SCP (secure copy program)

SCP is a file copy technique which is more secure than the traditional remote copy tool called rcp. The files are transferred through an encrypted channel. SSH is used over an encryption channel and we can easily transfer files to a remote machine as follows:

```
$ scp filename user@remotehost:/home/path
```

This will prompt for a password and can be made password-less by using the auto-login SSH technique. The *Password-less auto-login with SSH* recipe explains SSH auto-login. Therefore, file transfer using scp doesn't require specific scripting. Once SSH login is automated, the scp command can be executed without an interactive prompt for the password.

Here, remotehost can be an IP address or domain name. The format of the scp command is:

```
$ scp SOURCE DESTINATION
```

SOURCE or DESTINATION can be in the format username@host:/path, for example:

```
$ scp user@remotehost:/home/path/filename filename
```

The preceding command copies a file from the remote host to the current directory with the given filename.

If SSH is running at a different port than 22, use -oPort with the same syntax, sftp.

Recursive copying with SCP

By using scp, we can recursively copy a directory between two machines on a network as follows with the -r parameter:

```
$ scp -r /home/slynux user@remotehost:/home/backups
# Copies the directory /home/slynux recursively recurisvely to a remote
location
```

scp can also copy files by preserving permissions and modes by using the -p parameter.

See also

- The *Playing with file descriptors and redirection* recipe of *Chapter 1*, *Shell Something Out*, explains the standard input using EOF

Connecting to a wireless network

An Ethernet connection is simple to configure, since it is connected through wired cables with no special requirements like authentication. However, wireless LAN may require authentication like a secret key as well as ESSID of the wireless network to connect. **ESSID**, or **Extended Service Set Identification**, is the name of the network. Let's see how to connect to a wireless network by writing a shell script.

Getting ready

To connect to a wired network, we need to assign an IP address and subnet mask by using the `ifconfig` utility. But for a wireless network connection, it will require additional utilities such as `iwconfig` and `iwlist` to configure more parameters.

How to do it...

Let's write a script for connecting to a wireless LAN with **WEP** (**Wired Equivalent Privacy**):

```
#!/bin/bash
#Filename: wlan_connect.sh
#Description: Connect to Wireless LAN

#Modify the parameters below according to your settings
######### PARAMETERS ###########
IFACE=wlan0
IP_ADDR=192.168.1.5
SUBNET_MASK=255.255.255.0
GW=192.168.1.1
HW_ADDR='00:1c:bf:87:25:d2'
#Comment above line if you don't want to spoof mac address

ESSID="homenet"
WEP_KEY=8b140b20e7
FREQ=2.462G
#################################

KEY_PART=""

if [[ -n $WEP_KEY ]];
then
  KEY_PART="key $WEP_KEY"
fi
```