Chapter 2
The Virtual Environment

In the following chapters we examine a variety of problems related to information security, as they arise in modern computer and communication systems. To deepen your understanding of these problems, we do not merely consider them abstractly. Rather, we additionally provide you with a set of preconfigured virtual machines that allow you to work through the examples actively in a virtual environment.

As a virtualization environment we have chosen VirtualBox [23]. VirtualBox runs on Windows, Linux, Macintosh and OpenSolaris hosts, and supports a large number of guest operating systems. By following the instructions below, you should be able to install the virtual machines on your own computer, which you will need to complete the practical experiments in the following chapters. The virtual machines can be downloaded from the book’s web page, www.appliedinfsec.ch.

The structure of this chapter is as follows. We start with a general introduction to VirtualBox and explain its network options. Afterwards we provide information on the virtual machines as they are used for the practical exercises in this book. Besides information on the network setup you will find information on the types of operating systems, installed software, and user accounts in this section. Finally, we provide brief installation instructions for each of the virtual machines used in subsequent chapters.

Note to the reader: To simply install the virtual machines in order to complete the experiments in this book you may skip Sects. 2.2 and 2.3 and follow the installation instructions in Sect. 2.4.

2.1 Objectives

After completion of this chapter you should:

• be able to install your own virtual machines in VirtualBox
be able to install the delivered virtual machines on your computer, provided VirtualBox runs on your computer’s operating system
be able to tackle all subsequent practical exercises
know the layout of the virtual network connecting the virtual machines
know the characteristics of the virtual machines provided

2.2 VirtualBox

VirtualBox is a full, general-purpose virtualizer for x86 hardware. It is a professional-quality virtualization environment that is also open-source software. The software can be downloaded from the Internet [23]. For most Linux distributions there exist packages that allow its automatic installation using the corresponding package management system.

2.2.1 Setting up a New Virtual Machine

Once VirtualBox has been installed, setting up new virtual machines is straightforward. Figure 2.1 shows the main window of VirtualBox displaying information about the virtual machine alice that is currently running.