Installing Red Hat Enterprise Linux 5, Step by Step

Installing Red Hat Enterprise Linux 5

This appendix is straightforward. It illustrates the steps required to install Red Hat Enterprise Linux 5 Server on your computer, using graphical and text-based installation methods. Both are governed by the Red Hat program known as Anaconda. I've kept descriptive comments in this section to a minimum; for more information, read Chapter 2. For both graphical and text modes, I'll assume that you're installing from a remote installation server, shared with NFS.

While there are a substantial number of options available when you install RHEL, I illustrate a more generic installation. If you want to learn about some of the options, you'll have to experiment with the installation yourself. In fact, the exercises in Chapter 2 are designed to help you learn the different things you can do with an RHEL installation, on your computer and during the exam.
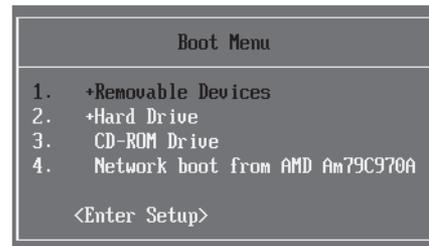
on the **!**
ⓘ o b

If you're installing Red Hat Enterprise Linux 5 Client, the steps are the same; however, what you see is slightly different.

Graphical Installation

To install Red Hat Enterprise Linux 5 on your computer, take the following steps:

1. Select and insert the media that you'll use to boot the Red Hat Enterprise Linux 5 installation program. It can be the first Red Hat Enterprise Linux 5 CD, a boot CD created from the boot.iso file from the /images directory of the first installation CD, or a boot USB key created from the diskboot.img file from the same directory.

   ```
   ┌─────────────────────────────────┐
   │           Boot Menu             │
   ├─────────────────────────────────┤
   │ 1.   +Removable Devices         │
   │ 2.   +Hard Drive                │
   │ 3.    CD-ROM Drive              │
   │ 4.    Network boot from AMD Am79C970A │
   │                                 │
   │      <Enter Setup>              │
   └─────────────────────────────────┘
   ```

2. Power on your system. Press the appropriate key, typically ESC, F12, or DEL, to access the boot menu shown here.
   If a boot menu isn't available, you'll need to adjust the boot sequence in the computer BIOS, which you can then use to boot directly from your selected media. Set your computer's BIOS to boot from the first installation CD or USB drive. Details vary by PC. Make sure your BIOS saves your changes before you reboot.

3. Type **linux askmethod** when you see the boot: prompt.

```
 -  To install or upgrade in graphical mode, press the <ENTER> key.

 -  To install or upgrade in text mode, type: linux text <ENTER>.

 -  Use the function keys listed below for more information.

[F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue]
boot: linux askmethod_
```

4. Choose a language and select OK.


```
Welcome to Red Hat Enterprise Linux Server

                    ┤ Choose a Language ├

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

             Catalan
             Chinese(Simplified)
             Chinese(Traditional)
             Croatian
             Czech
             Danish
             Dutch
             English

                     OK


  <Tab>/<Alt-Tab> between elements  ¦ <Space> selects ¦ <F12> next screen
```

5. Select a keyboard and select OK.

```
Welcome to Red Hat Enterprise Linux Server

                    ┤ Keyboard Type ├

        What type of keyboard do you have?

                sg-latin1                    ■
                sk-qwerty
                slovene
                sv-latin1
                trq
                ua-utf                       ▪
                uk                           ▪
                us                           ■


                  ┌──────┐          ┌──────┐
                  │  OK  │          │ Back │
                  └──────┘          └──────┘



  <Tab>/<Alt-Tab> between elements  ¦ <Space> selects ¦ <F12> next screen
```

6. Set up an NFS installation method and select OK.

```
Welcome to Red Hat Enterprise Linux Server

                    ┤ Installation Method ├

        What type of media contains the
        packages to be installed?

                Local CDROM
                Hard drive
                NFS image
                FTP
                HTTP


                  ┌──────┐          ┌──────┐
                  │  OK  │          │ Back │
                  └──────┘          └──────┘



  <Tab>/<Alt-Tab> between elements  ¦ <Space> selects ¦ <F12> next screen
```

7. Start configuring your network, as shown. If you have a DHCP server on your network, that is simplest—unless, of course, you're told to enable static addressing during your exam. For this installation, disable DHCP for both IPv4 and IPv6 addressing. If you don't have an IPv6-capable DHCP server or router, disable IPv6 addressing completely. Select OK. If you enable DHCP, skip the next step.

```
Welcome to Red Hat Enterprise Linux Client


                          ┤ Configure TCP/IP ├
          [*] Enable IPv4 support
                  ( ) Dynamic IP configuration (DHCP)
                  (*) Manual configuration

          [ ] Enable IPv6 support
                  (*) Automatic neighbor discovery (RFC 2461)
                  ( ) Dynamic IP configuration (DHCP)
                  ( ) Manual configuration


                 ┌────┐                    ┌──────┐
                 │ OK │                    │ Back │
                 └────┘                    └──────┘



    <Tab>/<Alt-Tab> between elements  ¦ <Space> selects ¦ <F12> next screen
```

8. Add static address information for your network. Use the IP Address, Gateway, and Name Server (DNS) addresses associated with your existing network. Select OK.

```
Welcome to Red Hat Enterprise Linux Server


                      ┤ Manual TCP/IP Configuration ├
          Enter the IPv4 and/or the IPv6 address and prefix
          (address / prefix).  For IPv4, the dotted-quad netmask
          or the CIDR-style prefix are acceptable. The gateway and
          name server fields must be valid IPv4 or IPv6 addresses.

          IPv4 address: _____ / _____
          Gateway:      _____
          Name Server:  _____


                 ┌────┐                    ┌──────┐
                 │ OK │                    │ Back │
                 └────┘                    └──────┘



    <Tab>/<Alt-Tab> between elements  ¦ <Space> selects ¦ <F12> next screen
```
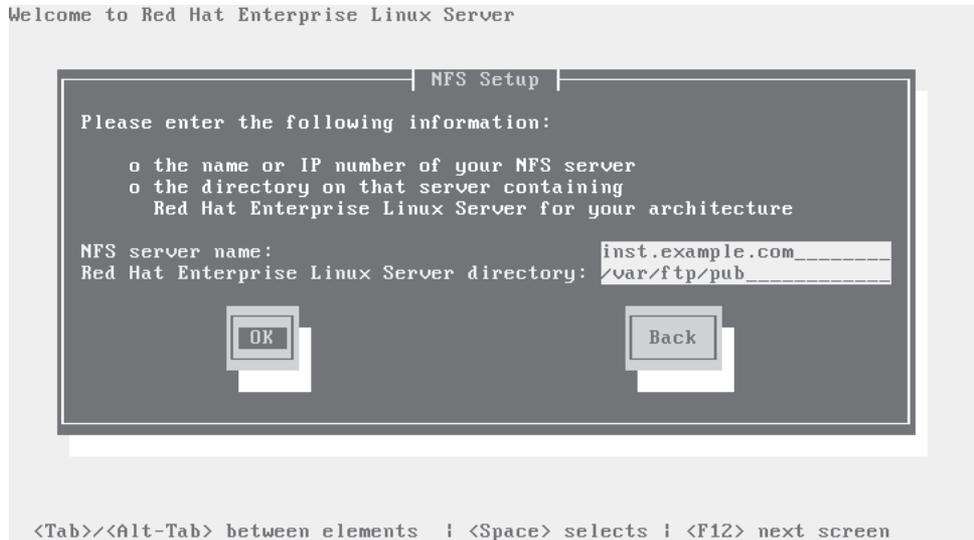
9. Add connection information to the installation server. If you don't have a DNS server for the local network, you can substitute the IP address for the NFS server name. Select OK.

10. Assuming your connection works, you'll see the first installation screen. Click Next.

11. You've already selected a language and keyboard, so the next step, if you're actually running Red Hat Enterprise Linux 5 (as opposed to one of the rebuild distributions), is to enter an installation number associated with your purchased or trial subscription, as shown next. The subscription configures a custom set of package groups and repositories. If you don't have an installation number, select the Skip Entering Installation Number radio button. Click OK, and If you did not enter an installation number, you'll be given a warning. Click Skip to continue.

12. The installation program searches for existing installations. If found, you're prompted to either upgrade or install over the existing installation. If not found, you won't see the screen shown here; if the drive is unformatted, you'll get a warning. Otherwise, skip to the next step. Select Install Red Hat Enterprise Server and click Next to continue.

