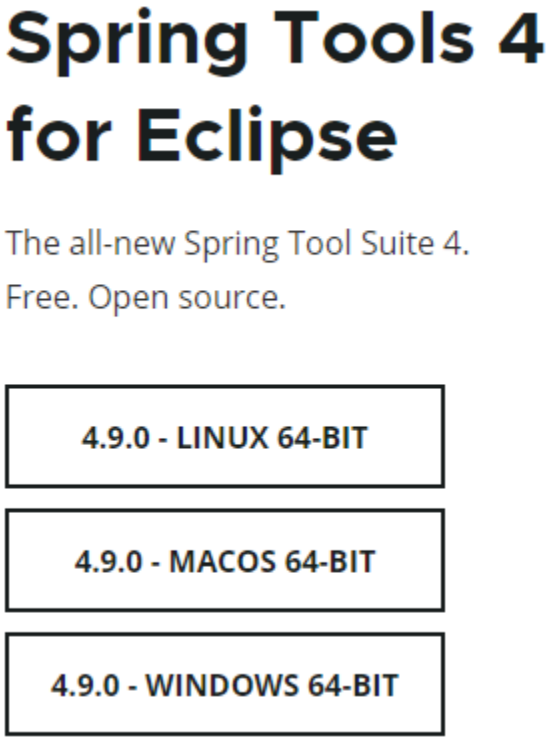
Download and install the STS IDE (Spring Tool Suite)

Spring Tool Suite is an IDE to develop spring applications.

