



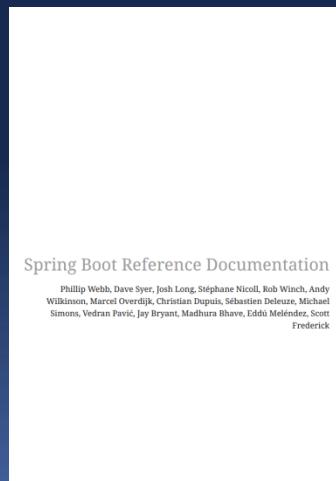
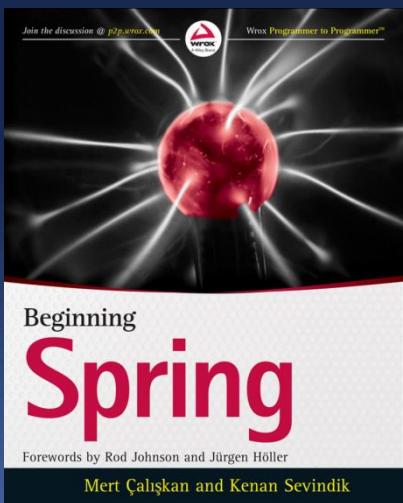
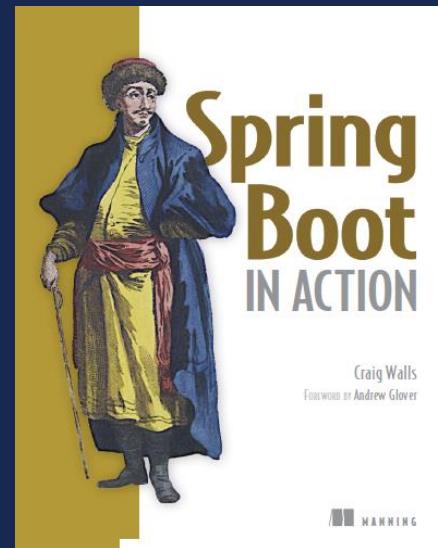
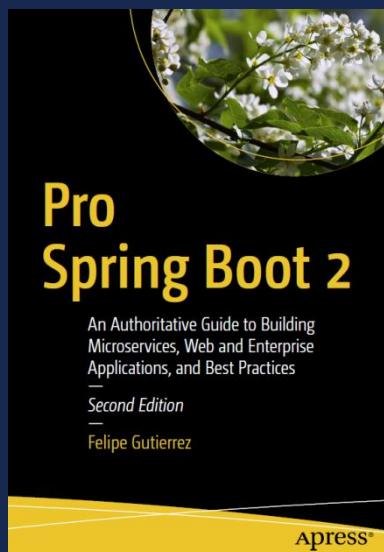
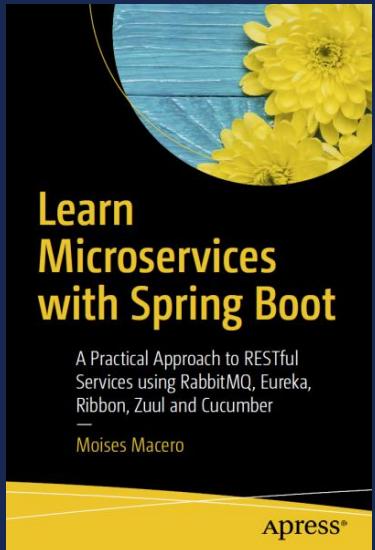
# Spring Boot

## Unidade 1 - Introdução



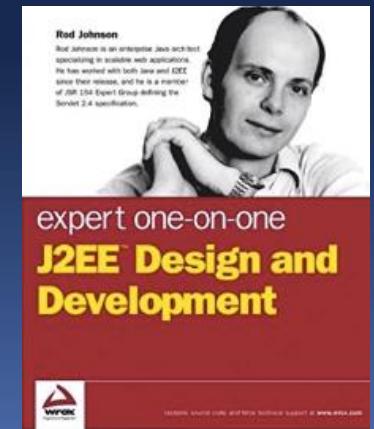
Prof. Aparecido V. de Freitas  
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da Computação pela EPUSP  
[aparecidovfreitas@gmail.com](mailto:aparecidovfreitas@gmail.com)

# Bibliografia



# Introdução

- O framework **Spring** foi desenvolvido por volta dos anos 2000 e continua sendo largamente utilizado até os dias de hoje em aplicações Java;
- O grande objetivo do **Spring**, desde sua concepção, é simplificar o desenvolvimento de aplicações **JEE**;
- Desenvolvido por Rod Johnson, a partir do código escrito inicialmente no livro “J2EE Design and Development”, tendo recebido -- após a liberação -- a contribuição de desenvolvedores da comunidade;
- Spring foca na simplicidade de código com o uso de conceitos tais como inversão de controle e injeção de dependências;
- Spring corresponde à uma forma de complementar a arquitetura **JEE**.



# Introdução

- Com **Spring Boot** pode-se criar **APIs REST**;
- O framework **Spring** disponibiliza uma forma simples e prática de se criar um projeto Rest;
- No endereço **start.spring.io** pode-se configurar o projeto a partir de algumas informações que são solicitadas;
- Spring Boot gera um Projeto Maven e, assim, configuraremos o Eclipse para que o Maven baixe as dependências num **Repositório Maven Local**.



# Integração do Maven com Eclipse



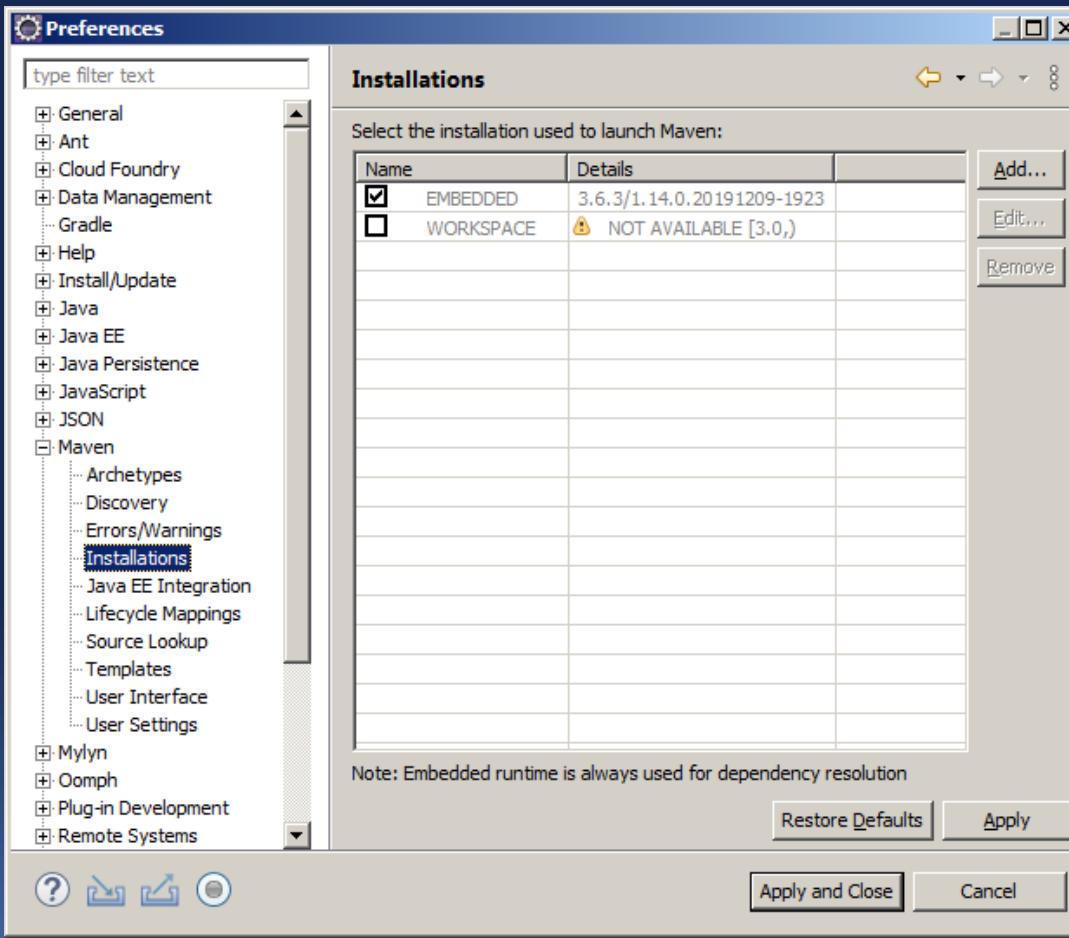
- Para a integração do **Maven** com o **Eclipse** recomenda-se utilizar o plugin **M2E**;
- **M2E** é um plugin do **Eclipse** que faz a integração com o **Maven**;
- Existe também o **Maven Eclipse Plugin** que gera um projeto para o **Eclipse**. Este é um plugin do **Maven** que simplesmente gera os arquivos de configuração necessários para a IDE; Portanto, são plugins diferentes;
- A distribuição Eclipse for JEE Developers já vem com o plugin M2E e uma instalação interna do Maven;
- Caso você esteja com uma versão diferente do Eclipse, use o menu Help > Eclipse Marketplace ... , pesquise por M2E e instale o plugin;



