HowToDoInJava

# Spring Boot – Get all loaded beans with Class Type Information

Last Updated: October 22, 2020 By: Lokesh Gupta Spring Boot Spring Context

Spring boot loads lots of beans internally to run your application with minimal configuration. In this example, we will learn to find out all those **spring boot loaded beans** and their class type information.

## Using ApplicationContext to get all loaded beans

To execute a method automatically, when application is fully loaded, I am using `CommandLineRunner` interface. CommandLineRunner is used to indicate that a bean should **run** when it is contained within a Spring Application.

1) Use `ApplicationContext.getBeanDefinitionNames()` to find the name of all loaded beans
2) Use `ApplicationContext.getBean(beanName)` to get bean including its runtime type information.

```
package com.howtodoinjava.app.controller;

import java.util.Arrays;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.boot.CommandLineRunner;
import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.boot.builder.SpringApplicationBuilder;
import org.springframework.boot.web.support.SpringBootServletInitializer;
import org.springframework.context.ApplicationContext;
```

```
@SpringBootApplication
public class SpringBootWebApplication extends SpringBootServletInitializer impleme

  @Override
  protected SpringApplicationBuilder configure(SpringApplicationBuilder applicatio
    return application.sources(SpringBootWebApplication.class);
  }

  public static void main(String[] args) throws Exception {
    SpringApplication.run(SpringBootWebApplication.class, args);
  }

  @Autowired
    private ApplicationContext appContext;

  @Override
    public void run(String... args) throws Exception
  {
        String[] beans = appContext.getBeanDefinitionNames();
        Arrays.sort(beans);
        for (String bean : beans)
        {
            System.out.println(bean + " of Type :: " + appContext.getBean(bean).ge
        }
    }
}
```

Running above application will print bean names and type information in console like below:

```
2017-03-06 13:22:50 - Tomcat started on port(s): 8080 (http)

basicErrorController of Type :: class org.springframework.boot.autoconfigure.web.B
beanNameHandlerMapping of Type :: class org.springframework.web.servlet.handler.Be
beanNameViewResolver of Type :: class org.springframework.web.servlet.view.BeanNam
characterEncodingFilter of Type :: class org.springframework.boot.web.filter.Order
conventionErrorViewResolver of Type :: class org.springframework.boot.autoconfigur
defaultServletHandlerMapping of Type :: class org.springframework.web.servlet.conf
defaultViewResolver of Type :: class org.springframework.web.servlet.view.Internal
dispatcherServlet of Type :: class org.springframework.web.servlet.DispatcherServl
dispatcherServletRegistration of Type :: class org.springframework.boot.web.servle
duplicateServerPropertiesDetector of Type :: class org.springframework.boot.autoco
embeddedServletContainerCustomizerBeanPostProcessor of Type :: class org.springfra
error of Type :: class org.springframework.boot.autoconfigure.web.ErrorMvcAutoConf
errorAttributes of Type :: class org.springframework.boot.autoconfigure.web.Defaul
...
```

```
...
...
```

I have truncated the output. You can verify the whole list yourself.

Happy Learning !!



## Recommended Reading:

1. JavaScript Logs – Mask Sensitive Information in JSON
2. Spring beans using annotation configuration
3. Python Type Conversion and Type Casting
4. [Solved]: javax.xml.bind.JAXBException: class java.util.ArrayList nor any of its super class is known to this context
5. [SOLVED]: Unable to find a result type for extension [properties] or [xml]
6. [Solved] org.codehaus.jackson.map.JsonMappingException: No suitable constructor found for type
7. [Solved] Dropwizard – Failed to parse configuration [Could not resolve type id 'http' into a subtype]
8. Read Type-safe Inputs using Scanner
9. Java 14 – record type

0. Primitive Type Streams in Java



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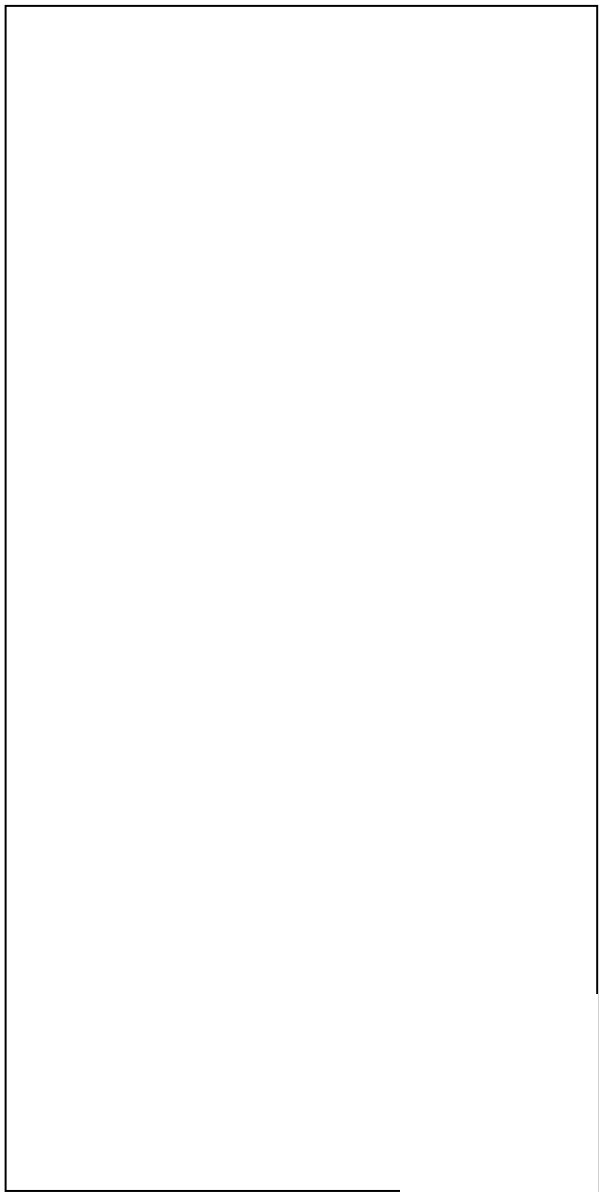

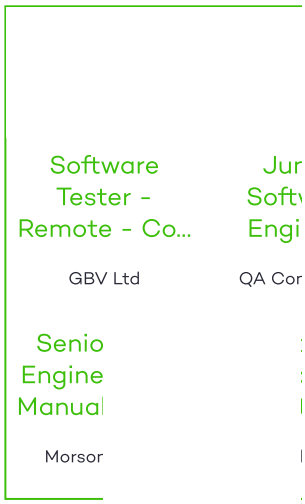


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