1. Download Spring Tool Suite from https://spring.io/tools3/sts/all. Click on the platform which you are using



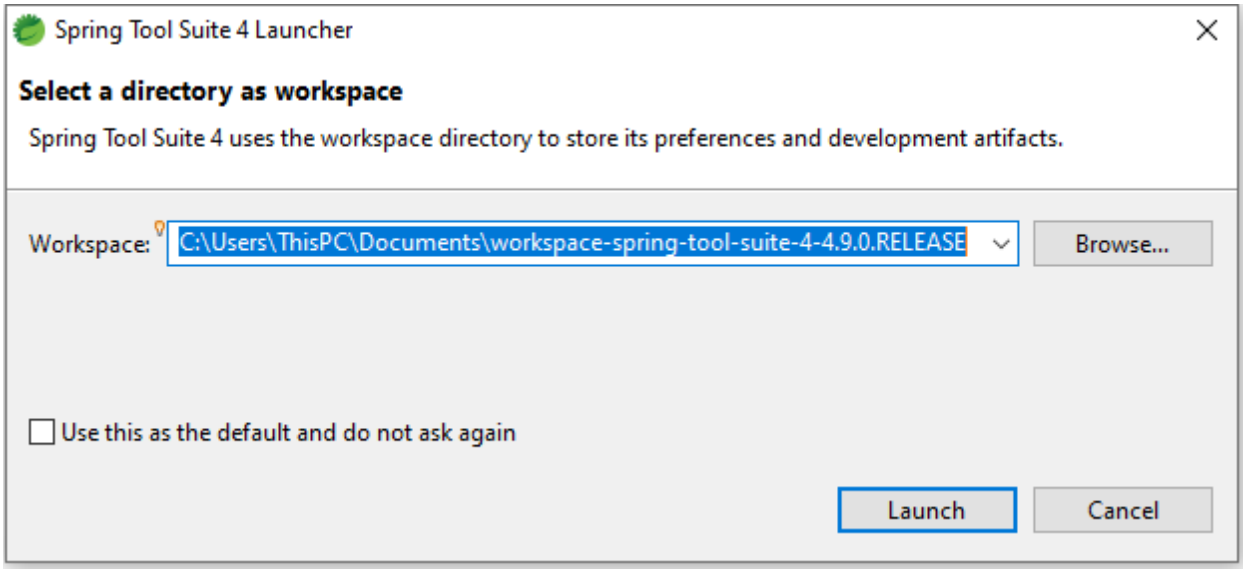
2. Select the windows 64 bit option

3. Go to download folder location, then double click on that file or Right click on file-> unzip it.

4. Go to sts-4.9.0.RELEASE folder.

5. Double click on SpringToolSuite4.exe file.

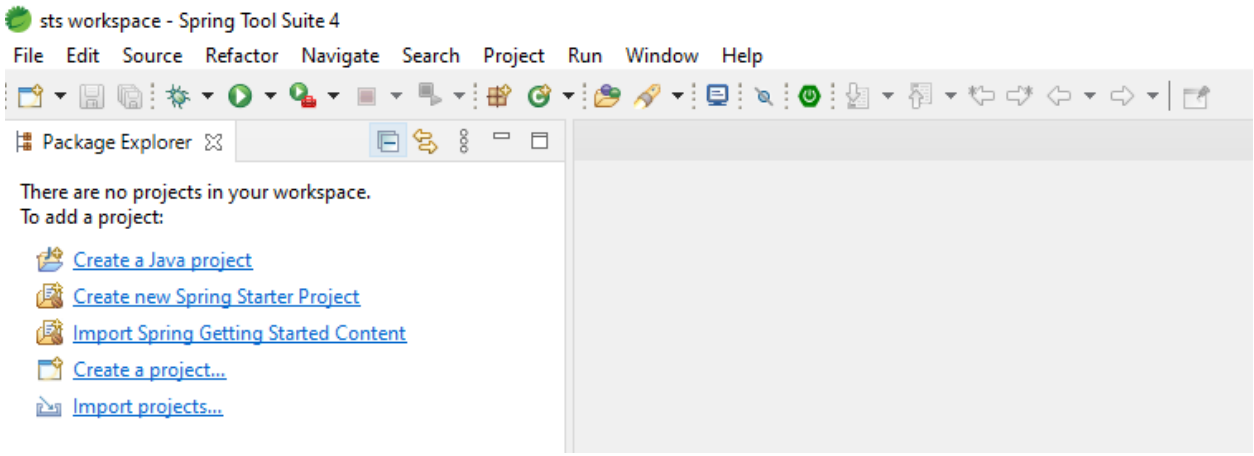
6. Spring too suite launcher box apprears on screen as



7. Set the workspace location as default or if you want you can change it.

   Note- The best way is always create the workspace on any drive except c drive. Due to some system issue or virus you need to immediately format the c drive.

8. Click on launch button and it takes some time.
9. STS looks like



Spring Boot-

What is the Spring Boot?

Spring Boot is a spring framework module which provides RAD (Rapid Application Development) feature to the spring framework.

Features of spring boot

1. **Avoiding heavy configuration of XML** which is present in spring.
2. **Embedded Tomcat-server**
3. **Deployment is very easy**
4. **Lazy initialization** of the Spring applications. After enabling the lazy initialization, beans are created as per the requirement rather than during the application startup.
5. **Facility to creates profiles based on different environment** such as

   Dev, Test, Prod etc.
6. **Properties File –** it is used to set the properties in application.properties file such as server-port = 8082
7. **Security** which provides different authentication for end point (URL)

