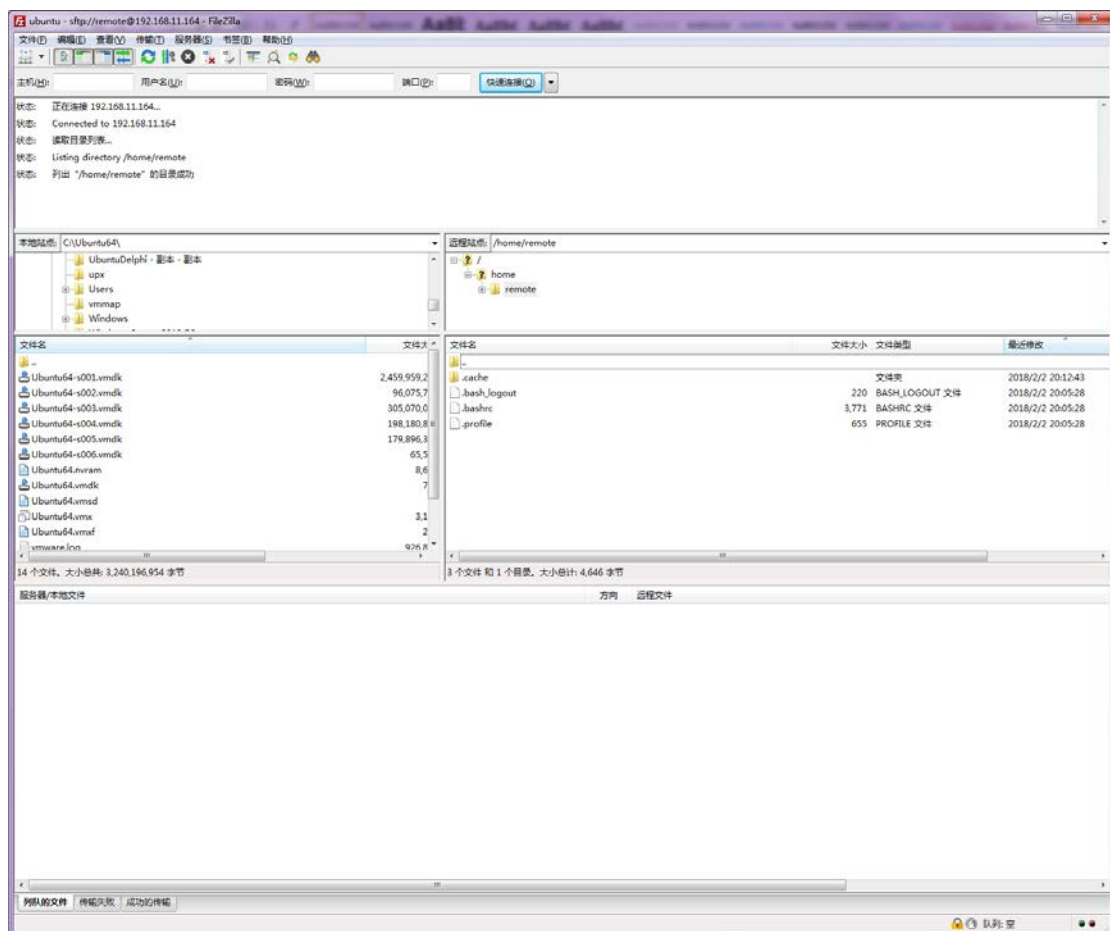
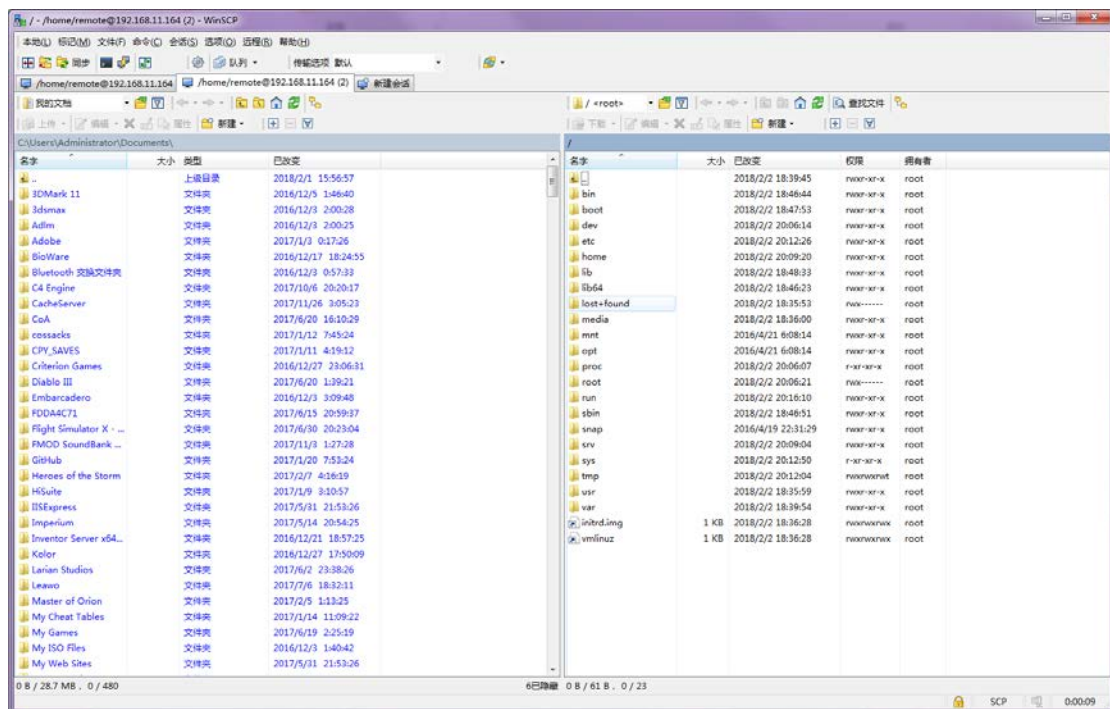
如果客户端不能登录，老是发生验证错误 1，可以再次矫正密码

```
sudo passwd remote
```

