第二章 UNIX系统安装与常用命令

冯 晶 E-mail: gfeng@whu.edu.cn

1. UNIX系统安装

1.1 Fedora介绍

- Fedora项目是一份由Red Hat策划的开放开发项目；
- Fedora项目的目标是与Linux社区协作，只从开放源码软件来创建一份完整的、通用的操作系统。

1.2 Fedora Core 8 Linux的系统安装


Welcome to Fedora 8!
Install or upgrade an existing system
Install or upgrade an existing system (text mode)
Rescue installed system
Boot from local drive
Memory test
Press [Tab] to edit options
fedora


Welcome to Fedora for i386
Disc Found
To begin testing the media before installation press OK.
Choose Skip to skip the media test and start the installation.
OK
Skip
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen


Welcome to Fedora for i386
Fedora
Welcome to Fedora!
OK
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

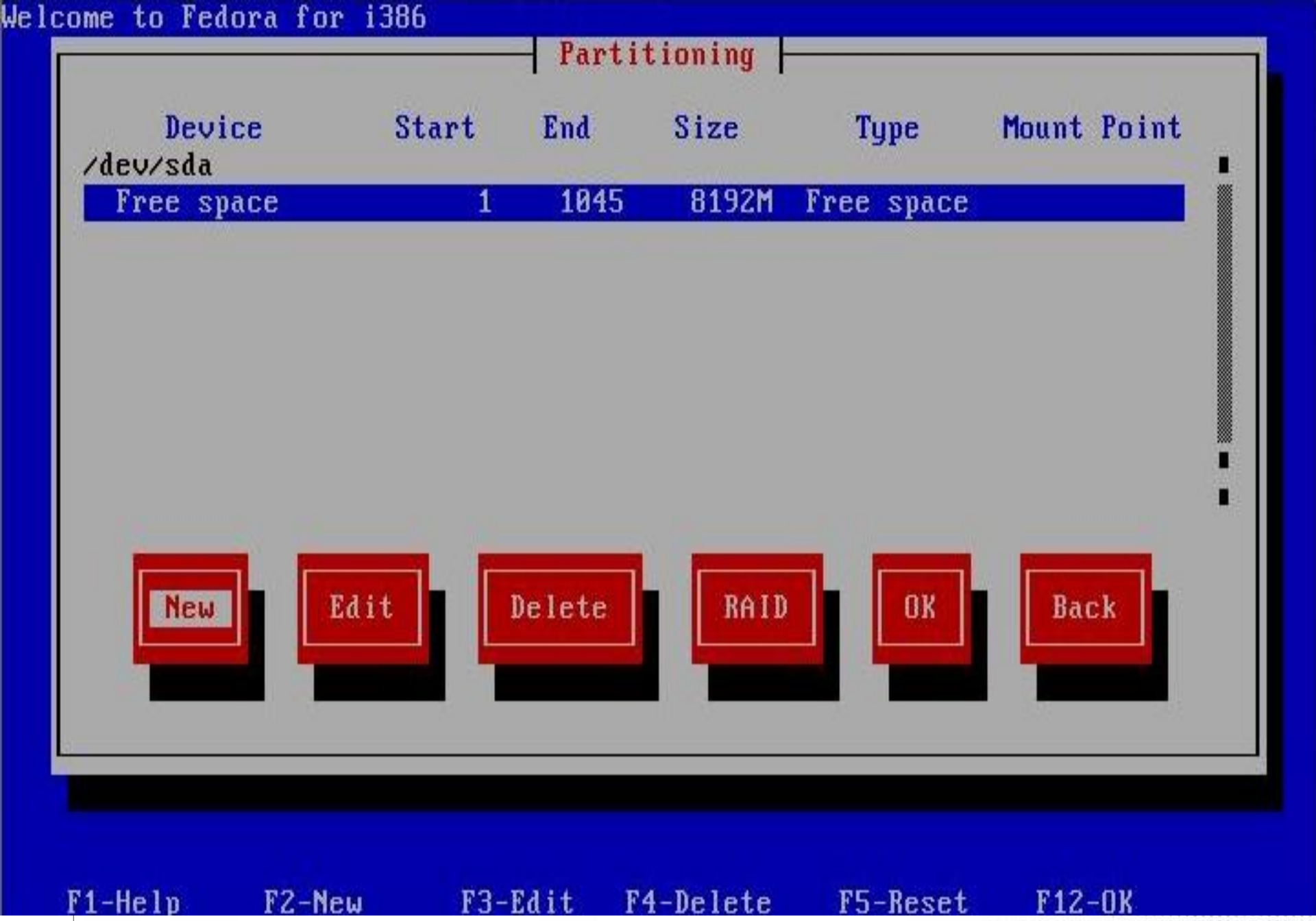

Welcome to Fedora for i386
Language Selection
What language would you like to use during the installation process?
Catalan
Chinese(Simplified)
Chinese(Traditional)
Croatian
Czech
Danish
Dutch
English
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

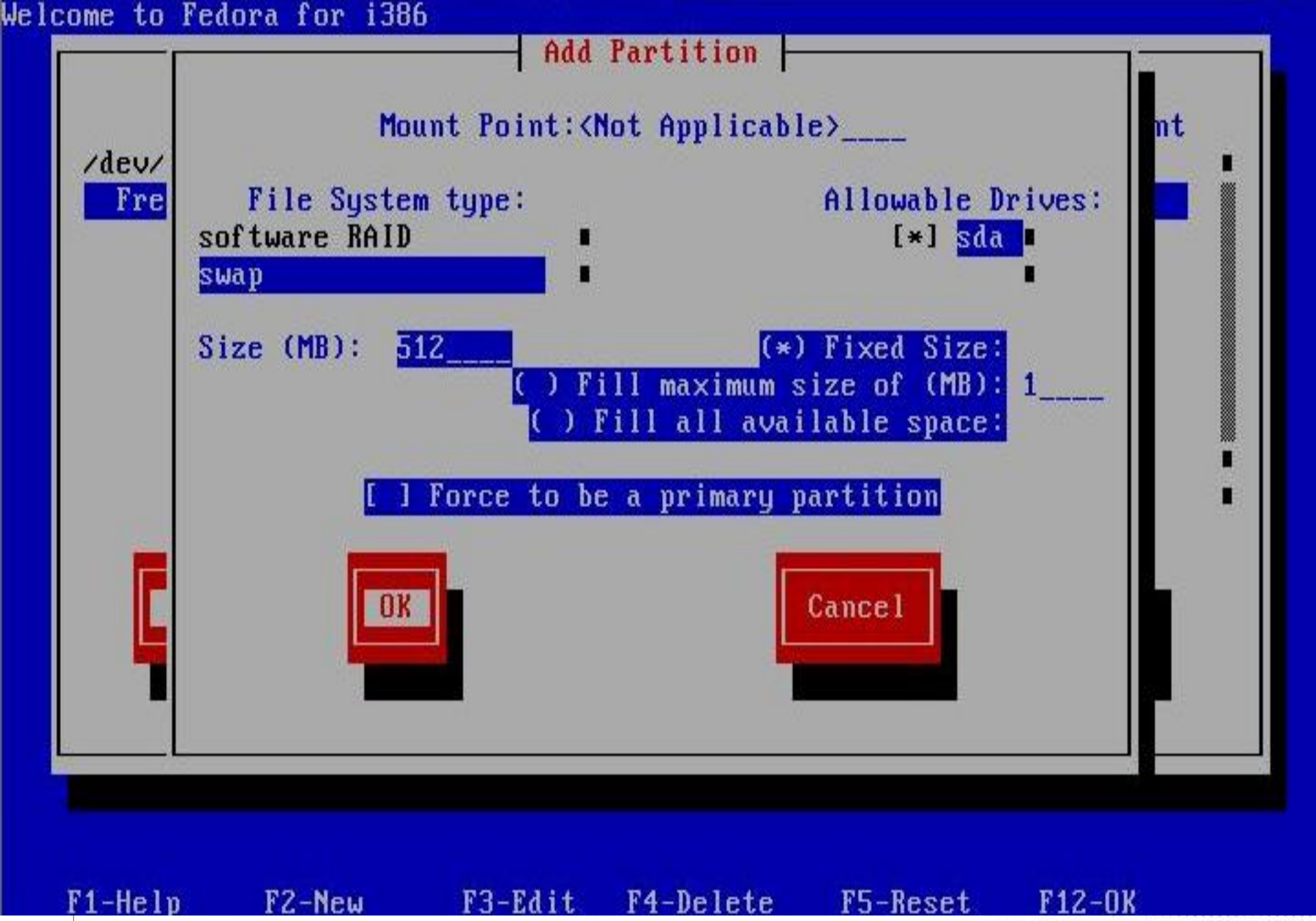

Welcome to Fedora for i386
Language Unavailable
zh_CN.UTF-8 display is unavailable in text mode.
The installation will continue in English.
OK
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

