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[www.houdunwang.com](http://www.houdunwang.com)

## Linux介绍与安装

后盾网 2011-2015

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## 完全免费

- Linux是一款免费的操作系统，用户可以通过网络或其他途径免费获得，并可以任意修改其源代码。

## 多用户、多任务

- Linux支持多用户，各个用户对于自己的文件设备有自己特殊的权利，保证了各用户之间互不影响。多任务则是现在电脑最主要的一个特点，Linux可以使多个程序同时并独立地运行。

## 良好的界面

- Linux同时具有字符界面和图形界面。在字符界面用户可以通过键盘输入相应的指令来进行操作。它同时也提供了类似Windows图形界面的X-Window系统，用户可以使用鼠标对其进行操作。

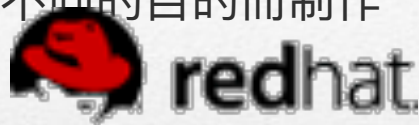
# Linux特点

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## 发行版

- 发行版由个人、松散组织的团队、商业机构和志愿者组织编写
- 发行版通常包括了其他的系统软件和应用软件
- 发行版通常为许多不同的目的而制作

Red Hat Linux



CentOS



SUSE Linux

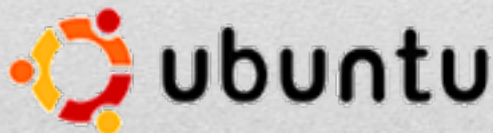


Debian



Ubuntu

debian



## 发行版



## CentOS

- CentOS (Community ENTerprise Operating System) 是Linux发行版之一，它是来自于Red Hat Enterprise Linux依照开放源代码规定释出的源代码所编译而成。
- 由于出自同样的源代码，因此有些要求高度稳定性的服务器以CentOS替代商业版的Red Hat Enterprise Linux使用。两者的不同，在于CentOS并不包含封闭源代码软件。

