链滴

SpringBoot 注解 @EnableAutoConfiguration

作者：huxudong

原文链接：https://ld246.com/article/1502979112110

来源网站：链滴

之前使用SpringBoot是没有什么问题的，今天整合一下，突然发现报错

```
org.springframework.context.ApplicationContextException: Unable to start embedded contai
er; nested exception is org.springframework.context.ApplicationContextException: Unable to s
art EmbeddedWebApplicationContext due to missing EmbeddedServletContainerFactory bean

    at org.springframework.boot.context.embedded.EmbeddedWebApplicationContext.onRefr
sh(EmbeddedWebApplicationContext.java:137) ~[spring-boot-1.5.6.RELEASE.jar:1.5.6.RELEASE

    at org.springframework.context.support.AbstractApplicationContext.refresh(AbstractApplic
tionContext.java:537) ~[spring-context-4.3.10.RELEASE.jar:4.3.10.RELEASE]
    at org.springframework.boot.context.embedded.EmbeddedWebApplicationContext.refresh
EmbeddedWebApplicationContext.java:122) ~[spring-boot-1.5.6.RELEASE.jar:1.5.6.RELEASE]
    at org.springframework.boot.SpringApplication.refresh(SpringApplication.java:693) [spring
boot-1.5.6.RELEASE.jar:1.5.6.RELEASE]
    at org.springframework.boot.SpringApplication.refreshContext(SpringApplication.java:360)
spring-boot-1.5.6.RELEASE.jar:1.5.6.RELEASE]
    at org.springframework.boot.SpringApplication.run(SpringApplication.java:303) [spring-boo
-1.5.6.RELEASE.jar:1.5.6.RELEASE]
    at org.springframework.boot.SpringApplication.run(SpringApplication.java:1118) [spring-b
ot-1.5.6.RELEASE.jar:1.5.6.RELEASE]
    at org.springframework.boot.SpringApplication.run(SpringApplication.java:1107) [spring-b
ot-1.5.6.RELEASE.jar:1.5.6.RELEASE]
    at com.example.demo.DemoApplication.main(DemoApplication.java:9) [classes/:na]
Caused by: org.springframework.context.ApplicationContextException: Unable to start Embed
edWebApplicationContext due to missing EmbeddedServletContainerFactory bean.
    at org.springframework.boot.context.embedded.EmbeddedWebApplicationContext.getEm
eddedServletContainerFactory(EmbeddedWebApplicationContext.java:189) ~[spring-boot-1.5
6.RELEASE.jar:1.5.6.RELEASE]
    at org.springframework.boot.context.embedded.EmbeddedWebApplicationContext.create
mbeddedServletContainer(EmbeddedWebApplicationContext.java:162) ~[spring-boot-1.5.6.R
LEASE.jar:1.5.6.RELEASE]
    at org.springframework.boot.context.embedded.EmbeddedWebApplicationContext.onRefr
sh(EmbeddedWebApplicationContext.java:134) ~[spring-boot-1.5.6.RELEASE.jar:1.5.6.RELEASE

    ... 8 common frames omitted


Process finished with exit code 1
```

瞬间懵逼。

后来经过排查发现无法启动嵌入容器，工厂类不存在。后来在类头加上 @EnableAutoConfiguratio
。就OK了。

下一步，查看一下这个 @EnableAutoConfiguration究竟是干什么的。

通过观察源码发现这个注解引入了其他的注解

```
package org.springframework.boot.autoconfigure;

import java.lang.annotation.Documented;
import java.lang.annotation.ElementType;
import java.lang.annotation.Inherited;
import java.lang.annotation.Retention;
import java.lang.annotation.RetentionPolicy;
import java.lang.annotation.Target;
import org.springframework.context.annotation.Import;

@Target({ElementType.TYPE})
@Retention(RetentionPolicy.RUNTIME)
@Documented
@Inherited
@AutoConfigurationPackage
@Import({EnableAutoConfigurationImportSelector.class})
public @interface EnableAutoConfiguration {
    String ENABLED_OVERRIDE_PROPERTY = "spring.boot.enableautoconfiguration";

  Class[] exclude() default {};

  String[] excludeName() default {};
}
```