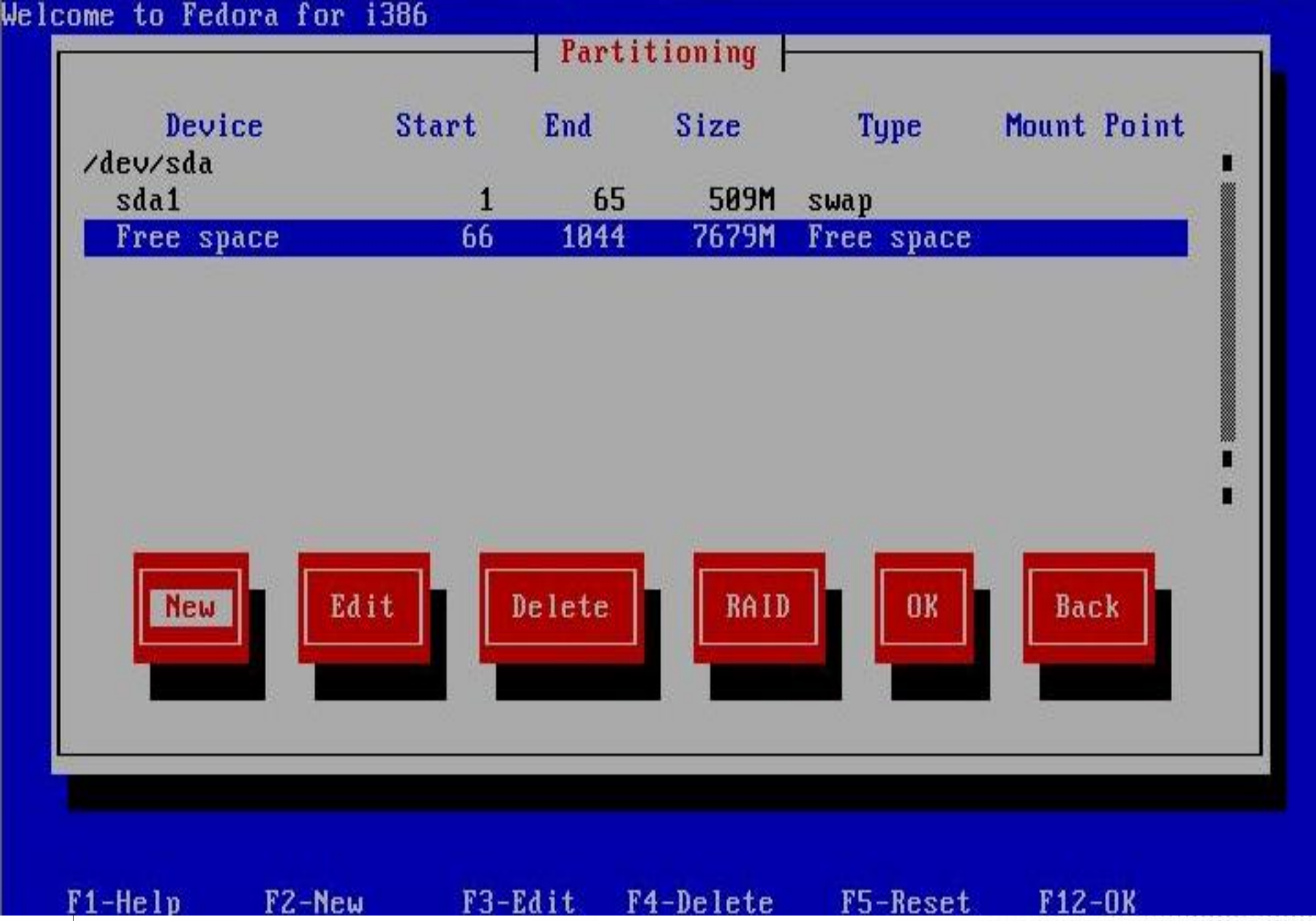

Welcome to Fedora for i386
Keyboard Selection
Which model keyboard is attached to this computer?
sr-latin
sv-latin1
tml-inscript
tml-uni
trq
ua-utf
uk
us
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

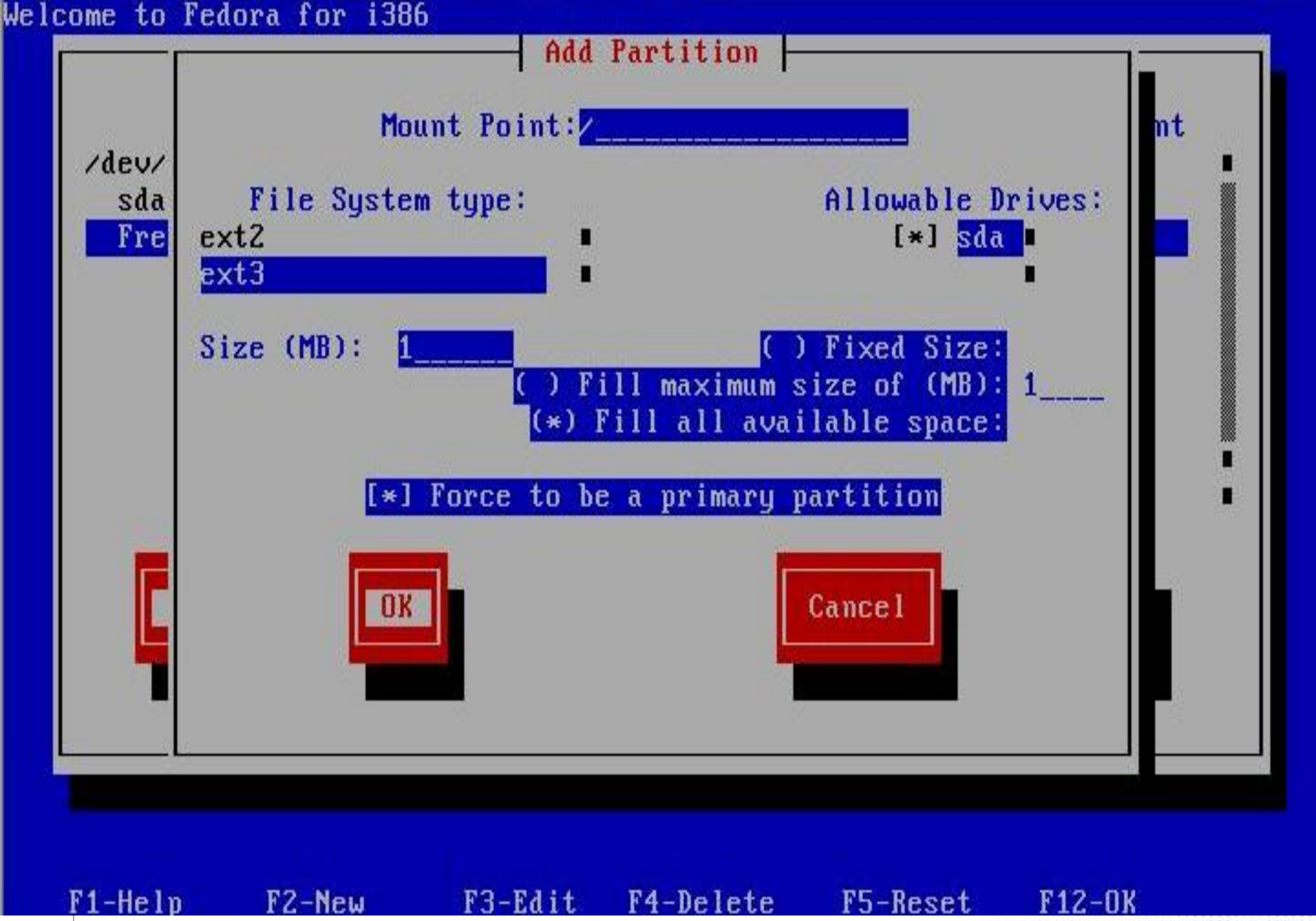

Welcome to Fedora for i386
Warning
The partition table on device sda was unreadable. To create new partitions it must be initialized, causing the loss of ALL DATA on this drive.
This operation will override any previous installation choices about which drives to ignore.
Would you like to initialize this drive, erasing ALL DATA?
Yes
No
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen


Welcome to Fedora for i386
Partitioning Type
Installation requires partitioning of your hard drive. The default layout is reasonable for most users. You can either choose to use this or create your own.
Remove all partitions on selected drives and create default layout
Remove Linux partitions on selected drives and create default layout
Use free space on selected drives and create default layout
Create custom layout
Which drive(s) do you want to use for this installation?
[*] sda 8189 MB (VMware, VMware Virtual S)
OK
Back
<Space>,<+>,<-> selection | <F2> Add drive | <F12> next screen


Welcome to Fedora for i386
Partitioning
Device Start End Size Type Mount Point
/dev/sda
Free space 1 1045 8192M Free space
New
Edit
Delete
RAID
OK
Back
F1-Help F2-New F3-Edit F4-Delete F5-Reset F12-OK


Welcome to Fedora for i386
Add Partition
Mount Point:<Not Applicable>____
/dev/
Fre
File System type:
software RAID
swap
Allowable Drives:
[*] sda
Size (MB): 512____
(*) Fixed Size:
( ) Fill maximum size of (MB): 1____
( ) Fill all available space:
[ ] Force to be a primary partition
OK
Cancel
F1-Help
F2-New
F3-Edit
F4-Delete
F5-Reset
F12-OK

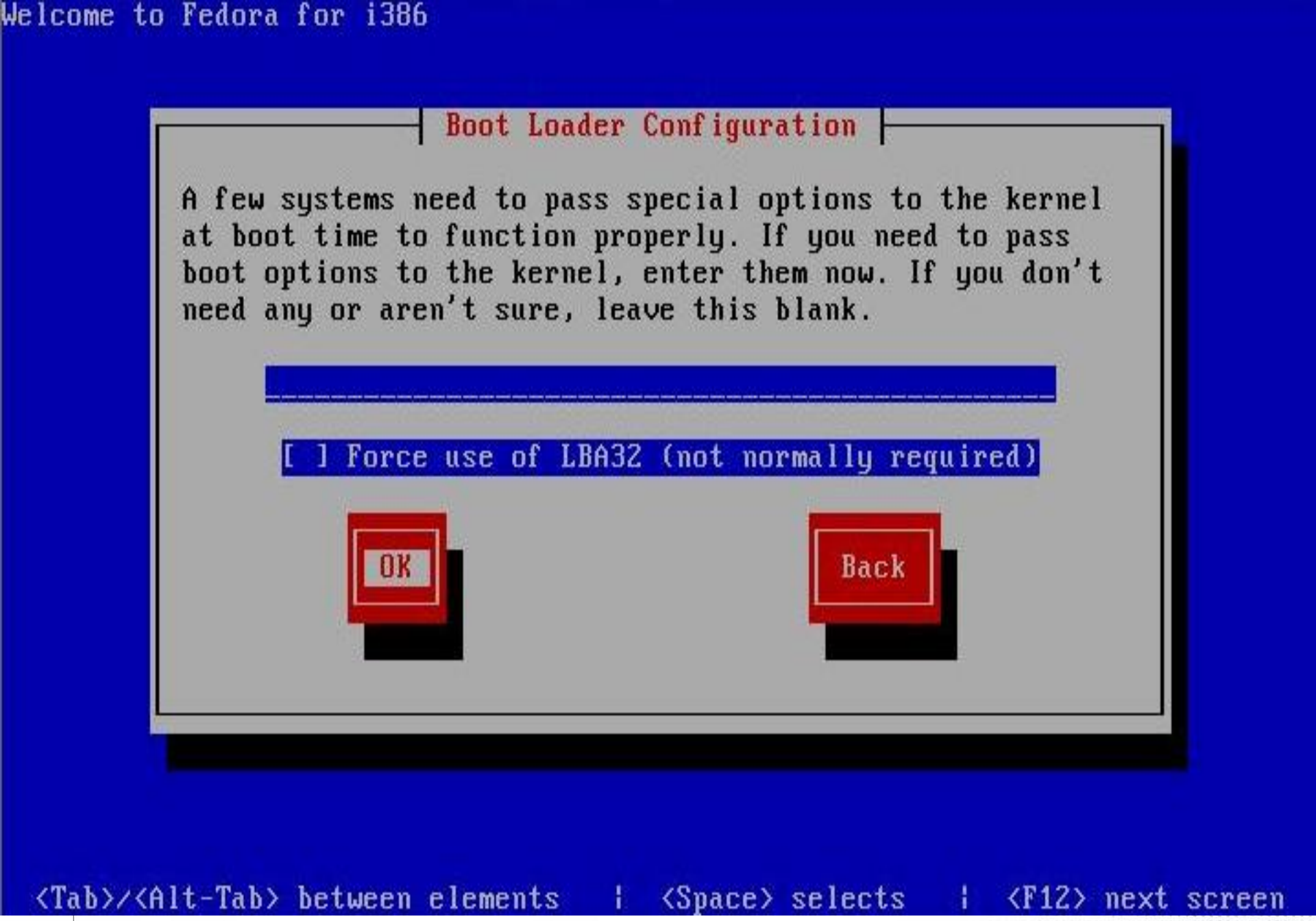

Welcome to Fedora for i386
Partitioning
Device Start End Size Type Mount Point
/dev/sda
sda1 1 65 509M swap
Free space 66 1044 7679M Free space
New
Edit
Delete
RAID
OK
Back
F1-Help F2-New F3-Edit F4-Delete F5-Reset F12-OK