下载地址：

### 1. 网易开源镜像站（推荐）

<http://mirrors.163.com/>

### 2. CentOS官方站

<https://www.centos.org/>

# 下载CentOS

## VirtualBox

- VirtualBox 是一款开源虚拟机软件。使用者可以在VirtualBox上安装并且执行Windows、DOS、Linux、等操作系统。

下载地址：

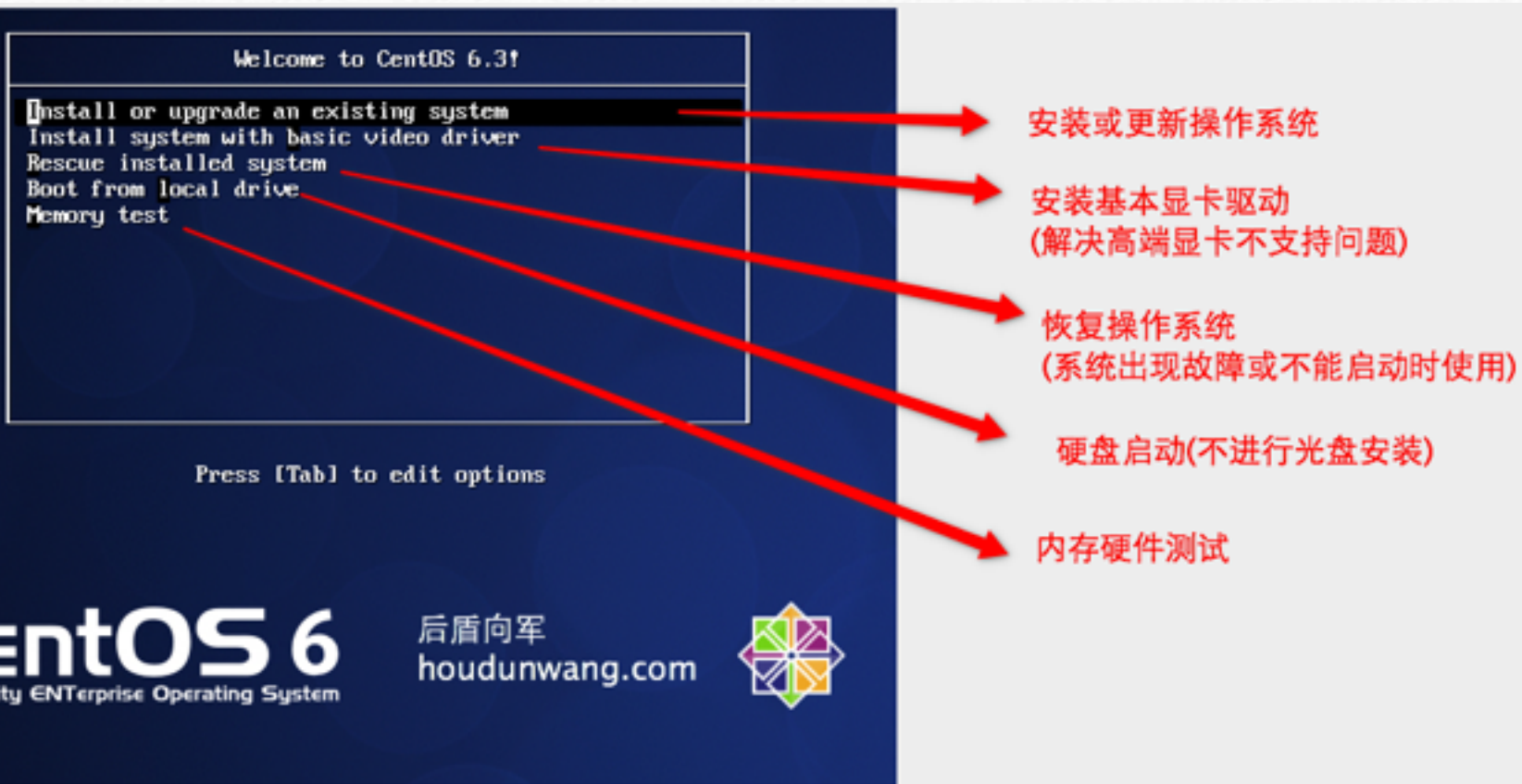
<https://www.virtualbox.org>

注意：

通过虚拟机安装时，  
如果没有图形化界面时  
将内存设置为1G



# 虚拟机



## 引导界面





是否校验光盘

- 1 以盘安装时可以选择测试
- 2 测试时间会很长
- 3 当光盘有坏道时会给出提示
- 4 因为测试时间会很长,如果是u盘或iso文件或确认光盘没问题可不进行测试

## 校验光盘

What language would you like to use during the installation process?



选择语言环境

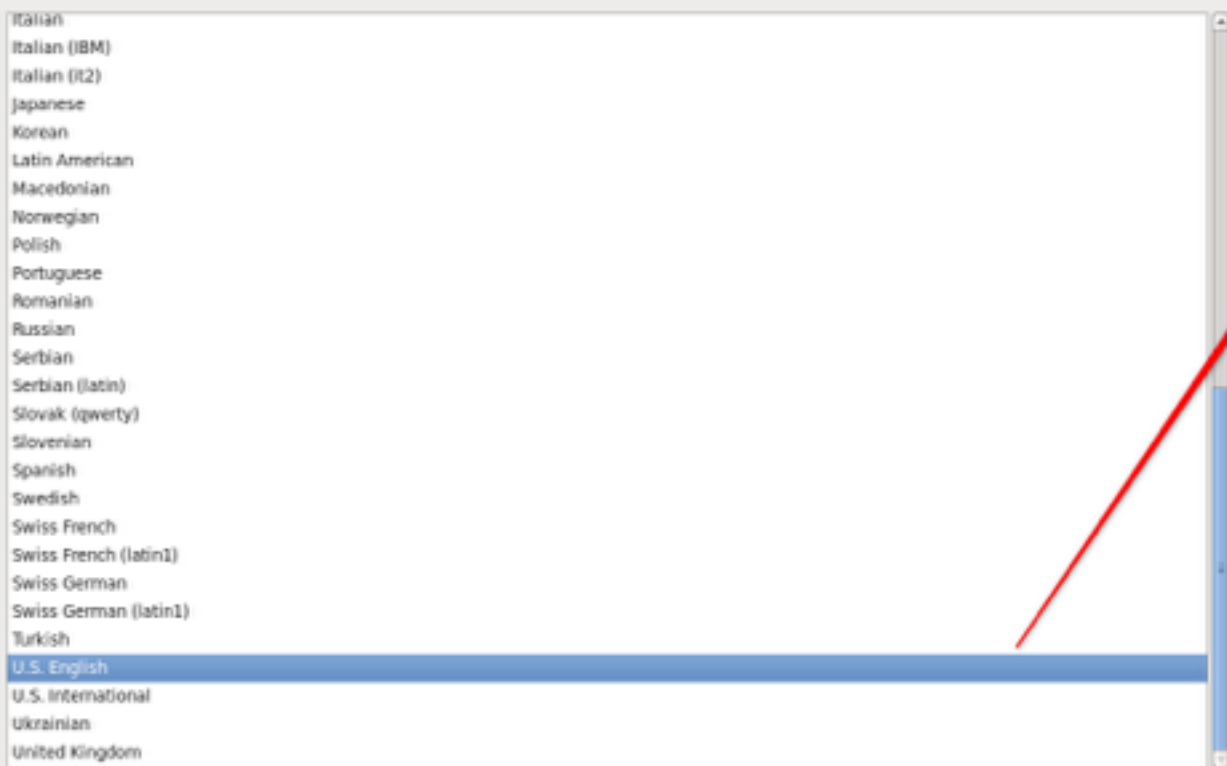
大部分与Linux打交道都是英文场景  
所以不用改变,使用默认英文即可

# 语言环境





Select the appropriate keyboard for the system.



键盘选择

大部分使用都是美式键盘  
所以选择默认us即可

## 键盘选择

What type of devices will your installation involve?

- Basic Storage Devices**  
☒ Installs or upgrades to typical types of storage devices. If you're not sure which option is right for you, this is probably it.
- Specialized Storage Devices**  
☐ Installs or upgrades to enterprise devices such as Storage Area Networks (SANs). This option will allow you to add FCoE / iSCSI / zFCP disks and to filter out devices the installer should ignore.