主要查看的是

```
@Import({EnableAutoConfigurationImportSelector.class})
```

import主要配合Configuration使用，用来导出更多的Configuration类，同时，enableautoconfiguationimportselector实现了DeferredImportSelector接口，并实现了selectImports方法

```
public interface ImportSelector {
  String[] selectImports(AnnotationMetadata var1);

}
```

导出的类是通过SpringFactoriesLoader.loadFactoryNames()读取了ClassPath下面的META-INF/sprng.factories文件

```
# Auto Configure
org.springframework.boot.autoconfigure.EnableAutoConfiguration=\
org.springframework.boot.autoconfigure.aop.AopAutoConfiguration,\
org.springframework.boot.autoconfigure.amqp.RabbitAutoConfiguration,\
org.springframework.boot.autoconfigure.MessageSourceAutoConfiguration,\
org.springframework.boot.autoconfigure.PropertyPlaceholderAutoConfiguration,\
org.springframework.boot.autoconfigure.batch.BatchAutoConfiguration,\
org.springframework.boot.autoconfigure.cloud.CloudAutoConfiguration,\
org.springframework.boot.autoconfigure.dao.PersistenceExceptionTranslationAutoConfigurat
on,\
org.springframework.boot.autoconfigure.data.elasticsearch.ElasticsearchRepositoriesAutoConf
guration,\
org.springframework.boot.autoconfigure.data.jpa.JpaRepositoriesAutoConfiguration,\
org.springframework.boot.autoconfigure.data.mongo.MongoRepositoriesAutoConfiguration,\
org.springframework.boot.autoconfigure.data.solr.SolrRepositoriesAutoConfiguration,\
org.springframework.boot.autoconfigure.data.rest.RepositoryRestMvcAutoConfiguration,\
org.springframework.boot.autoconfigure.data.web.SpringDataWebAutoConfiguration,\
org.springframework.boot.autoconfigure.freemarker.FreeMarkerAutoConfiguration,\
```