13. You can allow Anaconda to configure an optimized partition configuration based on your memory and available hard disk space (based on free space after removing partitions), or choose to customize the configuration, as

shown next. For the purpose of this installation, select Review And Modify
Partitioning Layout.
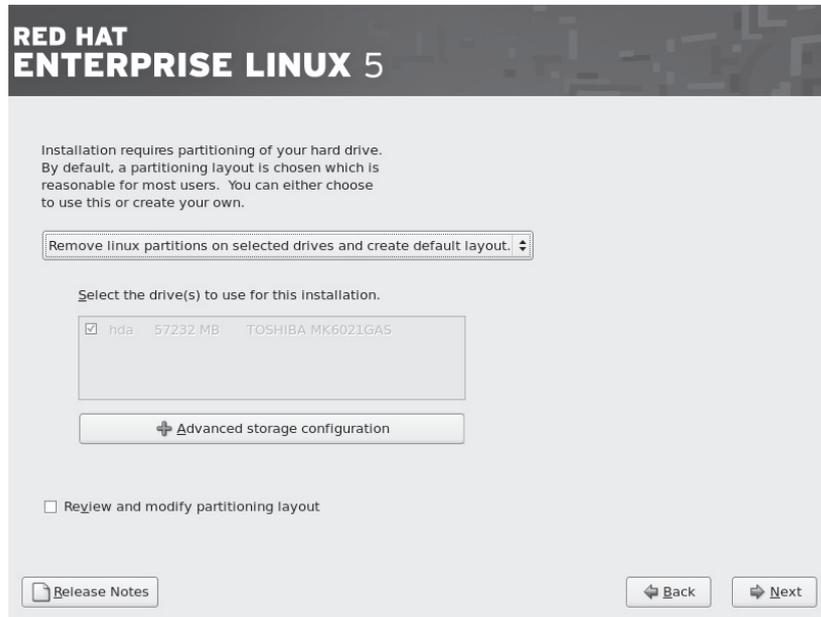
If you have network attached storage (NAS) that is configured to communicate
via iSCSI (a TCP/IP protocol), click Advanced Storage Configuration. You
can also configure communication with that storage here. If that's what
you want to do, select Add iSCSI target, and click Add Drive. This opens a
Configure iSCSI Parameters window, where you'd enter the IP address and
iSCSI Initiator Name. But that's beyond the scope of the current Red Hat
exams. Click Cancel to return to the previous screen, and then click Next.

14. If there are existing partitions on the installed hard drives, you'll get the chance
to confirm that you want to remove said partitions (this step isn't final). If
you're configuring a dual-boot with another operating system, don't delete the
partitions! Instead, click Back and select Create A Custom Layout. However,
the Red Hat exams are *Linux* exams, so I believe a dual-boot configuration,
especially with Microsoft Windows, is unlikely during the exam. These options
are shown next. Choose Yes or No, as appropriate.

15. Now inspect and change partitions in Disk Druid, as shown. You can also create and then configure RAID and LVM partitions, as discussed in Chapter 2. Make any desired changes, and then click Next.
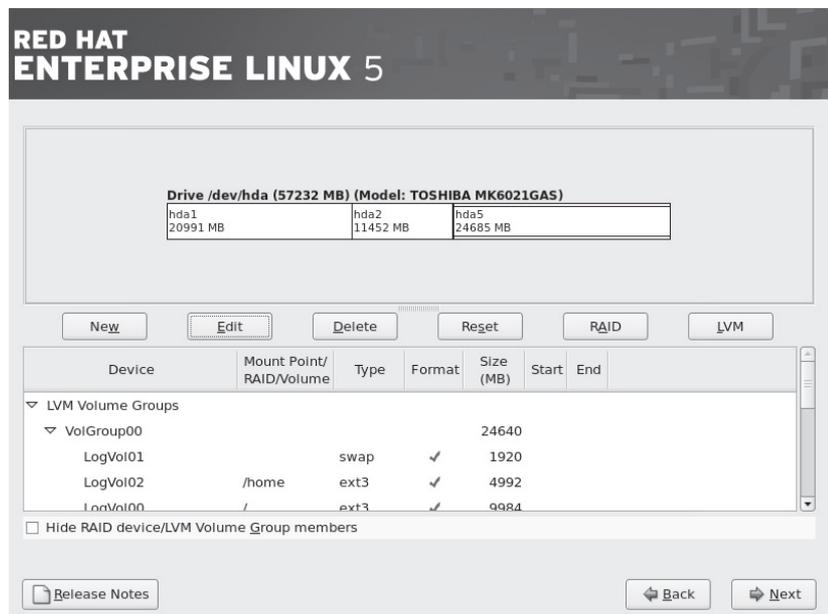
16. Once you've configured your partitions, set up a boot loader. If you select No Boot Loader Will Be Installed, you'll need to use a third-party boot loader such as Partition Magic or Microsoft's NTLDR. Unless you want to set up a Boot Loader Password or Configure Advanced Boot Loader Options, click Next.

17. Configure your connection to the network. It should reflect the settings you input in steps 8 and possibly 9. If you don't want the DHCP server to assign a hostname (or you don't have a DHCP server), you can assign it manually, as shown here. Click Next to move on.

RED HAT
ENTERPRISE LINUX 5

Network Devices

Active on Boot	Device	IPv4/Netmask	IPv6/Prefix	
☑	eth0	DHCP	Disabled	Edit

Hostname
Set the hostname:

○ automatically via DHCP

◉ manually enterprise5   (e.g., host.domain.com)

Miscellaneous Settings

Gateway:
Primary DNS:
Secondary DNS:

Release Notes   Back   Next

18. Set the time zone for your system. If you don't have another operating system on this computer, keep the System Clock Uses UTC option active. Then click Next.

RED HAT
ENTERPRISE LINUX 5

Please click into the map to choose a region:

America/New_York   Eastern Time

☑ System clock uses UTC

Release Notes   Back   Next

19. Type in and confirm the root password for your system. Follow any instructions on your exam carefully for this; you want to make it easy for the person grading your exam to see what you've done. Yes, lost root passwords can be reset, but what will your score be if the person grading your exam finds that you ignored his or her instructions? Click Next.

20. There are two package customization screens available. Everyone sees the screen shown next. (The choices are slightly different for Red Hat Enterprise Linux 5 Client.) You can accept the defaults, select available options, and/or select Customize Now. It's usually best to customize modestly (I've selected the Customize Now option), based on the requirements on your particular Installation and Configuration exam. Click Next. (If you don't select Customize Now, skip the next step.)

RED HAT
ENTERPRISE LINUX 5

The default installation of Red Hat Enterprise Linux Server includes a set of software applicable for general internet usage. What additional tasks would you like your system to include support for?

☐ Software Development
☐ Web server

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

◉ Customize later   ○ Customize now

📄 Release Notes   ⬅ Back   ➡ Next

21. Select the package groups of your choice. This should conform to the requirements of the Installation and Configuration section of your particular exam. Click Next.

RED HAT
ENTERPRISE LINUX 5

Desktop Environments	☑ **GNOME Desktop Environment**
Applications	☑ **KDE (K Desktop Environment)**
Development	
Servers	
Base System	
Languages	

GNOME is a powerful, graphical user interface which includes a panel, desktop, system icons, and a graphical file manager.

32 of 36 optional packages selected

Optional packages

📄 Release Notes   ⬅ Back   ➡ Next

22. Once you've selected the package groups of your choice, you get one last chance to go back before starting the installation process. Click Next if you're happy with your choices, or click Back to make changes.
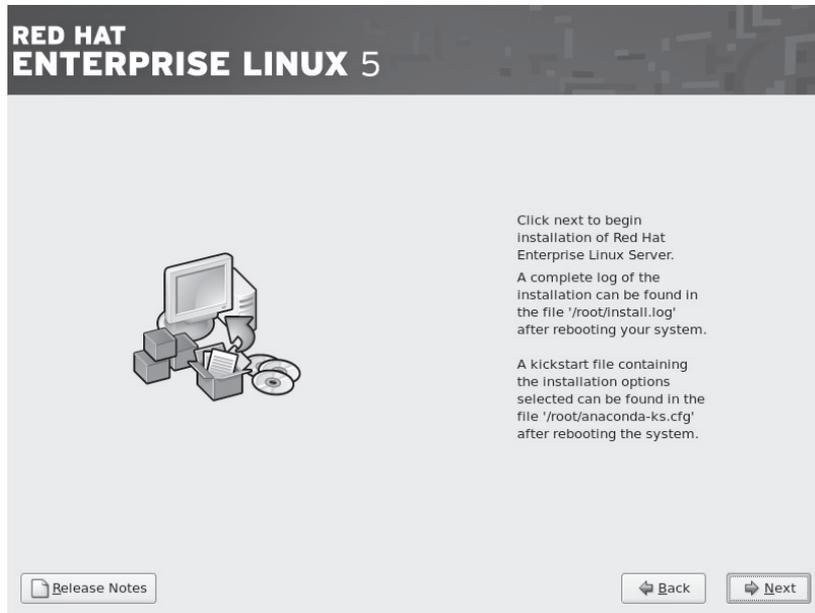
23. Some configuration options associated with previous versions of RHEL are no longer part of the installation process. Some of these options are part of the First Boot process described in Chapter 2. Normally, you'll see the First Boot screens only the first time you reboot a system.

