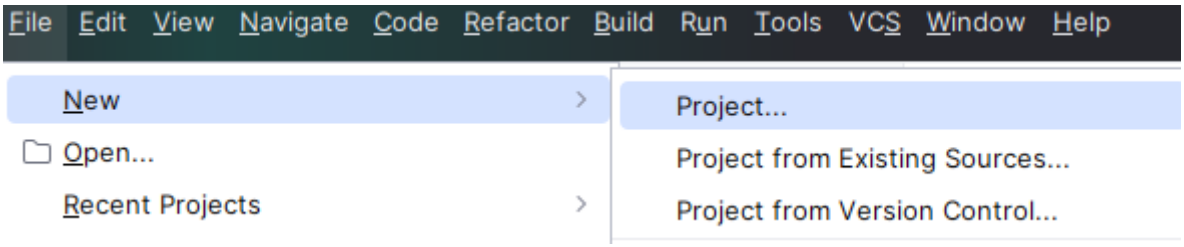
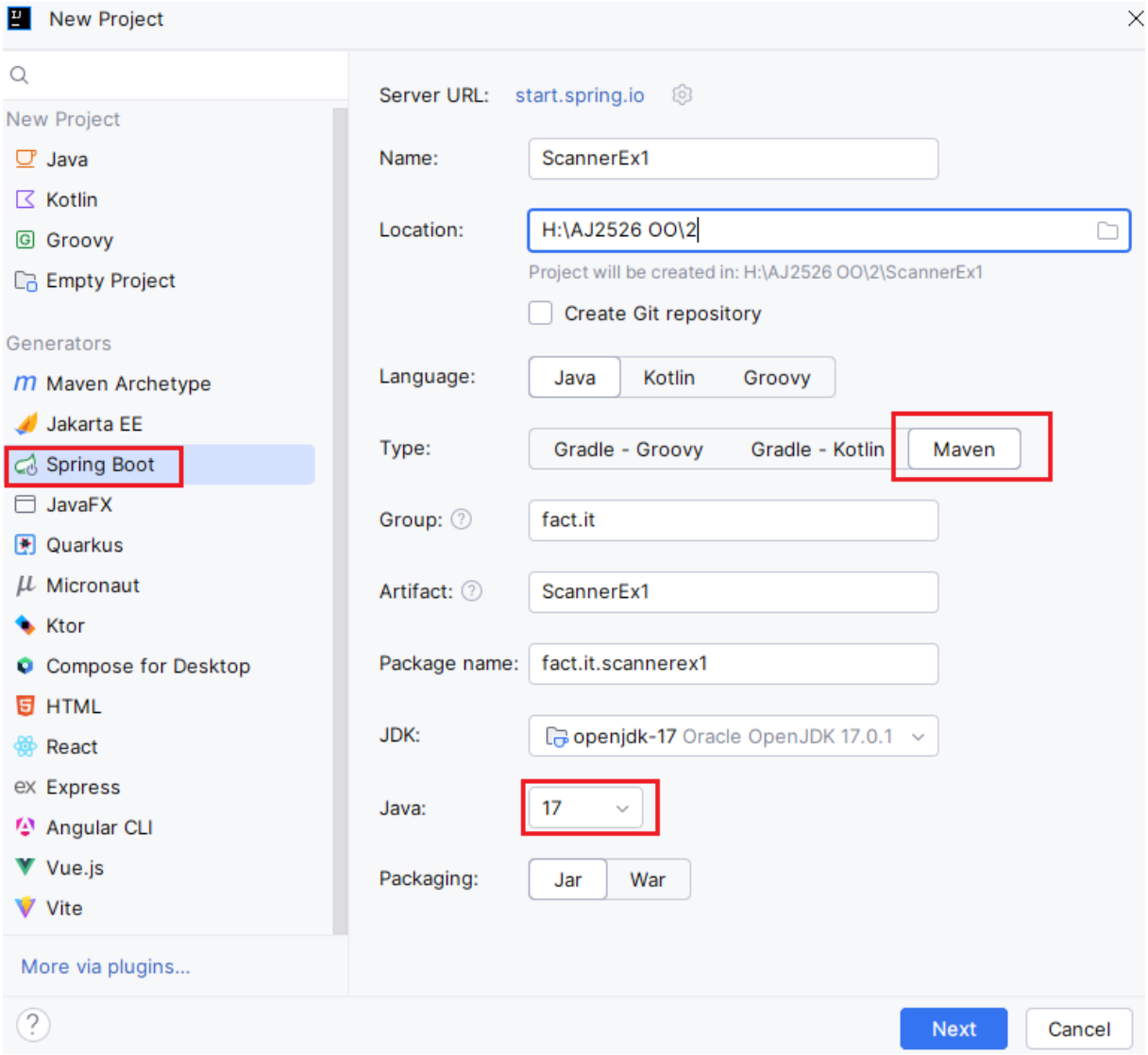
2a Exercises Scanner

In these exercises on the usage of scanner you will have to make your own project for each exercise! In these exercises you do not need to create classes.