# Integração do Maven com Eclipse

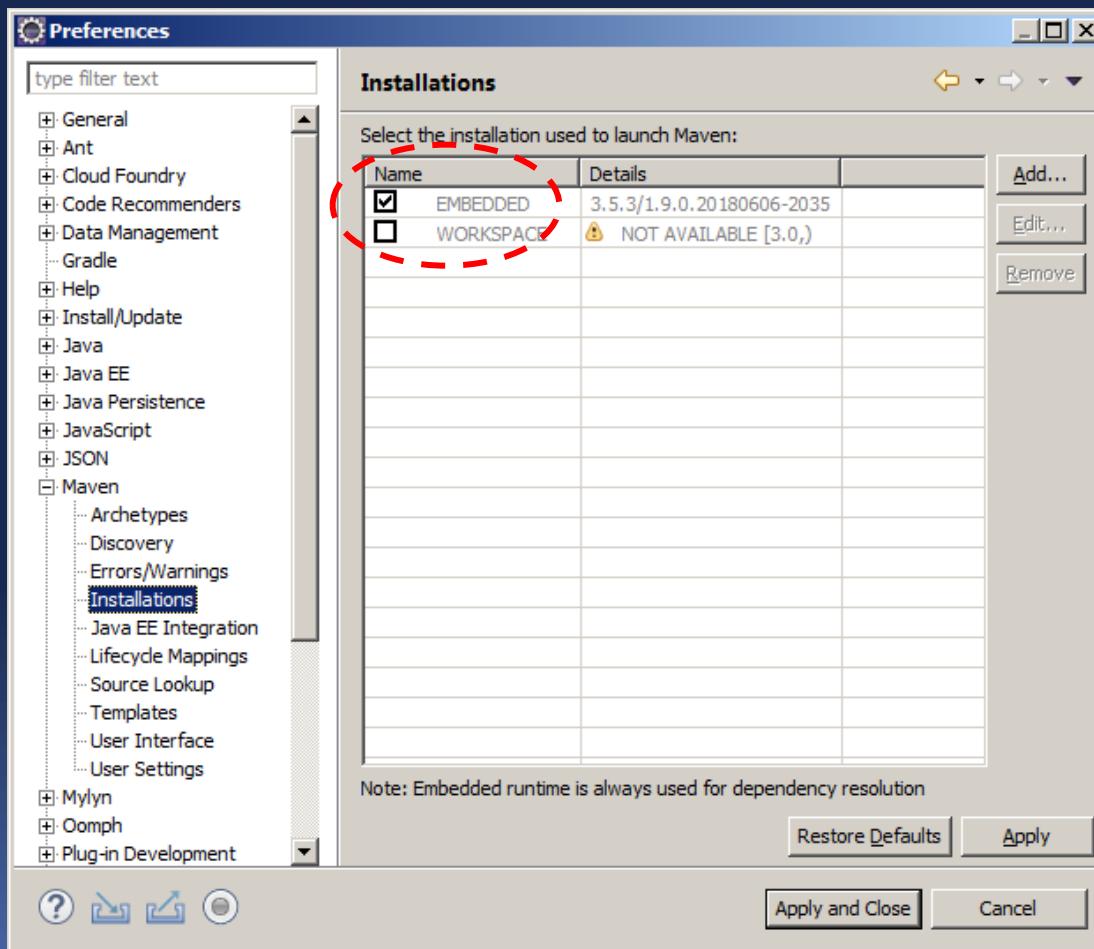


- ✓ Com o plugin **M2E** instalado e o Eclipse aberto, acesse o menu Window > Preferences;
- ✓ Vá para a opção **Windows> Preferences > Maven > Installations**.



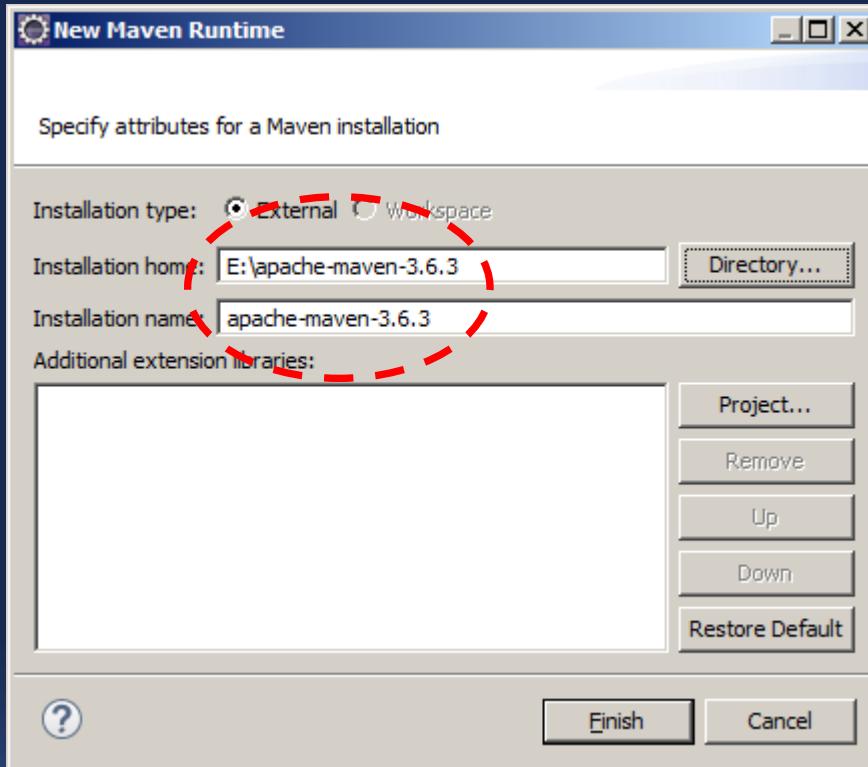
# Integração do Maven com Eclipse

- ✓ Observe que já existe uma instalação “embarcada”, mas com uma versão desatualizada;
- ✓ Vamos adicionar o nosso Maven recentemente instalado;
- ✓ Clique em **Add...**



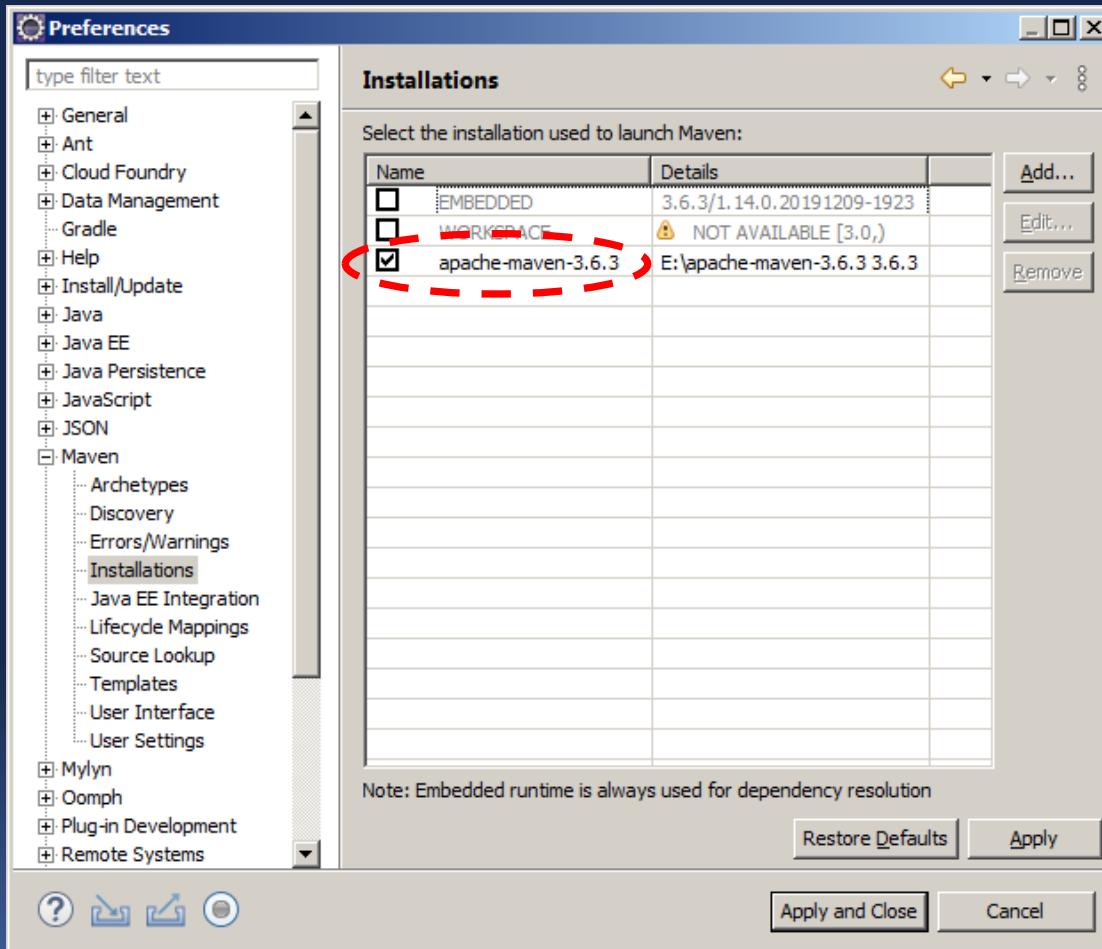
# Integração do Maven com Eclipse

- ✓ Selecione a pasta com a nossa instalação do Maven e tecle **Finish**.