Welcome to Fedora for i386
Add Partition
Mount Point: /
/dev/
sda
Fre
File System type:
ext2
ext3
Allowable Drives:
[*] sda
Size (MB): 1
( ) Fixed Size:
( ) Fill maximum size of (MB): 1
(*) Fill all available space:
[*] Force to be a primary partition
OK
Cancel
F1-Help
F2-New
F3-Edit
F4-Delete
F5-Reset
F12-OK

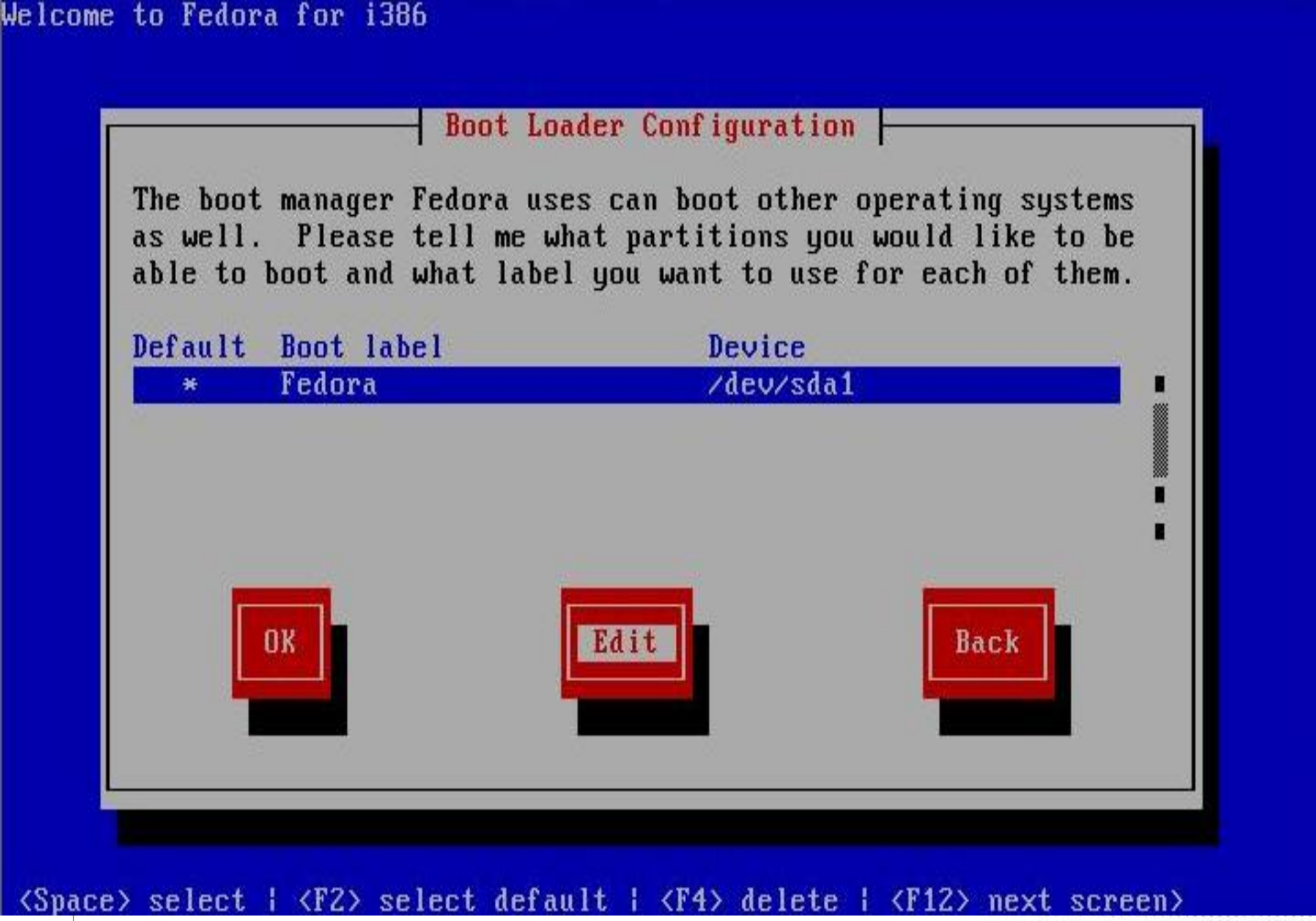

Welcome to Fedora for i386
Partitioning
Device Start End Size Type Mount Point
/dev/sda
sda1 1 978 7671M ext3 /
sda2 979 1043 509M swap
Free space 1044 1044 7M Free space
New
Edit
Delete
RAID
OK
Back
F1-Help F2-New F3-Edit F4-Delete F5-Reset F12-OK

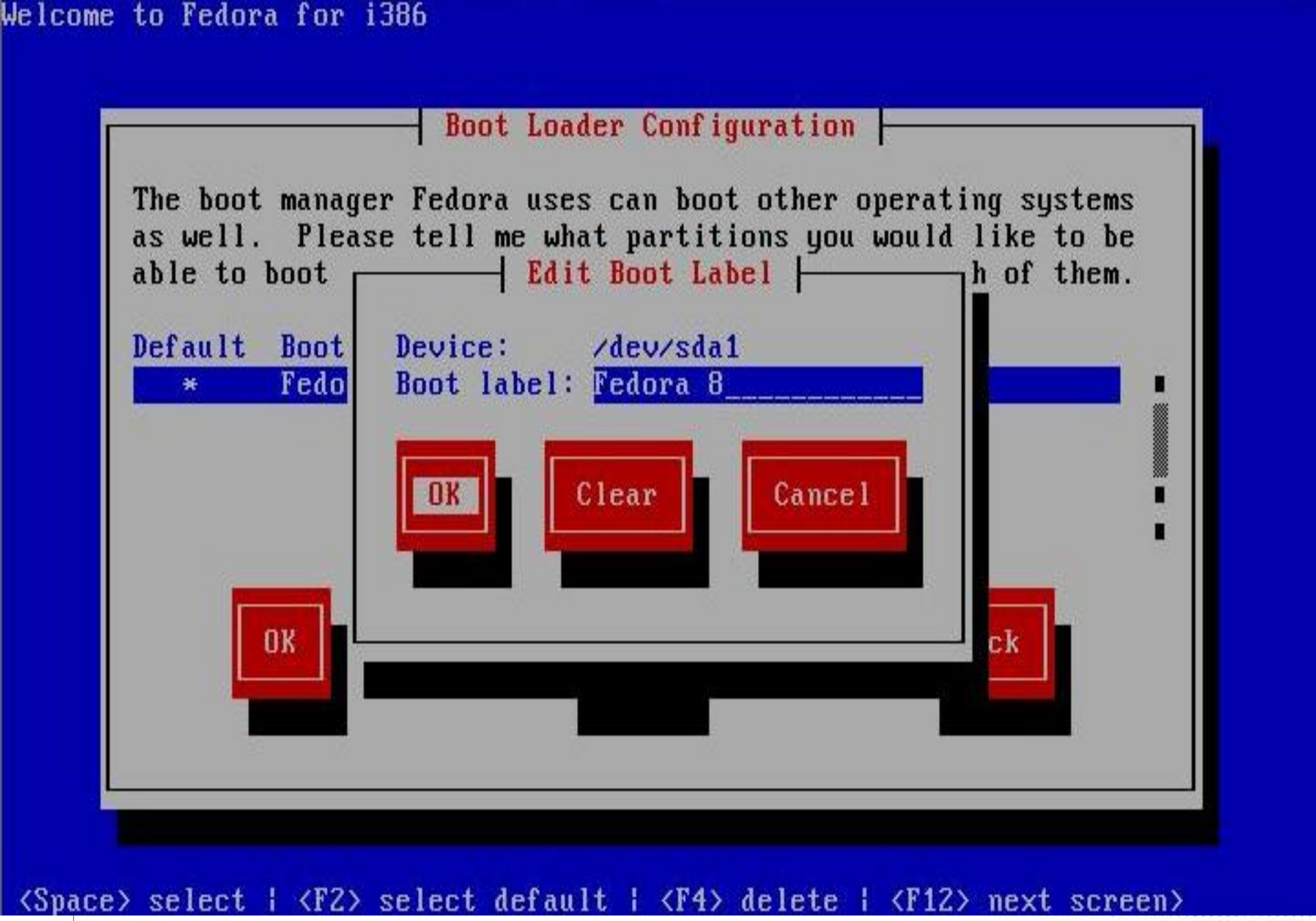

Welcome to Fedora for i386
Low Memory
As you don't have much memory in this machine, we need to turn on swap space immediately. To do this we'll have to write your new partition table to the disk immediately. Is that OK?
Yes
No
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen


Welcome to Fedora for i386
Boot Loader Configuration
Which boot loader would you like to use?
(*) Use GRUB Boot Loader
( ) No Boot Loader
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