    Click Next when you're ready to start the actual installation process. Depending on hardware and network connections, it may take a few minutes, or more.

24. The next screen congratulates you for completing the installation. The next step is to reboot your computer into RHEL. Click Reboot.

If you had to modify your computer's BIOS menu, change it back so it boots from the hard drive in the future. Make sure your BIOS saves your changes before you reboot.

Text Installation

To install Red Hat Enterprise Linux 5 on your computer in text mode, take the following steps:

1. Select and insert the media that you'll use to boot the Red Hat Enterprise Linux 5 installation program. It can be the first Red Hat Enterprise Linux 5 CD, a boot CD created from the boot.iso file from the /images directory of the first installation CD, or a boot USB key created from the diskboot.img file from the same directory.

2. Power on your system. Press the appropriate key to access the boot menu to the right, typically ESC, F12, or DEL.

3. If a boot menu isn't available, you'll need to adjust the boot sequence in the computer BIOS, which you can then use to boot directly from your

```
                Boot Menu
  1.   +Removable Devices
  2.   +Hard Drive
  3.    CD-ROM Drive
  4.    Network boot from AMD Am79C970A

       <Enter Setup>
```

selected media. Set your computer's BIOS to boot from the first installation CD or USB drive. Details vary by PC. Make sure your BIOS saves your changes before you reboot.

RED HAT ENTERPRISE LINUX 5
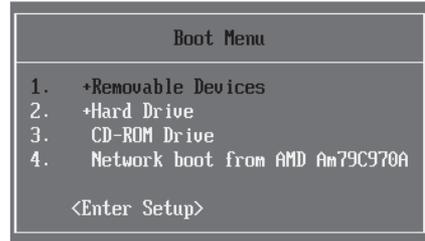
```
 -   To install or upgrade in graphical mode, press the <ENTER> key.

 -   To install or upgrade in text mode, type: linux text <ENTER>.

 -   Use the function keys listed below for more information.

[F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue]
boot: text askmethod_
```

4. Type **text askmethod** when you see the prompt.

5. Choose a language and select OK.
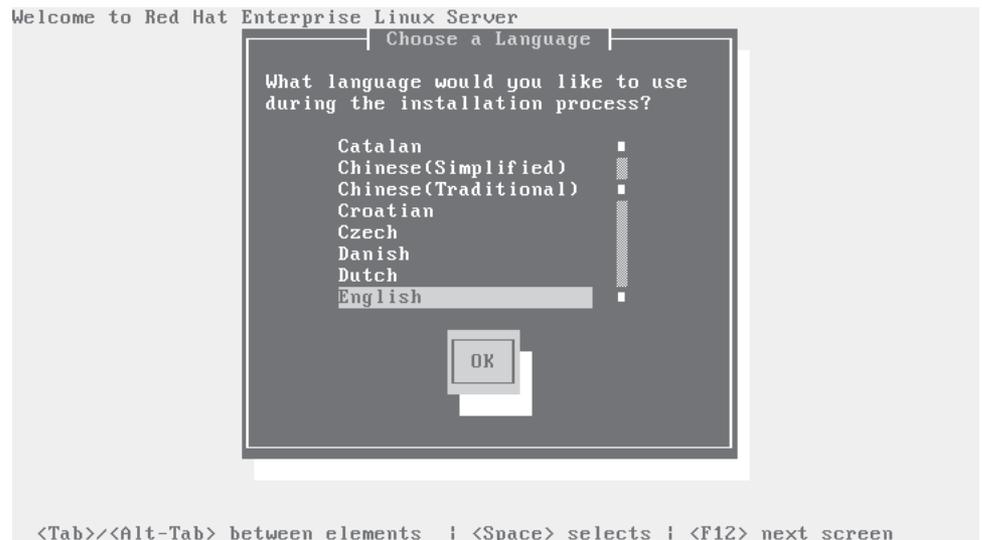
```
Welcome to Red Hat Enterprise Linux Server
                          ┤ Choose a Language ├
         What language would you like to use
         during the installation process?

                Catalan                      ■
                Chinese(Simplified)
                Chinese(Traditional)         ■
                Croatian
                Czech
                Danish
                Dutch
                English                      ■

                        ┌──────┐
                        │  OK  │
                        └──────┘



  <Tab>/<Alt-Tab> between elements  ¦ <Space> selects ¦ <F12> next screen
```

6. Select a keyboard and select OK.

```
Welcome to Red Hat Enterprise Linux Server


                          ┤ Keyboard Type ├
          What type of keyboard do you have?

                  sg-latin1                 ■
                  sk-qwerty
                  slovene
                  sv-latin1
                  trq
                  ua-utf                     ■
                  uk
                  us                         ■

                ┌──────┐         ┌──────┐
                │  OK  │         │ Back │
                └──────┘         └──────┘



  <Tab>/<Alt-Tab> between elements  ¦ <Space> selects ¦ <F12> next screen
```
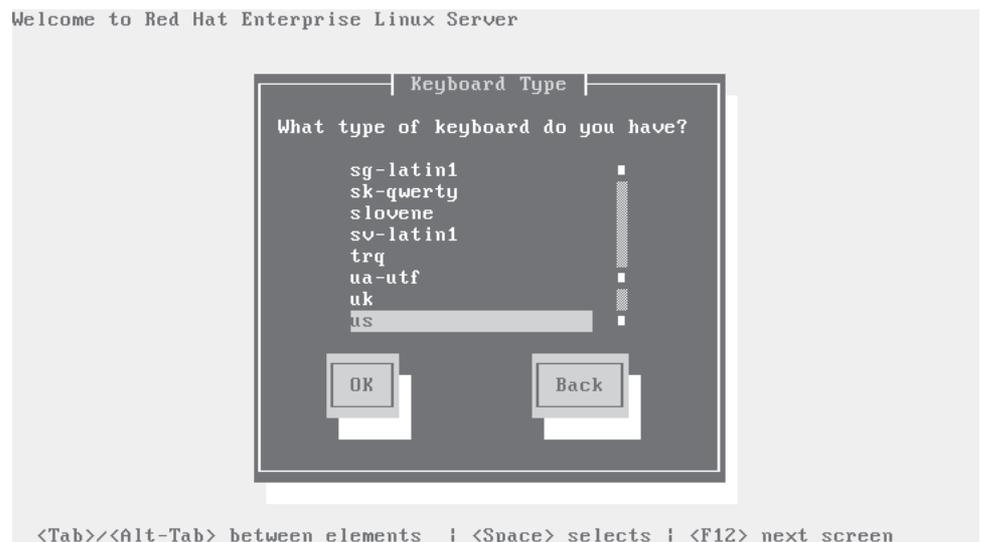
7. Set up an NFS installation and select OK.

```
Welcome to Red Hat Enterprise Linux Server

                          ┤ Installation Method ├

                     What type of media contains the
                     packages to be installed?

                                Local CDROM
                                Hard drive
                                NFS image
                                FTP
                                HTTP


                          OK                  Back




  <Tab>/<Alt-Tab> between elements  ┊ <Space> selects ┊ <F12> next screen
```
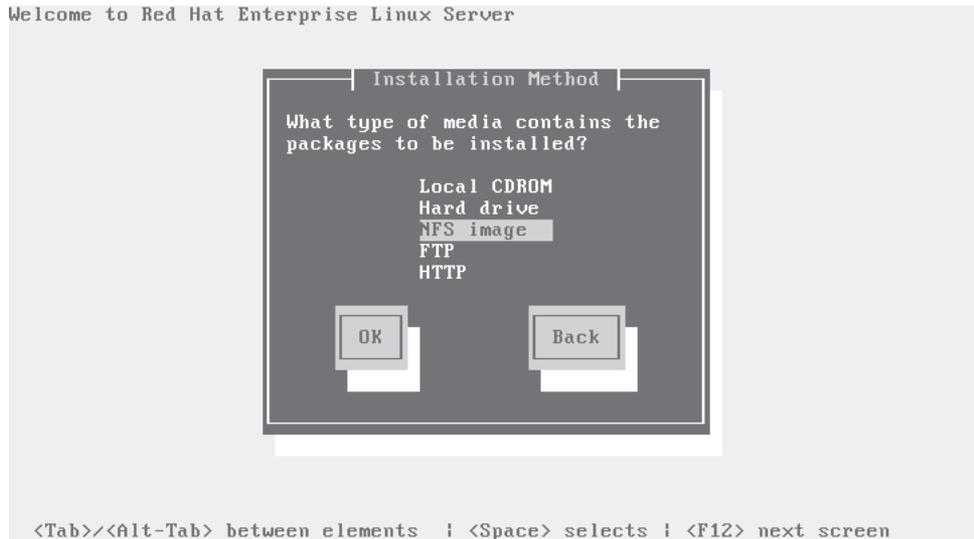
8. Start configuring your network. If you have a DHCP server on your network, that is simplest—unless, of course, you're told to enable static addressing during your exam. For this installation, disable DHCP and IPv6 addressing. Select OK. If you enable DHCP, skip step 8.

```
Welcome to Red Hat Enterprise Linux Client

                           ┤ Configure TCP/IP ├

           [*] Enable IPv4 support
                   ( ) Dynamic IP configuration (DHCP)
                   (*) Manual configuration

           [ ] Enable IPv6 support
                   (*) Automatic neighbor discovery (RFC 2461)
                   ( ) Dynamic IP configuration (DHCP)
                   ( ) Manual configuration

                      OK                  Back




  <Tab>/<Alt-Tab> between elements  ┊ <Space> selects ┊ <F12> next screen
```
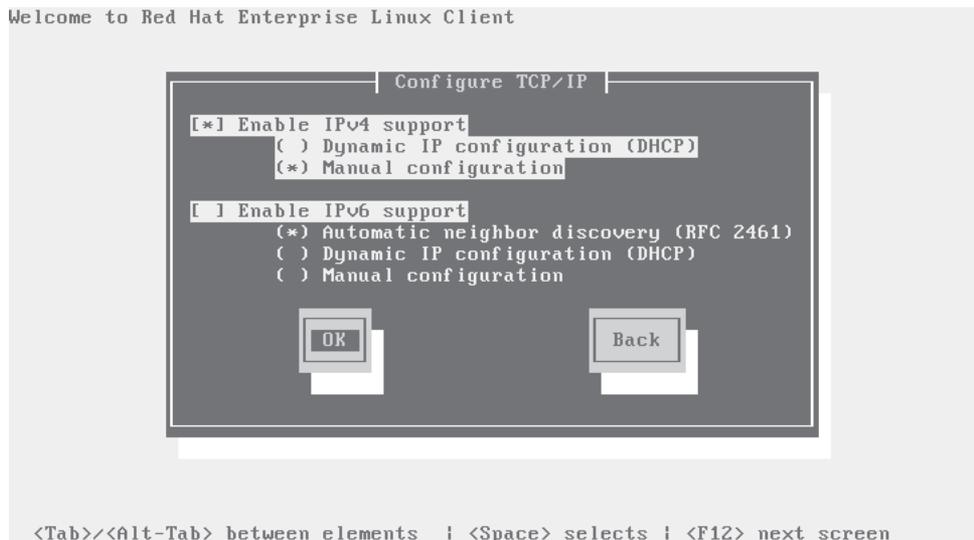
9. Add static address information for your network. Use IP, Gateway, and Name Server (DNS) addresses associated with your existing network. Select OK.

```
Welcome to Red Hat Enterprise Linux Server



                      ┤ Manual TCP/IP Configuration ├

             Enter the IPv4 and/or the IPv6 address and prefix
             (address / prefix).  For IPv4, the dotted-quad netmask
             or the CIDR-style prefix are acceptable. The gateway and
             name server fields must be valid IPv4 or IPv6 addresses.

             IPv4 address: _____ / _____
             Gateway:      _____
             Name Server:  _____


                     ┌──────┐                    ┌──────┐
                     │  OK  │                    │ Back │
                     └──────┘                    └──────┘




  <Tab>/<Alt-Tab> between elements  ¦ <Space> selects ¦ <F12> next screen
```