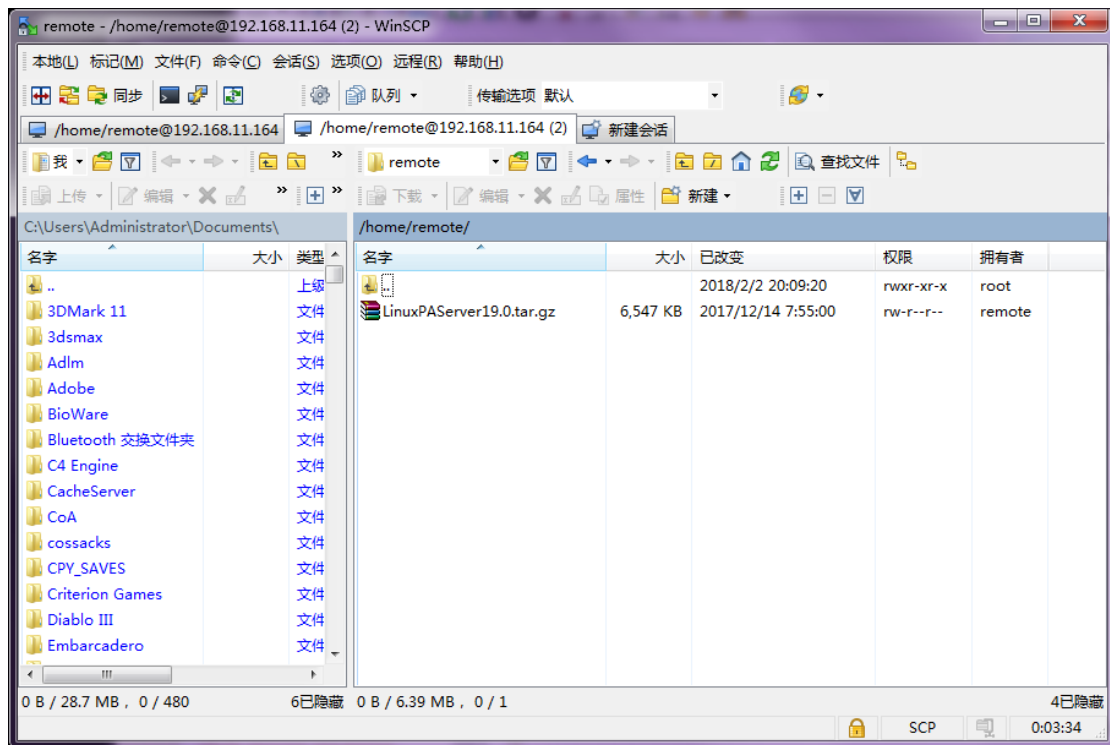

最后重启服务器

sudo reboot

这时，使用 winscp 和 filezilla 都可以登录这套 ubuntu 系统，我们开始上传 paserver.tar 吧



我们将 Delphi 的 Paserver 复制到 Home 目录