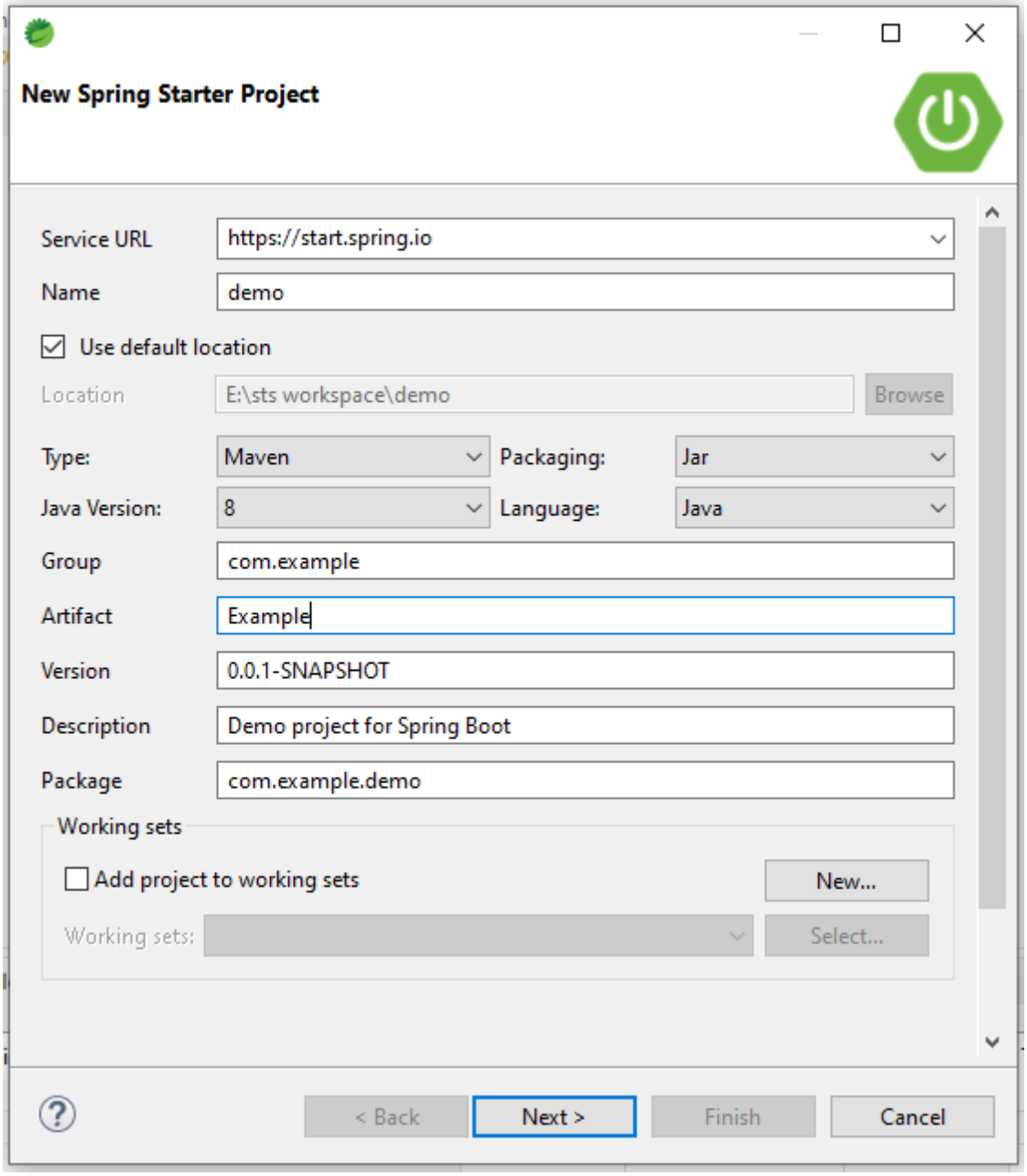
Pre-requisites

- Java 1.8
- Maven 3.0+