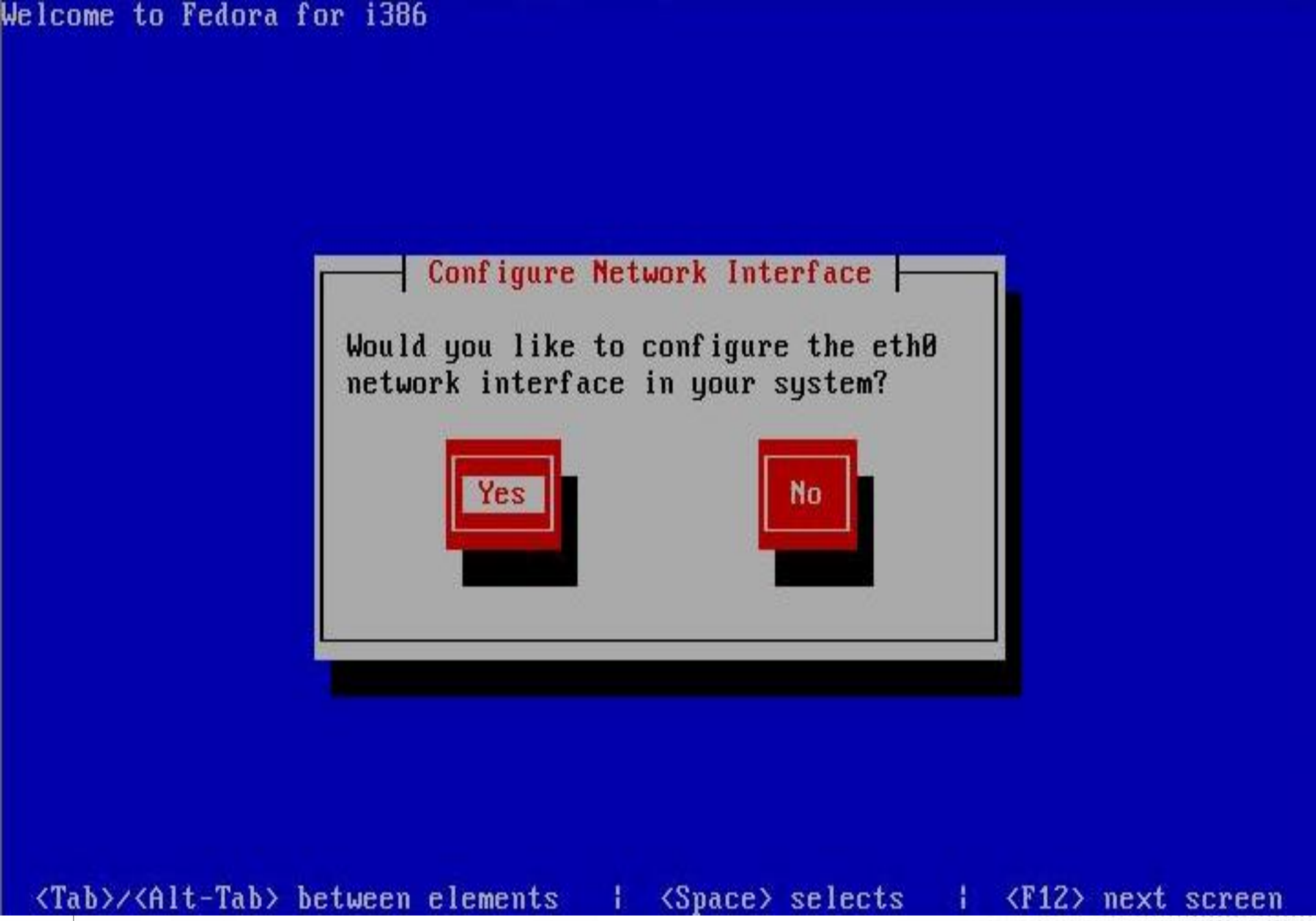

Welcome to Fedora for i386
Boot Loader Configuration
A few systems need to pass special options to the kernel at boot time to function properly. If you need to pass boot options to the kernel, enter them now. If you don't need any or aren't sure, leave this blank.
[ ] Force use of LBA32 (not normally required)
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

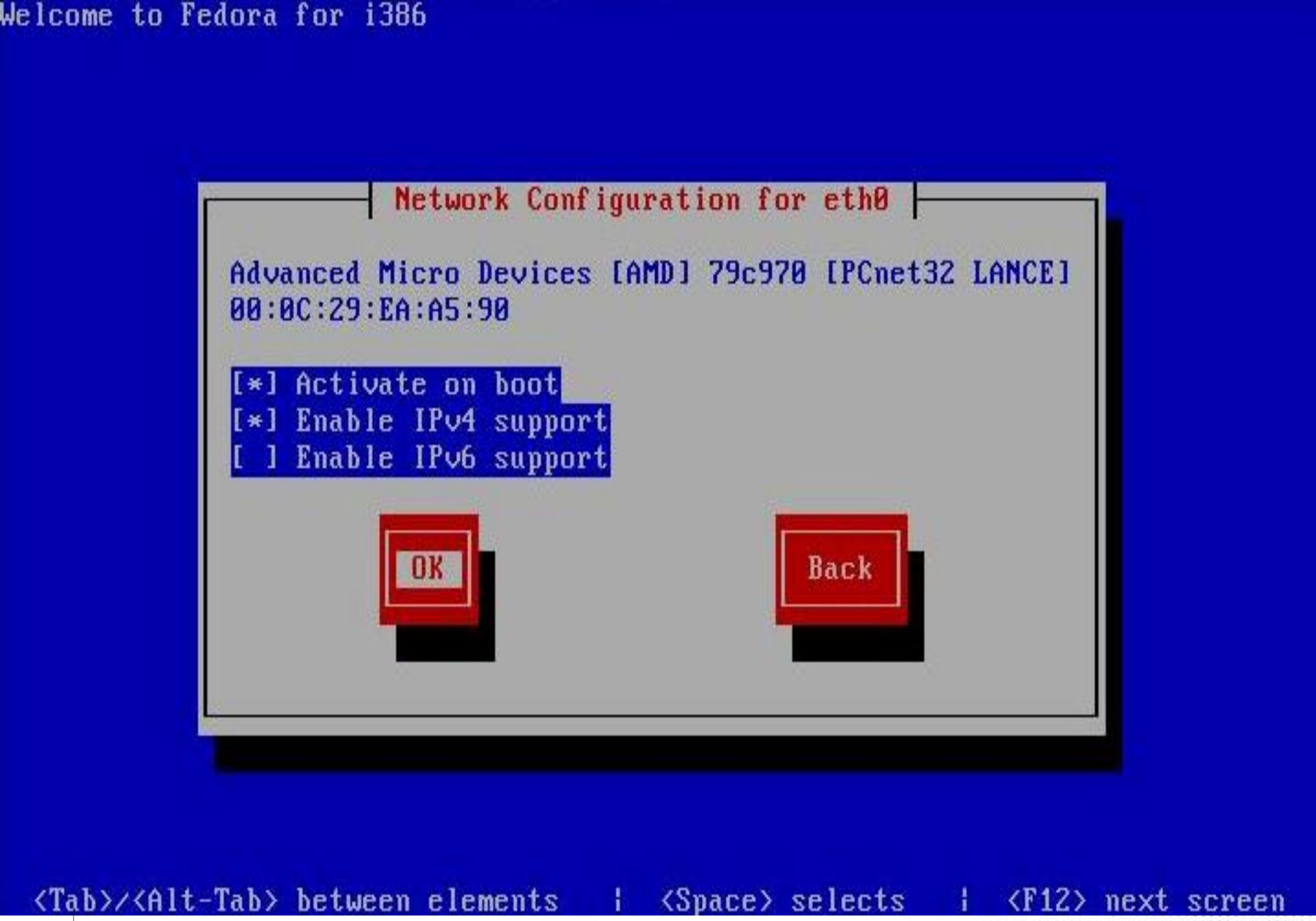

Welcome to Fedora for i386
Boot Loader Configuration
A boot loader password prevents users from passing arbitrary options to the kernel. For highest security, you should set a password, but a password is not necessary for more casual users.
[ ] Use a GRUB Password
Boot Loader Password:
Confirm:
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