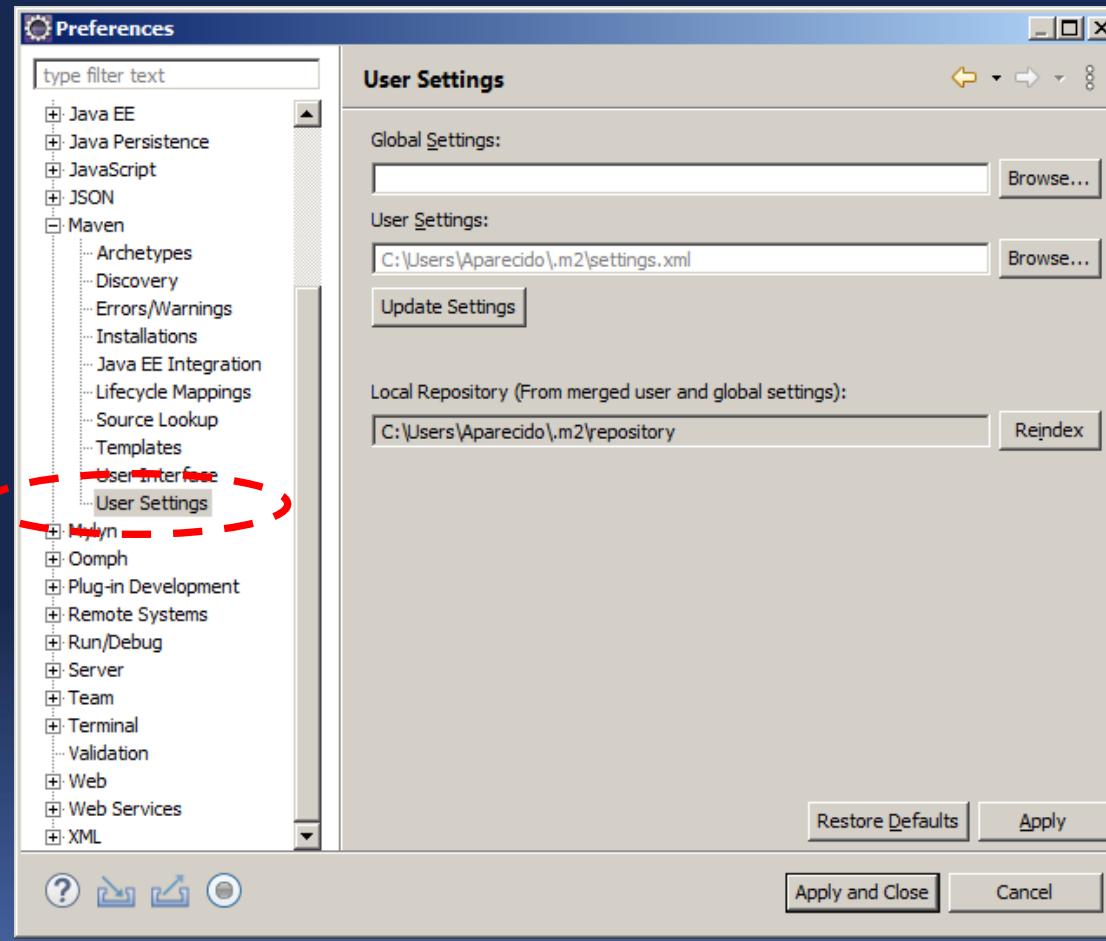
# Integração do Maven com Eclipse

- ✓ Marque a nossa instalação e tecle **Apply and Close**.



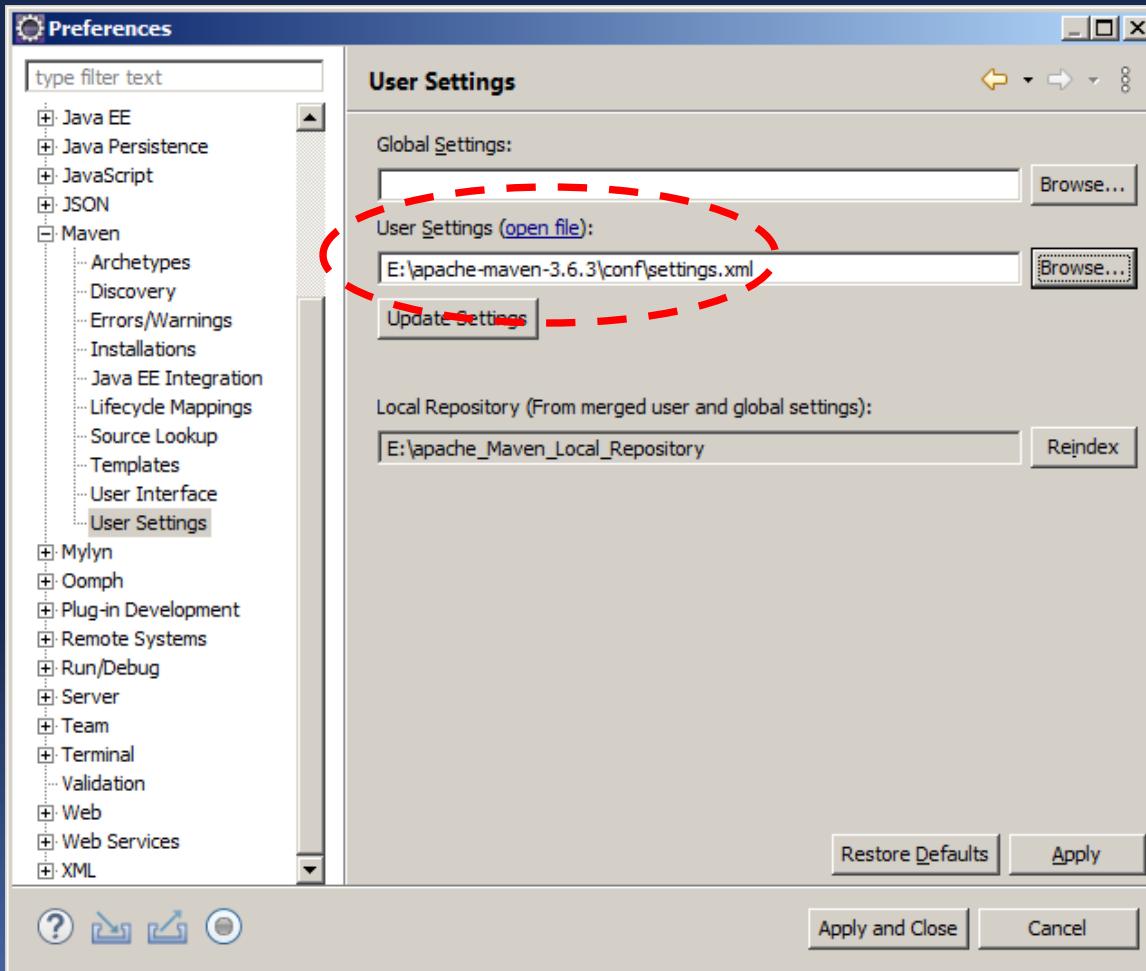
# Integração do Maven com Eclipse

- ✓ Agora vamos atualizar o arquivo de configuração do **Maven**;
- ✓ Vá em **Windows > Preferences > Maven > User Settings** e defina o arquivo de configuração existente no diretório onde o **Maven** foi instalado.



# Integração do Maven com Eclipse

- ✓ Após a definição do arquivo de configuração da nossa instalação do Maven, tecle em **Update Settings**;
- ✓ Em seguida, tecle em **Apply and Close**.

