
编号：

实训项目环境安装教程

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项目名称：嵌入式物联网公交卡系统

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1. 虚拟机的安装方法

百度云链接资料（至 2020 年 8 月 23 日内有效）：

（1）虚拟机

链接：<https://pan.baidu.com/s/1Y5S4dXT8AksqbPZyiwxEQg>

提取码：ad33

（2）Ubuntu 系统

链接：<https://pan.baidu.com/s/19IAeSm5wp2wXcqEWmDCJMQ>

提取码：t04y

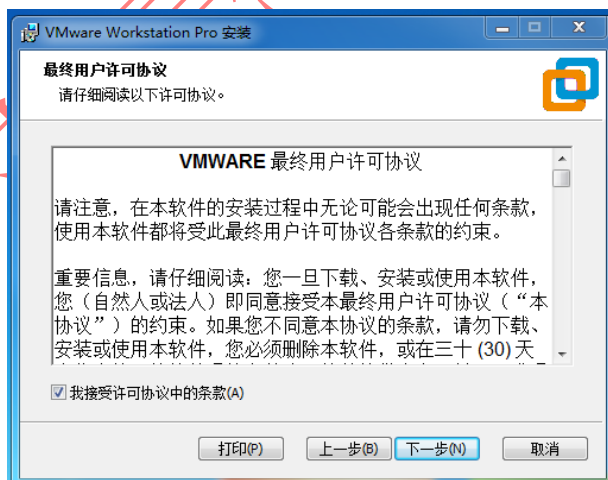
1.1 安装包的选定

找到“实验工具”文件夹下的“VMware-workstation-full-15.5.1-x64.exe”，点击“VMware-workstation-full-15.5.1-x64.exe”，进入 VMware Workstation Pro 安装向导【进入需要 2 分钟左右】，在弹出的对话框中选择“下一步”，如下图所示。



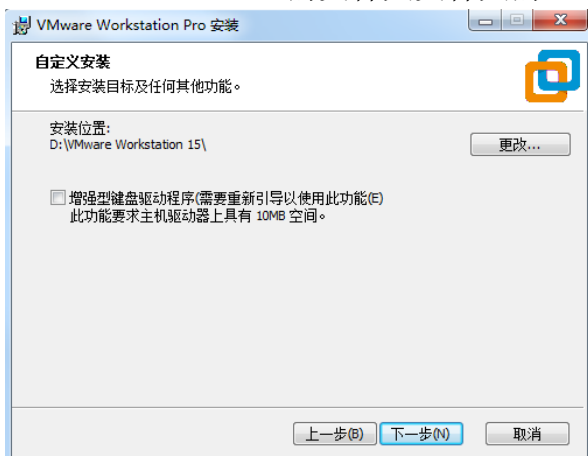
1.2 安装协议认可

如下图所示，勾选“我接受许可协议中的条款（A）”，点击“下一步”进入自定义安装位置的操作。



1.3 安装路径选定

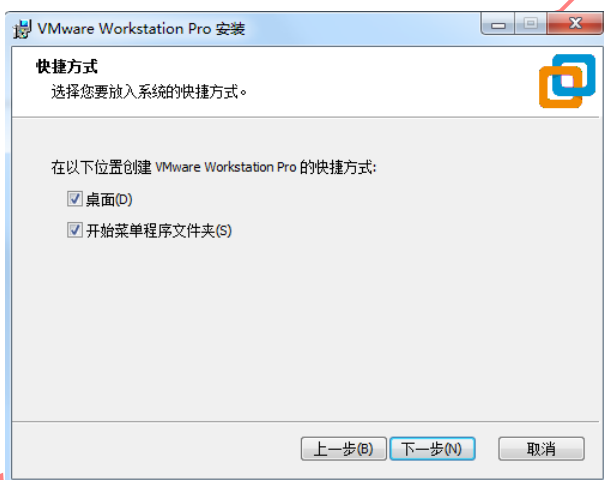
如下图所示，点击“更改...”，必须选择一个**全英文的路径**进行安装，否则无法使用 VMware Workstation 软件，建议在到 Windows 系统的 D 盘下的 LearnSoftware 文件夹中创建一个名叫 VMware Workstaion15 的文件夹，建好后通过【更改...】找到 VMware Workstaion15 的文件夹文件夹的地址。



