

Expeditors Backend Academy Labs

Introduction

This document contains the labs for the Expeditors Backend Academy.

The instructions are split up into **Classwork** and **Homework**. The Classwork we will do in class together. You should do the Homework in the **Homework** module. Create a new package for each week's homework if it makes sense. I will go through an example before we start.

Week 6

Classwork

1. Add Spring to the StudentService.

Homework

Objectives

1. Convert a Java application to use Spring
2. Learn how to use JUnit to test Spring Applications
3. Learn how to use Spring Profiles to configure dependency injection

Tasks

1. For this first lab you are going to do things slightly differently. The code for this lab is in the **Labs/BasicSpringLab** directory. Instructions for the lab are in the **BasicSpringLabs.pdf** file in that directory.
2. Time to start Introducing Spring into our application
 - a. Create bean declarations for your Service and DAO. You can use either `@Service`, `@Repository`, `@Autowired`, etc, or create an `@Configuration` class and use `@Bean` methods.
 - b. Have your main class create an `AnnotationConfigApplicationContext`.
 - c. Make sure the context can find your configuration. How you ensure this will depend on how you declared your beans.
 - d. Use the `getBean` method on the context to get a reference to your Service class, and take it through it's paces.

3. Springify your Unit tests. At this point assume that you are doing integration tests, and so need to have a reference to a Service that is wired up to its dependencies.
4. Use Spring profiles to allow you to switch between your DAOs based on active profile
 - a. To set a profile:

```
AnnotationConfigApplicationContext context =  
    new AnnotationConfigApplicationContext();  
context.getEnvironment().setActiveProfiles("dev");  
context.scan([packages if any]);  
context.register([ConfigClasses if any]);  
context.refresh();
```

5. To set a profile for a Unit Test you can use `@ActiveProfiles("...", "...")`;