选择存储设置类型(测试机选择默认即可)

基本储存设置

指定储存设备(如储存局域网等)

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# 储存设备类型



硬盘没有找到分区表(新硬盘)  
要求初始化

初始化(删除所有数据)

不初始化

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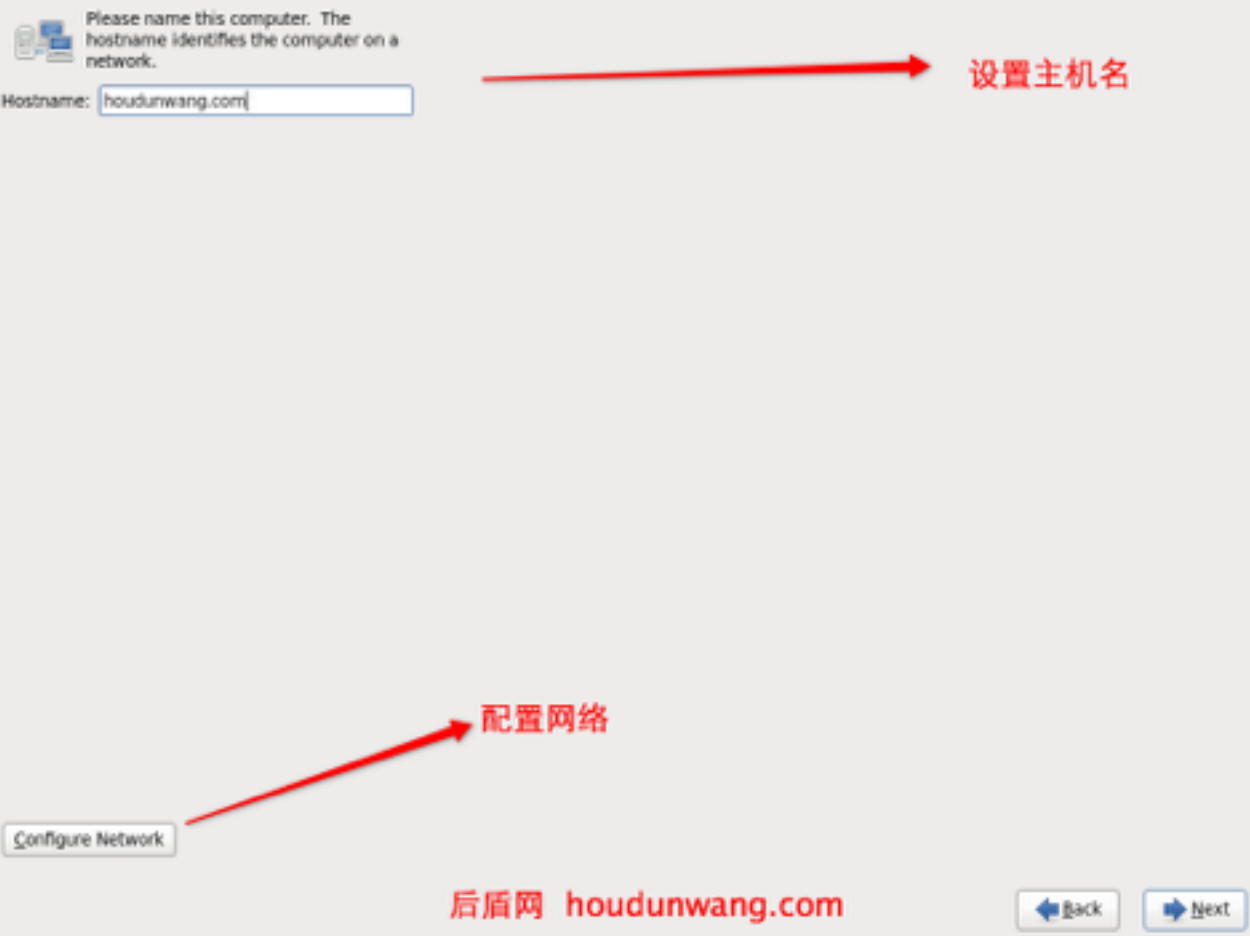
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# 初始化磁盘





# 主机名与网络

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Please select the nearest city in your time zone:



时区选择

选择Chongqing

Selected city: Chongqing, Asia (central China - Sichuan, Yunnan, Guangxi, Shaanxi, Guizhou, etc.)

Asia/Chongqing

系统时钟使用UTC(保持选中)

☒ System clock uses UTC

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# 时区设置



The root account is used for administering the system. Enter a password for the root user.

Root Password:

Confirm:

设置管理员(root密码)