10. Add connection information to the installation server, as shown. If you don't have a DNS server for your local network, you can substitute the IP address for the NFS server name. Select OK.

```
Welcome to Red Hat Enterprise Linux Server


                            ┤ NFS Setup ├

        Please enter the following information:

             o the name or IP number of your NFS server
             o the directory on that server containing
               Red Hat Enterprise Linux Server for your architecture

        NFS server name:                        inst.example.com_____
        Red Hat Enterprise Linux Server directory: /var/ftp/pub_____

                     ┌──────┐                    ┌──────┐
                     │  OK  │                    │ Back │
                     └──────┘                    └──────┘




  <Tab>/<Alt-Tab> between elements  ¦ <Space> selects ¦ <F12> next screen
```

11. Assuming your connection works, you'll see the first text-mode installation screen, welcoming you to Red Hat Enterprise Linux Server. Select OK.

```
Welcome to Red Hat Enterprise Linux Server




                    ┤ Red Hat Enterprise Linux Server ├
                     Welcome to Red Hat Enterprise Linux Server!


                                  ┌────┐
                                  │ OK │
                                  └────┘





 <Tab>/<Alt-Tab> between elements   ¦  <Space> selects   ¦  <F12> next screen
```
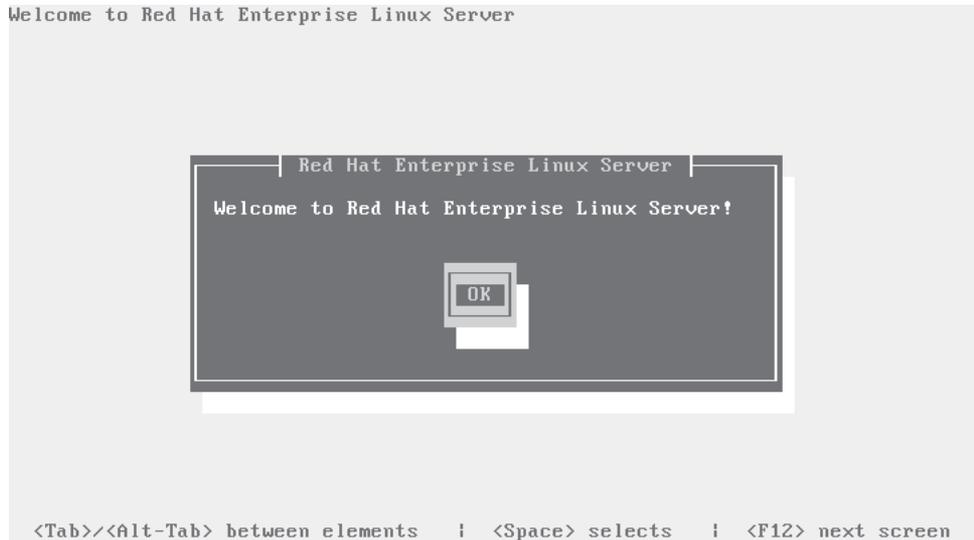
12. Since you've already selected a language and keyboard, if you're actually running Red Hat Enterprise Linux 5 (as opposed to one of the rebuild distributions), you can enter an Installation Number associated with your purchased or trial subscription, as shown next. If you don't have an installation number, select the Skip Entering Installation Number option. The subscription configures a custom set of package groups and repositories. Select OK.

If you did not enter an installation number, you'll be given a warning. Select Skip to continue.

```
Welcome to Red Hat Enterprise Linux Server



              ┌──────────────────┤ Installation Number ├──────────────────┐
              │  To install the full set of supported packages included in your │
              │  subscription, please enter your Installation Number │
              │                                                                 │
              │      (*) Installation Number    _____        │
              │          ( ) Skip entering Installation Number                  │
              │                                                                 │
              │                                                                 │
              │               ┌────┐      ┌──────┐                              │
              │               │ OK │      │ Back │                              │
              │               └────┘      └──────┘                              │
              │                                                                 │
              └─────────────────────────────────────────────────────────────────┘



 <Tab>/<Alt-Tab> between elements  ┊  <Space> selects  ┊  <F12> next screen
```
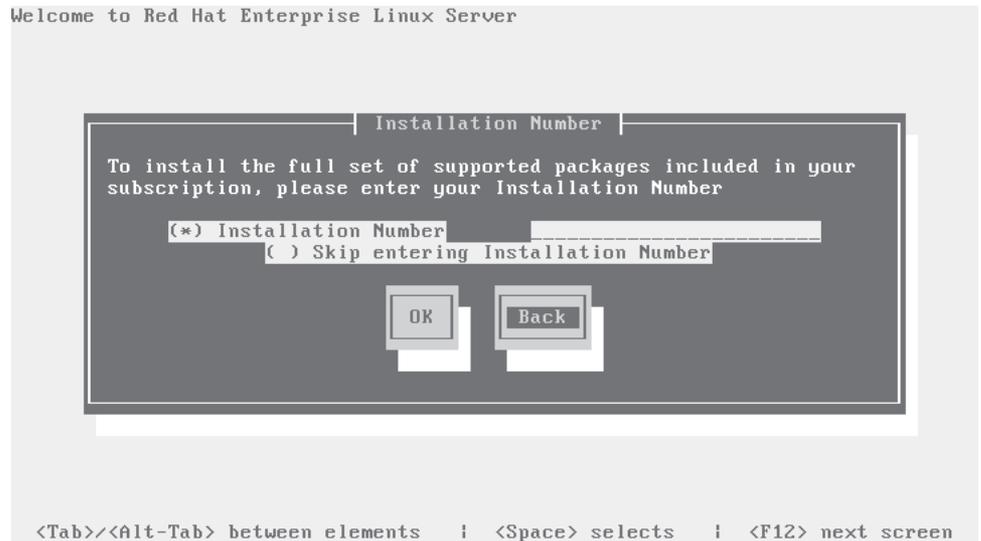
13. The installation program now searches for existing installations. If found, you're prompted to either upgrade or install over the existing installation. If you see this screen, select Reinstall System and select OK to continue. Otherwise, you won't even see these options and are taken to the next step. You can allow Anaconda to configure an optimized installation based on your system's RAM and available hard disk space (based on free space