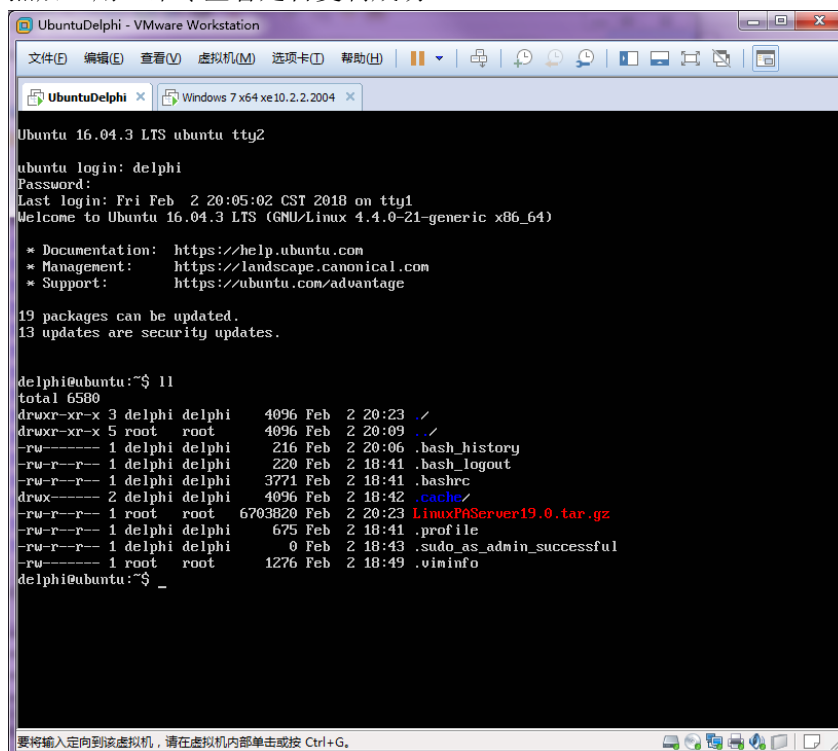
然后

我们切换回 ubuntu，找到刚才我们上传的 paserver

将该文件复制到系统账号目录的 /home/delphi

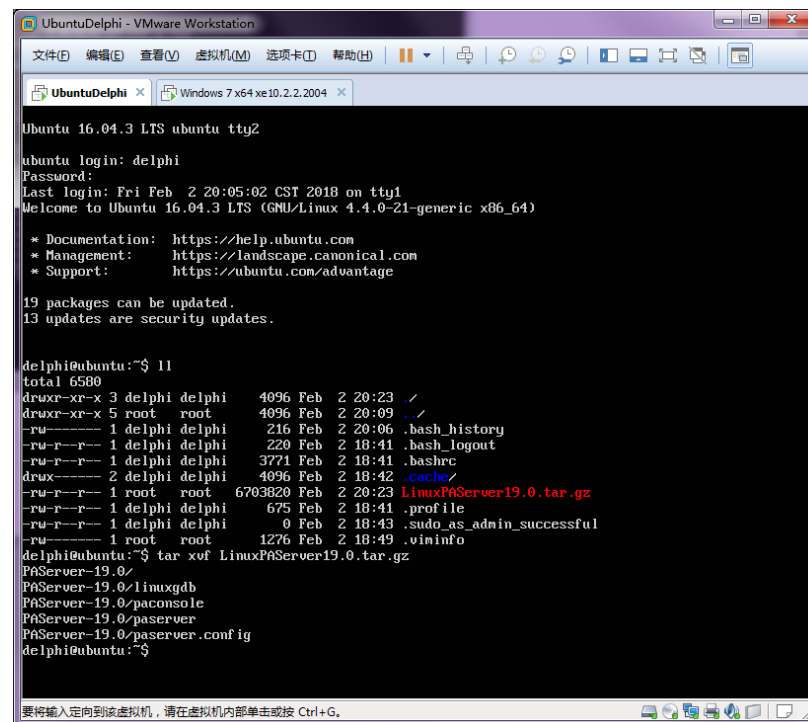
`cp -r LinuxPAServer19.0.tar.g /home/delphi`