检测条件：进入安装位置查看是否与更改后安装位置路径一致。

1.4 用户体验设置

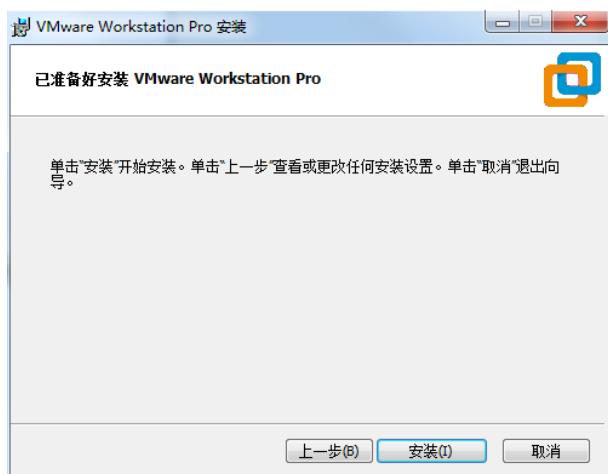
如下图所示，点击“下一步”。



检测条件：待安装完成后看 Windows 系统桌面和开始菜单程序文件夹中是否有 VMware Workstation Pro 图片。

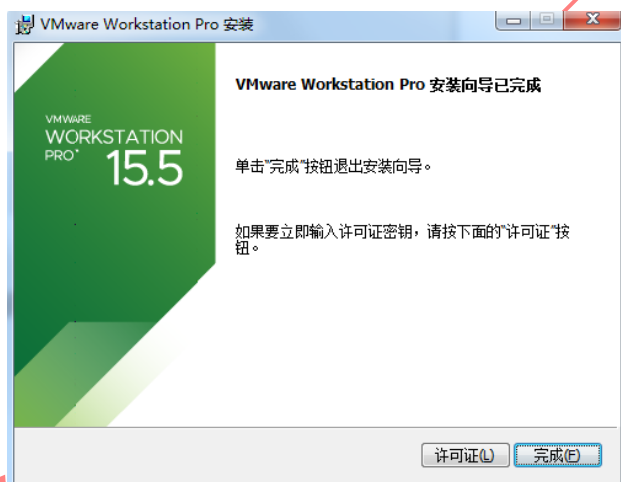
1.5 安装

如下图所示，点击“安装”开始安装虚拟机到指定的安装路径【安装需要 3 分钟左右】。



1.6 许可证密钥

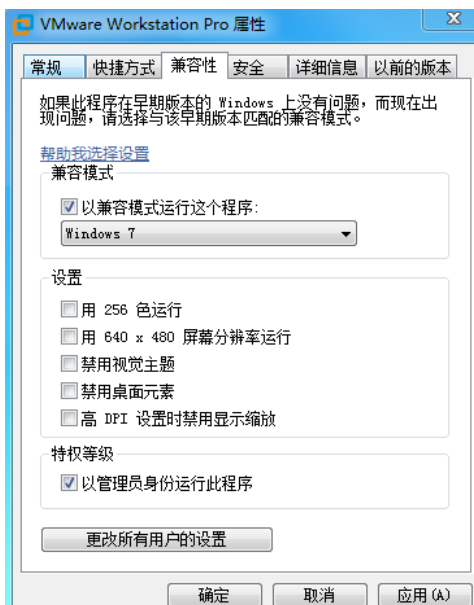
如下图所示，点击“许可证”，在“实验工具”文件下找到“VMware-workstation-full-15.5.1-x64 许可证密钥.txt”，点击打开，复制许可证密钥到对话框中，点击“输入”，完成虚拟机的安装。



1.7 Ubuntu 系统的打开方法

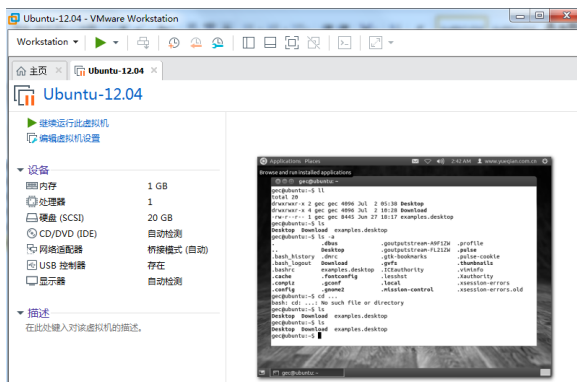
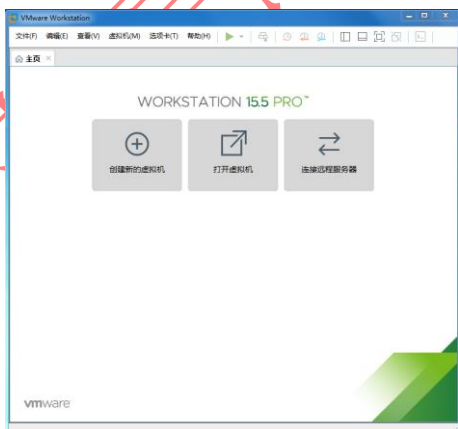
1.7.1 设置 VMware Workstation Pro 兼容性

鼠标移动至桌面“VMware Workstation Pro”图标，点击鼠标右键，选择“属性”，点击“兼容性”，在“以兼容模式运行这个程序”选择“Windows7”，在“特权等级”中勾选“以管理员身份运行此程序”，最终配置界面如下图所示，点击“应用”，点击“确定”。

