Kotlin Basics

A New Way To Develop

Mustafif Khan

PUBLISHED BY MKPROJECTS

MKPROJ.COM

Contents

1. Getting Started

Kotlin is a statically typed, general purpose programming language developed by JetBrains. Kotlin is designed to work alongside Java, and due to it's type inference, it's code can be a lot more concise and easier to read.

1.1 Installation

You can install the Kotlin Compiler manually from it's Github Releases
`https://github.com/JetBrains/kotlin/releases/tag/v1.4.32`

MacOS Homebrew

To install on Mac OS, you may also choose to install the Kotlin compiler via Homebrew:

```
$ brew update
$ brew install kotlin
```

Linux Snap

To install on a Linux Distribution, you may install via Snap:

```
$ sudo snap install --classic kotlin
```

1.2 Compile

To Compile a Kotlin /kt program, you must first compile it using the Kotlin Compiler to produce a Java !.jar! file:

```
# We will be compile an example test.kt program
$ kotlinc hello.kt -include-runtime -d hello.jar
# -include-runtime makes the jar file self-contained and runnable
# -d is the output directory option followed by the output file
# Run kotlinc -help for more options
```

To run the program use java:

```
$ java -jar hello.jar
```

Now that you know how to compile and run the program, let’s proceed to the next section!

2. Hello World Kotlin!

To explain this section, we will be going line by line of the different parts of our program:

```
// examples/01-hello.kt
fun main(){
    // Our program is very simple and is aimed to say hello world
    /*
    We will run each word of "Hello World Kotlin!" in seperate println
    so we can show the order of execution.
    */
    println("Hello")
    println("World")
    println("Kotlin!")
}
```

2.1 Main Function

You can see at the beginning of our program is `fun main(){}`, the main function is the starting point of which the Kotlin Program executes the code. For an executable program, a main function is required for the Kotlin Program.

2.2 Comments

Comments are used for the programmer and not for the actual execution of the program. It is typically used to document and jot ideas down on the program, and is ignored by the compiler. There is two different type of comments, there is // which is a single line comment and * */ which is multi-line comments that contains comments in between * and */.

2.3 Print Statements

A print statement is a way to output values onto the console, and there is two different print statements that exist.

- `println()` : This will create a new line after outputting
- `print()` : This will only output **(not create a new line)**

Now let's Compile and Run:

```
# If using this repo, cd examples
$ kotlinc 01-hello.kt -include-runtime -d 01-hello.jar
$ ls
01-hello.jar  01-hello.kt
$ java -jar 01-hello.jar
Hello
World
Kotlin!
```