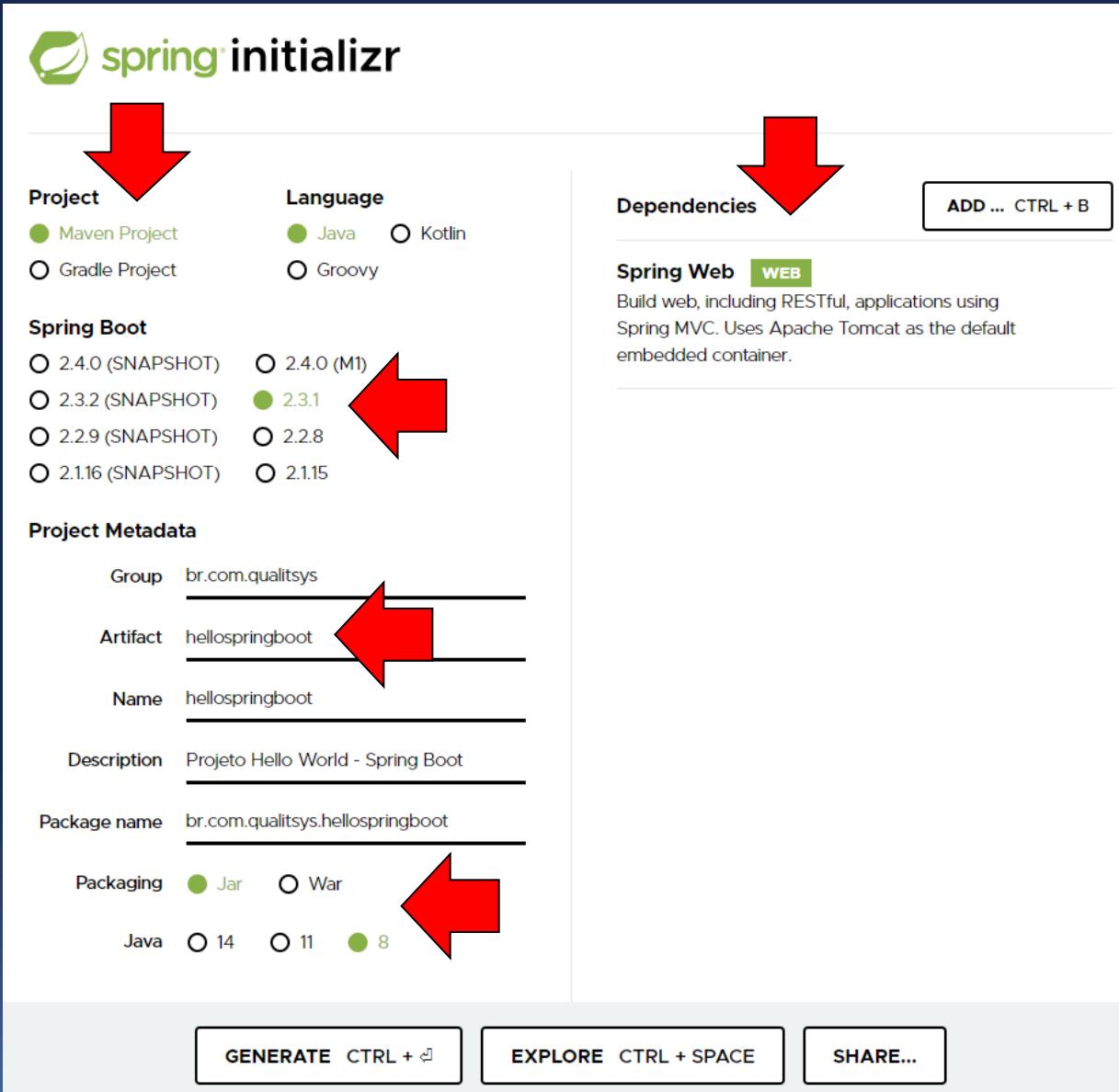


Pronto! Agora nosso Eclipse agora está configurado para que o Maven baixe os pacotes no nosso repositório local !



Agora vamos criar o projeto  
Maven com o Spring Boot !





The screenshot shows the Spring Initializr web application interface. Several red arrows highlight specific configuration fields:

- A large red arrow points down to the "Project" section, which includes options for "Maven Project" (selected) and "Gradle Project".
- A red arrow points down to the "Dependencies" section, specifically highlighting the "Spring Web" dependency (selected).
- A red arrow points left to the "Artifact" field, which contains the value "hellospringboot".
- A red arrow points left to the "Java" version field, where "8" is selected.

**Project**

Maven Project     Java     Kotlin  
 Gradle Project     Groovy

**Spring Boot**

2.4.0 (SNAPSHOT)     2.4.0 (M1)  
 2.3.2 (SNAPSHOT)     2.3.1  
 2.2.9 (SNAPSHOT)     2.2.8  
 2.1.16 (SNAPSHOT)     2.1.15

**Project Metadata**

Group: br.com.qualitsys

Artifact: hellospringboot

Name: hellospringboot

Description: Projeto Hello World - Spring Boot

Package name: br.com.qualitsys.hellospringboot

Packaging:  Jar     War

Java:  14     11     8

**Dependencies**

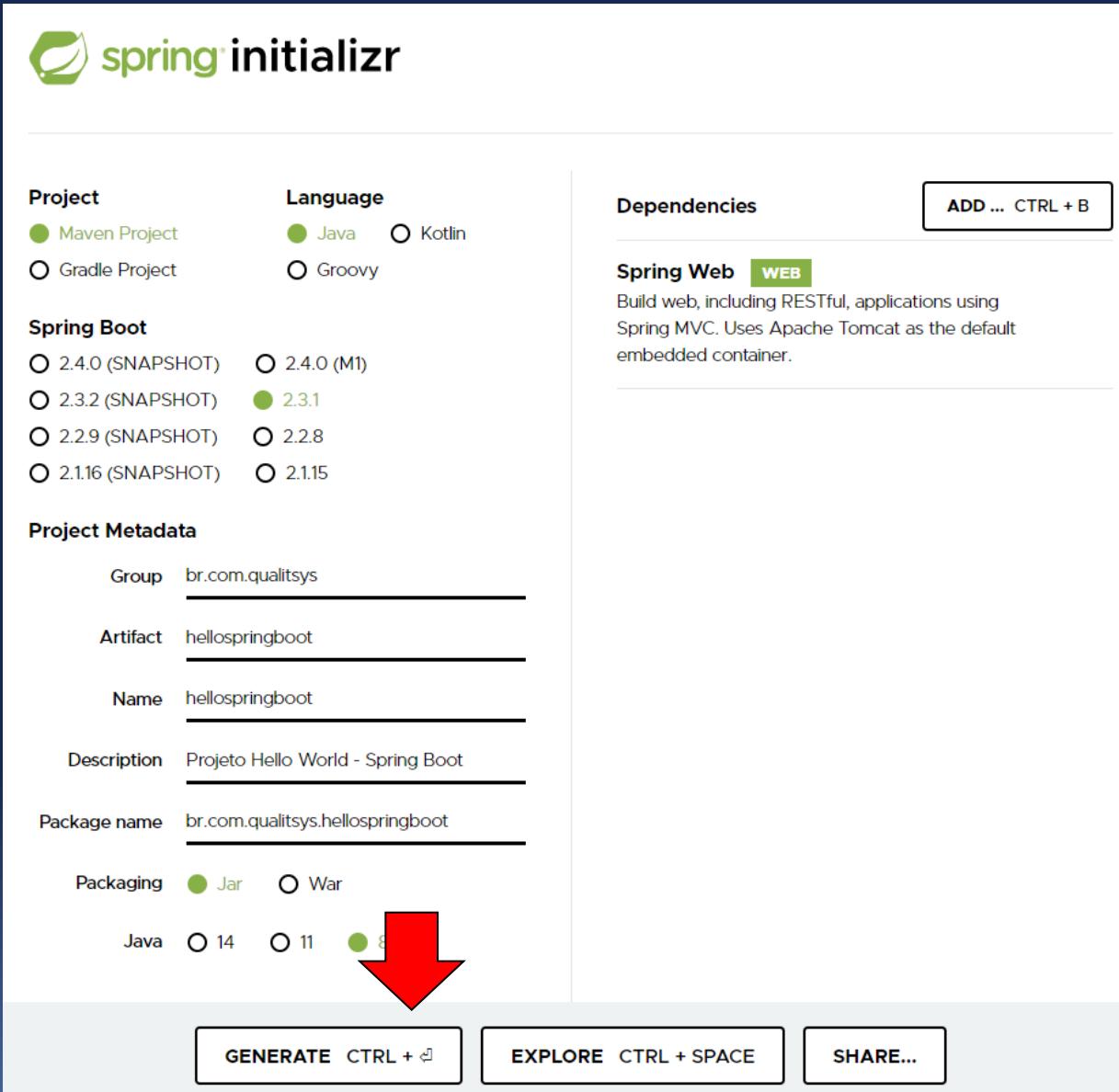
**Spring Web** WEB

Build web, including RESTful, applications using Spring MVC. Uses Apache Tomcat as the default embedded container.

**Actions**

GENERATE CTRL + ↵ EXPLORE CTRL + SPACE SHARE...

# Generate Project



The screenshot shows the Spring Initializr interface for generating a new Spring Boot project. A large red arrow points from the bottom left towards the "Java" dropdown menu, specifically highlighting the selection of Java 8.

**Project**

- Maven Project
- Gradle Project

**Language**

- Java
- Kotlin
- Groovy

**Spring Boot**

- 2.4.0 (SNAPSHOT)
- 2.4.0 (M1)
- 2.3.2 (SNAPSHOT)
- 2.3.1
- 2.2.9 (SNAPSHOT)
- 2.2.8
- 2.1.16 (SNAPSHOT)
- 2.1.15

**Project Metadata**

Group: br.com.qualitsys

Artifact: hellospringboot

Name: hellospringboot

Description: Projeto Hello World - Spring Boot

Package name: br.com.qualitsys.hellospringboot

Packaging:  Jar  War

Java:  14  11  8

**Dependencies**

**Spring Web** WEB

Build web, including RESTful, applications using Spring MVC. Uses Apache Tomcat as the default embedded container.