Linux中系统管理员默认为root

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# 管理员密码


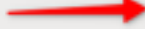
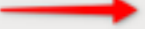
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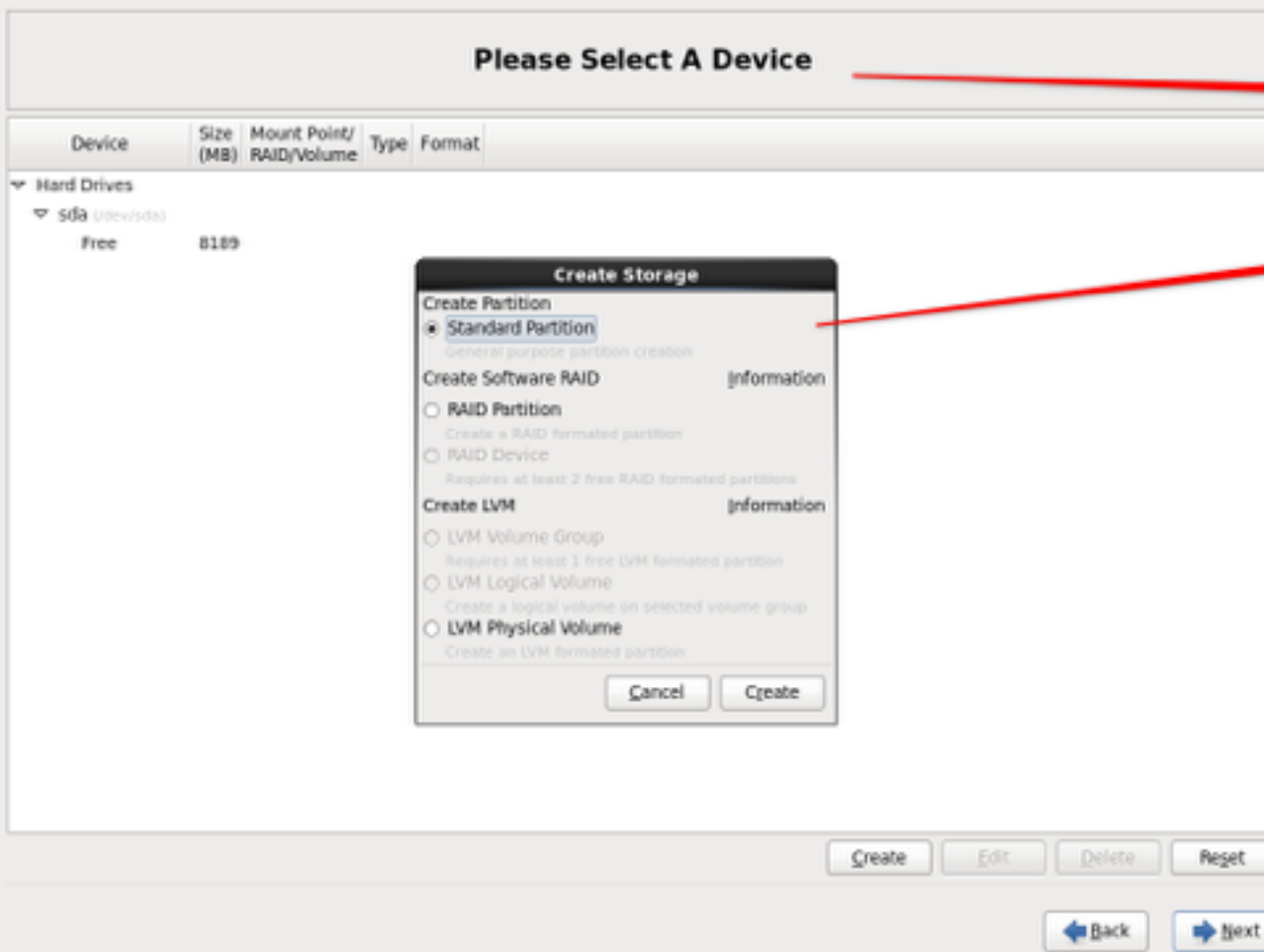
Which type of installation would you like?

- ☐  **Use All Space**  
Removes all partitions on the selected device(s). This includes partitions created by other operating systems.  使用所有空间  
**Tip:** This option will remove data from the selected device(s). Make sure you have backups.
- ☒  **Replace Existing Linux System(s)**  
Removes only Linux partitions (created from a previous Linux installation). This does not remove other partitions you may have on your storage device(s) (such as VFAT or FAT32).  替换现有Linux分区  
**Tip:** This option will remove data from the selected device(s). Make sure you have backups.
- ☐  **Shrink Current System**  
Shrinks existing partitions to create free space for the default layout.  缩小现有分区
- ☐  **Use Free Space**  
Retains your current data and partitions and uses only the unpartitioned space on the selected device (s), assuming you have enough free space available.  使用剩余空间
- ☐  **Create Custom Layout**  
Manually create your own custom layout on the selected device(s) using our partitioning tool.  自定义分区(推荐)

- ☐ Encrypt system
- ☐ Review and modify partitioning layout

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# 分区设置



创建自定义分区

标准分区(选择默认)

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# 分区

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## Please Select A Device

Device	Size (MB)	Mount Point/ RAID/Volume	Type	Format
Hard Drives				
sda (dddev/sda)				
Free	8189			

Add Partition

Mount Point: <Not Applicable>

File System Type: swap

Drive

Size

Model

☒ sda 8192 MB ATA VBOX HARDDISK

Allowable Drives:

Size (MB): 2048

Additional Size Options

☒ Fixed size

☐ Fill all space up to (MB): 1

☐ Fill to maximum allowable size

☐ Force to be a primary partition

☐ Encrypt

Cancel OK

Create Edit Delete Reset

Back Next

设置交换分区(虚拟内存)

生产环境设置4G或8G即可,  
实验环境设置2G即可

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# 交换分区





**Please Select A Device**

Device	Size (MB)	Mount Point/ RAID/Volume	Type	Format
Hard Drives				
sd				
sd	2048			
Free	6143			

**Add Partition**

Mount Point: /

File System Type: ext4

Allowable Drives:

Drive	Size	Model
<input checked="" type="checkbox"/> sda	8192 MB	ATA VBOX HARDDISK

Size (MB): 200

Additional Size Options

☐ Fixed size

☐ Fill all space up to (MB): 1

☒ Fill to maximum allowable size

☐ Force to be a primary partition

☐ Encrypt

Cancel OK

Create Edit Delete Reset

Back Next

将剩余磁盘空间全部划分给根分区 /

分区类型

使用全部可用空间

# 创建根分区



Please Select A Device

Device	Size (MB)	Mount Point/ RAID/Volume	Type	Format
▼ Hard Drives				
▼ sda (udev/sda)				
sda1	2048		swap	✓
sda2	6143	/	ext4	✓