after removing partitions). This corresponds to the "default layout" options described in Chapter 2. Alternatively, you can choose to customize the configuration, as shown next. Select OK.

```
Welcome to Red Hat Enterprise Linux Server
                        ┤ 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

                    ┌──────┐      ┌──────┐
                    │  OK  │      │ Back │
                    └──────┘      └──────┘



<Space>,<+>,<-> selection   ¦   <F2> Add drive   ¦   <F12> next screen
```

14. If one of the "default layout" options was selected, you'll be asked to confirm the changes to existing hard drive partitions. For the purpose of this section, select Yes.

15. You're prompted whether you want to Review And Modify Partitioning Layout. Select Yes for the purpose of this appendix. If there are existing partitions on the installed hard drives, you'll be given the opportunity to remove these partitions. If you're configuring a dual-boot with another operating system, don't delete the partitions! However, on the exam, you'll be working with Linux, so I believe a dual-boot configuration, especially with Microsoft Windows, is unlikely.

```
Welcome to Red Hat Enterprise Linux Server




                              ┤ Review Partition Layout ├

                    Review and modify partitioning layout?


                          ┌──────┐           ┌──────┐
                          │ Yes  │           │  No  │
                          └──────┘           └──────┘




  <Tab>/<Alt-Tab> between elements  │  <Space> selects  │  <F12> next screen
```

Now you can inspect and change partitions in Disk Druid, as shown. You can also create and then configure RAID partitions. However, text-mode installations do not allow you to create logical volumes unless there's already an existing volume group; text mode does not support the creation of a new volume group. Select OK.
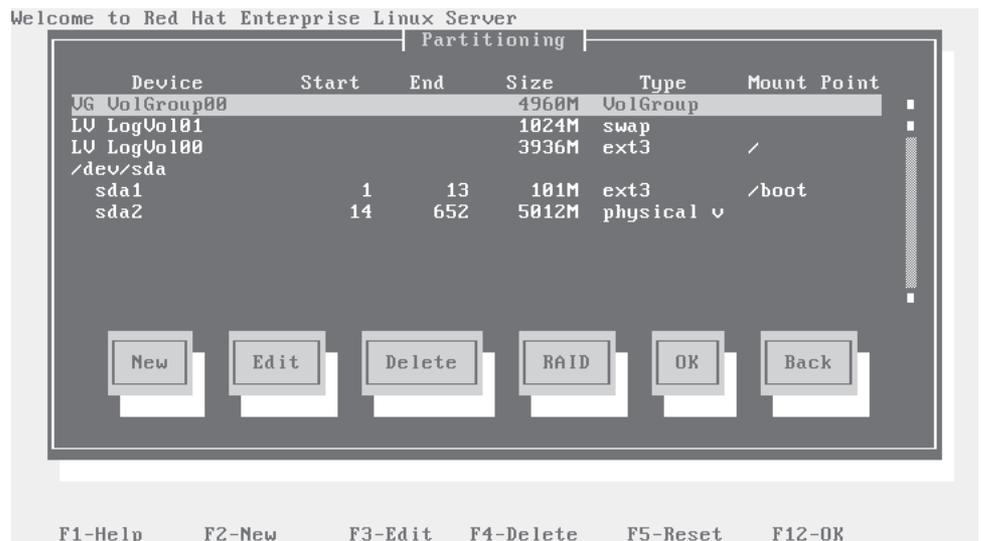
```
Welcome to Red Hat Enterprise Linux Server
  ┌──────────────────────────┤ Partitioning ├────────────────────────────┐
  │                                                                       │
  │        Device        Start   End     Size      Type     Mount Point   │
  │   VG VolGroup00                       4960M    VolGroup              ■ │
  │   LV LogVol01                         1024M    swap                  ■ │
  │   LV LogVol00                         3936M    ext3         /          │
  │   /dev/sda                                                             │
  │     sda1               1     13        101M    ext3         /boot      │
  │     sda2              14    652       5012M    physical v              │
  │                                                                      ■ │
  │                                                                        │
  │    ┌──────┐  ┌──────┐  ┌──────┐  ┌──────┐  ┌──────┐  ┌──────┐          │
  │    │ New  │  │ Edit │  │Delete│  │ RAID │  │  OK  │  │ Back │          │
  │    └──────┘  └──────┘  └──────┘  └──────┘  └──────┘  └──────┘          │
  │                                                                        │
  └────────────────────────────────────────────────────────────────────────┘

   F1-Help    F2-New     F3-Edit   F4-Delete   F5-Reset   F12-OK
```

16. Once you've configured your partitions, choose a boot loader. If you select No Boot Loader, you'll need to use a third-party boot loader such as Partition Magic or Microsoft's NTLDR. Select OK.

```
Welcome to Red Hat Enterprise Linux Server




                        ┤ 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
```
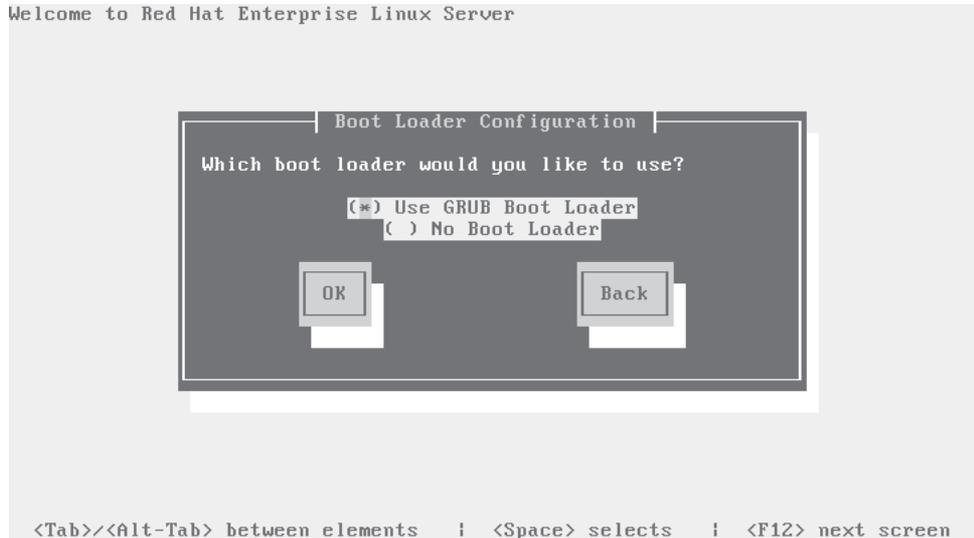
17. Assuming you stick with the default GRUB boot loader, you can pass special options to the kernel. If you don't need Security Enhanced Linux, you might add **selinux=0** as shown next. Select OK.

```
Welcome to Red Hat Enterprise Linux Server



                          ┤ Boot Loader Configuration ├
         A few systems will need to pass special options to the kernel
         at boot time for the system 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.

             selinux=0_____

             [ ] Force use of LBA32 (not normally required)

                 ┌──────┐                   ┌────────┐
                 │  OK  │                   │  Back  │
                 └──────┘                   └────────┘




     <Tab>/<Alt-Tab> between elements   ¦  <Space> selects   ¦  <F12> next screen
```