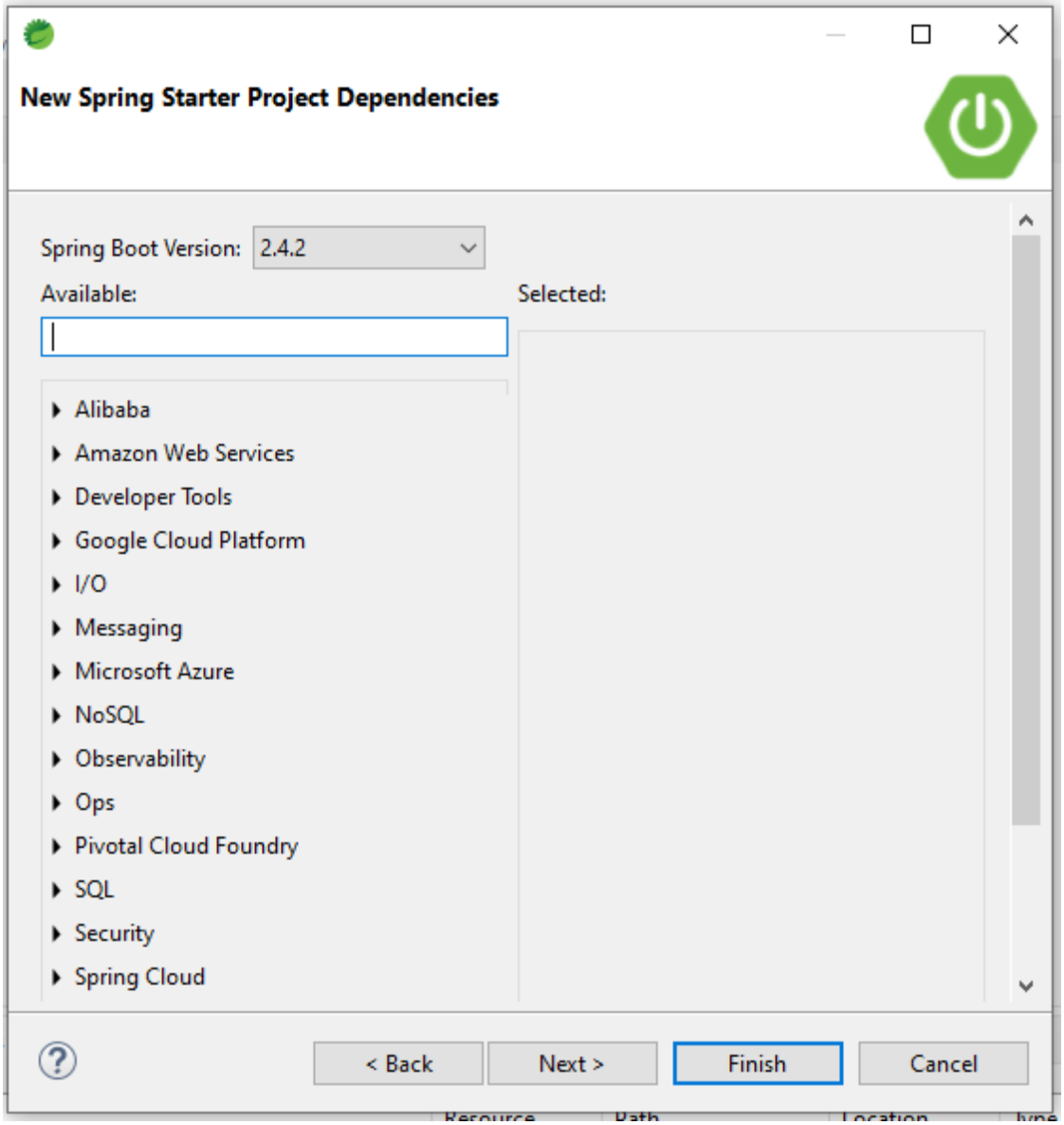
- An IDE (Spring Tool Suite) is recommended.