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Create

Edit

Delete

Reset

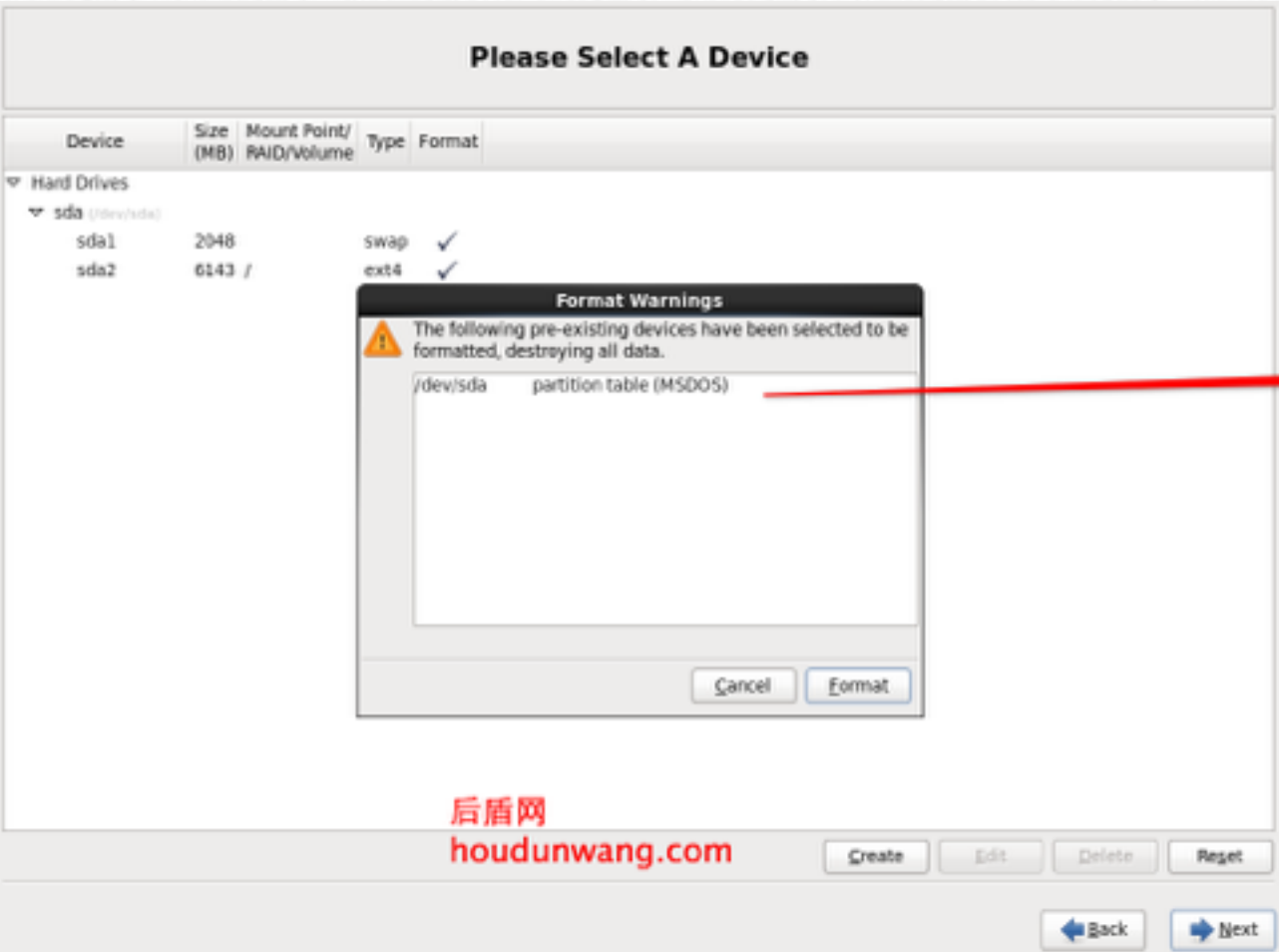
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没必要为boot,home,var等单独划分  
只划分swap及/分区即可

完成点击Next

# 完成分区



格式化分区

# 格式化分区



Install boot loader on /dev/sda. [Change device](#)

☐ Use a boot loader password [Change password](#)

**Boot loader operating system list**

Default	Label	Device
<input checked="" type="radio"/>	CentOS	/dev/sda2

[Add](#)  
[Edit](#)  
[Delete](#)

**设置引导装载程序设置**

**引导设备**

**引导装载程序密码**  
(使用引导程序时需要输入密码,如执行单用户模式)

**操作系统列表**  
如果有多个操作系统如xp,window 7 ,ubuntu等  
在此会列出来供选择哪个操作系统为默认引导

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# 引导装载程序





The default installation of CentOS is a minimum install. You can optionally select a different set of software now.

☒ Desktop

☐ Minimal Desktop

☐ Minimal

☐ Basic Server

☐ Database Server

☐ Web Server

☐ Virtual Host

☐ Software Development Workstation

选择安装的软件包


根据需要进行选择或自定义  
练习机选择Desktop即可,会提供  
图形化桌机,浏览器,编辑器等软件

Please select any additional repositories that you want to use for software installation.

☒ CentOS

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 Add additional software repositories

 Modify repository

You can further customize the software selection now, or after install via the software management application.

☒ Customize later   ☐ Customize now

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# 选择软件包



Congratulations, your CentOS installation is complete.