18. You can also configure GRUB with a password. Select OK.

```
Welcome to Red Hat Enterprise Linux Server

                    ┤ Boot Loader Configuration ├

          A boot loader password prevents users from passing
          arbitrary options to the kernel.  For highest
          security, we recommend setting a password, but this
          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
```
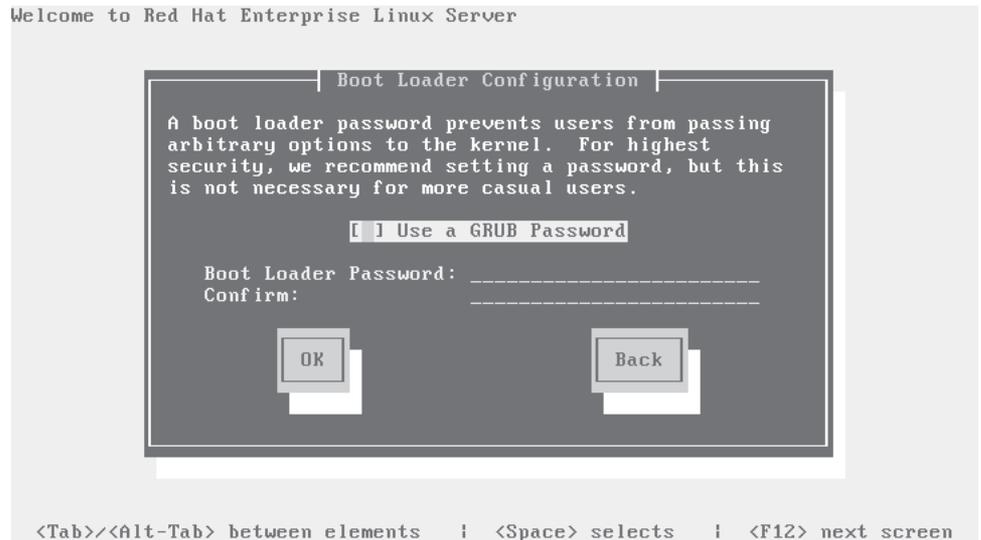
19. If more than one operating system is installed on this computer, you can configure the default operating system and labels, as shown next. Select an entry and click Edit. This opens the Edit Boot Label window that allows you to change what you see in the GRUB menu.

```
Welcome to Red Hat Enterprise Linux Server
                    ┤ Boot Loader Configuration ├

          The boot manager Red Hat Enterprise Linux Server uses
          can boot other operating systems as well. You need to
          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
             *      Red Hat Enterprise Linux Server /dev/VolGroup00/LogVol00



                ┌──────┐          ┌──────┐          ┌──────┐
                │  OK  │          │ Edit │          │ Back │
                └──────┘          └──────┘          └──────┘



 <Space> select ¦ <F2> select default ¦ <F4> delete ¦ <F12> next screen>
```
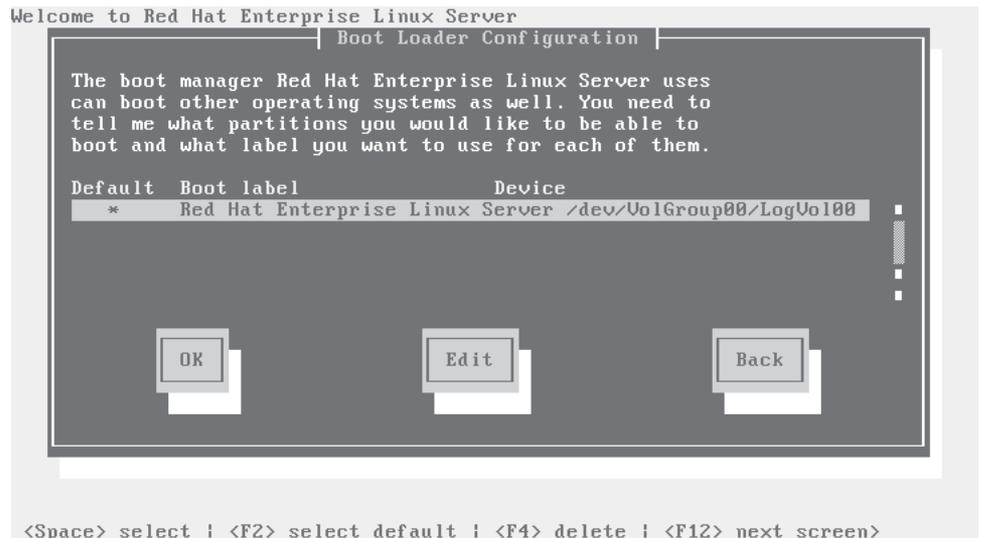
20. Finally, you can choose to install the boot loader on the MBR or on the first sector of the RHEL /boot partition. Select OK.

```
Welcome to Red Hat Enterprise Linux Server




                 ┌──────┤ 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
```
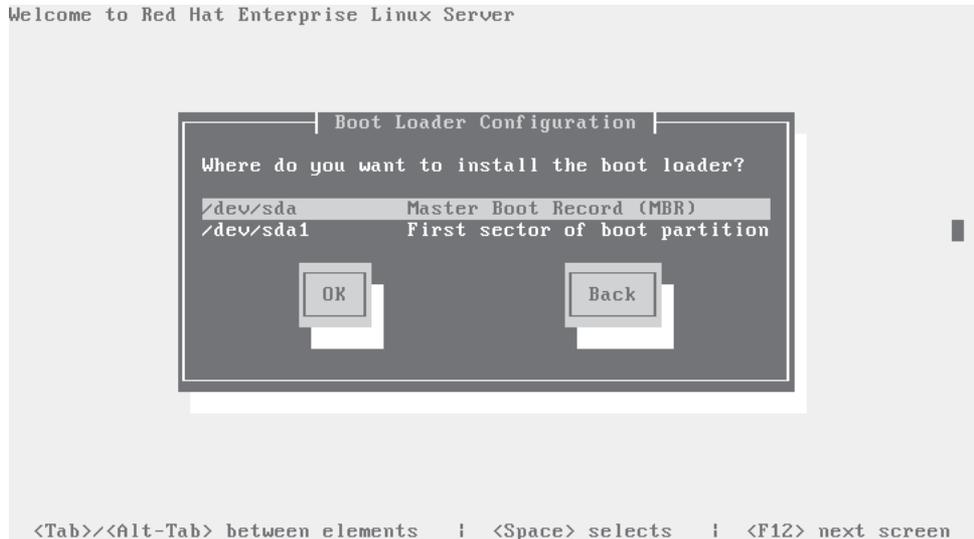
21. Configure your connection to the network, as shown next. It should reflect the settings you input in steps 7 and 8. If you don't want the DHCP server to assign a hostname (or you don't have a DHCP server), you can assign it manually. Select OK.

```
Welcome to Red Hat Enterprise Linux Server
        ┌───────────────┤ Network Configuration for eth0 ├───────────────┐
        │                                                                 │
        │  Description: Advanced Micro Devices [AMD] 79c970 [PCnet32 LANCE]│
        │  Hardware Address: 00:0C:29:EB:D8:B9                             │
        │                                                                 │
        │  [ ] Use dynamic IP configuration (DHCP)                        │
        │  [*] Enable IPv4 support                                        │
        │  [ ] Enable IPv6 support                                        │
        │  [*] Activate on boot                                           │
        │                    Address                 Prefix (Netmask)     │
        │  IPv4: 192.168.0.101_____ / 255.255.255.0___      │
        │  IPv6: _____ / _____     │
        │                                                                 │
        │        ┌────┐                        ┌──────┐                   │
        │        │ OK │                        │ Back │                   │
        │        └────┘                        └──────┘                   │
        │                                                                 │
        └─────────────────────────────────────────────────────────────────┘


  <Tab>/<Alt-Tab> between elements   ¦   <Space> selects   ¦   <F12> next screen
```