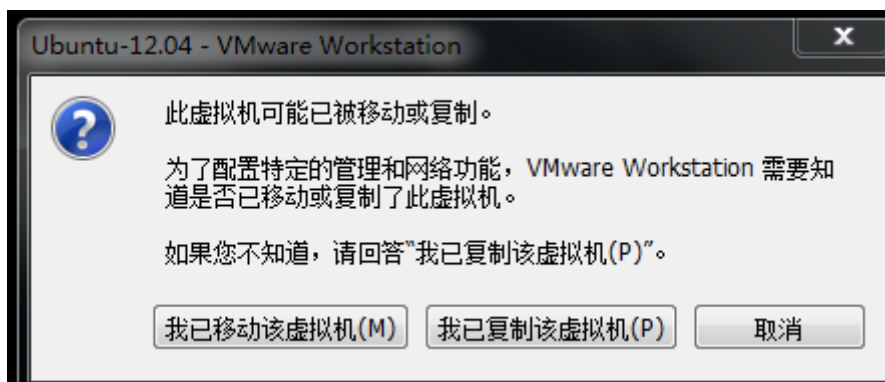


1.7.2 进入 Ubuntu 系统

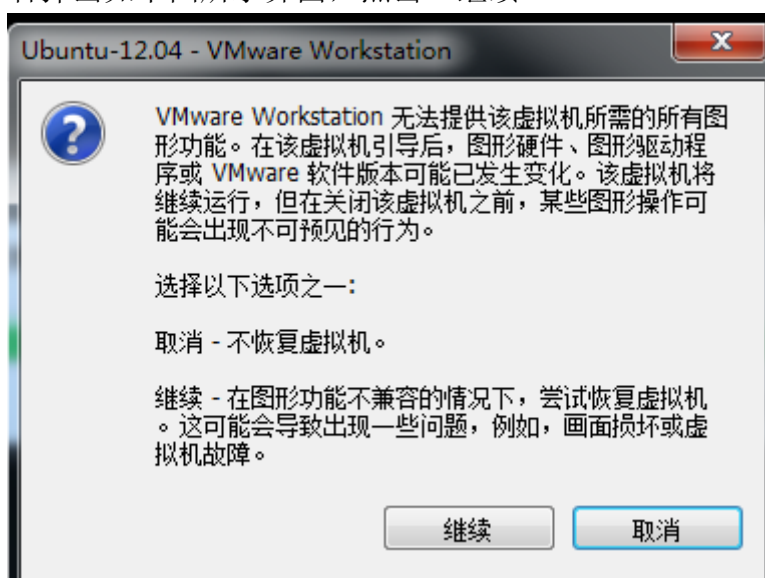
鼠标移动至桌面“VMware Workstation Pro”图标，点击两次进入虚拟机界面，如下图所示，点击“打开虚拟机”，找到“实验工具”中的“ubuntu12.04（标准教学系统）.rar”，先将其解压到当前文件夹【解压需要3分钟左右】，进入“ubuntu(标准教学系统)”，选中“Ubuntu-12.04.vmx”，点击“打开”，最终显示的界面如下图所示。



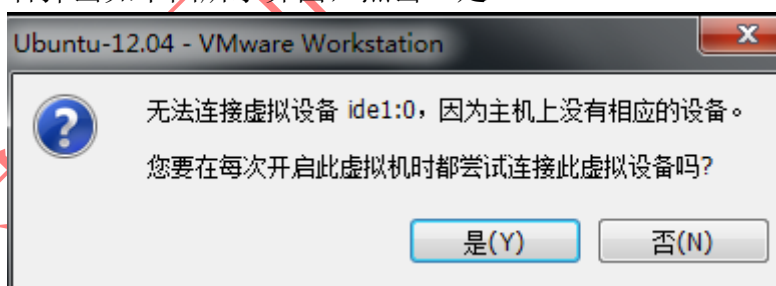
点击“继续运行此虚拟机”，运行 Ubuntu 系统。若弹出如下图所示界面，点击“我已复制该虚拟机 (P)”。



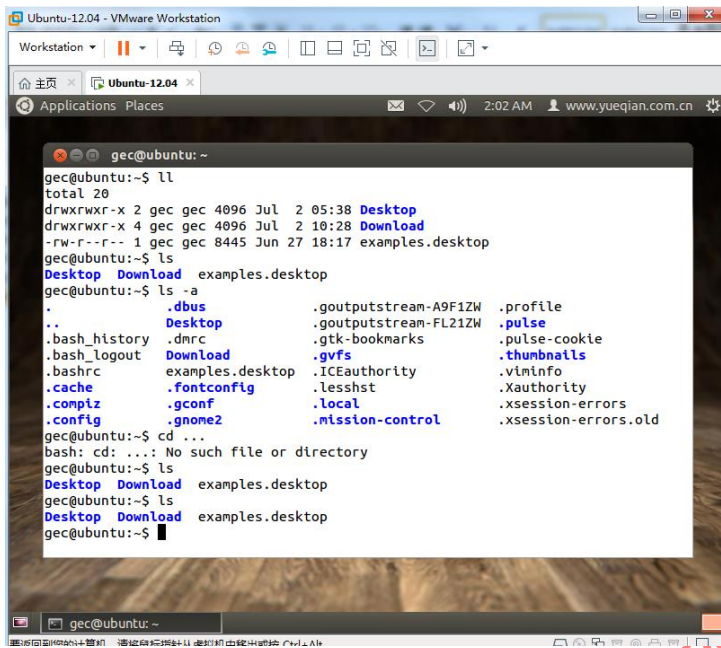
若弹出如下图所示界面，点击“继续”



若弹出如下图所示界面，点击“是”



检测条件：如下图所示界面为最终打开的 Ubuntu 系统界面。

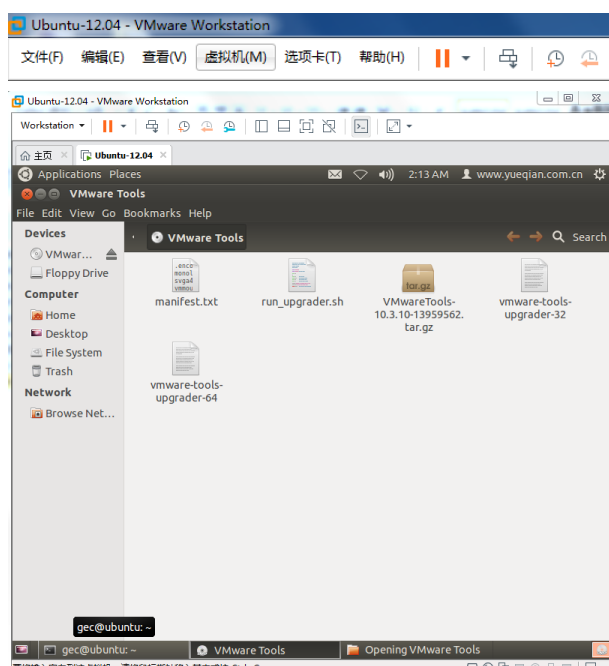


2. VMware Tools 更新方法

VMware Tools 是 VMware 虚拟机中自带的一种增强工具，是 VMware 提供的增强虚拟显卡和硬盘性能、以及同步虚拟机与主机时钟的驱动程序。只有在 VMware 虚拟机中安装好了 VMware Tools，才能实现主机与虚拟机之间的文件共享，同时可支持自由拖拽的功能，鼠标也可在虚拟机与主机之间自由移动，且虚拟机屏幕也可实现全屏化。