Please reboot to use the installed system. Note that updates may be available to ensure the proper functioning of your system and installation of these updates is recommended after the reboot.

安装完成

重新引导



## 重起系统

Press any key to enter the menu

Booting CentOS (2.6.32-279.el6.i686) in 1 seconds...■

重新引导

- 1 按任意键进入引导菜单
- 2 不按系统自动按默认方式引导

## 系统启动

---

GNU GRUB version 0.97 (639K lower / 1047488K upper memory)

CentOS (2.6.32-279.el6.i686)

内核版本号

按回车启动

Use the ↑ and ↓ keys to select which entry is highlighted.  
Press enter to boot the selected OS, 'e' to edit the  
commands before booting, 'a' to modify the kernel arguments  
before booting, or 'c' for a command-line.

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# GRUB启动菜单



▸ Welcome  
License  
Information  
Create User  
Date and Time  
Kdump

## Welcome

There are a few more steps to take before your system is ready to use.  
The Setup Agent will now guide you through some basic configuration.  
Please click the "Forward" button in the lower right corner to continue

第一次启动CentOS欢迎界面



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Forward

# 欢迎界面

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Welcome  
License  
Information  
Create User  
Date and Time  
Kdump

## License Information

CentOS-6 EULA

CentOS-6 comes with no guarantees or warranties of any sorts, either written or implied.

The Distribution is released as GPL. Individual packages in the distribution come with their own licences.

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许可信息

☒ Yes, I agree to the License Agreement

☐ No, I do not agree

接受许可协议

Back

Forward

# 许可协议

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## Create User

You must create a 'username' for regular (non-administrative) use of your system. To create a system 'username', please provide the information requested below.

Username:   
Full Name:   
Password:   
Confirm Password:

If you need to use network authentication, such as Kerberos or NIS, please click the Use Network Login button.

If you need more control when creating the user (specifying home directory, and/or UID), please click the Advanced button.

### 创建普通用户

root用户权限过大,操作时不小心会造成严重问题  
建议使用Linux时使用普通用户进行操作  
所以创建一个普通用户来使用Linux

# 创建普通用户

## Date and Time

Please set the date and time for the system.

### Date and Time

Current date and time: Sun 18 Nov 2012 11:45:10 PM CST

☐ Synchronize date and time over the network

Manually set the date and time of your system:

#### Date

< November >						
< 2012 >						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1
2	3	4	5	6	7	8

#### Time

Hour: 23

Minute: 37

Second: 20

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Forward

在网络上同步日期与时间

可以保证时间的准确性  
生产环境时建议勾选

# 设置日期与时间

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Welcome  
License  
Information  
Create User  
Date and Time  
» Kdump

## Kdump

Kdump is a kernel crash dumping mechanism. In the event of a system crash, kdump will capture information from your system that can be invaluable in determining the cause of the crash. Note that kdump does require reserving a portion of system memory that will be unavailable for other uses.

☐ Enable kdump?

Total System Memory (MB): 1006

Kdump Memory (MB): 128

Usable System Memory (MB): 878

Advanced kdump configuration

```
# Configures where to put the kdump /proc/vmcore files
#
# This file contains a series of commands to perform (in order) when a
# kernel crash has happened and the kdump kernel has been loaded. Do
# not edit this file. This file is only applicable to the kdump initramfs, and have no effect
# if the root filesystem is mounted and the normal init scripts are processed.
#
# Currently only one dump target and path may be configured at once.
# If the configured dump target fails, the default action will be performed.
# The default action may be configured with the default directive below.
# If the configured dump target succeeds.
#
# Basics commands supported are:
# path <path> - Append path to the filesystem device which y
#               dumping to. Ignored for raw device dumps.
#               If unset, will default to /var/crash.
```

### Kdump内核崩溃转存

在内核崩溃时将内存中的信息储存到硬盘中  
此信息用于研究是什么原因造成了内核崩溃

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Kdump是当内核出现错误时，将内存中的信息写入到文件，供内核开发者研究使用。因为我们不是内核开发才，同时内存数据又太大，所以不需要开启此功能。

# 内核崩溃转存





A login dialog box for CentOS. At the top is a colorful logo and the text 'houdunwang.com'. Below is a text input field containing 'hdxj' with a user icon to its left. Underneath is a 'Password:' label followed by a masked input field with six asterisks. At the bottom are two buttons: 'Cancel' and 'Log In'.

输入用户名与密码  
进入CentOS系统

安装完成

English (United States)



