Chapter number	Software required (With version)	Free / Proprietary	Download links to the software	Hardware specifications	OS required
4	Nodejs v8.3.0	Free	https://nodejs.org	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
4	MetaMask v6.0.1 internet browser plugin	Free	https://metamask.io/	Any hardware that can run a Google Chrome, FireFox, Opera, Brave browser	Any OS that can run the given list of internet browsers
4	Remix IDE v0.7	Free	https://remix.ethereum.org/	Any hardware that can run a Google Chrome, FireFox, Opera, Brave browser	Any OS that can run the given list of internet browsers
4	remixd latest version	Free	https://github.com/ethereum/remixd	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
4	remix-ide v0.7	Free	https://github.com/ethereum/remix-ide	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
5	Ganache GUI v2.0.0	Free	https://www.trufflesuite.com/ganache	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
5	Ganache CLI v6.4.4	Free	https://github.com/trufflesuite/ganache-cli	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
5	Truffle v5.0	Free	https://github.com/trufflesuite/truffle/	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+

6	Surya v0.2.8	Free	https://github.com/ConsenSys/surya	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
6	Solhint v2.0.0	Free	https://github.com/protofire/solhint	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
6	Solium v1.2.3	Free	https://github.com/duaraghav8/Ethlint	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
6	solidity-coverage v0.5.11	Free	https://github.com/sc-forks/solidity-coverage	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
9	OpenZeppelin (openzeppelin-solidity) v2.1.1	Free	https://github.com/OpenZeppelin/openzeppelin-solidity	No such requirement, only nodejs must be installed	No such requirement, only nodejs must be installed
9	Truffle v5.0.0	Free	https://github.com/trufflesuite/truffle/	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
9	Nodejs v8.9.4	Free	https://nodejs.org	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
10	Truffle v3.4.11+	Free	https://github.com/trufflesuite/truffle/	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+

10	MetaMask v6.3.1	Free	https://metamask.io/	Any hardware that can run a Google Chrome, FireFox, Opera, Brave browser	Any OS that can run the given list of internet browsers
11	Truffle v5.0.4	Free	https://github.com/trufflesuite/truffle/	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
11	Nodejs v8.9.4	Free	https://nodejs.org/en/	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
11	ganache-cli v6.4.4	Free	https://github.com/trufflesuite/ganache-cli	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
11	zos v2.3.1	Free	https://github.com/zeppelinos/zos	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
11	zos-lib v2.3.1	Free	https://github.com/zeppelinos/zos/tree/master/packages/lib	No such requirement, only nodejs must be installed	No such requirement, only nodejs must be installed
11	openzeppelin-eth v2.3.1	Free	https://github.com/OpenZeppelin/openzeppelin-eth	No such requirement, only nodejs must be installed	No such requirement, only nodejs must be installed
12	Nodejs v8.11.3	Free	https://nodejs.org	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
12	OpenZeppelin (openzeppelin-solidity) v2.2.0	Free	https://github.com/OpenZeppelin/openzeppelin-solidity	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+

12	Truffle v5.0.4	Free	https://github.com/trufflesuite/truffle/	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
12	MetaMask v6.3.1	Free	https://metamask.io/	Any hardware that can run a Google Chrome, FireFox, Opera, Brave browser	Any OS that can run the given list of internet browsers
12	Truffle HD wallet provider (truffle-hdwallet-provider) v1.0.6	Free	https://github.com/trufflesuite/truffle-hdwallet-provider	No such requirement, only nodejs must be installed	No such requirement, only nodejs must be installed
12	OpenZeppelin Test Hepler (openzeppelin-test-helpers) v0.3.1	Free	https://github.com/OpenZeppelin/openzeppelin-test-helpers	No such requirement, only nodejs must be installed	No such requirement, only nodejs must be installed
12	Chai test framework v4.2.0	Free	https://www.npmjs.com/package/chai	No such requirement, only nodejs must be installed	No such requirement, only nodejs must be installed
12	Big Number (big-number) v2.0.0	Free	https://www.npmjs.com/package/big-number	No such requirement, only nodejs must be installed	No such requirement, only nodejs must be installed
12	ganache-cli v6.4.4	Free	https://github.com/trufflesuite/ganache-cli	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
14	Truffle v5.0.10	Free	https://github.com/trufflesuite/truffle/	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+
14	Nodejs v8.11.3	Free	https://nodejs.org	64 bit architecture with 4 or more CPUs / cores and minimum 4 GB RAM	Ubuntu 14.04+/ CentOS 6+ / RHEL 7+ / Windows 7+ / MacOS 10+

