

Chapter number	Software required (With version)	Free/Proprietary	If proprietary, can code testing be performed using a trial version	If proprietary, then cost of the software	Download links to the software	Hardware specifications	OS required
1	Node.js 10+	Free	N/A	N/A	https://nodejs.org/en/	-	Linux (Windows also possible)
1	NPM 6+	Free	N/A	N/A	https://www.npmjs.com/	-	Linux (Windows also possible)
1	React Developer Tools	Free	N/A	N/A	https://chrome.google.com/webstore/detail/react-developer-tools/fmkadmapgofadopljbjfkapdkoienihi	-	-
2	Postman	Free	N/A	N/A	https://www.getpostman.com/downloads/	-	-
3	MySQL 5+	Free	N/A	N/A	https://www.mysql.com/	-	Linux (Windows also possible)
3	PHP 7+	Free	N/A	N/A	http://php.net/	-	Linux (Windows also possible)
3	Apache	Free	N/A	N/A	https://httpd.apache.org/	-	Linux (Windows also possible)
3	phpMyAdmin 4+	Free	N/A	N/A	https://www.phpmyadmin.net/	-	Linux (Windows also possible)
4	Apollo Client Developer Tools	Free	N/A	N/A	https://chrome.google.com/webstore/detail/apollo-client-developer-tjjdknkkbebbapilgoecciglkfbmbnfm	-	-

Detailed installation steps (software-wise)

The steps should be listed in a way that it prepares the system environment to be able to test the codes of the book.

1. Software A: Node.js

1. Add the Node.js repository to the built-in package manager of your Linux system: **curl -sL https://deb.nodesource.com/setup_10.x | sudo -E bash -**
2. Update your system by using the following system before installing Node.js: **sudo apt-get update && sudo apt-get upgrade -y**
3. Install Node.js using the package manager: **sudo apt-get install -y nodejs build-essential**
4. Installing Node.js also installs Software B, NPM.
5. As an alternative for Windows, you can install Node.js by downloading the installer package from the official website and executing it: <https://nodejs.org/en/>

2. Software C: React Developer Tools

1. Open the Chrome browser and visit the following

link: <https://chrome.google.com/webstore/detail/react-developer-tools/fmkadmapgofadopljbjfkapdkoienihi>

2. Hit the install button at the top of the page.
3. Software D: Postman
 1. Open the browser and visit the following link: <https://www.getpostman.com/downloads/>
 2. Download the correct package matching your operating system.
 3. Install it using the downloaded package.
4. Software E: MySQL
 1. Update your system by using the following system before installing MySQL: **sudo apt-get update && sudo apt-get upgrade -y**
 2. Use the built-in package manager to install MySQL on your system: **sudo apt-get install apache2 mysql-server**
 3. Run the **sudo -i** command to get in the root shell of your system.
 4. Execute the **mysql_secure_installation** command to configure your database system.
 5. Log in to the shell of MySQL with the username and password for the root with the following command: **mysql -u root -p**
 6. Create a new user on your database by running the following SQL query. Replace the name devuser and the placeholder PASSWORD with any data you want to use to log in at your database: **GRANT ALL PRIVILEGES ON *.* TO 'devuser'@'%' IDENTIFIED BY 'PASSWORD';**
 7. If you are using Windows, you can use an alternative like XAMPP, and if you are using Mac, you can use MAMP to replace the above setup. When using one of them, you can also skip the setup for PHP, Apache, and phpMyAdmin.
5. Software F: PHP
 1. Update your system by using the following system before installing MySQL: **sudo apt-get update && sudo apt-get upgrade -y**
 2. Install PHP by using the built-in package manager and the following command: **sudo apt-get install php php-pear php-mysql**
 3. If you notice errors while trying to run PHP for example when accessing phpMyAdmin install one further package using this command: **sudo apt-get install libapache2-mod-php7.0**
6. Software G: Apache
 1. Update your system by using the following system before installing MySQL: **sudo apt-get update && sudo apt-get upgrade -y**
 2. Install Apache by using the built-in package manager. Execute the

following command: **sudo apt-get install apache2**

7. Software H: phpMyAdmin

1. Update your system by using the following system before installing MySQL: **sudo apt-get update && sudo apt-get upgrade -y**
2. Install phpMyAdmin by using the built-in package manager. Execute the following command: **sudo apt-get install phpmyadmin**
3. To serve phpMyAdmin through Apache run the following commands to bind the phpMyAdmin server to the root of the Apache public folder:

```
1. cd /var/www/html/  
sudo ln -s /usr/share/phpmyadmin
```

2. Software I: Apollo Client Developer Tools

1. Open the Chrome browser and visit the following link: <https://chrome.google.com/webstore/detail/apollo-client-developer-t/jdkknkkbbapilgoecciglkfbmbnfm>
2. Hit the install button at the top of the page.