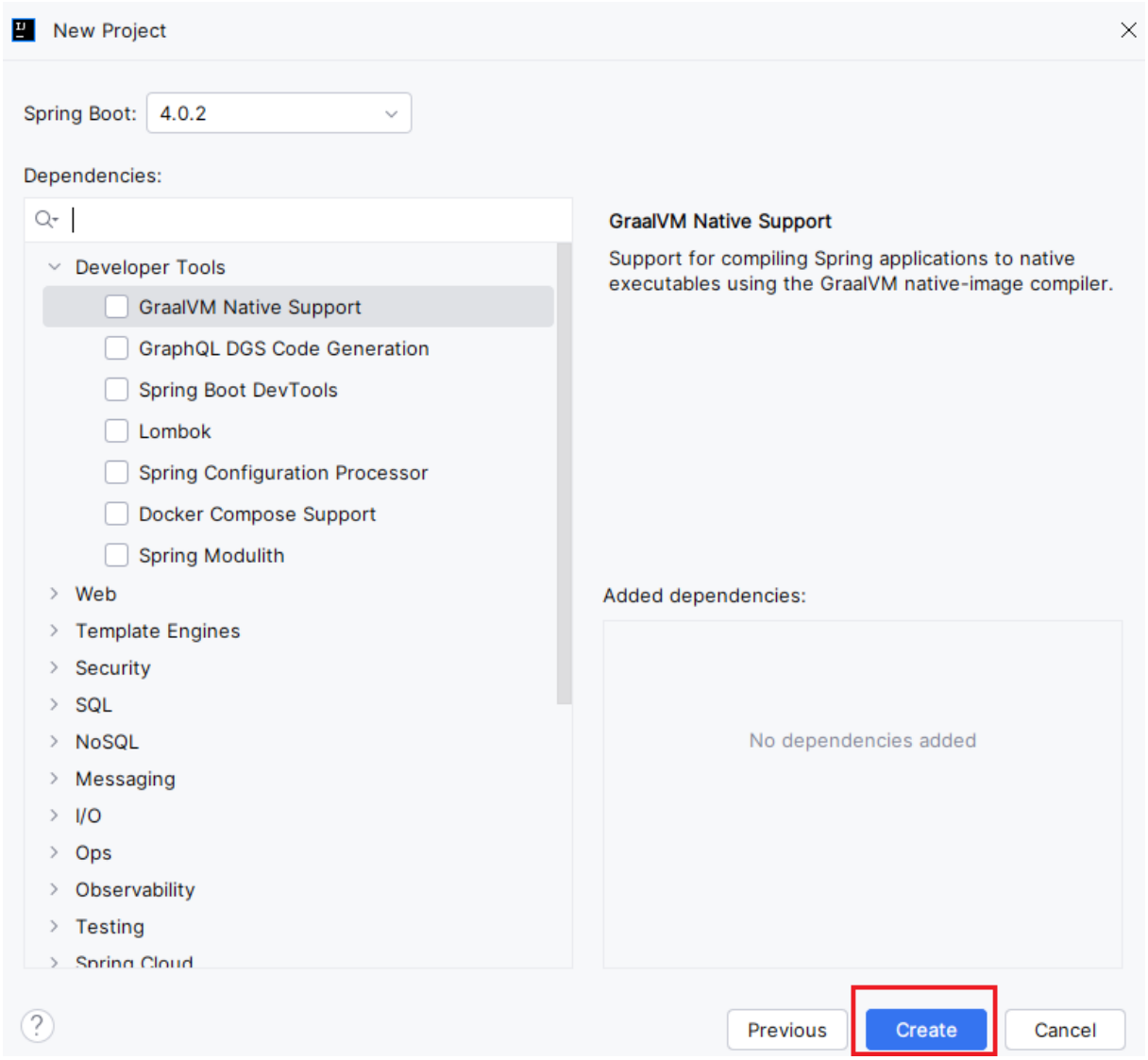
So, for each exercise you first make a new project:



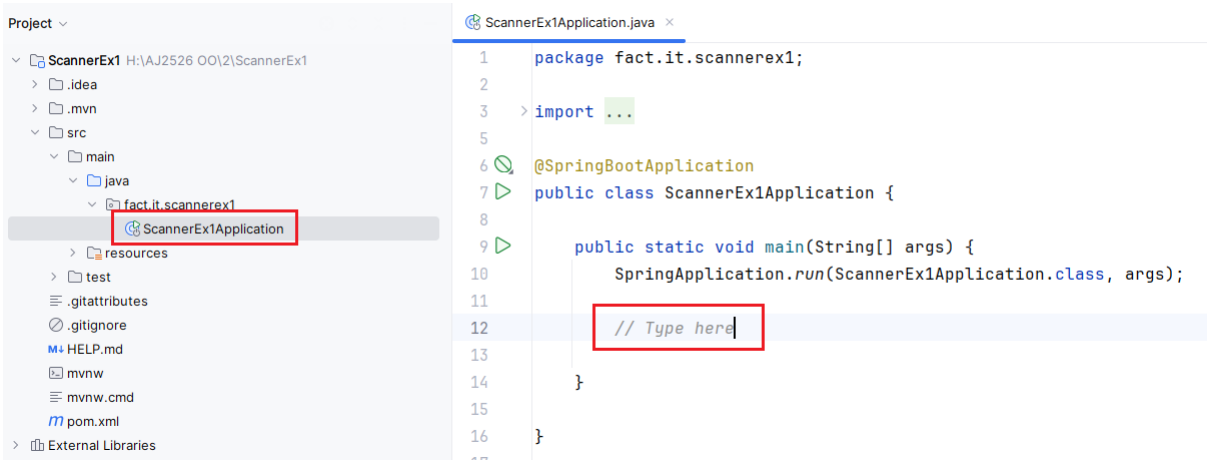
Select the correct project generator, being Spring Boot and select the correct type, Maven. Place the project in your own dedicated course and chapter folder:



Select nothing and click Create:



Start typing your code in the **main(String[] args)** method:



Exercise 1

Write a program that retrieves the user's personal data and then prints the address label.

```
C:\Users\u0068437\.jdks\corretto-17.0.14\bin\java.exe
First name: Jo
Last name: Peeters
Street: Kleinhoefstraat
House number: 4
ZIP code: 2440
City: Geel

--- Address label using + ---
Jo Peeters
Kleinhoefstraat 4
2440 Geel

Process finished with exit code 0
```

Exercise 2

Write a program to convert an amount in Euro given into Dollar.

You first have to find the current exchange rate on the internet.

```
Current exchange rate (1 EUR = ? USD): 1,175
Amount in EUR: 143
143,00 EUR = 168,03 USD (rate: 1,1750)

Process finished with exit code 0
```

Use “System.*out*.printf("%.2f EUR = %.2f USD (rate: %.4f)%n", euros, usd, rate);” to format the output

Exercise 3

Write a program that helps you calculate the number of degrees Fahrenheit (Tf) when you enter the temperature in degrees Celsius (Tc). Use this conversion formula between Tc and Tf :

$$T_{\mathrm{F}} = T_{\mathrm{C}} \cdot \frac{9}{5} + 32$$

```
Temperature in °C: 14
14,00 °C = 57,20 °F

Process finished with exit code 0
```

Use “System.out.printf(…)” similar as in the previous exercise to enforce 2 digit after the comma.

Exercise 4

Electricity companies charge their customers a fixed annual fee of € 83.6 (connection, meter rental, maintenance, ...). In Java constant values are written with all CAPITALS. The prefix final ensures the value can not be change in the code.
At night you pay 0,073 € / kilowatt per hour. During the day you pay 0,146 €/ kilowatt per hour.

On top of that, the customer also must pay 6% VAT.

final double FIXED = 83.60;

final double RATE_DAY = 0.146;

final double RATE_NIGHT = 0.073;

final double VAT = 6;

Create a program that calculates how much you have to pay. First the customer must enter his consumption (For the electricity consumption only the black numbers are entered, thus these are whole numbers).

Then the customer gets an overview of his electricity bill.

```
Day consumption (kWh, only black numbers): 1124
Night consumption (kWh, only black numbers): 865

--- Electricity Bill ---
Fixed annual charge       : €    83,60
Day     1124 kWh @ €0,146 : €   164,10
Night    865 kWh @ €0,073 : €    63,14
Subtotal                  : €   310,85
VAT 6%                    : €    18,65
TOTAL                     : €   329,50
```