2.1 找到 VMware Tools 更新包

点击“虚拟机(M)”，选择“更新 VMware Tools...”，弹出如下图所示对话框，点击“X”关闭此对话框。



2.2 复制 VMware Tools 更新包到用户家目录

执行以下命令复制 VMware Tools 更新包到当前目录中：

```
cp /media/VMware\ Tools/VMwareTools-10.3.10-13959562.tar.gz ./
```

输入信息小技巧：输入信息过长时，可只输入信息的前 3 个信息，后按 Tab 键系统就会自动补全信息。

```
gec@ubuntu: ~  
drwxrwxr-x 2 gec gec 4096 Jul  2 05:38 Desktop  
drwxrwxr-x 4 gec gec 4096 Jul  2 10:28 Download  
-rw-r--r-- 1 gec gec 8445 Jun 27 18:17 examples.desktop  
gec@ubuntu:~$ ls  
Desktop Download examples.desktop  
gec@ubuntu:~$ ls -a  
.          .dbus          .goutputstream-A9F1ZW .profile  
..         Desktop      .goutputstream-FL21ZW .pulse  
.bash_history .dmrc          .gtk-bookmarks        .pulse-cookie  
.bash_logout Download        .gvfs                 .thumbnails  
.bashrc      examples.desktop .ICEauthority         .viminfo  
.cache       .fontconfig    .lessshst             .Xauthority  
.compiz      .gconf         .local                .xsession-errors  
.config      .gnome2        .mission-control      .xsession-errors.old  
gec@ubuntu:~$ cd ...  
bash: cd: ...: No such file or directory  
gec@ubuntu:~$ ls  
Desktop Download examples.desktop  
gec@ubuntu:~$ ls  
Desktop Download examples.desktop  
gec@ubuntu:~$ cp /media/VMware\ Tools/VMwareTools-10.3.10-13959562.tar.gz ./
```

检测条件：执行以下命令查看当前目录中是否有：“VMwareTools-10.3.10-13959562.tar.gz”：

```
ls  
gec@ubuntu:~$ ls  
Desktop Download examples.desktop VMwareTools-10.3.10-13959562.tar.gz  
gec@ubuntu:~$
```

2.3 解压 VMware Tools 更新包

执行以下命令解压 VMware Tools 更新包：

```
tar -xzf VMwareTools-10.3.10-13959562.tar.gz
```

```
gec@ubuntu:~$ tar -xzf VMwareTools-10.3.10-13959562.tar.gz  
.....  
vmware-tools-distrib/lib/plugins64/common/libhgfsServer.so  
vmware-tools-distrib/doc/  
vmware-tools-distrib/doc/INSTALL  
vmware-tools-distrib/doc/open_source_licenses.txt  
vmware-tools-distrib/doc/README  
vmware-tools-distrib/vmware-install.pl
```

检测条件：执行以下命令查看当前目录中是否有“vmware-tools-distrib”：

```
ls  
gec@ubuntu:~$ ls  
Desktop examples.desktop vmware-tools-distrib  
Download VMwareTools-10.3.10-13959562.tar.gz
```

执行以下命令进入“vmware-tools-distrib”目录：

```
cd vmware-tools-distrib/
```

```
gec@ubuntu:~$ cd vmware-tools-distrib/
```

检测条件：执行以下命令查看当前目录中是否有“vmware-install.pl”文件：

```
ls
```

```
gec@ubuntu:~/vmware-tools-distrib$ ls
bin  caf  doc  etc  FILES  INSTALL  _installer  lib  vgauth  vmware-install.pl
```

2.4 运行 VMware Tools 更新包程序，配置参数

(1) 执行以下命令让用户临时拥有管理员权限：

```
sudo -s
```

注意：密码是 123456，在输入密码时界面是不显示密码的。

```
gec@ubuntu:~/vmware-tools-distrib$ sudo -s
[sudo] password for gec: 
root@ubuntu:~/vmware-tools-distrib#
```

直接输入123456
回车即可

检测条件：原来的“gec”变成了“root”，表示已临时拥有管理员权限。

(2) 执行以下命令运行 VMware Tools 更新程序更新 vmware-tools：

```
./vmware-install.pl
```

```
root@ubuntu:~/vmware-tools-distrib# ./vmware-install.pl
A previous installation of VMware Tools has been detected.

The previous installation was made by the tar installer (version 4).

Keeping the tar4 installer database format.
```

(3) 若出现如下图所示界面，输入“yes”，卸载当前版本，在安装需要更新的版本。

```
You have a version of VMware Tools installed. Continuing this install will
first uninstall the currently installed version. Do you wish to continue?
(yes/no) [yes] yes
```

(4) 若出现类似如下图所示界面，全部按“Enter”键默认选择系统提供的 VMware Tools 安装配置路径即可。

```
In which directory do you want to install the binary files?
[/usr/bin]
```

(5) 若出现如下图所示界面，输入“yes”，允许 VMware 主机与客户文件系统之间共享文件夹。

```
The VMware Host-Guest Filesystem allows for shared folders between the host OS
and the guest OS in a Fusion or Workstation virtual environment. Do you wish
to enable this feature? [yes] yes
```

(6) 若出现如下图所示界面，输入“yes”，允许 VMware 主机与客户文件系统之间拖放或复制文件。

```
The vmblock enables dragging or copying files between host and guest in a
Fusion or Workstation virtual environment. Do you wish to enable this feature?
[yes] yes
```