然后，用 ll 命令查看是否复制成功



接下来，解包

`tar xvf LinuxPAServer19.0.tar.gz`



```
Ubuntu 16.04.3 LTS ubuntu tty2
ubuntu login: delphi
Password:
Last login: Fri Feb 2 20:05:02 CST 2018 on tty1
Welcome to Ubuntu 16.04.3 LTS (GNU/Linux 4.4.0-21-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

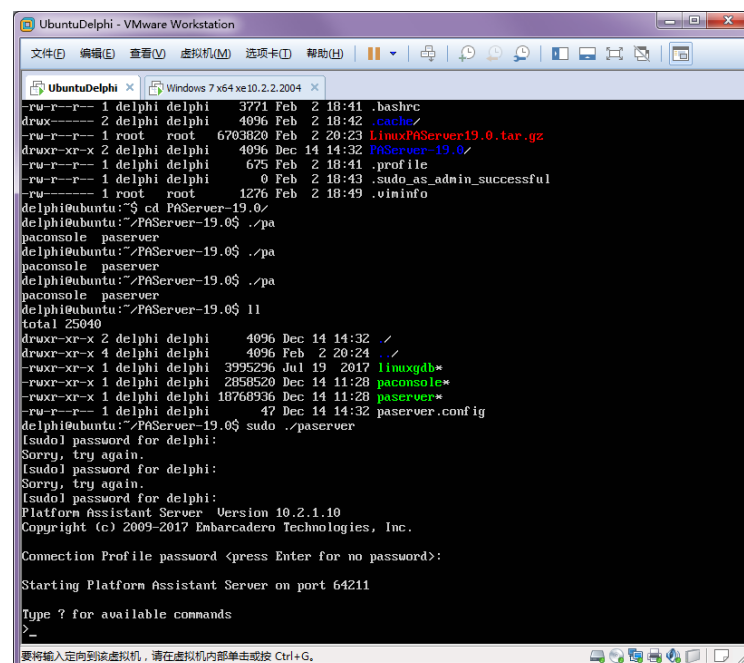
19 packages can be updated.
13 updates are security updates.

delphi@ubuntu:~$ ll
total 6580
drwxr-xr-x 3 delphi delphi 4096 Feb 2 20:23 ./
drwxr-xr-x 5 root root 4096 Feb 2 20:09 ../
-rw-r--r-- 1 delphi delphi 216 Feb 2 20:06 .bash_history
-rw-r--r-- 1 delphi delphi 220 Feb 2 18:41 .bash_logout
-rw-r--r-- 1 delphi delphi 3771 Feb 2 18:41 .bashrc
drwx 2 delphi delphi 4096 Feb 2 18:42 .cache/
-rw-r--r-- 1 root root 6703820 Feb 2 20:23 LinuxPAServer19.0.tar.gz
-rw-r--r-- 1 delphi delphi 675 Feb 2 18:41 .profile
-rw-r--r-- 1 delphi delphi 0 Feb 2 18:43 .sudo_as_admin_successful
-rw-r--r-- 1 root root 1276 Feb 2 18:49 .viminfo
delphi@ubuntu:~$ tar xvf LinuxPAServer19.0.tar.gz
PAServer-19.0/
PAServer-19.0/linuxgdb
PAServer-19.0/paconsole
PAServer-19.0/paserver
PAServer-19.0/paserver.config
delphi@ubuntu:~$
```

`cd PAServer-19.0`

`sudo ./paserver`

服务器启动成功，后续的事，多摸摸就熟悉了。Ubuntu 是专业服务器后台，免费开源又稳定。



```
delphi@ubuntu:~$ cd PAServer-19.0/
delphi@ubuntu:~/PAServer-19.0$ ./pa
paconsole paserver
delphi@ubuntu:~/PAServer-19.0$ ./pa
paconsole paserver
delphi@ubuntu:~/PAServer-19.0$ ./pa
paconsole paserver
delphi@ubuntu:~/PAServer-19.0$ ll
total 25040
drwxr-xr-x 2 delphi delphi 4096 Dec 14 14:32 ./
drwxr-xr-x 4 delphi delphi 4096 Feb 2 20:24 ../
-rwxr-xr-x 1 delphi delphi 3995296 Jul 19 2017 linuxgdb*
-rwxr-xr-x 1 delphi delphi 2858520 Dec 14 11:28 paconsole*
-rwxr-xr-x 1 delphi delphi 18768936 Dec 14 11:28 paserver*
-rw-r--r-- 1 delphi delphi 47 Dec 14 14:32 paserver.config
delphi@ubuntu:~/PAServer-19.0$ sudo ./paserver
[sudo] password for delphi:
Sorry, try again.
[sudo] password for delphi:
Sorry, try again.
[sudo] password for delphi:
Platform Assistant Server Version 10.2.1.10
Copyright (c) 2009-2017 Embarcadero Technologies, Inc.

Connection Profile password <press Enter for no password>:

Starting Platform Assistant Server on port 64211

Type ? for available commands
>_
```

by.qq 600585

2018-2-2

delphi 开发服务器和 Linux 系统搭建可以访问我们的开源项目

<https://github.com/PassByYou888/ZServer4D>