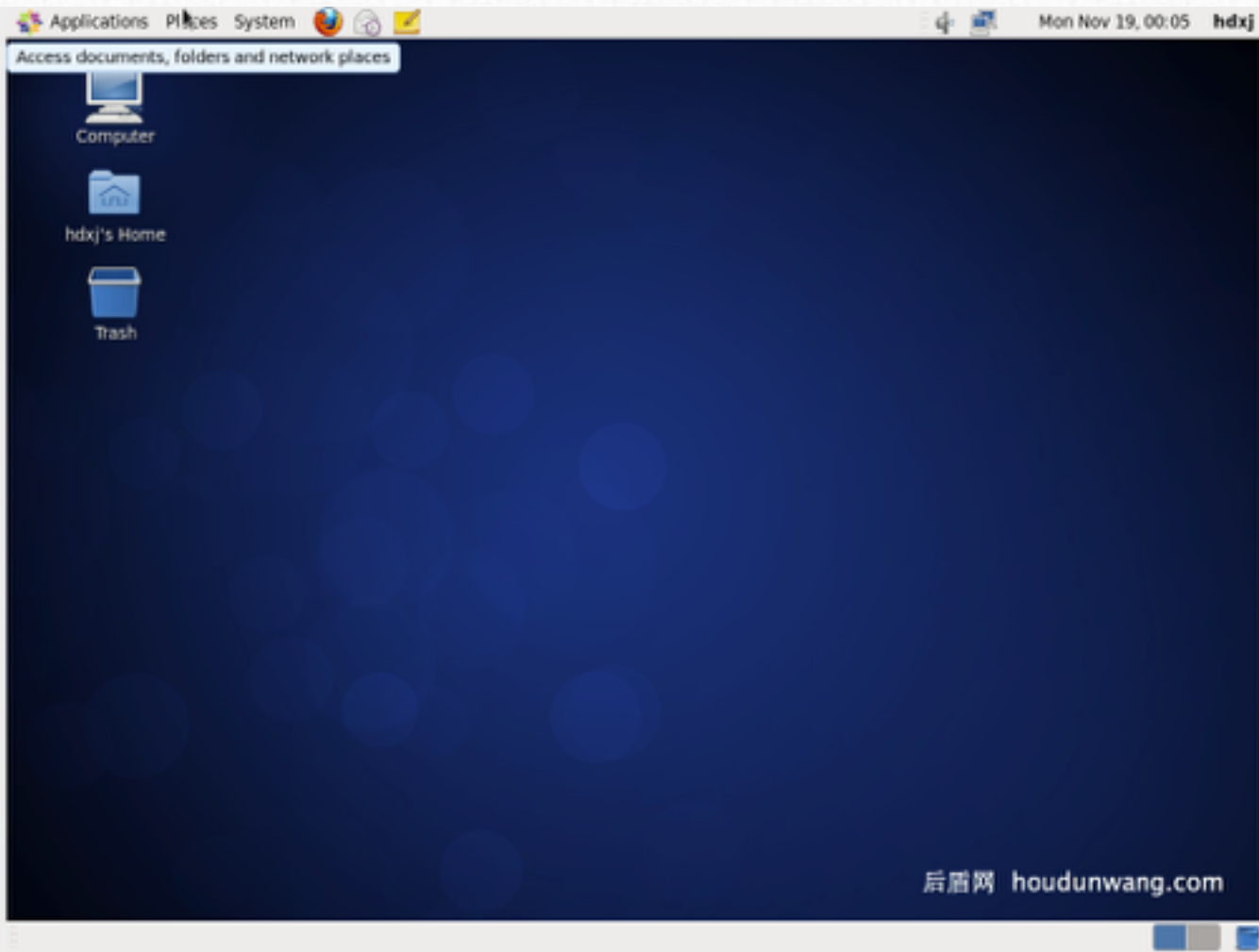
Sun 11:56 PM



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# 安装完成

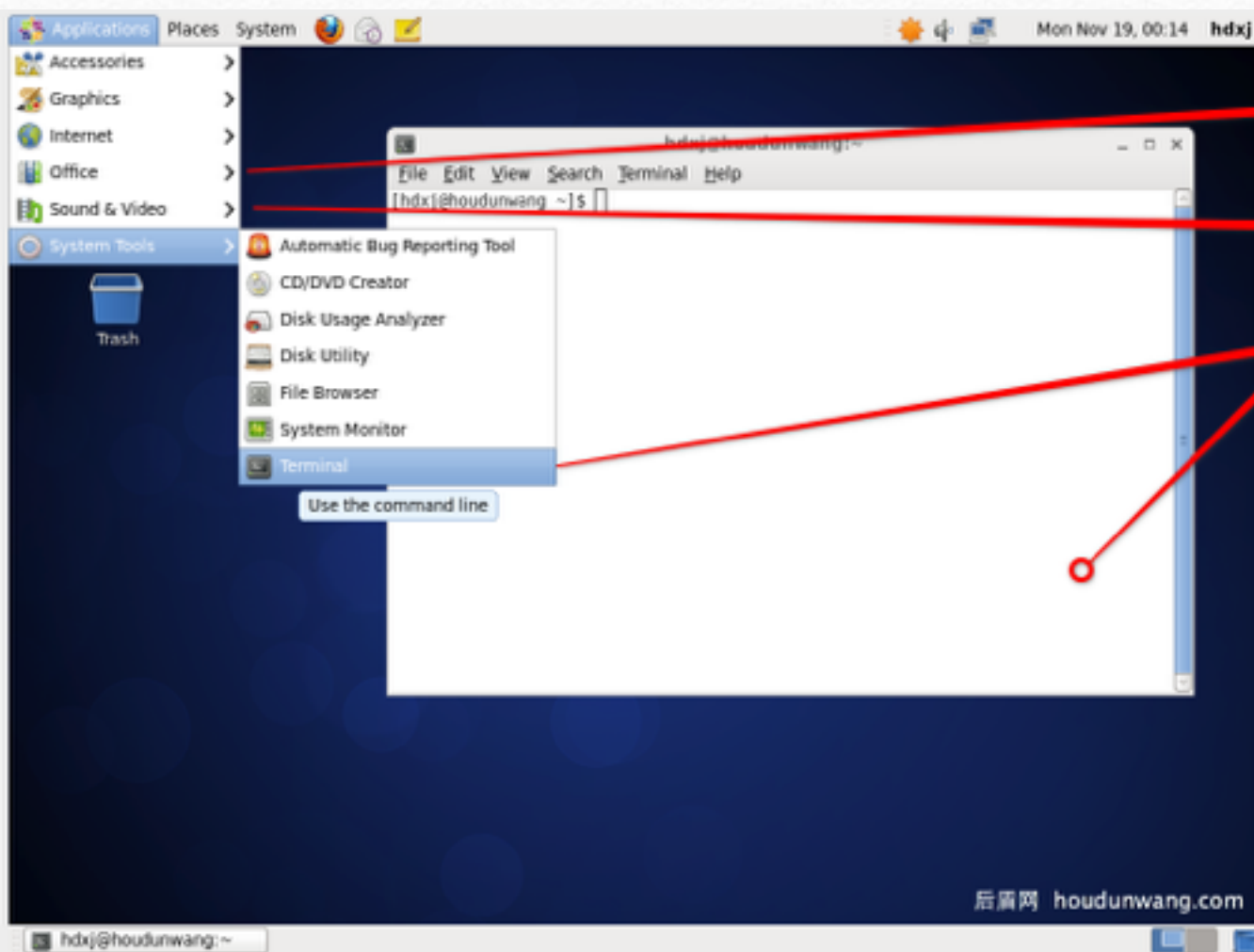
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GNOME图形界面