**Actions**

**GENERATE** CTRL + ↵ **EXPLORE** CTRL + SPACE **SHARE...**

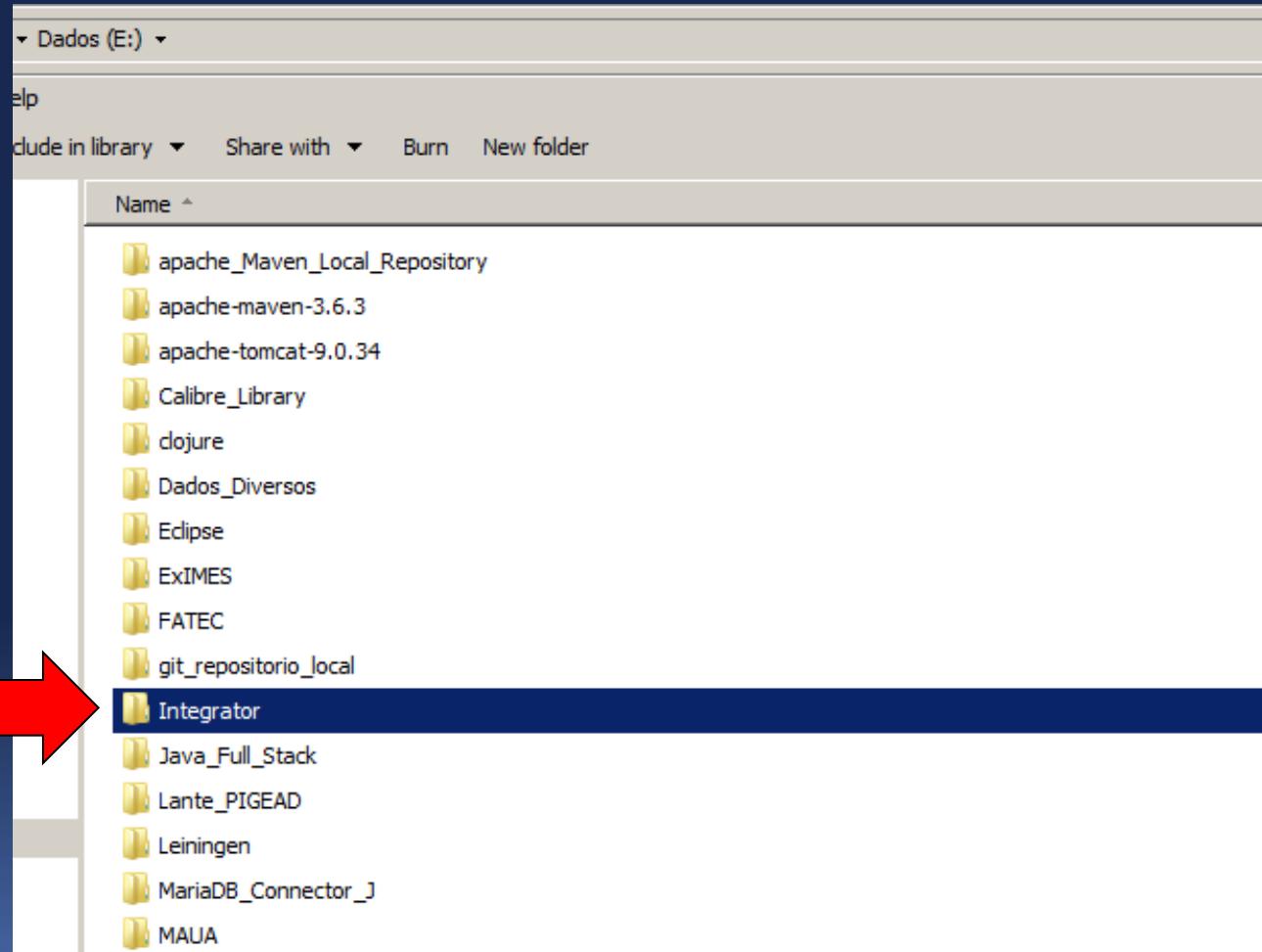
# Generate Project

- Spring Boot gerou o projeto Maven no arquivo **hellospringboot.zip**



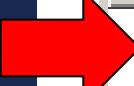
# Initializr gera projeto em arquivo .zip

- Projeto **Maven** criado !
- Salvaremos o projeto na pasta **E:\Integrator**



# Initializr gera projeto em arquivo .zip

- Esse arquivo **.zip** é o projeto na estrutura do **Maven**;
- Descompactar o projeto em alguma pasta;
- Descompactaremos na pasta **E:\Integrator**

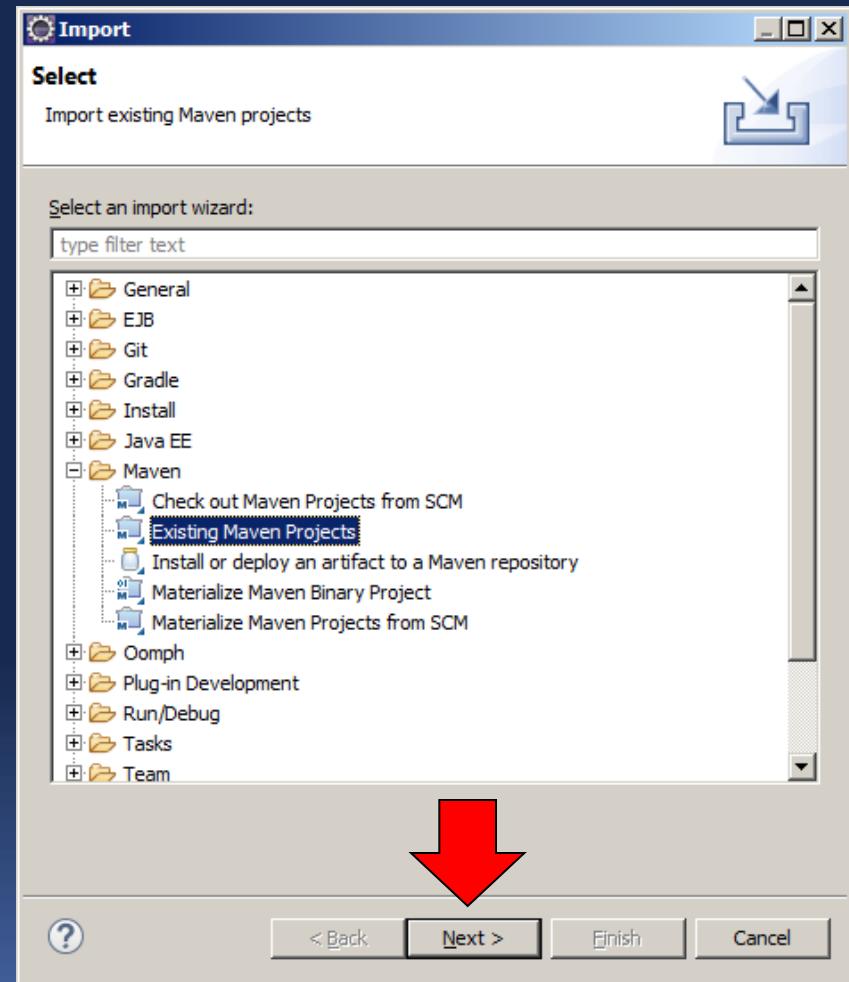
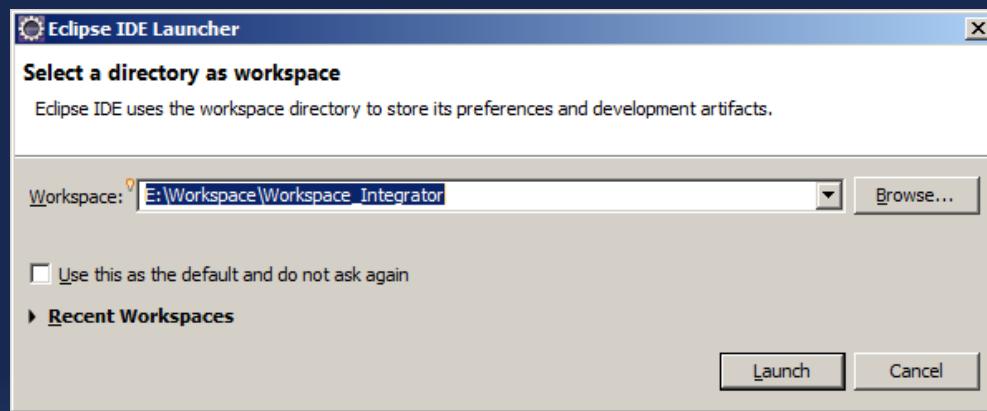


Dados (E:) \ Integrator

Name	Date modified	Type	Size
helloworld	19-Jul-20 11:20 AM	File folder	
helloworld.zip	19-Jul-20 8:20 AM	WinRAR ZIP archive	57 KB

