

# Step-by-step Explanation for Installing Red Hat Enterprise Linux

## Installation Method

Insert the media from which you will boot the installation. Then choose the installation method at the **boot:** prompt

### CD or Network installs

If you enter nothing at the **boot:** prompt, a CD-based install is assumed

Otherwise, at the **boot** prompt, enter linux askmethod

```
boot: linux askmethod
```

Then choose the type of install you wish

For network installs (NFS,FTP,HTTP), you will be prompted for the server name and the location of the RedHat directory

Example:

```
Server:      cyclops.iastate.edu
Directory:   /net-install/RHEL4/x86/WS/
```

### Kickstart installs

At the boot prompt, you need to inform the installer where to find the kickstart information with the **ks=** flag.

Example:

```
boot: linux ks=http://www.linux.iastate.edu/rhel/ks/xxxxxxx/yyyy/ZZZZ
```

## Using Medusa

At the **boot:** prompt, press **F6** to get a listing of available boot options

If you choose linux-xxx you get a CD-based install. If you choose cyclops-xxxx, you get a network-based install with all the network server information pre-configured to download from the proxy server

**Note for network installations:** The version of the installation media you use needs to match the latest version of the distribution on the network installation server. Each time a new version of Red Hat is placed on the server, you should download and burn a new copy of the Medusa ISO, kickstart ISO or boot CD.

## **Installation**

For kickstart installations, you need do nothing more. You've already done all the configuration on the web site.

All other installations will proceed as follows:

### The Welcome section

welcomes you to Red Hat Enterprise Linux

### The Language section

allows you to choose the language you will use for the installation.

### The Keyboard section

allows you to configure the installation for the mouse and keyboard

### The Disk partitioning section

allows you to slice up your disk into logical pieces onto which you will place a file system. You may choose **Automatic** to allow the installer to partition the disk(s) for you or choose **Manual** to partition the disks yourself. Once you have chosen the partitions, the disk will be formatted and you will lose any data you had on those areas of the disk being formatted.

### The Boot loader section

allows you to choose which **boot loader** to use for booting your operating system(s) and where on the disk you wish to store it

### The Network section

is where you configure the local network settings for your computer. You will need to have done some work before this.

**Note:** All systems on the campus network need to be registered before they can access that network. If you are performing a network install, you will need to have done this already. Otherwise, you'll need to start a browser after you've finished installing the system and you will be directed to the NetReg server to register your system when you first attempt to access the network.

#### Dynamic Host Configuration Protocol (DHCP)

Most systems on campus use DHCP. Using DHCP, your system is assigned its address by a server and given a lease for that address. Hence, your IP address may change over time. For laptops, it will certainly change from location-to-location. DHCP will automatically assign you an address, a host name, a gateway and the addresses of your name servers. DHCP is what you should choose in most cases.

#### Static address

If this machine is destined to be a server, you should probably request a static address. This is done via <http://asw.iastate.edu>

You then enter your static address information manually. Click the *Edit* button next to *Network Devices* and enter your address and netmask. Then, on the previous page, enter the hostname, the gateway and the addresses of your name servers.

### *The Security section*

allows you to configure the built-in security features of Red Hat Enterprise Linux. If you wish to use the default firewall and SELinux settings, just move on to the next section. If you plan to set up the fine-grained control yourself, disable these on this page and set them later.

### *Languages to support*

This section allows you to install the languages your users will need on the system.

### *The Time section*

Here you will choose the time zone for your locale. If you have services which depend on time synchronization, this is very important. After you finish the installation, you will have a chance to set the system clock and set up network time synchronization.

### *Setting the **root** password*

Choose a very secure password for *root*, the administrator of the system. We suggest choosing a phrase and then use the first letter of each word in the phrase to make up your password. Mix upper case and lower case letters and use numbers and special characters in place of letters if you can.

Example:

Phrase: Mary had a little lamb

Password: Mh@L1

### *Package selection*

In this part of the installation, you will choose the software you wish installed on the system. If you don't need it, don't install it. Some services you install may be turned on by default, allowing your system to be cracked by outsiders who understand the service better than you.

### Installation

The packages are now installed. Depending on the speed of your machine, the packages you have chosen and your network bandwidth, this could take anywhere from 15 minutes to an hour. Go get a cup of coffee and come back. If you are performing a CD install, you will be prompted for the other disks in the set as they are needed.

### Reboot

Once you've finished, the installer will ask you to reboot the system. Make sure you remove any CDs still in the drive.

## **Firstboot (Setup Agent)**

On the first boot of the system after installation, you will be asked to configure several settings on your system.

### License

You will be asked to agree to or decline to agree to the license agreement

### Date and Time

Here you will be given the chance to set the local time on the system. If you have a persistent network connection, you should also click on the *Network Time Protocol* tab and enter the address of the local time server

time.iastate.edu

### Display/Video Card settings

Next, you will configure the settings for your monitor and your video card. Most of the time, the system does a very good job of probing the hardware and finding the right *drivers* to support your equipment. If not, you can choose a compatible setting on your own and specify information about the internals of your hardware. Be careful with the refresh rate settings. If they are set higher than your monitor can handle, you can damage it.

### Register with Red Hat Network

For an Iowa State system, you should have registered for an Iowa State Red Hat Network account. Please click on the checkbox next to *Tell me why I need to register* and then *I cannot complete the registration at this time* on the next page. You will be registering your system later

### Create an additional account on system

You should always create a separate user account on your system for your day-to-day use. You should only use the *root* account when necessary to configure or update your systems. On this page you can create that user account.

### Sound card detection and configuration

Here the system will probe for your sound card (if you have one) and load and test the appropriate driver for that card.

## **Login and secure the system**

Now you are ready to run your system for the first time. The login screen will appear. For this first login, you should login as *root* so you can register your system with the Red Hat Network and update all of the packages you have installed for security reasons. At this point you should shut down any unnecessary services that are running and close any network ports you don't need.