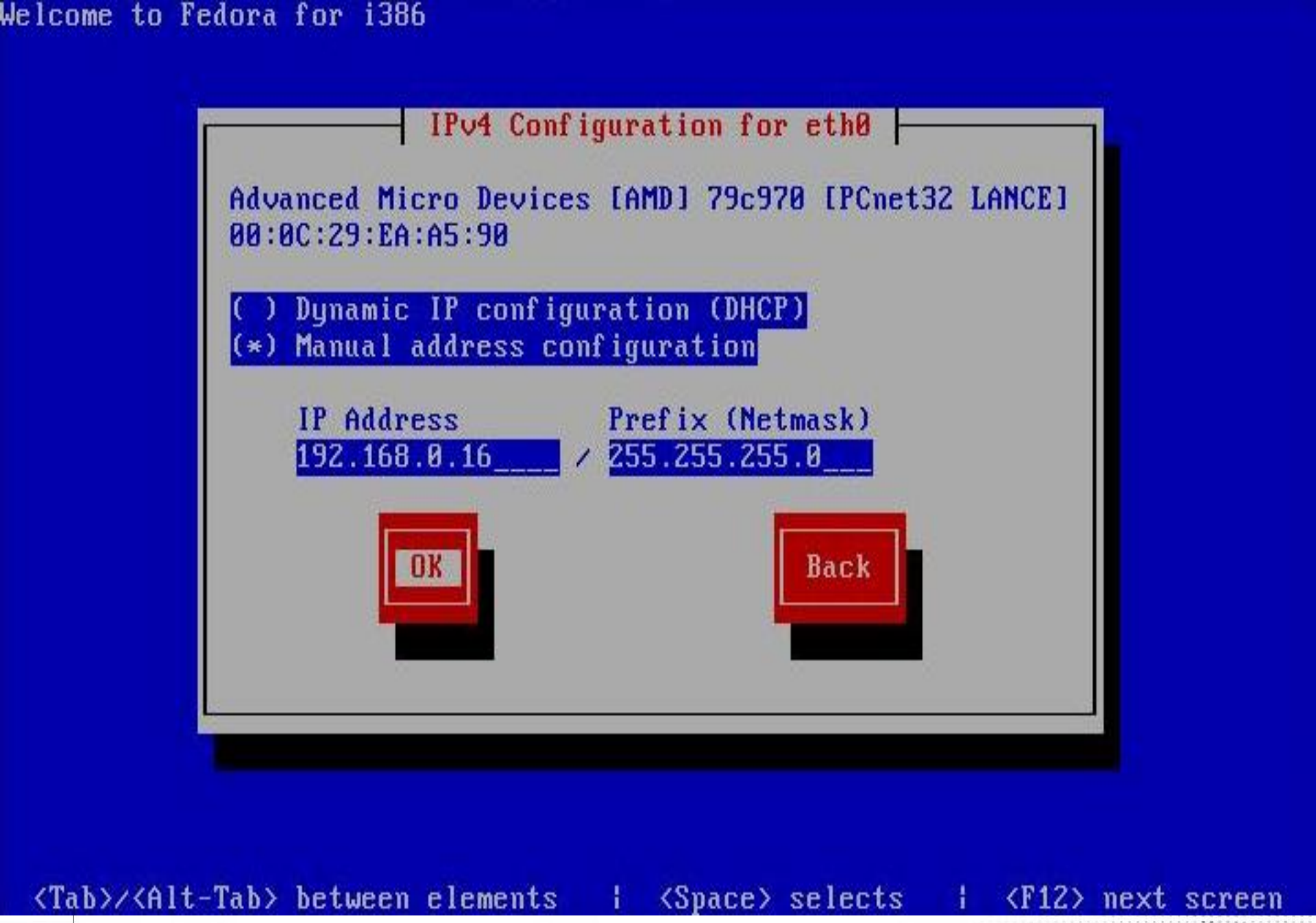

Welcome to Fedora for i386
Boot Loader Configuration
The boot manager Fedora uses can boot other operating systems as well. Please tell me what partitions you would like to be able to boot and what label you want to use for each of them.
Default Boot label Device
* Fedora /dev/sda1
OK
Edit
Back
<Space> select ¦ <F2> select default ¦ <F4> delete ¦ <F12> next screen>

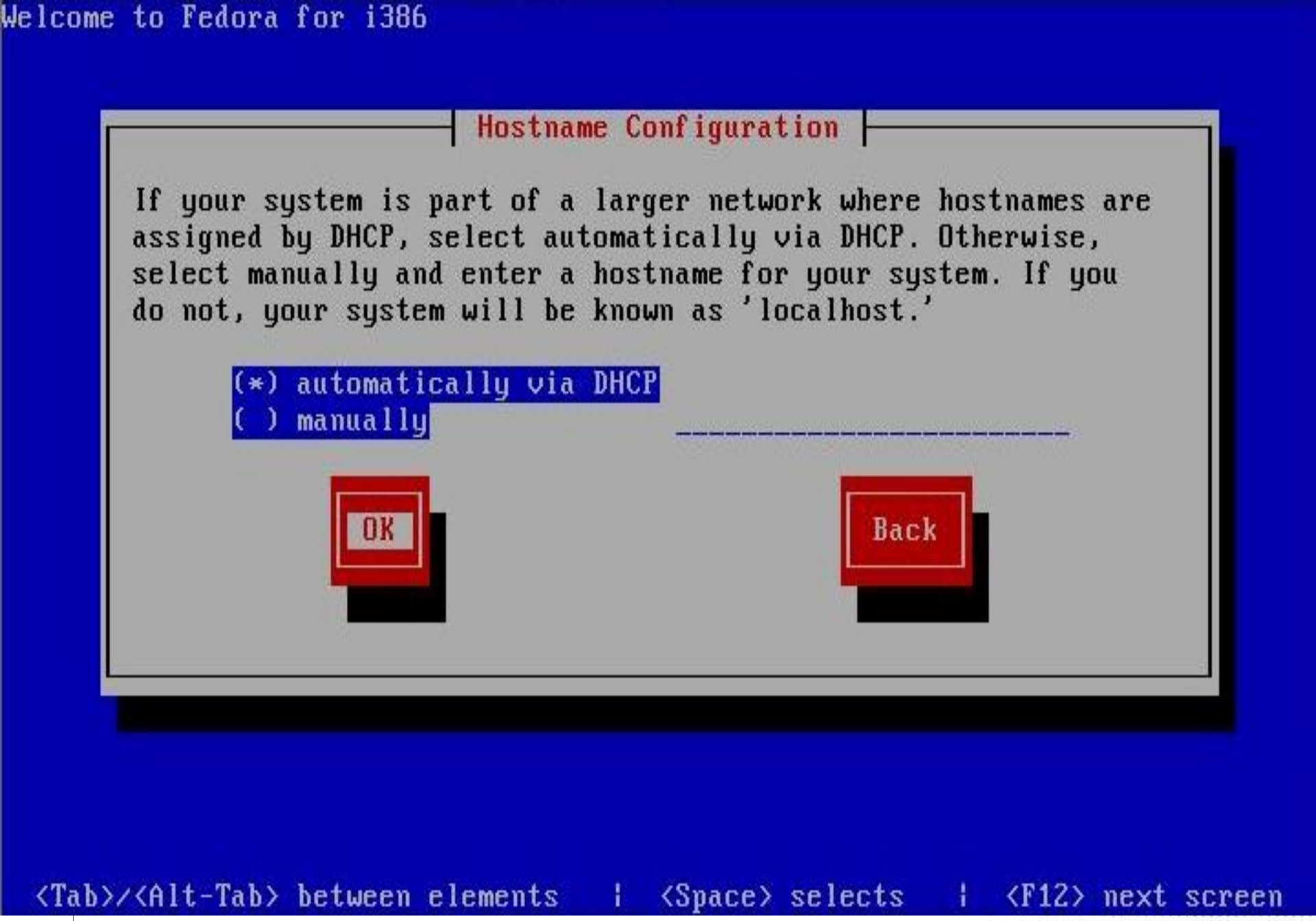

Welcome to Fedora for i386
Boot Loader Configuration
The boot manager Fedora uses can boot other operating systems as well. Please tell me what partitions you would like to be able to boot
h of them.
Edit Boot Label
Default Boot
*
Fedo
Device: /dev/sda1
Boot label: Fedora 8
OK
Clear
Cancel
OK
ck
<Space> select ¦ <F2> select default ¦ <F4> delete ¦ <F12> next screen>


Welcome to Fedora for i386
Boot Loader Configuration
Where do you want to install the boot loader?
/dev/sda Master Boot Record (MBR)
/dev/sda1 First sector of boot partition
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen


Welcome to Fedora for i386
Configure Network Interface
Would you like to configure the eth0 network interface in your system?
Yes
No
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen


Welcome to Fedora for i386
Network Configuration for eth0
Advanced Micro Devices [AMD] 79c970 [PCnet32 LANCE]
00:0C:29:EA:A5:90
[*] Activate on boot
[*] Enable IPv4 support
[ ] Enable IPv6 support
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

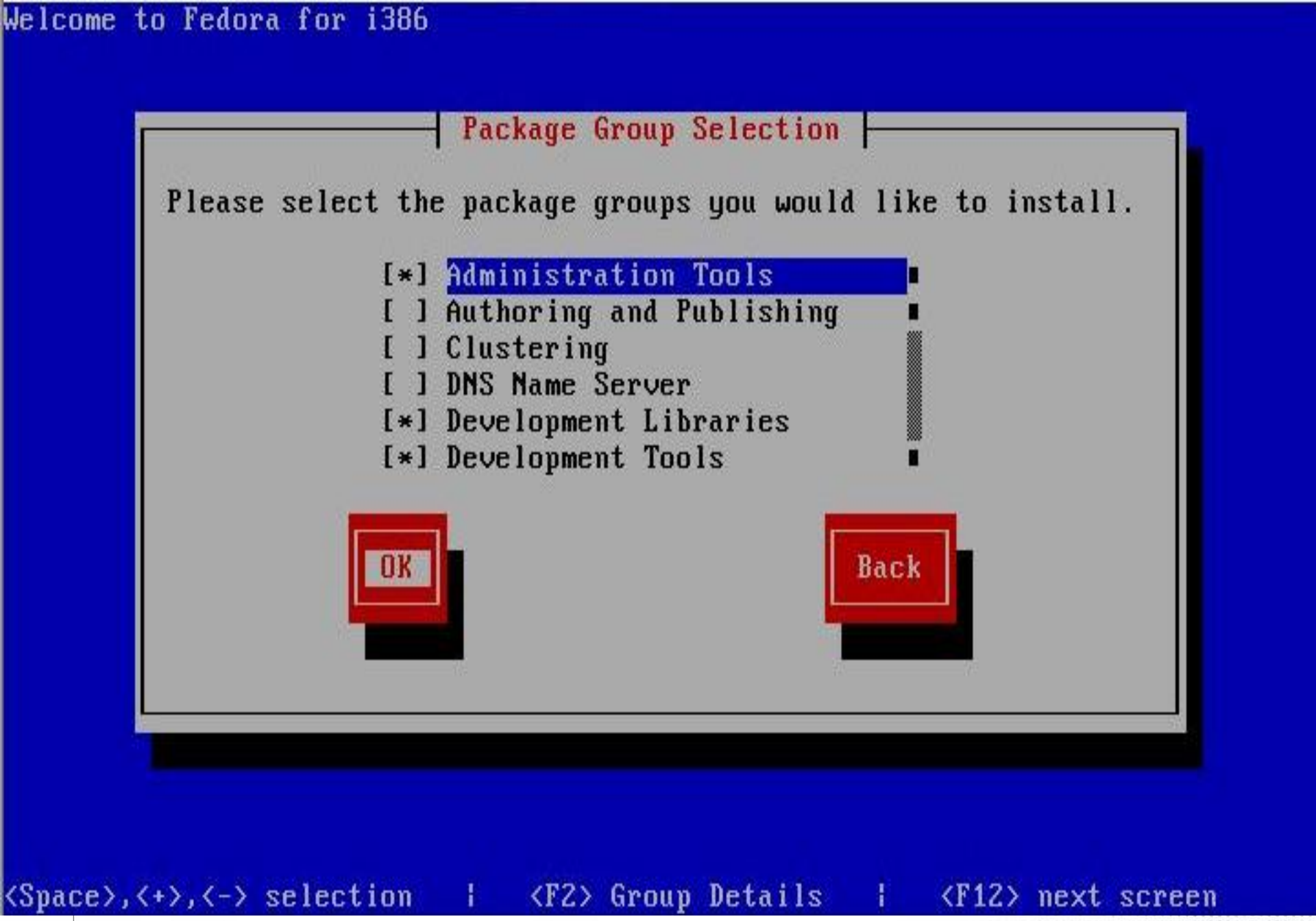

Welcome to Fedora for i386
IPv4 Configuration for eth0
Advanced Micro Devices [AMD] 79c970 [PCnet32 LANCE]
00:0C:29:EA:A5:90
( ) Dynamic IP configuration (DHCP)
(*) Manual address configuration
IP Address
Prefix (Netmask)
192.168.0.16___
/
255.255.255.0___
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