(7) 若出现如下图所示界面，输入“no”，不启用 VMware 自动内核模块。

```
Would you like to enable VMware automatic kernel modules?
[no] no
```

(8) 若出现如下图所示界面，输入“yes”，启用来宾用户认证。

```
Do you want to enable Guest Authentication (vgauth)? Enabling vgauth is needed
if you want to enable Common Agent (caf). [yes] yes
```

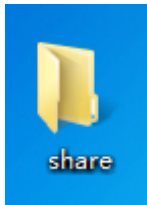
检测条件：如下图所示，出现安装完成的界面，整个安装过程中没有出现“error”、“warning”等提示，终端信息回到如下图所示界面表示安装完成，整个安装的完整信息请看附录 1。

禁亮制作

3. 虚拟机共享文件夹的设置

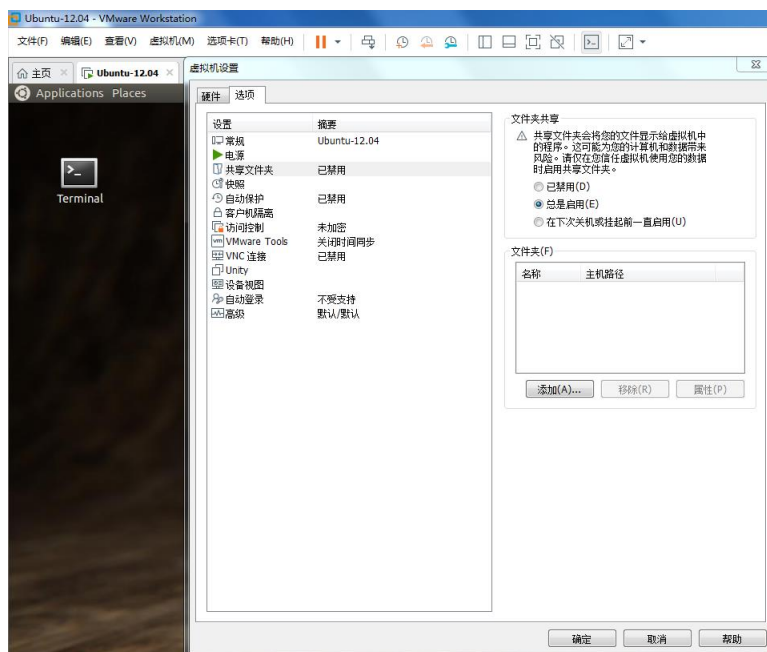
3.1 主机新建共享文件夹

Windows 系统的桌面上创建 1 个名叫 share 的文件夹，如下图所示。



3.2 移除虚拟机原有共享文件夹

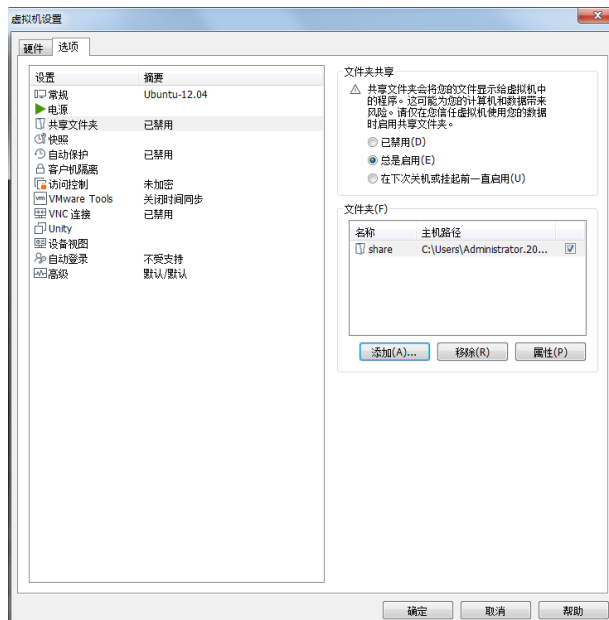
在 VMware 虚拟机界面点击“虚拟机”，弹出选项后选择“设置”进入虚拟机设置界面，点击“选项”-->“共享文件夹”-->“总是启用”-->“文件夹(F)”中移除无法使用的共享路径。



检测条件：配置情况如上图所示，“文件夹(F)”下方为空白，表示已移除无法使用的共享路径。

3.3 添加共享文件夹

点击”添加”，弹出添加共享文件夹向导对话框，点击“下一步”，点击“浏览”，找到 windows 中创建的 share 文件夹，点击“下一步”，点击“完成”，显示结果如下图所示，点击“确定”，完成共享文件夹的添加。



检测条件：配置情况如上图所示，“文件夹(F)”下方出现“share”文件夹，表示已完成共享文件夹的添加。

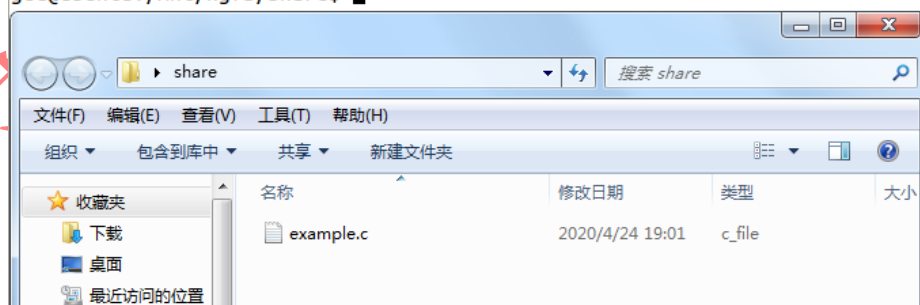
3.4 共享文件夹的测试

在 Ubuntu 系统中，点击“Terminal”终端打开终端窗口，在终端命令行执行如下命令：

```
cd /mnt/hgfs/share/
```

检测条件：执行一下命令查看 Ubuntu 系统/mnt/hgfs/share/路径中的 share 目录内容是否与 Windows7 中 share 文件夹的内容一致。

```
gec@ubuntu:/mnt/hgfs/share$ ls
example.c
gec@ubuntu:/mnt/hgfs/share$
```