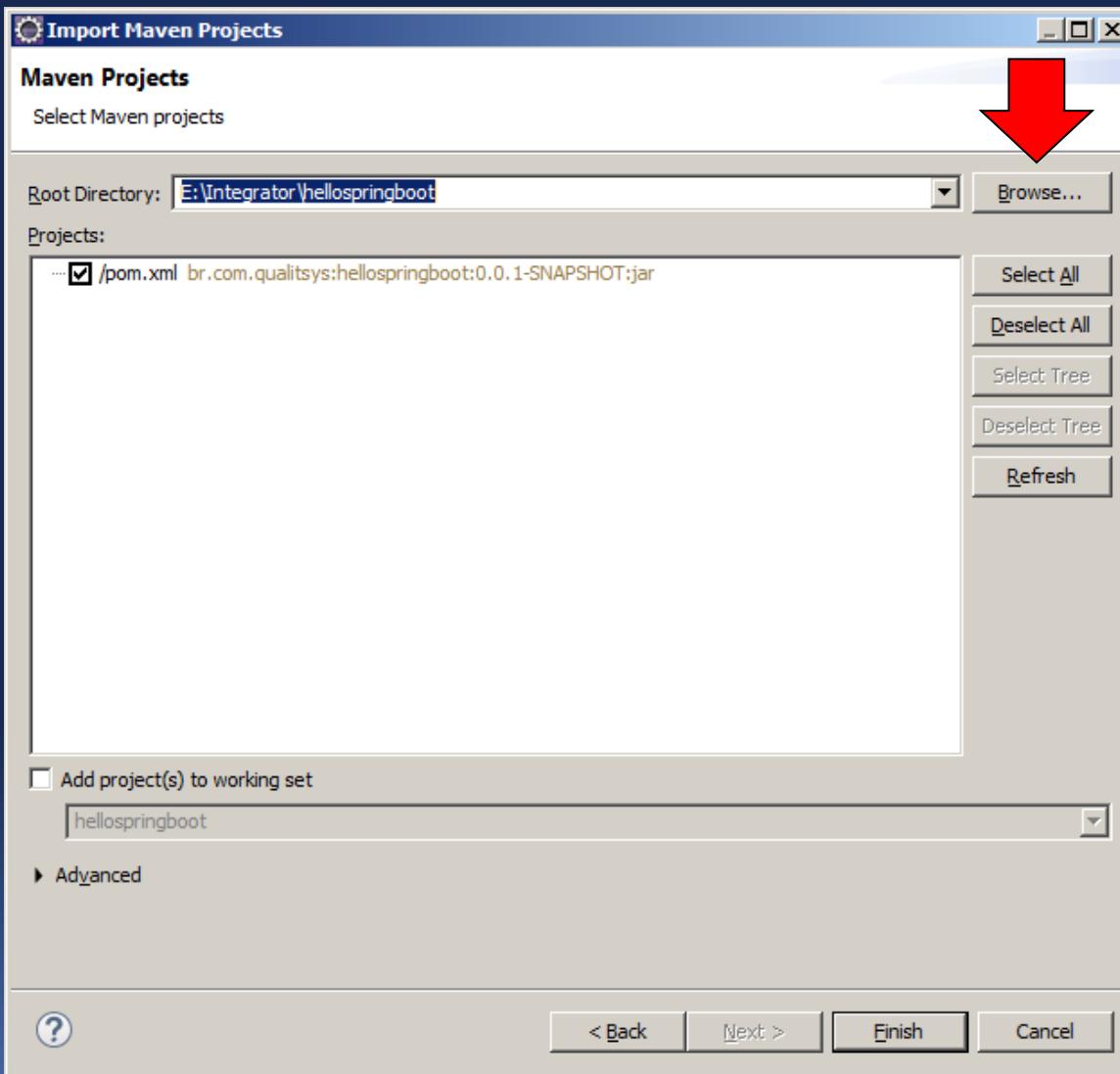
# Abrindo o projeto no Eclipse

- Abriremos o Eclipse no **Workspace/Integrator**
- Import > Existing Maven Projects**



# Abrindo o projeto no Eclipse

- Selecionar a pasta do projeto **Maven**.



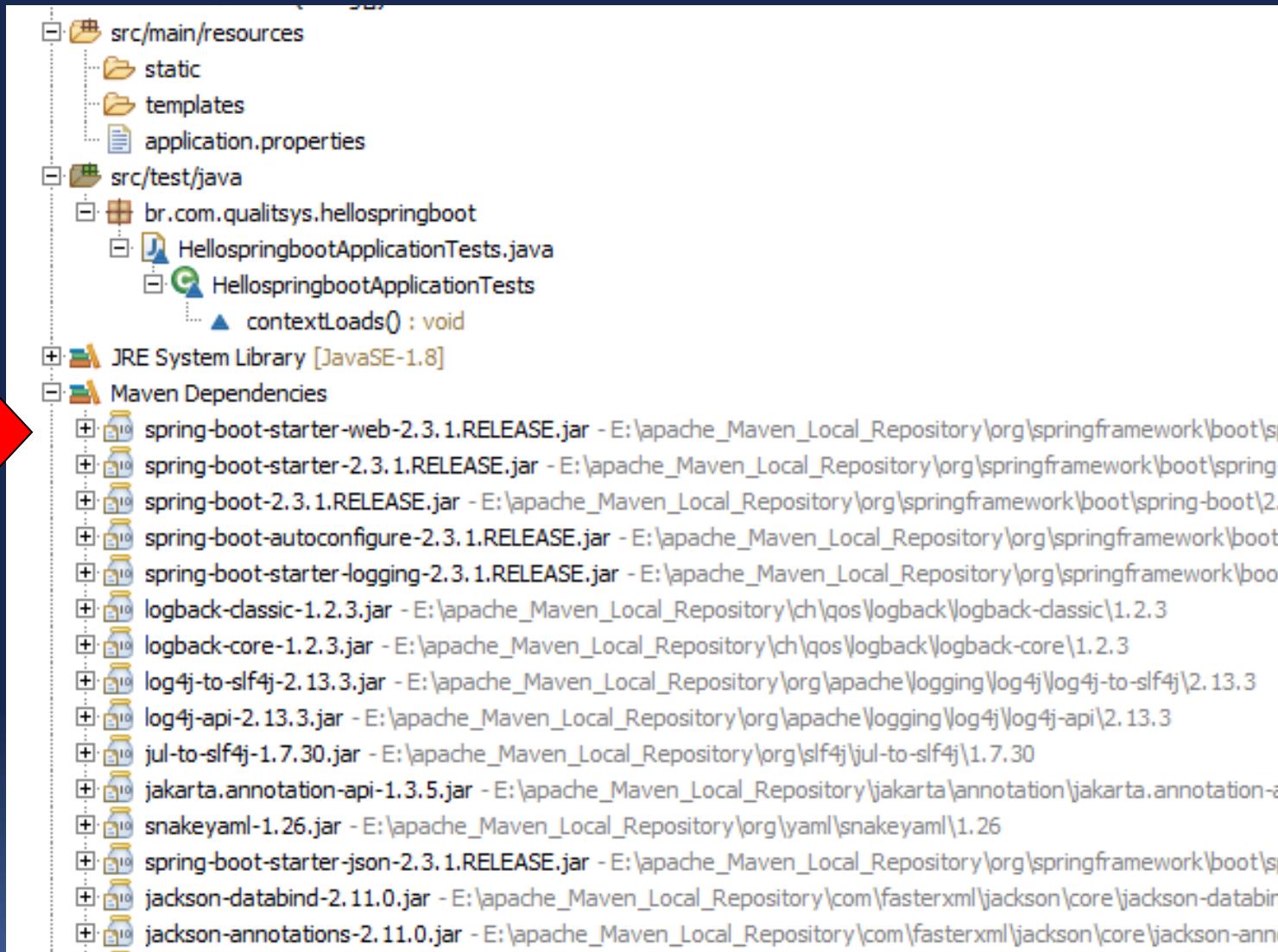
# Projeto criado no Eclipse



The screenshot shows the Eclipse IDE's Project Explorer view. A red arrow points to the project structure under the 'hellospringboot' project. The structure includes:

- src/main/java**:
  - br.com.qualitsys.hellospringboot**:
    - HellospringbootApplication.java**: Contains the method `main(String[])`.
    - HellospringbootApplication**: Contains the method `main(String[])`.
- src/main/resources**:
  - static**
  - templates**
  - application.properties**
- src/test/java**:
  - br.com.qualitsys.hellospringboot**:
    - HellospringbootApplicationTests.java**: Contains the method `contextLoads()`.
    - HellospringbootApplicationTests**: Contains the method `contextLoads()`.
- JRE System Library [JavaSE-1.8]**
- Maven Dependencies**
- src**
- target**
- HELP.md**
- mvnw**
- mvnw.cmd**
- pom.xml**

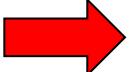
# Módulos Spring importados



# Arquivo pom.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <parent>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-parent</artifactId>
    <version>2.3.1.RELEASE</version>
    <relativePath/> <!-- lookup parent from repository -->
  </parent>
  <groupId>br.com.qualitsys</groupId>
  <artifactId>hellospringboot</artifactId>
  <version>0.0.1-SNAPSHOT</version>
  <name>hellospringboot</name>
  <description>Projeto Hello World - Spring Boot</description>
  <properties>
    <java.version>1.8</java.version>
  </properties>
```

# Arquivo pom.xml

```
<dependencies>
    
    <dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-web</artifactId>
    </dependency>
    
    <dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-test</artifactId>
        <scope>test</scope>
        <exclusions>
            <exclusion>
                <groupId>org.junit.vintage</groupId>
                <artifactId>junit-vintage-engine</artifactId>
            </exclusion>
        </exclusions>
    </dependency>
</dependencies>
```

# Arquivo pom.xml

```
<build>
    <plugins>
        <plugin>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-maven-plugin</artifactId>
        </plugin>
    </plugins>
</build>

</project>
```

A red arrow points from the left towards the opening `<build>` tag. Inside the `<build>` block, a red dashed line connects the `<plugins>` tag to the `<plugin>` tag. Within the `<plugin>` tag, red dashed lines connect the `<groupId>` and `<artifactId>` tags.

# Sprint criou uma classe...