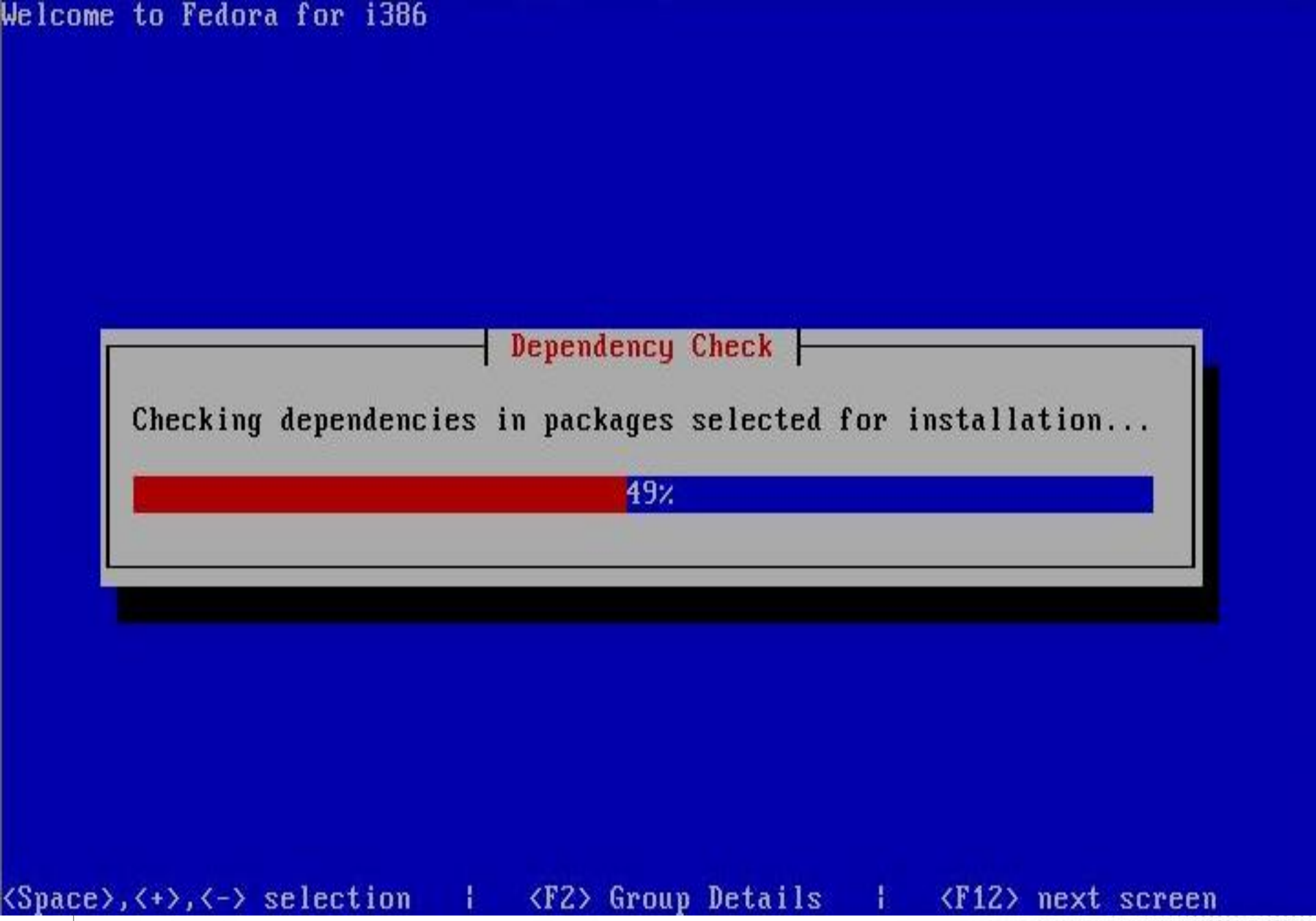

Welcome to Fedora for i386
Hostname Configuration
If your system is part of a larger network where hostnames are assigned by DHCP, select automatically via DHCP. Otherwise, select manually and enter a hostname for your system. If you do not, your system will be known as 'localhost.'
(*) automatically via DHCP
( ) manually
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen


Welcome to Fedora for i386
Time Zone Selection
In which time zone are you located?
[*] System clock uses UTC
Asia/Saigon
Asia/Sakhalin
Asia/Samarkand
Asia/Seoul
Asia/Shanghai
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

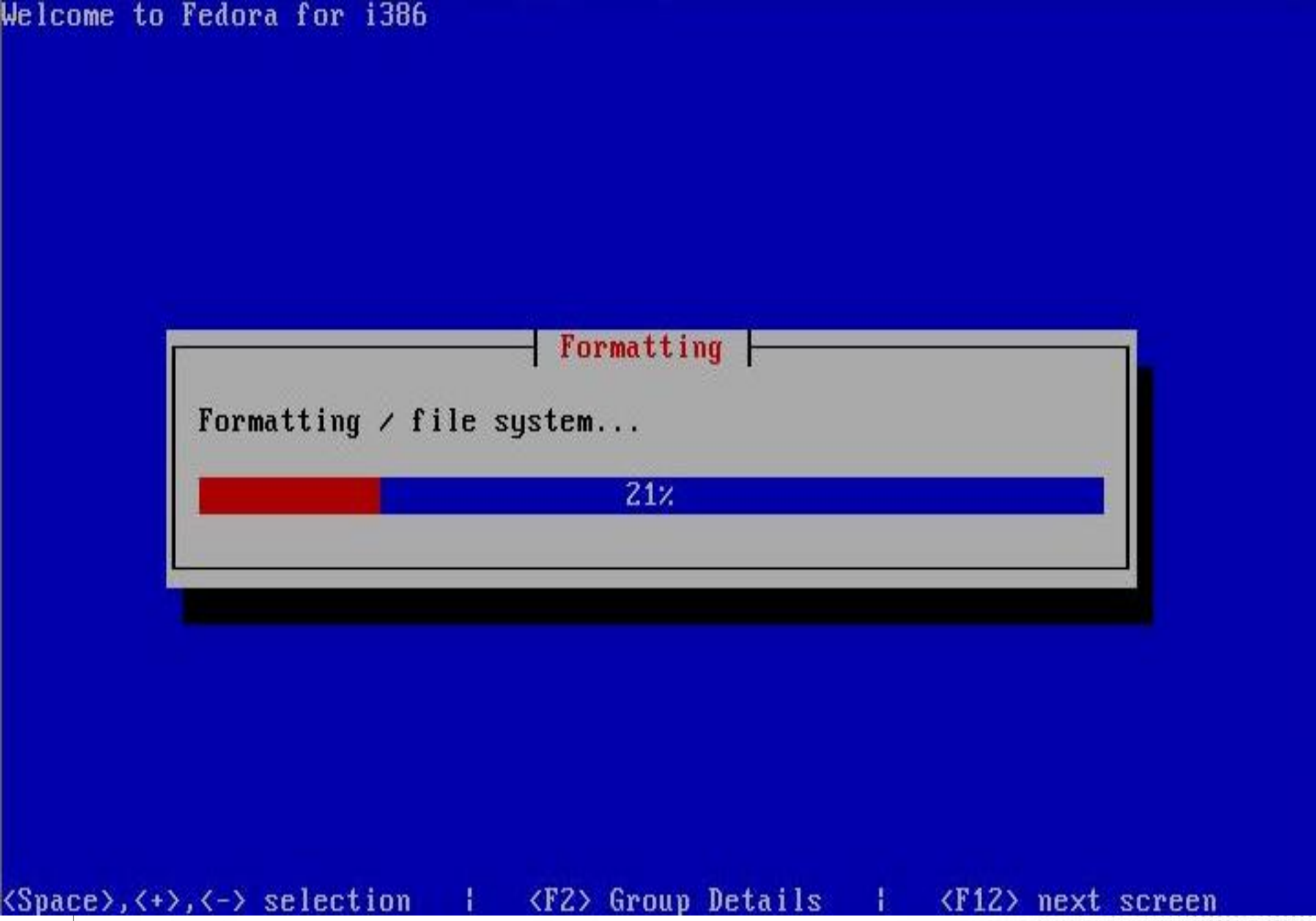

Welcome to Fedora for i386
Root Password
Pick a root password. You must type it twice to ensure you know it and do not make a typing mistake. Remember that the root password is a critical part of system security!
Password:
Password (confirm):
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen


Welcome to Fedora for i386
Package selection
The default installation of Fedora includes a set of software applicable for general internet usage. What additional tasks would you like your system to include support for?
[*] Office and Productivity
[*] Software Development
[*] Web server
[*] Customize software selection
OK
Back
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