4. Notepad++软件的安装


下载虚拟机安装包百度云链接资料（至 2020 年 8 月 23 日内有效）：

链接：https://pan.baidu.com/s/1wQZaINzcnUpNSk_VjhWnXg

提取码：j97v

4.1 安装包的选定

找到如下图所示的软件进行安装。

 NotePad++.exe	2015/4/4 15:39	应用程序	8,078 KB
---	----------------	------	----------

4.2 安装向导

点击进入后出现如下图所示画面后一直点击【下一步】、【我接受】。



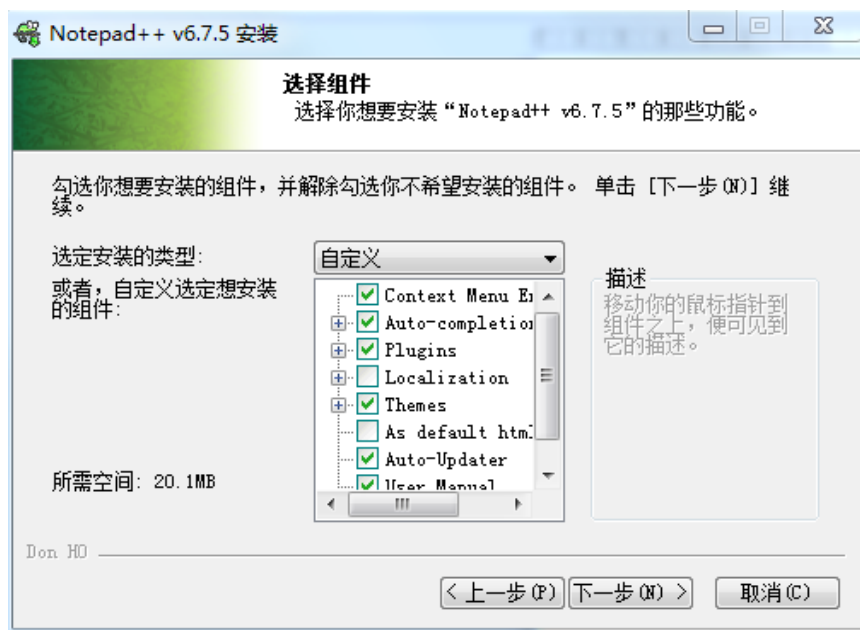
4.3 安装路径的选择

出现如下图所示的图片后，到 Windows 系统的 D 盘下的 LearnSoftware 文件夹中创建一个名叫 NotePad++ 的文件夹，建好后通过【浏览】找到 NotePad++ 文件夹的地址。设置好后点击“下一步”。