原文链接：SpringBoot 注解 @EnableAutoConfiguration

```
org.springframework.boot.autoconfigure.gson.GsonAutoConfiguration,\
org.springframework.boot.autoconfigure.hateoas.HypermediaAutoConfiguration,\
org.springframework.boot.autoconfigure.integration.IntegrationAutoConfiguration,\
org.springframework.boot.autoconfigure.jackson.JacksonAutoConfiguration,\
org.springframework.boot.autoconfigure.jdbc.DataSourceAutoConfiguration,\
org.springframework.boot.autoconfigure.jdbc.JndiDataSourceAutoConfiguration,\
org.springframework.boot.autoconfigure.jdbc.XADataSourceAutoConfiguration,\
org.springframework.boot.autoconfigure.jdbc.DataSourceTransactionManagerAutoConfiguraton,\
org.springframework.boot.autoconfigure.jms.JmsAutoConfiguration,\
org.springframework.boot.autoconfigure.jmx.JmxAutoConfiguration,\
org.springframework.boot.autoconfigure.jms.JndiConnectionFactoryAutoConfiguration,\
org.springframework.boot.autoconfigure.jms.activemq.ActiveMQAutoConfiguration,\
org.springframework.boot.autoconfigure.jms.hornetq.HornetQAutoConfiguration,\
org.springframework.boot.autoconfigure.jta.JtaAutoConfiguration,\
org.springframework.boot.autoconfigure.elasticsearch.ElasticsearchAutoConfiguration,\
org.springframework.boot.autoconfigure.elasticsearch.ElasticsearchDataAutoConfiguration,\
org.springframework.boot.autoconfigure.flyway.FlywayAutoConfiguration,\
org.springframework.boot.autoconfigure.groovy.template.GroovyTemplateAutoConfiguration\
org.springframework.boot.autoconfigure.jersey.JerseyAutoConfiguration,\
org.springframework.boot.autoconfigure.liquibase.LiquibaseAutoConfiguration,\
org.springframework.boot.autoconfigure.mail.MailSenderAutoConfiguration,\
org.springframework.boot.autoconfigure.mobile.DeviceResolverAutoConfiguration,\
org.springframework.boot.autoconfigure.mobile.DeviceDelegatingViewResolverAutoConfigurtion,\
org.springframework.boot.autoconfigure.mobile.SitePreferenceAutoConfiguration,\
org.springframework.boot.autoconfigure.mongo.MongoAutoConfiguration,\
org.springframework.boot.autoconfigure.mongo.MongoDataAutoConfiguration,\
org.springframework.boot.autoconfigure.mustache.MustacheAutoConfiguration,\
org.springframework.boot.autoconfigure.orm.jpa.HibernateJpaAutoConfiguration,\
org.springframework.boot.autoconfigure.reactor.ReactorAutoConfiguration,\
org.springframework.boot.autoconfigure.redis.RedisAutoConfiguration,\
org.springframework.boot.autoconfigure.security.SecurityAutoConfiguration,\
org.springframework.boot.autoconfigure.security.FallbackWebSecurityAutoConfiguration,\
org.springframework.boot.autoconfigure.social.SocialWebAutoConfiguration,\
org.springframework.boot.autoconfigure.social.FacebookAutoConfiguration,\
org.springframework.boot.autoconfigure.social.LinkedInAutoConfiguration,\
org.springframework.boot.autoconfigure.social.TwitterAutoConfiguration,\
org.springframework.boot.autoconfigure.solr.SolrAutoConfiguration,\
org.springframework.boot.autoconfigure.velocity.VelocityAutoConfiguration,\
org.springframework.boot.autoconfigure.thymeleaf.ThymeleafAutoConfiguration,\
org.springframework.boot.autoconfigure.web.DispatcherServletAutoConfiguration,\
org.springframework.boot.autoconfigure.web.EmbeddedServletContainerAutoConfiguration,\
org.springframework.boot.autoconfigure.web.ErrorMvcAutoConfiguration,\
org.springframework.boot.autoconfigure.web.GzipFilterAutoConfiguration,\
org.springframework.boot.autoconfigure.web.HttpEncodingAutoConfiguration,\
org.springframework.boot.autoconfigure.web.HttpMessageConvertersAutoConfiguration,\
org.springframework.boot.autoconfigure.web.MultipartAutoConfiguration,\
org.springframework.boot.autoconfigure.web.ServerPropertiesAutoConfiguration,\
org.springframework.boot.autoconfigure.web.WebMvcAutoConfiguration,\
org.springframework.boot.autoconfigure.websocket.WebSocketAutoConfiguration
```

其中EmbeddedServletContainerAutoConfiguration是实现web服务的主要配置文类，这个类会根

当前存在的类的信息注入必要的EmbeddedServletContainerFactory类。

spring-boot-starter-tomcat引入了tomcat的依赖，所以EmbeddedServletContainerAutoConfiguation发现存在Tomcat.class就会注入TomcatEmbeddedServletContainerFactory来内置web容器。

```
@Configuration
@ConditionalOnClass({ Servlet.class, Tomcat.class })
@ConditionalOnMissingBean(value = EmbeddedServletContainerFactory.class, search = Sear
hStrategy.CURRENT)
public static class EmbeddedTomcat {
    @Bean public TomcatEmbeddedServletContainerFactory tomcatEmbeddedServletContaine
Factory() { return new TomcatEmbeddedServletContainerFactory();
    }
}
```

主要参考：http://www.jianshu.com/p/2a171fa80756