How to create the Spring Boot Maven Project-

File->New-> Spring Starter Project-> dialog appears as



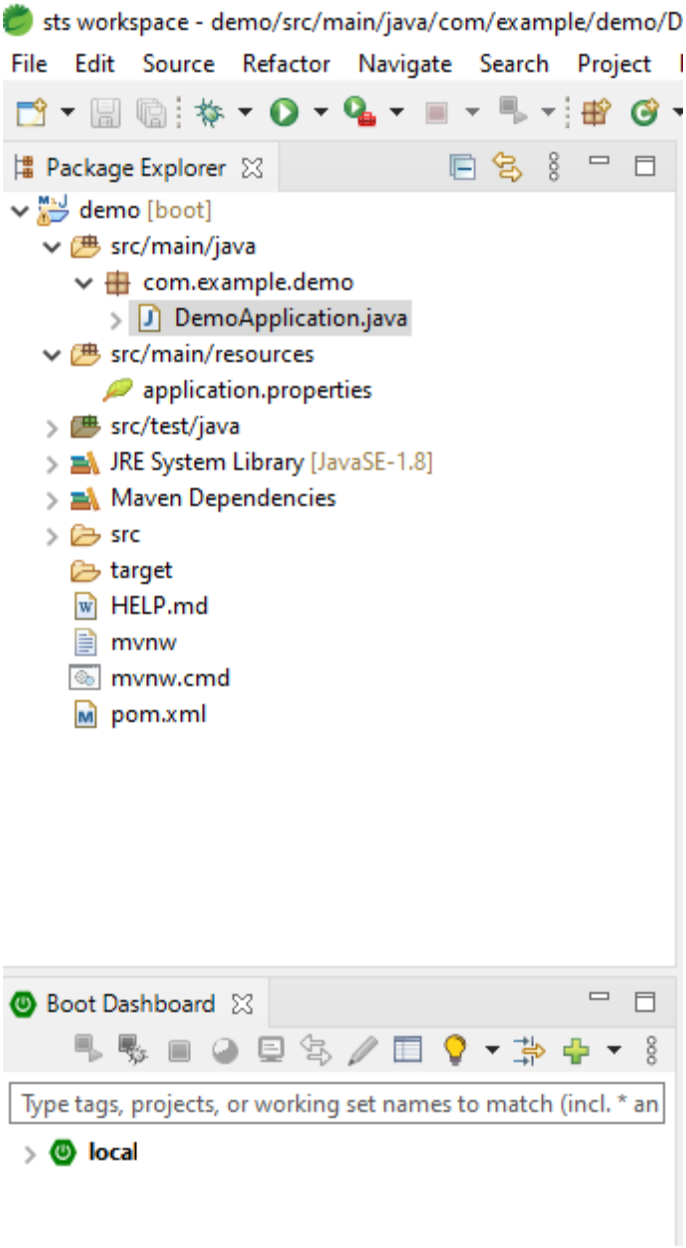
Enter the group id and artifact id and click on Next button.



If you want, you can select the dependencies otherwise click on finish button.

Then

Project structure looks like as



Note- @SpringBootApplication this annotation is equivalent to @Configuration, @ComponentScan, @EnableAutoConfiguration

Spring Boot Dependency Purpose

Spring Boot Starter Actuator-

It is used to monitor and manage your application.

Spring Boot Starter Security-

It is used for spring security.

Spring Boot Starter web-

It is used to write a rest endpoints.

Spring Boot Starter Test-

It is used for writing test cases.

Spring Boot Starter-

It is starter dependency which is used for all the spring-based application.

Spring Boot Annotation-

@SpringBootApplication

This annotation indicates that class should have the main method to run the Spring Boot application.

@ComponentScan

This annotation scans all the beans (POJO or Model Class) and package declarations that is base package.

@EnableAutoConfiguration

This annotation scans sub packages and all the classes which are available in spring boot application.

Rest API Annotation

@RestController

This annotation is used for developing a RESTful web service

@RequestMapping

There are no of rest Controller class contains several handler methods to handle different HTTP requests but how does Spring map a particular request to a particular handler method.

@PathVariable

This annotation is used to retrieve data from the URL and identify the method arguments.

@RequestBody

This annotation can convert inbound HTTP data into Java objects passed into the controller's handler method.

@ResponseBody

This annotation which binds a method return value to the web response body.

@ResponseStatus

This annotation can be used to override the HTTP response code for a response. You can use this annotation for error handling while developing a web application or RESTful web service.