```
package br.com.qualitsys.hellospringboot;

import org.springframework.boot.SpringApplication;

@SpringBootApplication
public class HellospringbootApplication {

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

}
```

- ➊ A classe criada foi **HelloSpringBootApplication** com o método **main**;
- ➋ O método **main** chama o método static **run** da classe **SpringApplication** e essa classe tem a anotação **@SpringBootApplication**;
- ➌ Essa classe é a classe de execução do projeto (**Tomcat** embarcado no **Spring Boot**).
- ➍ No **Spring Boot** essa é a classe principal. É a classe que contém o método **main**!

# Executando a aplicação

```
Problems @ Javadoc Declaration Console 
<terminated> SceApplication [Java Application] C:\Program Files\Java\jre1.8.0_241\bin\javaw.exe (Jul 14, 2020, 9:19:19 PM)

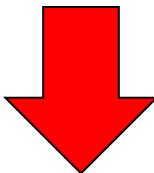
.
. \ \ / _ _ : - - - ( _ ) - - - V ` - \ \ \ \ \
( ( ) \ __ | [ ) | [ | | | | | | | | | | | | ) ) ) ) )
\ \ \ _ ) | [ ) | [ | | | | | | | | | | | | | | ) ) ) ) )
' | [ _ | . | | | | | | | | | | | | | | | | | | | | |
=====| _ | ====== | _ | / = / _ / _ / _ /
:: Spring Boot ::          (v2.3.1.RELEASE)

2020-07-14 21:19:19.851  INFO 6440 --- [           main] br.com.qualitsys.scpe.S
2020-07-14 21:19:19.854  INFO 6440 --- [           main] br.com.qualitsys.scpe.S
2020-07-14 21:19:20.884  INFO 6440 --- [           main] o.s.b.w.embedded.tomcat
2020-07-14 21:19:20.903  INFO 6440 --- [           main] o.apache.catalina.core.
2020-07-14 21:19:20.904  INFO 6440 --- [           main] org.apache.catalina.con
2020-07-14 21:19:20.992  INFO 6440 --- [           main] o.a.c.c.C.[Tomcat].[loc
2020-07-14 21:19:20.992  INFO 6440 --- [           main] w.s.c.ServletWebServerA
```

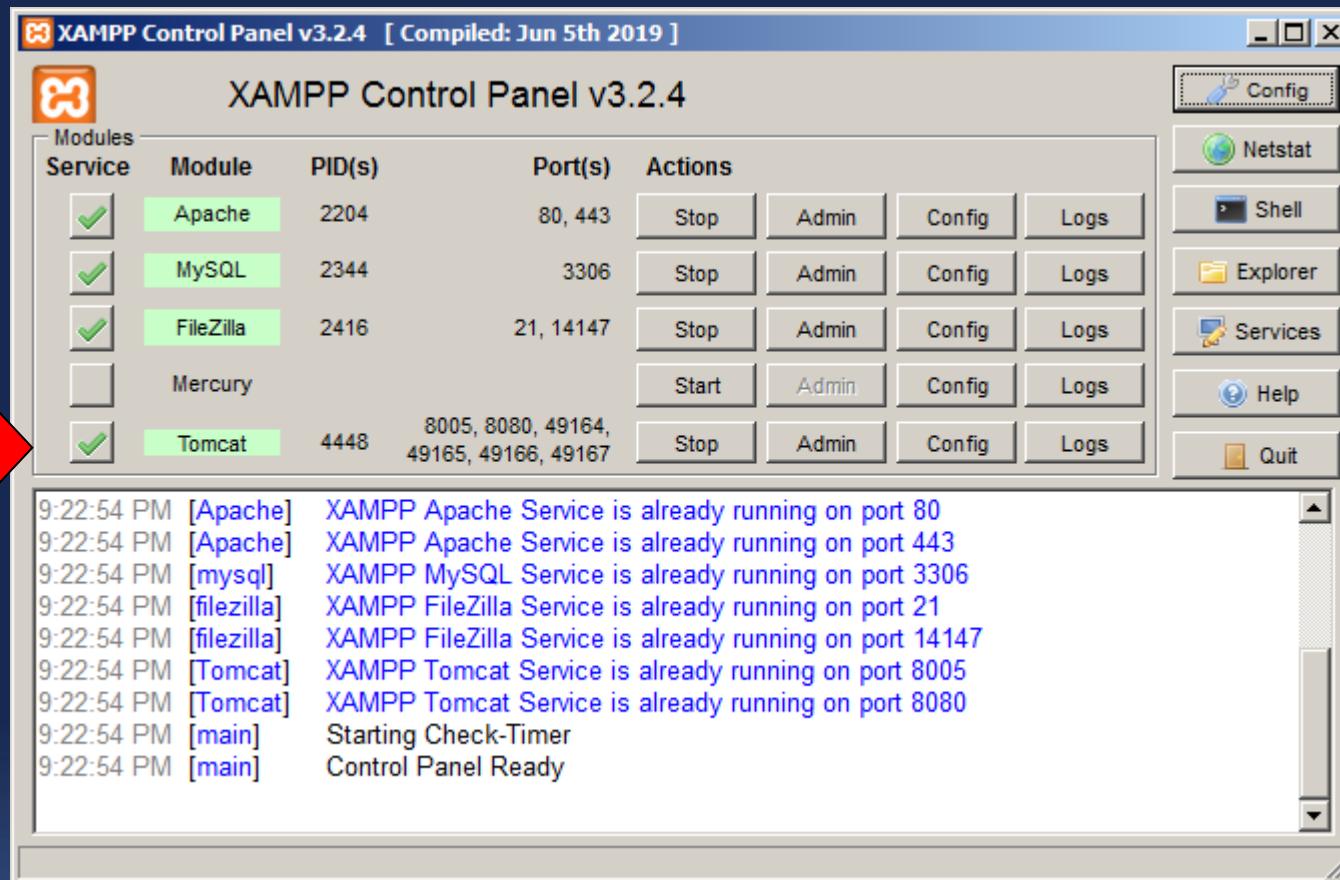
# Executando a aplicação

```
Problems @ Javadoc Declaration Console <terminated> ScpeApplication [Java Application] C:\Program Files\Java\jre1.8.0_241\bin\javaw.exe (Jul 14, 2020, 9:19:19 PM)
2020-07-14 21:19:21.447 INFO 6440 --- [           main] ConditionEvaluationReport
Error starting ApplicationContext. To display the conditions report re-run your application with 'java -Dspring-boot.logging.condition=true' on the command line.
2020-07-14 21:19:21.452 ERROR 6440 --- [           main] o.s.b.d.LoggingFailureAnalysis
*****
APPLICATION FAILED TO START
*****
Description:
Web server failed to start. Port 8080 was already in use.