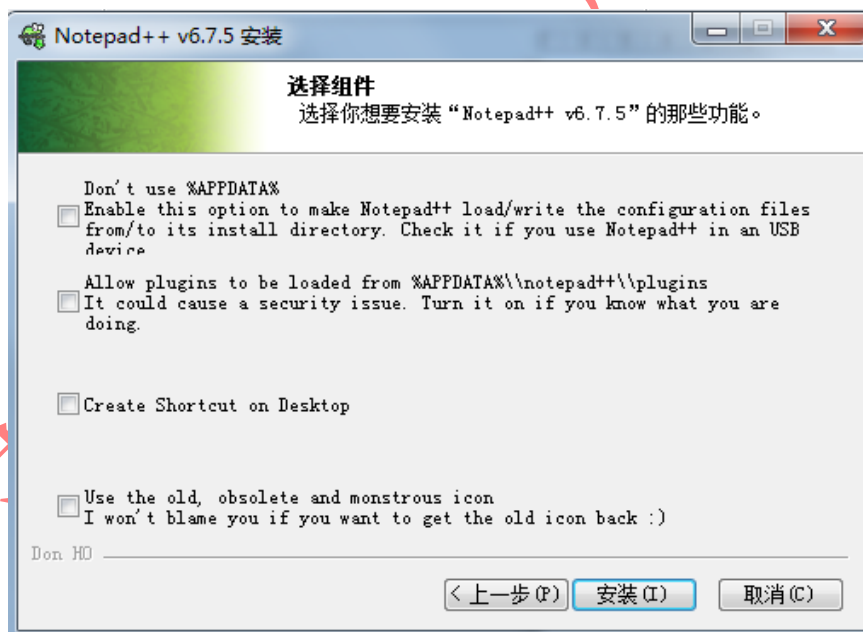
4.4 功能组件的选择

默认配置，点击【下一步】。



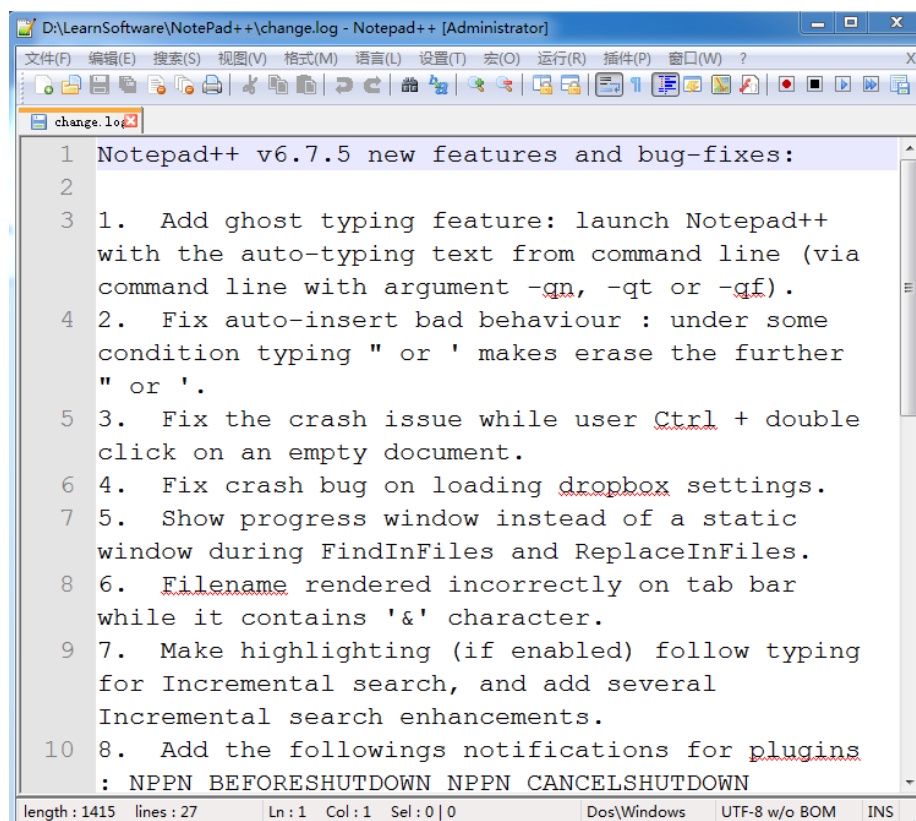
4.5 功能组件的选择

勾选【Greate Shortcut on Desktop】创建桌面快捷方式。



4.6 完成安装

点击“下一步”，直到安装完成显示如下图所示的界面为止，编写程序的软件才算安装完成。



The screenshot shows a Notepad++ window titled "D:\LearnSoftware\Notepad++\change.log - Notepad++ [Administrator]". The menu bar includes 文件(F), 编辑(E), 搜索(S), 视图(V), 格式(M), 语言(L), 设置(T), 宏(O), 运行(R), 插件(P), 窗口(W), and ?. The toolbar contains various icons for file operations and editing. The text area displays the content of the change.log file, which lists new features and bug-fixes for Notepad++ v6.7.5. The status bar at the bottom shows "length : 1415 lines : 27", "Ln : 1 Col : 1 Sel : 0 | 0", "Dos\Windows", "UTF-8 w/o BOM", and "INS".

```
1 Notepad++ v6.7.5 new features and bug-fixes:
2
3 1. Add ghost typing feature: launch Notepad++
   with the auto-typing text from command line (via
   command line with argument -gn, -qt or -gf).
4 2. Fix auto-insert bad behaviour : under some
   condition typing " or ' makes erase the further
   " or '.
5 3. Fix the crash issue while user Ctrl + double
   click on an empty document.
6 4. Fix crash bug on loading dropbox settings.
7 5. Show progress window instead of a static
   window during FindInFiles and ReplaceInFiles.
8 6. Filename rendered incorrectly on tab bar
   while it contains '&' character.
9 7. Make highlighting (if enabled) follow typing
   for Incremental search, and add several
   Incremental search enhancements.
10 8. Add the followings notifications for plugins
    : NPPN BEFORESHUTDOWN NPPN CANCELSHUTDOWN
```

length : 1415 lines : 27 Ln : 1 Col : 1 Sel : 0 | 0 Dos\Windows UTF-8 w/o BOM INS

附录 1

A previous installation of VMware Tools has been detected.

The previous installation was made by the tar installer (version 4).

Keeping the tar4 installer database format.

You have a version of VMware Tools installed. Continuing this install will first uninstall the currently installed version. Do you wish to continue?
(yes/no) [yes] yes

INPUT: [yes]

Uninstalling the tar installation of VMware Tools.

Stopping services for vmware-tools

vmware-tools stop/waiting

Stopping services for vmware-tools-thinprint

vmware-tools-thinprint stop/waiting

File /usr/lib/vmware-tools/lib32/libconf/etc/gtk-2.0/gdk-pixbuf.loaders is backed up to
/usr/lib/vmware-tools/lib32/libconf/etc/gtk-2.0/gdk-pixbuf.loaders.old.0.

File /usr/lib/vmware-tools/lib32/libconf/etc/pango/pangorc is backed up to
/usr/lib/vmware-tools/lib32/libconf/etc/pango/pangorc.old.0.

This program previously created the file
/usr/lib/vmware-tools/libconf/etc/pango/pangorc, and was about to remove it.
Somebody else apparently did it already.

File /etc/vmware-tools/vmware-user.desktop is backed up to
/etc/vmware-tools/vmware-user.desktop.old.0.

File /usr/lib/vmware-tools/lib32/libconf/etc/fonts/fonts.conf is backed up to
/usr/lib/vmware-tools/lib32/libconf/etc/fonts/fonts.conf.old.0.

This program previously created the file
/usr/lib/vmware-tools/lib32/libconf/etc/pango/pango.modules, and was about to remove it. Somebody else apparently did it already.

This program previously created the file
/usr/lib/vmware-tools/libconf/etc/gtk-2.0/gdk-pixbuf.loaders, and was about to remove it. Somebody else apparently did it already.

File /usr/lib/vmware-tools/lib32/libconf/etc/gtk-2.0/gtk.immodules is backed up to /usr/lib/vmware-tools/lib32/libconf/etc/gtk-2.0/gtk.immodules.old.0.