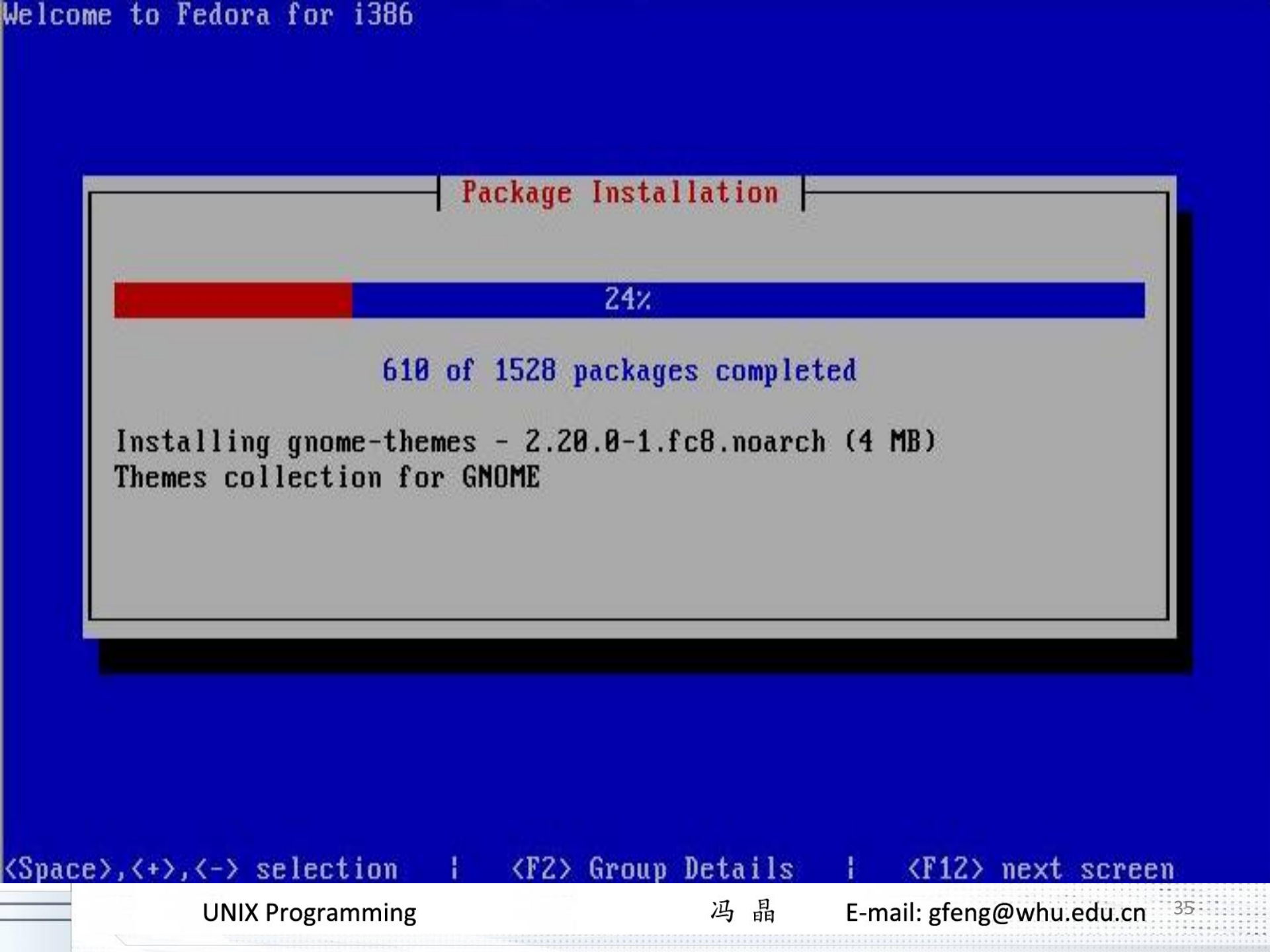

Welcome to Fedora for i386
Package Group Selection
Please select the package groups you would like to install.
[*] Administration Tools
[ ] Authoring and Publishing
[ ] Clustering
[ ] DNS Name Server
[*] Development Libraries
[*] Development Tools
OK
Back
<Space>,<+>,<-> selection
<F2> Group Details
<F12> next screen


Welcome to Fedora for i386
Dependency Check
Checking dependencies in packages selected for installation...
49%
<Space>,<+>,<-> selection | <F2> Group Details | <F12> next screen


Welcome to Fedora for i386
Installation to begin
A complete log of your installation will be in /root/install.log after rebooting your system. You may want to keep this file for later reference.
OK
Back
<Space>,<+>,<-> selection | <F2> Group Details | <F12> next screen


Welcome to Fedora for i386
Formatting
Formatting / file system...
21%
<Space>,<+>,<-> selection | <F2> Group Details | <F12> next screen

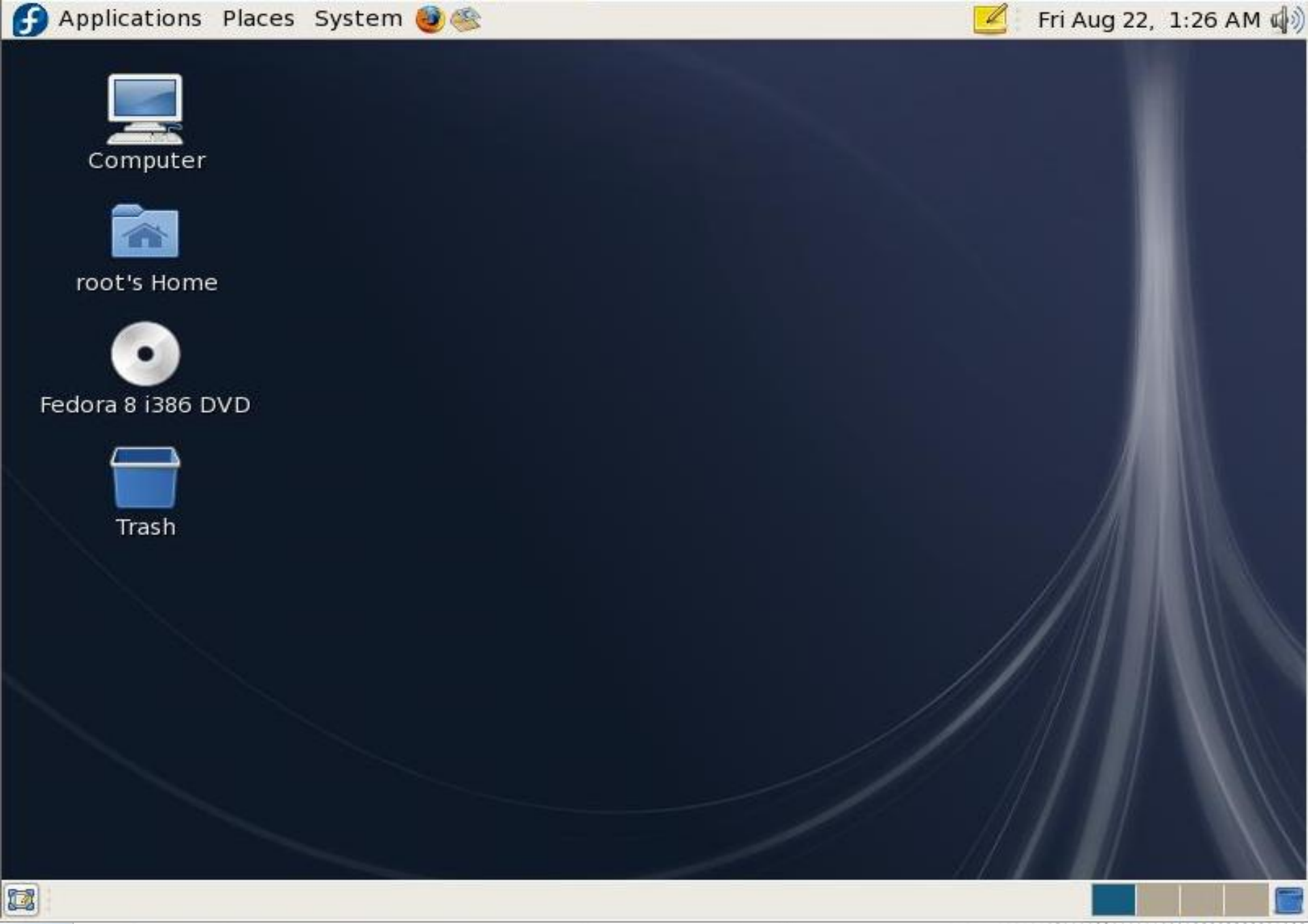

Welcome to Fedora for i386
Install Starting
Starting install process. This may take several minutes...
<Space>,<+>,<-> selection | <F2> Group Details | <F12> next screen


Welcome to Fedora for i386
Package Installation
24%
610 of 1528 packages completed
Installing gnome-themes - 2.20.0-1.fc8.noarch (4 MB)
Themes collection for GNOME
<Space>,<+>,<-> selection
<F2> Group Details
<F12> next screen


Welcome to Fedora for i386
Complete
Congratulations, your Fedora installation is complete.
Press <Enter> to end the installation process.
Reboot
<Enter> to exit

```
Fedora release 8 (Werewolf)
Kernel 2.6.23.1-42.fc8 on an i686

localhost login: root
Password:
[root@localhost ~]# startx_
```


Applications
Places
System
Fri Aug 22, 1:26 AM
Computer
root's Home
Fedora 8 i386 DVD
Trash

2. UNIX常用命令

- ls
- pwd
- cd
- mkdir
- rmdir
- head
- tail
- more
- cp
- mv
- rm
- chmod
- tar
- find
- grep

2. UNIX常用命令

- ls [参数] [目录或文件]

[说明]： ls 命令列出指定目录下的文件，缺省目录为当前目录 ./，缺省输出顺序为纵向按字符顺序排列。

[参数]： -a 列出所有文件，包括第一个字符为‘.’的隐藏文件；
-l 长列表输出，显示文件详细信息，每行一个文件；
-R 递归地列出每个子目录的内容；
-r 逆序排列 ；
-t 按时间顺序排列而非按名字；
-F 在目录文件后加‘/’，在可执行文件后加‘*’

2. UNIX常用命令

[例子]： 列出当前目录下的所有文件

ls -al

```
[gene@localhost ~]$ ls -al
total 54280
drwx------  4 gene gene     4096 2008-08-21 22:39 .
drwxr-xr-x  3 root root     4096 2008-08-11 10:59 ..
-rw-------  1 gene gene      338 2008-08-21 00:58 .bash_history
-rw-r--r--  1 gene gene       33 2008-08-11 10:59 .bash_logout
-rw-r--r--  1 gene gene      176 2008-08-11 10:59 .bash_profile
-rw-r--r--  1 gene gene      434 2008-08-11 11:14 .bashrc
drwxr-xr-x  2 gene gene     4096 2008-08-11 10:59 .gnome2
drwxr-xr-x 18  502 wheel    4096 2008-08-11 11:06 ns-allinone-2.33
-rwxr-xr-x  1 root root 55428314 2008-08-11 11:00 ns-allinone-2.33.tar.gz
lrwxrwxrwx  1 gene gene        8 2008-08-21 22:39 shortcut -> .viminfo
```

[说明]：- 为普通文件

d 为目录

l 为链接

b 为块文件

c 为字符型文件

p 为命名管道（FIFO)

2. UNIX常用命令

- **pwd**

[说明]：本命令用于显示当前的工作目录。

[例子]：显示出当前的工作目录

pwd

```
[gene@localhost ~]$ pwd
/home/gene
[gene@localhost ~]$ _
```

2. UNIX常用命令

- cd [目录]

[说明]：本命令用于改变当前的工作目录。无参数时使用环境变量 $HOME 作为其参数，$HOME 一般为注册时进入的路径。

[例子]：cd　　回到注册进入时的

cd /tmp　　进入 /tmp

cd ../　　进入上级目录

```
[gene@localhost tmp]$ pwd
/tmp
[gene@localhost tmp]$ cd
[gene@localhost ~]$ pwd
/home/gene
[gene@localhost ~]$ cd /tmp
[gene@localhost tmp]$ pwd
/tmp
[gene@localhost tmp]$ cd ..
[gene@localhost /]$ pwd
/
```