# GNOME图形界面

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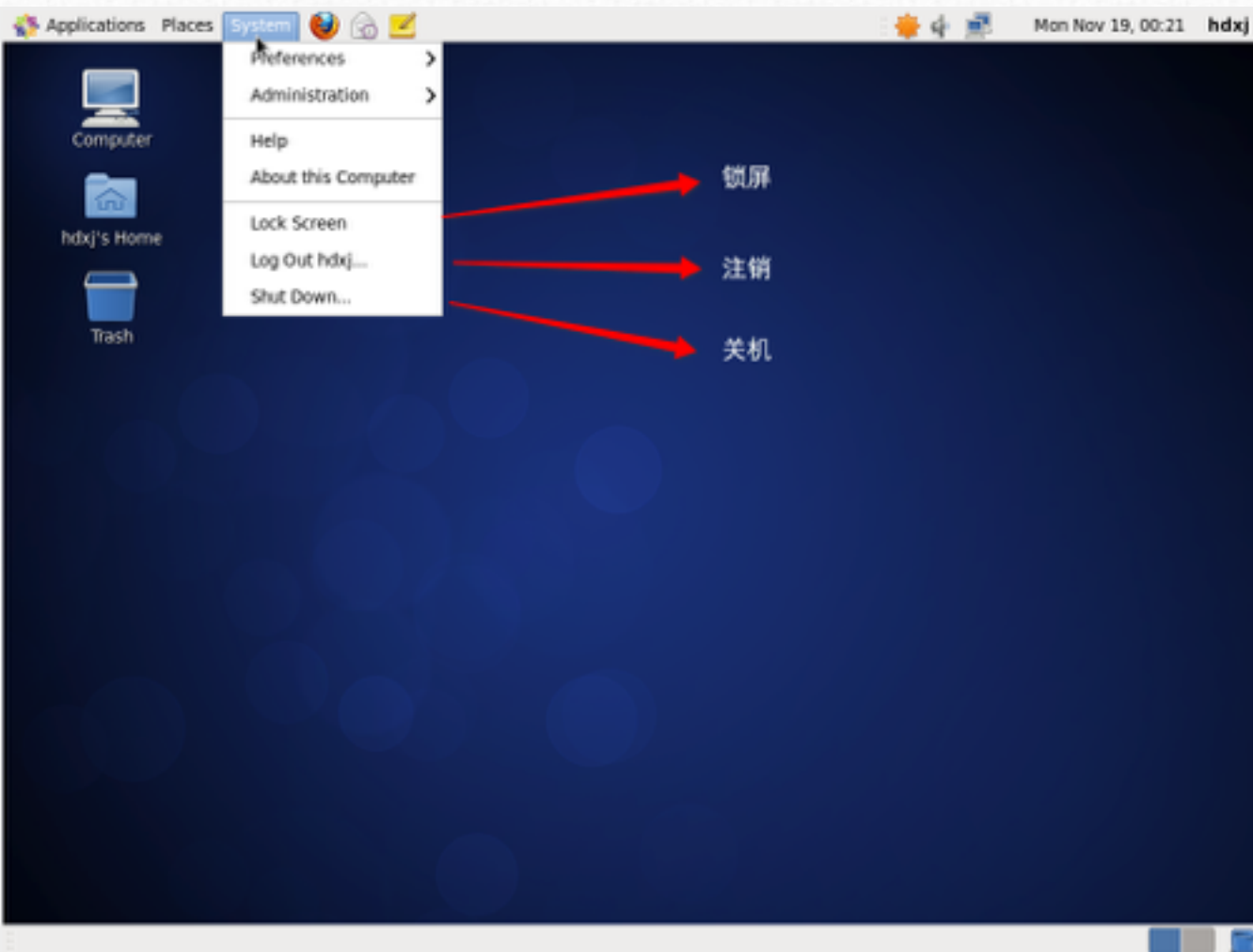


办公软件

音乐视频

命令终端  
Linux管理基本都是通过命令完成  
所以命令终端是我们主要使用舞台

# GNOME图形界面



# GNOME图形界面

熟练掌握一下Linux的安装，熟悉一下GNOME桌面环境

做一做

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