

Chapter 2: Installing Scala

Exercises :

1. Figure out how to install Scala on Linux in an offline setting (e.g., on a system that's not connected to the Internet). You will encounter such scenarios extensively in professional environments due to security controls.
2. Type `scala -help` at the command prompt and familiarize yourself with as many options available as possible.
3. Try installing multiple versions of Scala on your system and investigate if there are any challenges.
4. Research the latest versions of Scala available on the website and make a habit of going through the release notes to understand the latest enhancements in the new releases.

Answers :

1. Installing Scala on Linux

before installing scala you have to make sure that java is well installed and if it is not the case do it first before continuing
type **java -version** to check it

```
janot@janot-VivoBook-15-ASUS-Laptop-X540UAR:~$ java -version
openjdk version "11.0.16" 2022-07-19
OpenJDK Runtime Environment (build 11.0.16+8-post-Ubuntu-0ubuntu120.04)
OpenJDK 64-Bit Server VM (build 11.0.16+8-post-Ubuntu-0ubuntu120.04, mixed mode, sharing)
janot@janot-VivoBook-15-ASUS-Laptop-X540UAR:~$
```

First, download from the Scala website the archive file (in .tgz format) of the latest version of the language: <http://www.scala-lang.org/downloads>.

Here is how to get it via the command line :

\$ wget http://www.scala-lang.org/downloads/distrib/files/scala-2.10.0.tgz

Then we extract the content of the archive file: **\$ tar xvfz scala-2.10.0.tgz**

The files are extracted to the scala-2.10.0 folder. The following output of the tree command shows the file structure.

cd scala-2.10.0

\$ tree -L 1

```
.
├── bin
├── doc
├── examples
├── lib
├── man
├── misc
└── src
```

The executables are in the bin folder and the libraries in the lib folder. On my computer the files are in `~/tools/scala-2.10.0` on which I created the symbolic link `/opt/scala` since I want to be able to easily change Scala version.

sudo ln -s ~/tools/scala/scala-2.10.0 /opt/scala

Let's check the installation by displaying the Scala version:

\$ /opt/scala/bin/scala -version

It works but it's not convenient to type the full path of the command each time the Scala interpreter is launched. To fix this I add the /opt/scala/bin folder to the system path with the following command:

\$ export PATH=\$PATH:/opt/scala/bin

By putting the previous line in the .bashrc file the executables in /opt/scala/bin will be added to the system path when logging in.

\$ scala

2.

```
janot@janot-VivoBook-15-ASUS-Laptop-X540UAR:~$ scala -help
Usage: scala <options> [<script|class|object|jar> <arguments>]
    or  scala -help

All options to scalac (see scalac -help) are also allowed.

The first given argument other than options to scala designates
what to run.  Runnable targets are:

- a file containing scala source
- the name of a compiled class
- a runnable jar file with a valid Main-Class attribute
- or if no argument is given, the repl (interactive shell) is started

Options to scala which reach the java runtime:

-Dname=prop    passed directly to java to set system properties
-J<arg>        -J is stripped and <arg> passed to java as-is
-nobootcp      do not put the scala jars on the boot classpath (slower)

Other startup options:

-howtorun      what to run <script|object|jar|guess> (default: guess)
-i <file>      preload <file> before starting the repl
-I <file>      preload <file>, enforcing line-by-line interpretation
-e <string>    execute <string> as if entered in the repl
-save          save the compiled script in a jar for future use
-nc           no compilation daemon: do not use the fsc offline compiler


A file argument will be run as a scala script unless it contains only
self-contained compilation units (classes and objects) and exactly one
runnable main method.  In that case the file will be compiled and the
main method invoked.  This provides a bridge between scripts and standard
scala source.

When running a script or using -e, an already running compilation daemon
(fsc) is used, or a new one started on demand.  The -nc option can be
used to prevent this.
```

3.

```
janot@janot-VivoBook-15-ASUS-Laptop-X540UAR:~$ sudo apt install scala
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances
Lecture des informations d'état... Fait
scala est déjà la version la plus récente (2.11.12-4).
Le paquet suivant a été installé automatiquement et n'est plus nécessaire :
  libfwupdplugin1
Veuillez utiliser « sudo apt autoremove » pour le supprimer.
0 mis à jour, 0 nouvellement installés, 0 à enlever et 100 non mis à jour.
janot@janot-VivoBook-15-ASUS-Laptop-X540UAR:~$
```

4.

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ALL AVAILABLE VERSIONS

This page contains a comprehensive archive of previous Scala releases.

Current Releases	All Releases
Current 3.2.x release: 3.2.0 Released on September 5, 2022	Scala 3.2.0
	Scala 3.1.3
	Scala 3.1.2
	Scala 3.1.1
Current 2.13.x release: 2.13.10 Released on October 13, 2022	Scala 3.1.0
	Scala 3.0.2
	Scala 3.0.1
	Scala 3.0.0
	Scala 2.13.10
	Scala 2.13.9
	Scala 2.13.8
	Scala 2.13.7
	Scala 2.13.6
	Scala 2.13.5
	Scala 2.13.4
	Scala 2.13.3
	Scala 2.13.2
	Scala 2.13.1
	Scala 2.13.0
	Scala 2.13.0-RC3
	Scala 2.13.0-RC2

Maintenance Releases
Latest 2.12.x maintenance release: 2.12.17 Released on September 16, 2022
Last 2.11.x maintenance release: 2.11.12 Released on November 9, 2017
Last 2.10.x maintenance release: 2.10.7 Released on November 9, 2017