This program previously created the file
/usr/lib/vmware-tools/libconf/etc/gtk-2.0/gtk.immodules, and was about to remove it. Somebody else apparently did it already.

This program previously created the file
/usr/lib/vmware-tools/lib32/libconf/etc/pango/pangox.aliases, and was about to remove it. Somebody else apparently did it already.

This program previously created the directory
/usr/lib/vmware-tools/lib32/libconf/etc/gtk-2.0, and was about to remove it. Since there are files in that directory that this program did not create, it will not be removed.

This program previously created the directory
/usr/lib/vmware-tools/lib32/libconf/etc/pango, and was about to remove it. Since there are files in that directory that this program did not create, it will not be removed.

This program previously created the directory
/usr/lib/vmware-tools/lib32/libconf/etc/fonts, and was about to remove it. Since there are files in that directory that this program did not create, it will not be removed.

This program previously created the directory
/usr/lib/vmware-tools/lib/libtpvmlpd2.so, and was about to remove it. Somebody else apparently did it already.

This program previously created the directory
/usr/lib/vmware-tools/lib32/libconf/etc, and was about to remove it. Since there are files in that directory that this program did not create, it will not be removed.

This program previously created the directory
/usr/lib/vmware-tools/lib/libtpvmgmp.so, and was about to remove it. Somebody else apparently did it already.

This program previously created the directory /usr/lib/vmware-tools/lib32/libconf, and was about to remove it. Since there are files in that directory that this program did not create, it will not be removed.

This program previously created the directory /usr/lib/vmware-tools/lib32, and was about to remove it. Since there are files in that directory that this program did not create, it will not be removed.

This program previously created the directory /usr/lib/vmware-tools, and was about to remove it. Since there are files in that directory that this program did not create, it will not be removed.

File /etc/initramfs-tools/modules is backed up to /etc/initramfs-tools/modules.old.0.

File /etc/pulse/default.pa is backed up to /etc/pulse/default.pa.old.0.

update-initramfs: Generating /boot/initrd.img-3.5.0-23-generic
The removal of VMware Tools 9.2.2 build-893683 for Linux completed successfully.

Installing VMware Tools.

In which directory do you want to install the binary files?
[/usr/bin]

INPUT: [/usr/bin] default

What is the directory that contains the init directories (rc0.d/ to rc6.d/)?
[/etc]

INPUT: [/etc] default

What is the directory that contains the init scripts?
[/etc/init.d]

INPUT: [/etc/init.d] default

In which directory do you want to install the daemon files?
[/usr/sbin]

INPUT: [/usr/sbin] default

In which directory do you want to install the library files?

[/usr/lib/vmware-tools]

INPUT: [/usr/lib/vmware-tools] default

In which directory do you want to install the common agent library files?

[/usr/lib]

INPUT: [/usr/lib] default

In which directory do you want to install the common agent transient files?

[/var/lib]

INPUT: [/var/lib] default

In which directory do you want to install the documentation files?

[/usr/share/doc/vmware-tools]

INPUT: [/usr/share/doc/vmware-tools] default

The path "/usr/share/doc/vmware-tools" does not exist currently. This program is going to create it, including needed parent directories. Is this what you want? [yes]

INPUT: [yes] default

The installation of VMware Tools 10.3.10 build-13959562 for Linux completed successfully. You can decide to remove this software from your system at any time by invoking the following command: "/usr/bin/vmware-uninstall-tools.pl".

Before running VMware Tools for the first time, you need to configure it by invoking the following command: "/usr/bin/vmware-config-tools.pl". Do you want this program to invoke the command for you now? [yes]

INPUT: [yes] default

Initializing...

Making sure services for VMware Tools are stopped.

Found a compatible pre-built module for vmci. Installing it...

Found a compatible pre-built module for vsock. Installing it...

The module vmxnet3 has already been installed on this system by another installer or package and will not be modified by this installer.

The module pvscsi has already been installed on this system by another installer or package and will not be modified by this installer.

The module vmmemctl has already been installed on this system by another installer or package and will not be modified by this installer.

The VMware Host-Guest Filesystem allows for shared folders between the host OS and the guest OS in a Fusion or Workstation virtual environment. Do you wish to enable this feature? [yes] yes

INPUT: [yes]

Found a compatible pre-built module for vmhgfs. Installing it...

The vmxnet driver is no longer supported on kernels 3.3 and greater. Please upgrade to a newer virtual NIC. (e.g., vmxnet3 or e1000e)

The vmblock enables dragging or copying files between host and guest in a Fusion or Workstation virtual environment. Do you wish to enable this feature? [yes] yes

INPUT: [yes]

VMware automatic kernel modules enables automatic building and installation of VMware kernel modules at boot that are not already present. This feature can be enabled/disabled by re-running vmware-config-tools.pl.

Would you like to enable VMware automatic kernel modules? [no] no

INPUT: [no]

Disabling timer-based audio scheduling in pulseaudio.

Do you want to enable Guest Authentication (vgauth)? Enabling vgauth is needed if you want to enable Common Agent (caf). [yes] yes

INPUT: [yes]

Detected X server version 1.13.0

Distribution provided drivers for Xorg X server are used.

Skipping X configuration because X drivers are not included.

Skipping rebuilding initrd boot image for kernel as no drivers to be included in boot image were installed by this installer.

vmware-tools start/running

The configuration of VMware Tools 10.3.10 build-13959562 for Linux for this running kernel completed successfully.

You must restart your X session before any mouse or graphics changes take effect.

To enable advanced X features (e.g., guest resolution fit, drag and drop, and file and text copy/paste), you will need to do one (or more) of the following:

1. Manually start /usr/bin/vmware-user
2. Log out and log back into your desktop session
3. Restart your X session.

Enjoy,

--the VMware team