Chapter number	Software required (With version)	Free/Proprietary	Download links to the software	Hardware specifications	OS required
1-19	Visual Studio Code	Free	https://code.visualstudio.com/Download	1.6 GHz or faster processor 1 GB of RAM	Windows/Mac OS X/Linux
1-19	.NET Core SDK v 2.2+	Free	https://dotnet.microsoft.com/download	None	Windows/Linux/Mac OS X
4, 18	Wireshark 3.0.0	Free	https://www.wireshark.org/download.html	32-bit or 64-bit processor 500 MB of RAM 500 MB of disk space	Windows/Linux/Mac OS X
8, 9, 11, 14, 16, 17	PostMan 7.0.6+	Free	https://www.getpostman.com/downloads/	None	Windows/Linux/Mac OS X
8, 9, 11, 14, 16, 17	Insomnia	Free	https://insomnia.rest/download	None	Windows/Linux/Mac OS X
10	FileZilla Server 0.9.60.2	Free	https://filezilla-project.org/download.php?type=server	None	Windows
15	Windows Subsystem for Linux	Free	https://www.microsoft.com/en-us/p/ubuntu/9nblggh4msv6?rtc=1&activetab=pivot:overviewtab	32-bit or 64-bit processor 2 GB or RAM	Windows 10 version 16215.0 or higher
15	Redis 5.0	Free	Linux/Mac OS X: https://redis.io/download Windows: https://github.com/MicrosoftArchive/redis/releases	None	Linux/Mac OS X Windows Subsystem for Linux Windows
19	VirtualBox	Free	https://www.virtualbox.org/wiki/Downloads	32-bit or 64-bit processor 2 GB of RAM	Windows/Linux/Mac OS X
19	Ubuntu	Free	https://www.ubuntu.com/download/desktop	2 GHz dual-core processor 2 GB or RAM 25 GB of disk space	Any Virtual Machine software on Windows/Linux/Mac OS X

Detailed installation steps:

1. Visual Studio Code:
   1. Download the software targeted for your specific operating system.
   2. Run your OS specific installation process, and then run the program.

2. .NET Core SDK
   1. Download the SDK for your target operating system.
   2. Run the installer to register the runtime with your OS.
   3. Confirm the availability of your software by opening a terminal and running the CLI command 'dotnet -version'

3. Wireshark 3.0
   1. Download the software from the software download URL.
   2. Run the installation for your specific system.

4. PostMan
   1. Navigate to the downloads page and download the installer.

2. Run the installer, and run the application.

5. Insomnia (as an alternative to PostMan)
   1. Navigate to the download page, and download the installer.
   2. Follow the instructions listed at the installation page, here: https://support.insomnia.rest/article/23-installation
   3. Install and run the application.

6. FileZilla Server
   1. Download and run the .exe from the download page.
   2. Assign an admin port. (Remember this, as you'll use it to log on as an administrator in the future)
   3. Launch the server UI.
   4. Enter the admin port, and designate a new administrator password.
   5. Designate a local file directory to serve as your FTP server's "Home" directory.
   6. Create a user or user-group and assign permissions to the FTP "Home" directory.

7. Windows Subsystem for Linux (for Windows users only)
   1. Enable the subsystem for linux on your machine by opening powershell and running the following command: `Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Windows-Subsystem-Linux`
   2. Restart your computer.
   3. Download your preferred Linux distribution from the Microsoft store in the download link above.
   4. Initialize your Linux distribution by running the command once and creating a new user account.

8. Redis Cache
   1. Download the Redis executable for your respective operating system.
      1. For Windows systems, you can simply download and execute the .msi from the provided download link.
      2. For Linux systems, use the `apt` package to install redis-server with the command: `sudo apt install redis-server`.
   2. From your terminal, run the restart command to ensure Redis is running: `sudo systemctl restart redis.service`
   3. Confirm that Redis is running and available by executing the following command: `sudo systemctl status redis`

4. Test the availability of the listening service with the redis command-line interface. Simply execute the CLI with `redis-cli` and then run the `ping` command.

9. VirtualBox
   1. Download the application from the location listed above.
   2. Run the executable, or install the .tar file.
   3. Create a new virtual machine, targeting the Ubuntu operating system.

10. Ubuntu
    1. With a working instance of VirtualBox, simply download the .iso disc image file from the location listed above.
    2. From within VirtualBox, select your newly downloaded .iso file as the boot media for your new virtual machine.
    3. Follow the onscreen instructions to complete the OS installation inside your running virtual machine.