Now, again to switch to `/usr/src` as follows:

```
/var/www $ cd -
```

Counting the number of lines, words, and characters in a file

Counting the number of lines, words, and characters from a text file are very useful for text manipulations. In several cases, these counts are used in indirect ways to perform some hacks in order to produce the required output patterns and results. This book includes some tricky examples in other chapters. **Counting LOC** (**Lines of Code**) is a very important application for developers. We may need to count special types of files excluding unnecessary files. A combination of `wc` with other commands help to perform that.

`wc` is the utility used for counting. It stands for **word count**. Let us see how to use `wc` to count lines, words, and characters.

How to do it...

We can use various options for `wc` to count the number of lines, words, and characters:

1. Count the number of lines in the following manner:

   ```
   $ wc -l file
   ```

2. To use `stdin` as input, use the following command:

   ```
   $ cat file | wc -l
   ```

3. Count the number of words as follows:

   ```
   $ wc -w file
   $ cat file | wc -w
   ```

4. In order to count the number of characters, use the following commands:

   ```
   $ wc -c file
   $ cat file | wc -c
   ```

   For example, we can count the characters in a text as follows:

   ```
   echo -n 1234 | wc -c
   4
   ```

   `-n` is used to avoid an extra newline character.

5. To print the number of lines, words, and characters, execute `wc` without any options:

```
$ wc file
   1435   15763  112200
```

   Those are the number of lines, words, and characters respectively.

6. Print the length of the longest line in a file using the `-L` option:

```
$ wc file -L
205
```

Printing the directory tree

Graphically representing directories and filesystems as a tree hierarchy is quite useful when preparing tutorials and documents. Also, they are sometimes useful in writing certain monitoring scripts that help to look at the filesystem using easy-to-read tree representations. Let us see how to do it.

Getting ready

The `tree` command is the hero that helps us to print graphical trees of files and directories. Usually, `tree` does not come with preinstalled Linux distributions. You have to install it using the package manager.

How to do it...

The following is a sample Unix filesystem tree to show an example:

```
$ tree ~/unixfs
unixfs/
|-- bin
|   |-- cat
|   `-- ls
|-- etc
|   `-- passwd
|-- home
|   |-- pactpub
|   |   |-- automate.sh
|   |   `-- schedule
|   `-- slynux
|-- opt
```