2. UNIX常用命令

- **mkdir** [-m 模式] [-p] 目录名

[说明]：本命令用于建立目录。

[参数]：-m 按指定存取模式建立目录；
-p 建立目录时建立其所有不存在的父目录；

2. UNIX常用命令

[例子]：mkdir tmp

mkdir -p tmp1/tmp2/tmp3

```
[gene@localhost gene]$ ls
[gene@localhost gene]$ mkdir tmp
[gene@localhost gene]$ mkdir tmp1/tmp2/tmp3
mkdir: cannot create directory `tmp1/tmp2/tmp3': No such file or directory
[gene@localhost gene]$ mkdir -p tmp1/tmp2/tmp3
[gene@localhost gene]$ ls -R
.:
tmp  tmp1

./tmp:

./tmp1:
tmp2

./tmp1/tmp2:
tmp3

./tmp1/tmp2/tmp3:
```

2. UNIX常用命令

- rmdir [-s] [-p] 目录名

[说明]：本命令用于删除目录。

[参数]： -p 删除所有已经为空的父目录；
-s 当使用-p 选项时，出现错误不提示；

[例子]：rmdir /tmp/abc　　删除目录 /tmp/abc
rmdir -p /tmp/a/b/c　　删除目录 /tmp/a/b/c，若目录 /tmp/a /b及/tmp/a 空，则删除

2. UNIX常用命令

- **head** [-n] [文件]

[说明]：将文件的头n 行显示输出，缺省值为 10 行。

[参数]： -n 整数，显示文件的前n行内容；

[例子]：head -5 file1

- **tail** [-n] [文件]

[说明]：将文件的末n 行显示输出，缺省值为 10 行。

[参数]： -n 整数，显示文件的末n行内容；

[例子]：tail -5 file1

2. UNIX常用命令

- **more** [参数] [文件]

[说明]：将文件显示在终端上，每次一屏。
按回车键则上滚一行，按空格键则上滚一屏

[参数]： -c 显示文件之前先清屏；
-n 行数 指定每屏显示的行数；
+行号 从指定行号开始显示；

[例子]： more -c +50 file
清屏后，从第50行开始显示文件file

2. UNIX常用命令

- cp [参数] 文件1 [文件2 …] 目标

[说明]：将文件1 [文件2 …]拷贝到目标上。若目标是文件名，则拷贝的文件只能有一个，若目标是目录，则拷贝的文件可以有多个，若目标文件不存在，则建立这个文件，若存在，则覆盖其以前的内容，若目标是目录，则将文件拷贝到这个目录下。

[参数]： -r 若文件名为目录，则拷贝目录下所有文件及子目录和它们的文件，此时 目标必须为目录；

[例子]：

cp file1 file2	将文件 file1 拷贝到文件 file2
cp file1 file2 /tmp	将文件 file1 和文件 file2 拷贝到目录 /tmp下
cp -r /tmp /mytmp	将目录 /tmp 下所有文件及其子目录拷贝至目录/mytmp

2. UNIX常用命令

- **mv** [参数] 文件1 [文件2 …] 目标

[说明]：将文件移动至目标，若目标是文件名，则相当于文件改名。

[参数]：-i 在覆盖已存在文件时作提示，若回答 y 则覆盖，其他则中止
-f 覆盖前不作任何提示；

[例子]：mv file1 file2　　将文件 file1 改名为 file2
mv file1 file2 /tmp　　将文件 file1 和文件 file2 移动到目录 /tmp 下

2. UNIX常用命令

- rm [参数] 文件

[说明]：删除文件或目录。

[参数]：-r 递归地删除目录及其所有子目录；
-f 删除文件时不作提示；

[例子]：rm file1　　删除文件 file1
rm -f /tmp/*　　强行删除目录 /tmp 下的所有文件
rm -r /mytmp　　递归地删除目录 /mytmp

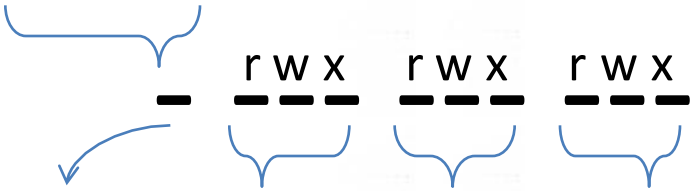
2. UNIX常用命令

- **chmod** [参数] 模式 文件

[说明]：改变文件的存取模式；

[参数]：**-R** 递归的改变所有子目录下所有文件的存取模式；

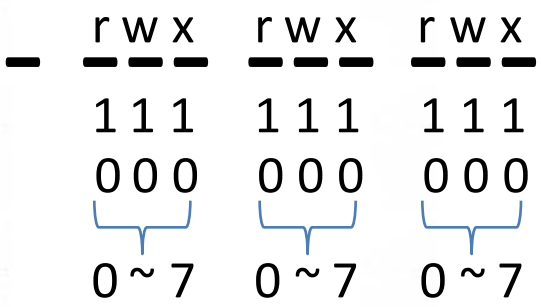
```
drwxr-xr-x  2 root root     4096 2008-08-11 18:56 vmware-config0
drwxrwxrwt  2 root root     4096 2008-08-11 18:57 VMwareDnD
drwx------  2 root root     4096 2008-08-11 18:57 vmware-root
-r--r--r--  1 root root 53236677 2008-08-11 18:53 VMwareTools-6.0.4-93057.tar.gz
drwxr-xr-x  7 root root     4096 2008-05-16 13:28 vmware-tools-distrib
```



2. UNIX常用命令

- **chmod** [参数] 模式 文件

[模式1]：通过四个八进制数直接赋值；



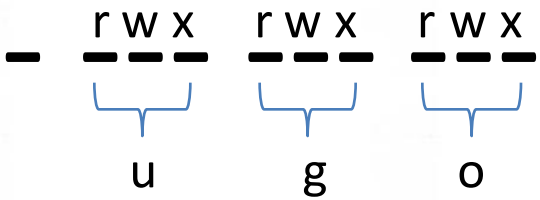
[例子]： chmod 0666 file1　　将文件 file1 置为所有用户可读可写

```
[root@localhost example]# ls -al
-rw-r--r-- 1 root root    0 2008-08-22 11:28 file1
[root@localhost example]# chmod 0666 file1
[root@localhost example]# ls -al
-rw-rw-rw- 1 root root    0 2008-08-22 11:28 file1
```

2. UNIX常用命令

- **chmod** [参数] 模式 文件

[模式2]：通过操作命令进行增减权限；



[例子]：chmod ugo+rxw file1　　将文件 file1 置为所有用户可读可写可执行

chmod o-w file1　　取消其他用户对file1 的可写操作

```
[root@localhost example]# ls -al
-rw-rw-rw- 1 root root    0 2008-08-22 11:28 file1
[root@localhost example]# chmod ugo+rwx file1
[root@localhost example]# ls -al
-rwxrwxrwx 1 root root    0 2008-08-22 11:28 file1
[root@localhost example]# chmod o-w file1
[root@localhost example]# ls -al
-rwxrwxr-x 1 root root    0 2008-08-22 11:28 file1
[root@localhost example]#
```

2. UNIX常用命令

- **tar** [参数] 文件或目录

[说明]：可以为文件和目录创建档案；

[参数]：**-c** 创建新的档案文件，即打包；

-r 把要存档的文件追加到档案文件的末尾；

-t 列出档案文件的内容，查看已经备份了哪些文件；

-u 更新文件；

-x 从档案文件中释放文件；

-f 使用档案文件或设备，这个选项通常是必选的；

-v 详细报告tar处理的文件信息；

-z 用gzip来压缩/解压缩文件，加上该选项后可以将档案文件进行压缩，但还原时也一定要使用该选项进行解压缩。

2. UNIX常用命令

- **tar** [参数] 文件或目录

[例子]：tar -cf source.tar *.c　　将所有的.c文件打包成source.tar；

tar -rf source.tar *.h　　将所有.h的文件增加到source.tar的包中；

tar -tf source.tar　　列出source.tar包中的所有文件；

tar -uf source.tar main.c　跟新source.tar包中的main.c文件；

tar -zcvf source.tar.gz *.c　打包并压缩*.c文件为source.tar.gz；

tar -zxvf source.tar.gz　　解压缩source.tar.gz包；

2. UNIX常用命令

- **find** 路径名 文件名

[说明]：递归地遍历指定路径下的每个文件和子目录，看该文件是否能使表达式值为真；

[参数]：-name 模式　　文件名与模式匹配则为真；

-depth　　深度优先搜索；

-print　　显示输出使表达式为真的文件名；

[例子]：find / -name file1 -print

从根目录‘/’开始搜索，查找file1文件，并显示在屏幕；

find / -name file* -print

从根目录‘/’开始搜索，查找文件名含有‘file’的文件；

2. UNIX常用命令

- **grep** [参数] 模式 文件

[说明]：指定文件中搜索模式，并显示所有包含模式的行；

[参数]：**-c** 仅显示各指定文件中包含模式的总行数；
-i 模式中字母不区分大小写；
-l 仅显示包含模式的文件名；
-n 显示模式所在行的行号；

[模式]：. 匹配任意一个字符；
* 匹配0个或多个*前的字符，如‘go*gle’；
^ 匹配行开头；
$ 匹配行结尾

2. UNIX常用命令

- **grep** [参数] 模式 文件

[例子]：grep ‘google’ file　　查找file中具有‘google’的行；

```
[root@localhost tmp]# grep 'google' file
google###########
#####google#####
##########google
```

[例子]：grep ‘^google’ file　　查找file中以‘google’开始的行；

```
[root@localhost tmp]# grep '^google' file
google###########
```

[例子]：grep ‘google$’ file　　查找file中以‘google’结束的行；

```
[root@localhost tmp]# grep 'google$' file
##########google
```

2. UNIX常用命令

- **grep** [参数] 模式 文件

[例子]：grep -c 'google' file　　统计file中具有'google'的行数；

```
[root@localhost tmp]# grep -c 'google' file
3
```

[例子]：grep -n 'google' file　　查找file中含有'google'的行，并显示其行号；

```
[root@localhost tmp]# grep -n 'google' file
1:google##########
2:#####google#####
3:##########google
```