22. Assuming you've set up a static configuration, you'll see a screen where you can set up Gateway and DNS (name server) IP address information. Fill in this information and select OK.

```
Welcome to Red Hat Enterprise Linux Server

                     ┌─────┤ Miscellaneous Network Settings ├─────┐
                     │                                            │
                     │  Gateway:        192.168.0.1_____  │
                     │  Primary DNS:    192.168.0.1_____  │
                     │  Secondary DNS:  _____   │
                     │                                            │
                     │      ┌────┐                ┌──────┐        │
                     │      │ OK │                │ Back │        │
                     │      └────┘                └──────┘        │
                     │                                            │
                     └────────────────────────────────────────────┘


   <Tab>/<Alt-Tab> between elements   ┆   <Space> selects   ┆   <F12> next screen
```
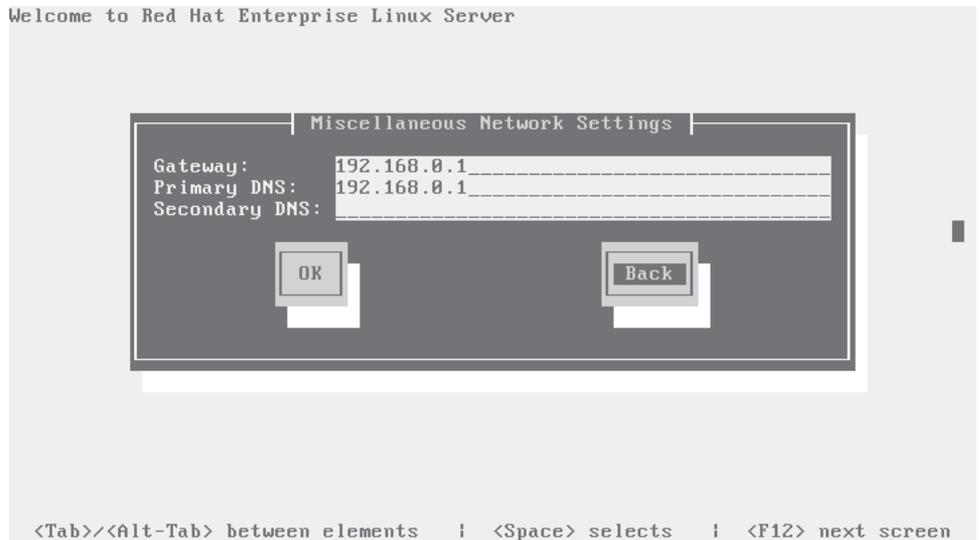
23. You can also add the hostname of your choice, as shown. If you have more than one network adapter, you'll return to step 18 as often as needed. Select OK.

```
Welcome to Red Hat Enterprise Linux Server

               ┌──────────┤ 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 in a hostname for your system. If you
               │  do not, your system will be known as 'localhost.'
               │                                               │
               │        ( ) automatically via DHCP            │
               │        (*) manually           enterprise5____ │
               │          ┌────┐                ┌──────┐       │
               │          │ OK │                │ Back │       │
               │          └────┘                └──────┘       │
               │                                               │
               └───────────────────────────────────────────────┘


   <Tab>/<Alt-Tab> between elements   ┆   <Space> selects   ┆   <F12> next screen
```
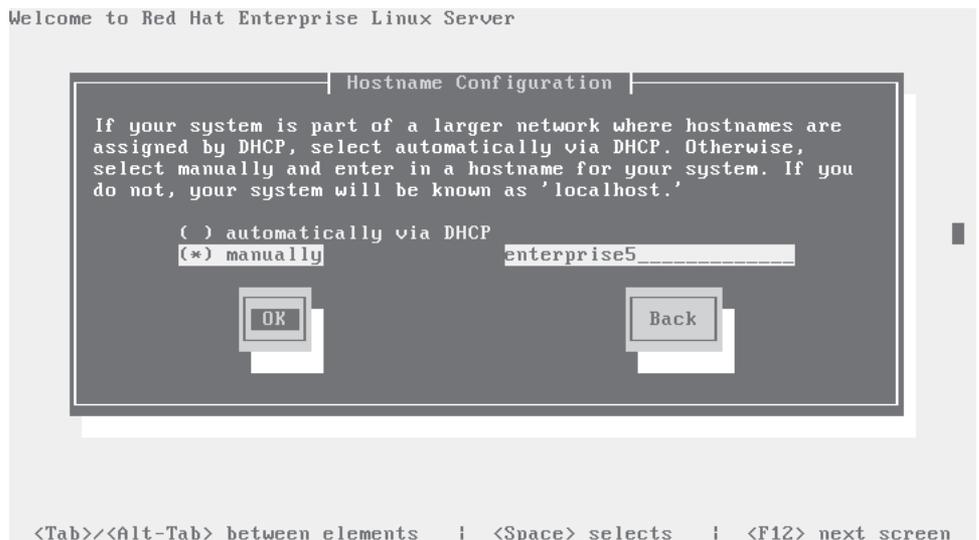
24. Next, set the time zone for your system. If you don't have other operating systems on this computer, keep the System Clock Uses UTC option active.

```
Welcome to Red Hat Enterprise Linux Server




                    ┤ Time Zone Selection ├

              What time zone are you located in?

              [*] System clock uses UTC

              America/Montevideo                ▪
              America/Montreal                  ▪
              America/Montserrat
              America/Nassau
              America/New_York                  ▪


                   OK              Back







  <Tab>/<Alt-Tab> between elements  ¦  <Space> selects  ¦  <F12> next screen
```
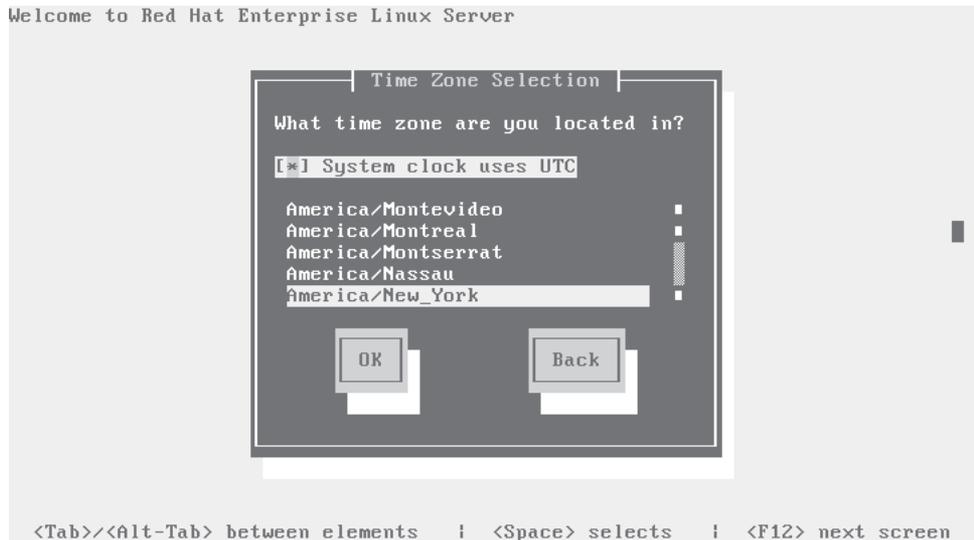
25. Now type in and confirm a root password for this system. Follow any instructions on your exam carefully for this; you want to make it easy for the person grading your exam to see what you've done. Select OK.

```
Welcome to Red Hat Enterprise Linux Server




                       ┤ Root Password ├

          Pick a root password. You must type it
          twice to ensure you know what it is and
          didn't make a mistake in typing. 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
```
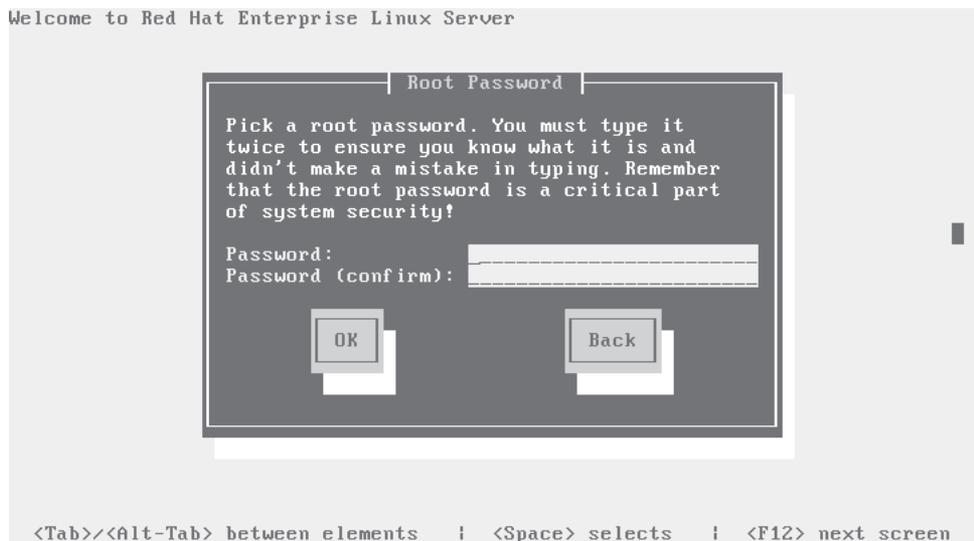
26. There are two package customization screens available. Everyone sees the screen shown next. You can accept the defaults, select available options, and/or select Customize Software Selection. It's usually best to customize modestly (I've selected the Customize Software Selection option), based on the requirements on your particular Installation and Configuration exam. Select OK.

```
Welcome to Red Hat Enterprise Linux Server
                           ┤ Package selection ├
     The default installation of Red Hat Enterprise
     Linux Server includes a set of software applicable
     for general internet usage. What additional tasks
     would you like your system to include support for?

                        [ ] Software Development
                        [ ] Web server


                   [*] Customize software selection

               OK                          Back




<Space>,<+>,<-> selection    |   <F2> Group Details   |   <F12> next screen
```
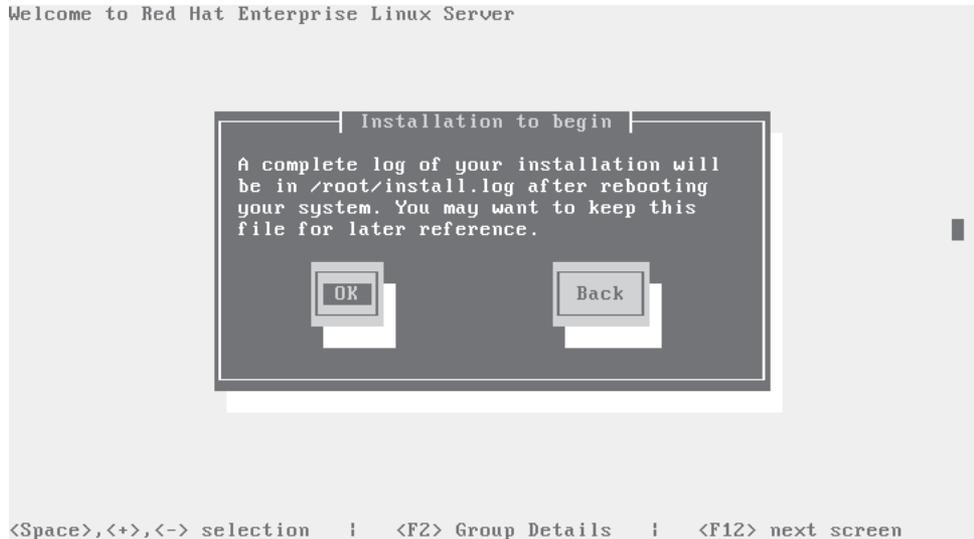
27. Select the package groups of your choice. Your selections should conform to the requirements of the Installation and Configuration section of your particular exam. Select OK.

```
Welcome to Red Hat Enterprise Linux Server

                       ┤ Package Group Selection ├
       Please select the package groups you would
       like to have installed.

                   [*] Administration Tools      ▪
                   [ ] Authoring and Publishing  ▪
                   [ ] DNS Name Server                        ▮
                   [ ] Development Libraries
                   [ ] Development Tools
                   [*] Editors                   ▪

                OK                      Back




<Space>,<+>,<-> selection    |   <F2> Group Details   |   <F12> next screen
```
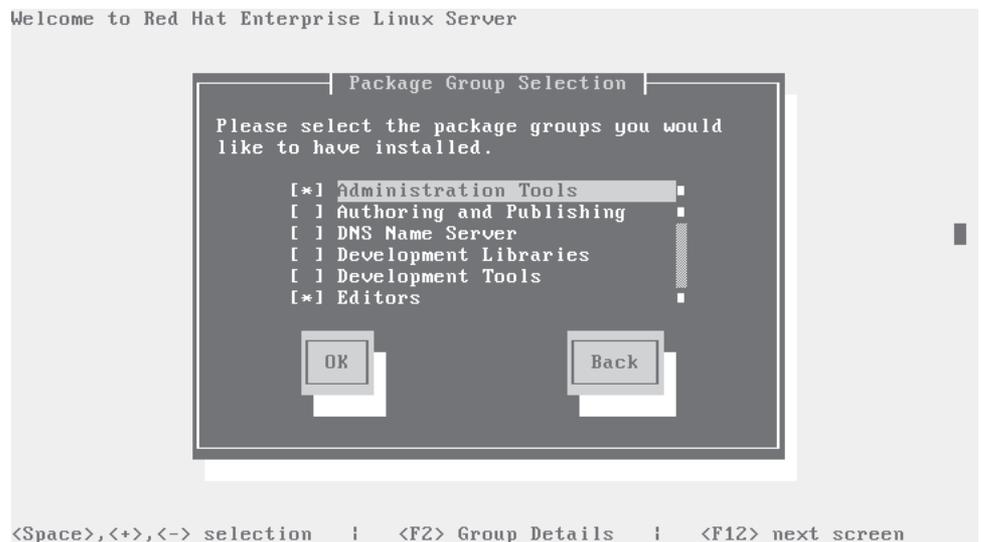
28. Once you've selected the package groups of your choice, you get one last chance to go back before starting the installation process. Select OK to start the installation process.
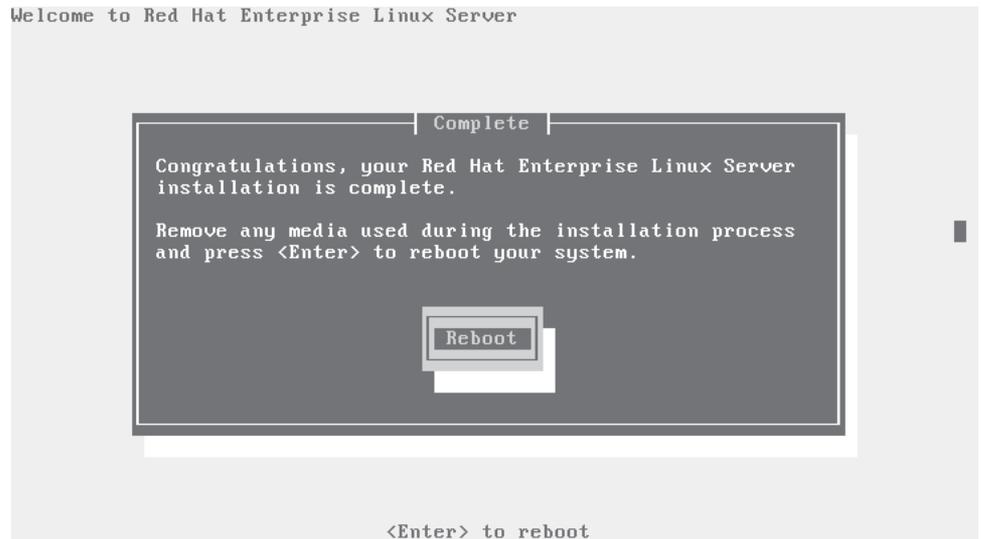
```
Welcome to Red Hat Enterprise Linux Server




                        ┤ 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
```

