

Framework

Set of abstract classes and interfaces.

All Collection types (List→ArrayList(Ordered, Set→HashSet(Not ordered, Unique elements, override equal and hashCode methods), TreeSet→Sorted)) are one dimensional and All Map types (has two generic parts called key and value, example is hashMap, different from others, maps have put and get methods.) are two dimensional. Collection and Map are called super types.

Inner/Member Classes

We have some class(es) inside a class.

1. Static members
2. Non-Static members

Local Inner Classes → Inner classes in methods.

Anonymous Inner Classes → Lambda Expressions.

Defined within a method, has no name and can implement an interface

IF YOU USE STATIC WORD WHILE DECLARING AN INNER CLASS, YOU DON'T NEED TO CALL NEW ON THE PARENT CLASS

A static class can only access the static members of the outer class.

What is Spring Framework?

Comprehensive infrastructure support for developing Java applications.

Spring handles the infrastructure so you can focus on your application.

POJO's are used both to build applications and enterprise services.

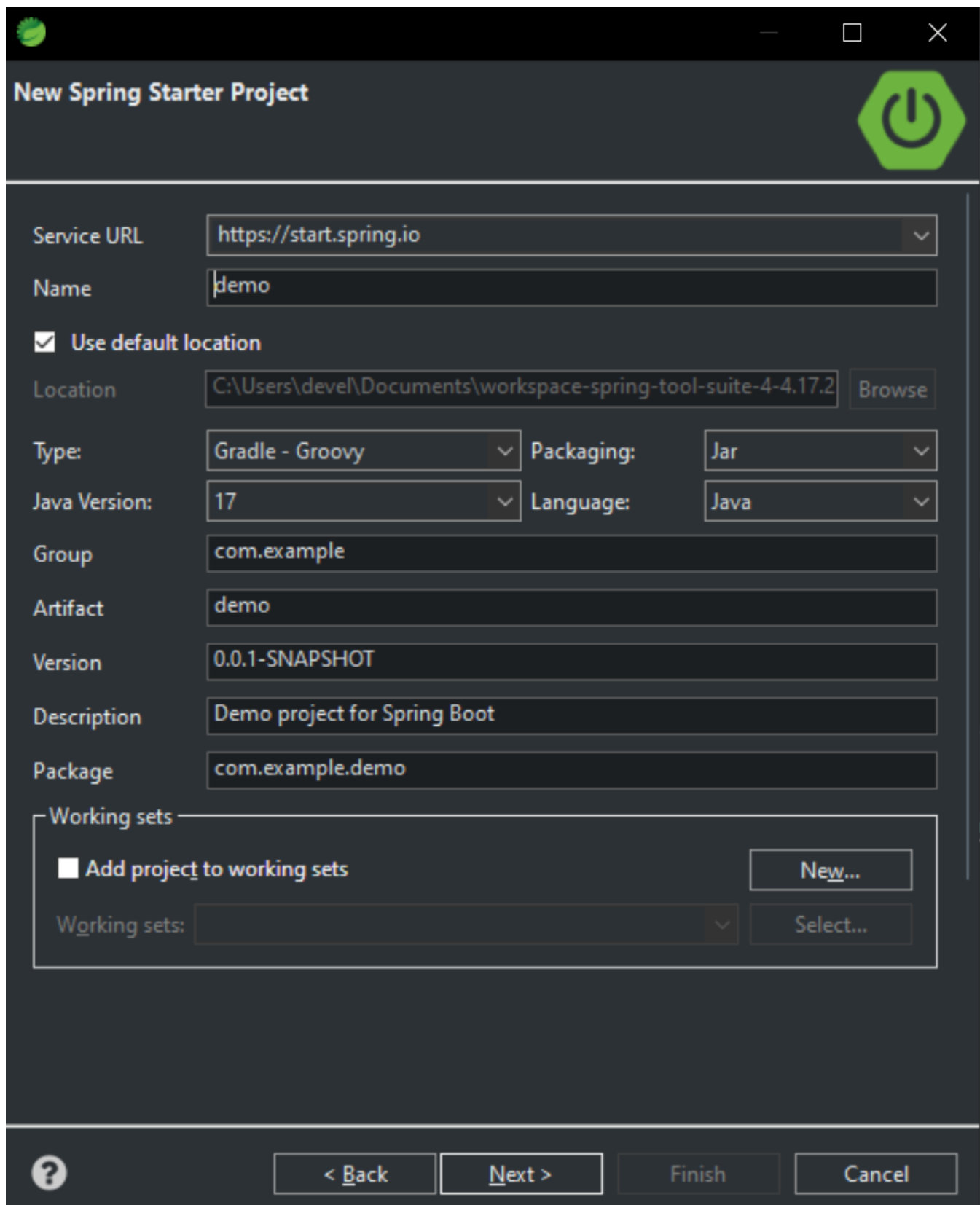
Core Container

It's the critical part of the Spring, and its major component is called the **Application Context**.

Core container consists of the Core, Beans, Context, and Expression Language modules.

Spring Boot

Is an application container that is able to Run, Contain and Serve Spring applications.



New Spring Starter Project

Service URL:

Name:

☒ Use default location

Location:

Type: Packaging:

Java Version: Language:

Group:

Artifact:

Version:

Description:

Package:

Working sets

☐ Add project to working sets

Working sets:

Build tool: Maven

Maven and Gradle are the standard build tools for Java.

Group refers to your group name, companies usually use the domain name here.

Version: Used during development

Package is the main package, its for your code. Creates a Spring Starter Class inside.

New Spring Starter Project Dependencies

Spring Boot Version: 3.0.5

Available:

- ▶ Developer Tools
- ▶ Google Cloud Platform
- ▶ I/O
- ▶ Messaging
- ▶ Microsoft Azure
- ▶ NoSQL
- ▶ Observability
- ▶ Ops
- ▶ SQL
- ▶ Security
- ▶ Spring Cloud
- ▶ Spring Cloud Circuit Breaker
- ▶ Spring Cloud Config
- ▶ Spring Cloud Discovery
- ▶ Spring Cloud Messaging
- ▶ Spring Cloud Routina

Selected:

? < Back Next > Finish Cancel

Dependencies are external libraries that we're using in our application.

Example Main Class Code For Spring Boot Application

Maven is the build tool for building this project. Its the dependency management tool that helps us to add external libraries and deployment tool. It has everything in Java.

Maven has build phases. **Validate** then **Compile**

Package then **Verify** then **install**

```
package com.sabanciuniv.main;

import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.boot.CommandLineRunner;
import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication
public class SpringIntroApplication implements CommandLineRunner{

    Logger logger = LoggerFactory.getLogger(SpringIntroApplication.class);

    // The below line is how we start Spring. We don't touch the main after running it.
    public static void main(String[] args) {
        SpringApplication.run(SpringIntroApplication.class, args);
    }

    @Override
    public void run(String... args) throws Exception {

        System.out.println("output with sysout....");

        logger.info("Welcome to Spring Boot Application");

    }

}
```

Beans

| We'll create beans for everything.

Autowired

| If you want to add a Bean inside any Spring classes, use the Autowired annotation.

All these annotations are declared as interfaces in the background. They don't have methods to overwrite. They define Slacks for the Framework.

Bean annotation says Spring Framework to load that

Managed Components

| Special Components to achieve the overall structure of Entities, DAO Objects, and Services.

| Controller → Usually used for Web Interfaces.

Services	DAO	Entity
Service annotation	Add repository annotation	Entity annotation, For mangoDB we have Add Document

| Control, Service and Repository Annotations extend from **Component Annotation**.