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. npm & nodejs:
    1. Go to website `https://nodejs.org/en/`
    2. Download the appropriate version according to your operating system.
    3. Follow installation instructions.
    4. After installation, run the command `npm -version` to check that its installed successfully.
2. MetaMask browser plugin
    1. Go to website `https://metamask.io/`.
    2. Install the MetaMask by clicking on the internet browser you are using.
    3. It will take you to plugin installation page.
    4. Install the plugin in your internet browser.
    5. If this is successfully installed, you will see orange fox icon in your internet browser's toolbar.
3. Remix IDE
    1. Go to website `http://remix.ethereum.org/`
    2. It will open the latest version of the Remix IDE.
    3. To use the previous version of the Remix IDE, click on **Use previous version** button.
    4. You will be redirected to the older version of Remix IDE. You can now use this IDE for contract creation.
4. remixd
    1. To install `remixd`, run the below command. This command uses installed Nodejs.
    2. `npm install -g remixd`
5. remix-ide
    1. To install `remix-ide`, run the below command. This command uses installed Nodejs.
    2. `npm install -g remix-ide`
6. Ganache GUI
    1. Go to website `https://www.trufflesuite.com/ganache`
    2. Download the Ganache installation file accroding to your operating system.
    3. Follow installation instructions.

7. ganache-cli
    1. To install `ganache-cli`, run the below command. This command uses installed Nodejs.
    2. `npm install -g ganache-cli`
    3. To check the installation, run below command, it should return installed version.
    4. `ganache-cli --version`
8. Truffle
    1. To install `truffle`, run the below command. This command uses installed Nodejs.
    2. `npm install -g truffle`
    3. To check the installation, run below command, it should return installed version.
    4. `truffle version`
9. surya
    1. To install `surya`, run the below command. This command uses installed Nodejs.
    2. `npm install -g surya`
    3. To check the installation, run below command, it should return installed version.
    4. `surya --version`
10. solhint
    1. To install `solhint`, run the below command. This command uses installed Nodejs.
    2. `npm install -g solhint`
    3. To check the installation, run below command, it should return installed version.
    4. `solhint --version`
11. solium
    1. To install `solium`, run the below command. This command uses installed Nodejs.
    2. `npm install -g ethlint`
    3. To check the installation, run below command, it should return installed version.
    4. `solium -V`
12. solidity-coverage

1. To install `solidity-coverage` in your npm project, run the below command. This command uses installed Nodejs.
2. `npm install --save-dev solidity-coverage`

13. openzeppelin-solidity
    1. To install `openzeppelin-solidity` in your npm project, run the below command. This command uses installed Nodejs.
    2. `npm install openzeppelin-solidity`
14. zos-lib v2.3.1 & zos 2.3.1
    1. To install `zos-lib` and `zos` both at version 2.3.1 in your npm project, run the below command. This command uses installed Nodejs.
    2. `npm install zos-lib@2.3.1 zos@2.3.1`
15. truffle-hdwallet-provider
    1. To install `truffle-hdwallet-provider` in your npm project, run the below command. This command uses installed Nodejs.
    2. `npm install truffle-hdwallet-provider`
16. openzeppelin-test-helpers
    1. To install `openzeppelin-test-helpers` in your npm project, run the below command. This command uses installed Nodejs.
    2. `npm install openzeppelin-test-helpers`
17. Chai
    1. To install `chai` in your npm project, run the below command. This command uses installed Nodejs.
    2. `npm install chai`
18. big-number
    1. To install `big-number` in your npm project, run the below command. This command uses installed Nodejs.
    2. `npm install big-number`