29. Once your installation process starts, a screen will show the progress of the installation.
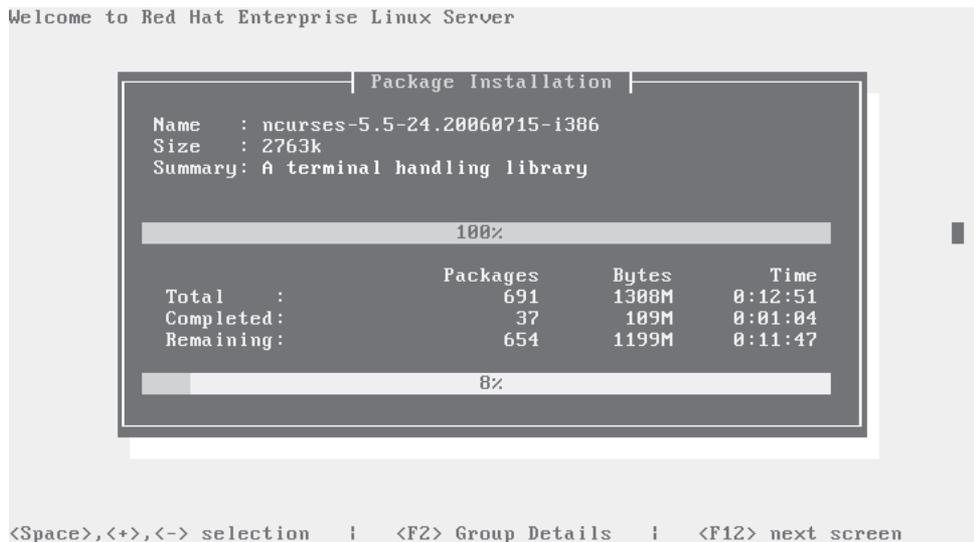
```
Welcome to Red Hat Enterprise Linux Server



                        ┤ Package Installation ├

           Name   : ncurses-5.5-24.20060715-i386
           Size   : 2763k
           Summary: A terminal handling library


                              100%

                          Packages      Bytes         Time
           Total     :          691      1308M      0:12:51
           Completed:           37       109M      0:01:04
           Remaining:          654      1199M      0:11:47

                              8%




<Space>,<+>,<-> selection   ¦   <F2> Group Details   ¦   <F12> next screen
```

Some configuration options associated with previous versions of RHEL are no longer part of the installation process. Some of these options are part of the First Boot process described in Chapter 2. Normally, you'll see the First Boot process only the first time you reboot a system.

30. When the Complete screen appears, you'll know that installation is just about complete. Select Reboot to reboot your computer into RHEL.

```
Welcome to Red Hat Enterprise Linux Server



                         ┤ Complete ├

         Congratulations, your Red Hat Enterprise Linux Server
         installation is complete.

         Remove any media used during the installation process
         and press <Enter> to reboot your system.


                          ┌─────────┐
                          │ Reboot  │
                          └─────────┘





                         <Enter> to reboot
```

31. If you had to modify your computer's BIOS menu, change it back so it boots from the hard drive in the future. Make sure your BIOS saves your changes before you reboot.