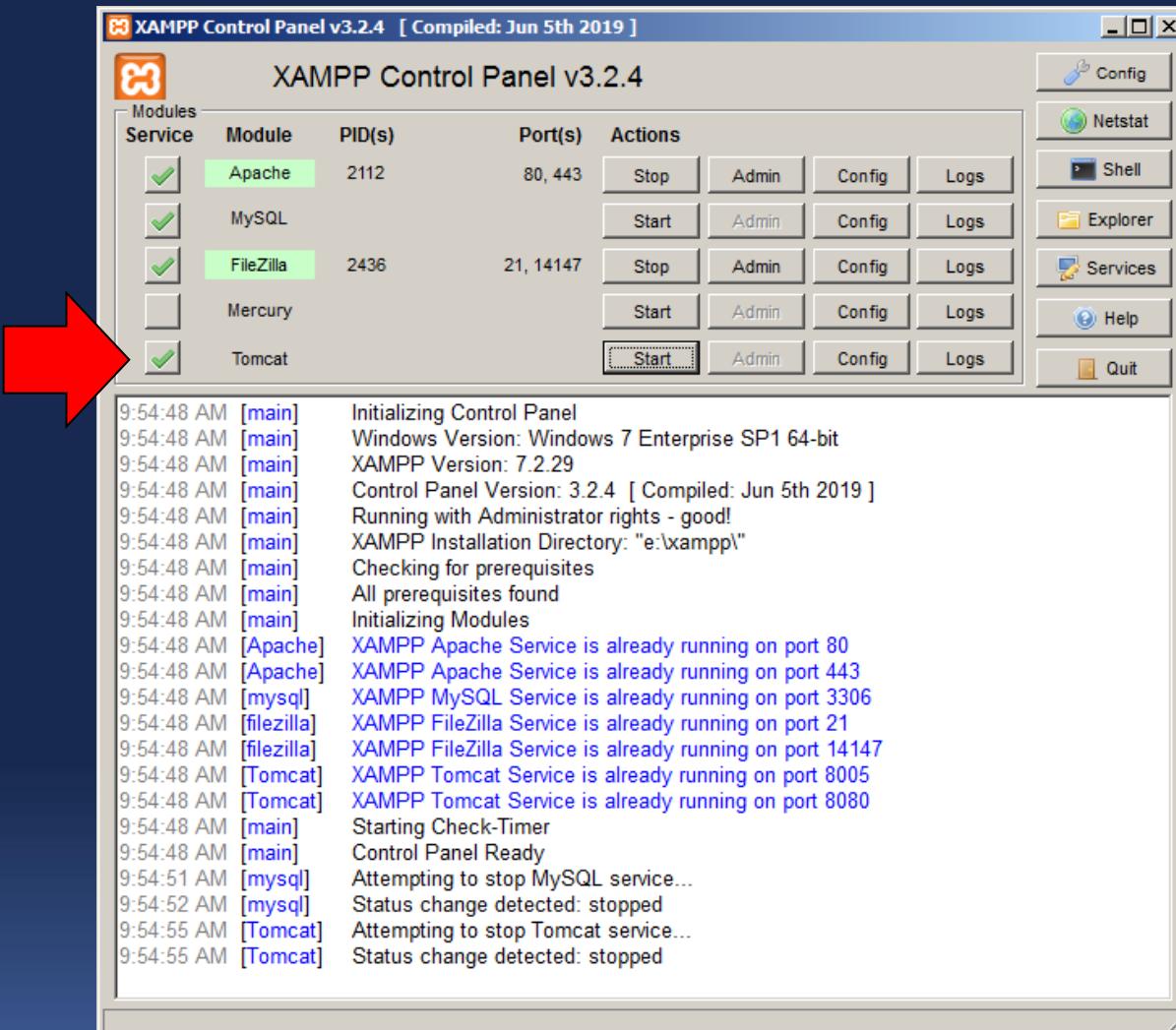
Action:
Identify and stop the process that's listening on port 8080 or configure this application to listen on another port.
```



# Desativando Tomcat - XAMPP



# Desativando Tomcat - XAMPP



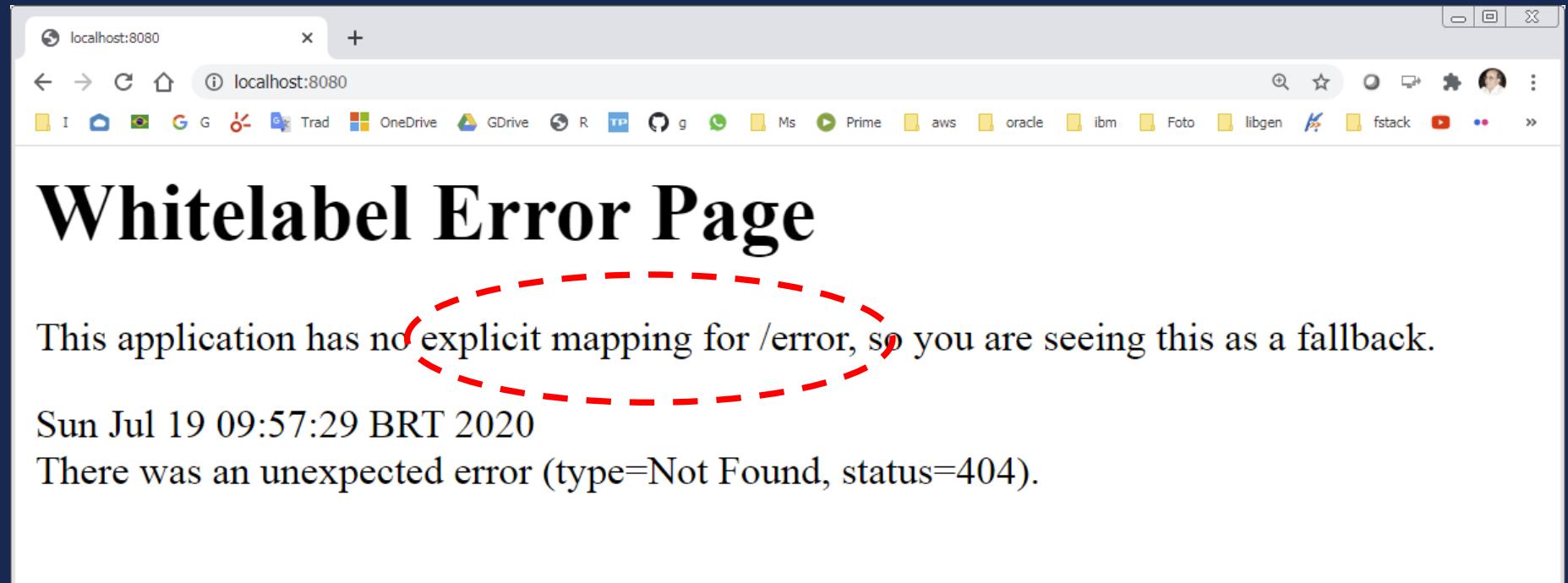
# Reexecutando a aplicação

```
Problems Javadoc Declaration Console
ScpeApplication [Java Application] C:\Program Files\Java\jre1.8.0_241\bin\javaw.exe (Jul 14, 2020, 9:25:08 PM)

cpe.ScpeApplication      : Starting ScpeApplication on Aparecido-PC with PID 11472 ()
cpe.ScpeApplication      : No active profile set, falling back to default profiles:
tomcat.TomcatWebServer   : Tomcat initialized with port(s): 8080 (http)
core.StandardService      : Starting service [tomcat]
ia.core.StandardEngine     : Starting Servlet engine: [Apache Tomcat/9.0.36]
.[localhost].[]           : Initializing Spring embedded WebApplicationContext
rverApplicationContext    : Root WebApplicationContext: initialization completed in 1
hreadPoolTaskExecutor     : Initializing ExecutorService 'applicationTaskExecutor'
omcat.TomcatWebServer     : Tomcat started on port(s): 8080 (http) with context path
cpe.ScpeApplication       : Started ScpeApplication in 1.767 seconds (JVM running for
```

# Executando

<http://localhost:8080>

A screenshot of a web browser window titled "localhost:8080". The address bar also shows "localhost:8080". The page content is a "Whitelabel Error Page" with the following text:

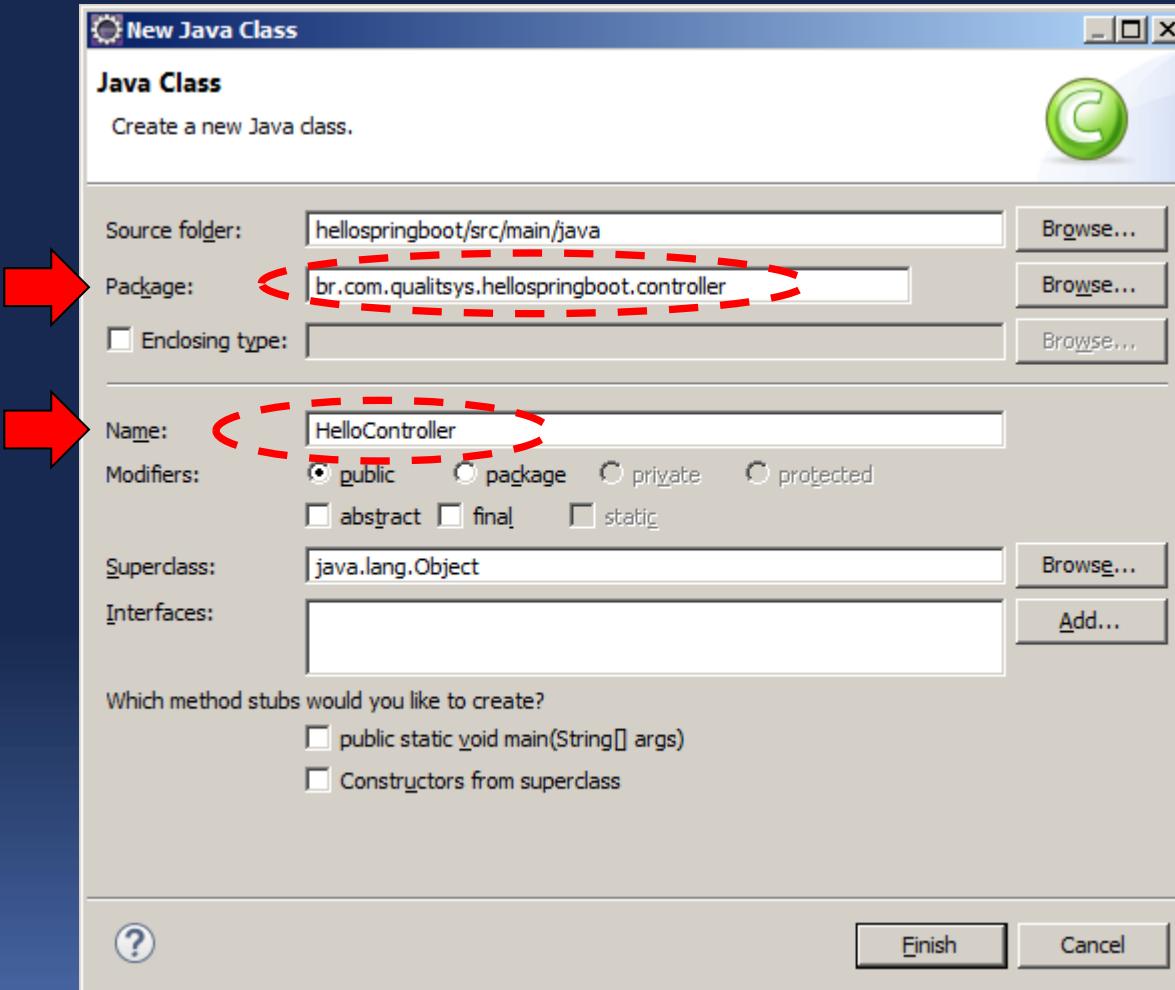
This application has no explicit mapping for /error, so you are seeing this as a fallback.  
Sun Jul 19 09:57:29 BRT 2020  
There was an unexpected error (type=Not Found, status=404).

A red dashed circle highlights the phrase "no explicit mapping for /error, so you are seeing this as a fallback".

- ➊ Tomcat já está rodando !!!!
- ➋ Foi retornada uma tela de erro do **Spring Boot** pois o contexto / da aplicação **não está mapeado**;
- ➌ Mas, o **Spring Boot** foi executado com sucesso!

# Criando um Controller

- Criaremos um **controller** e o mapearemos para o endereço “/”;
- Verificaremos se o **Spring** faz a chamada desse controller;



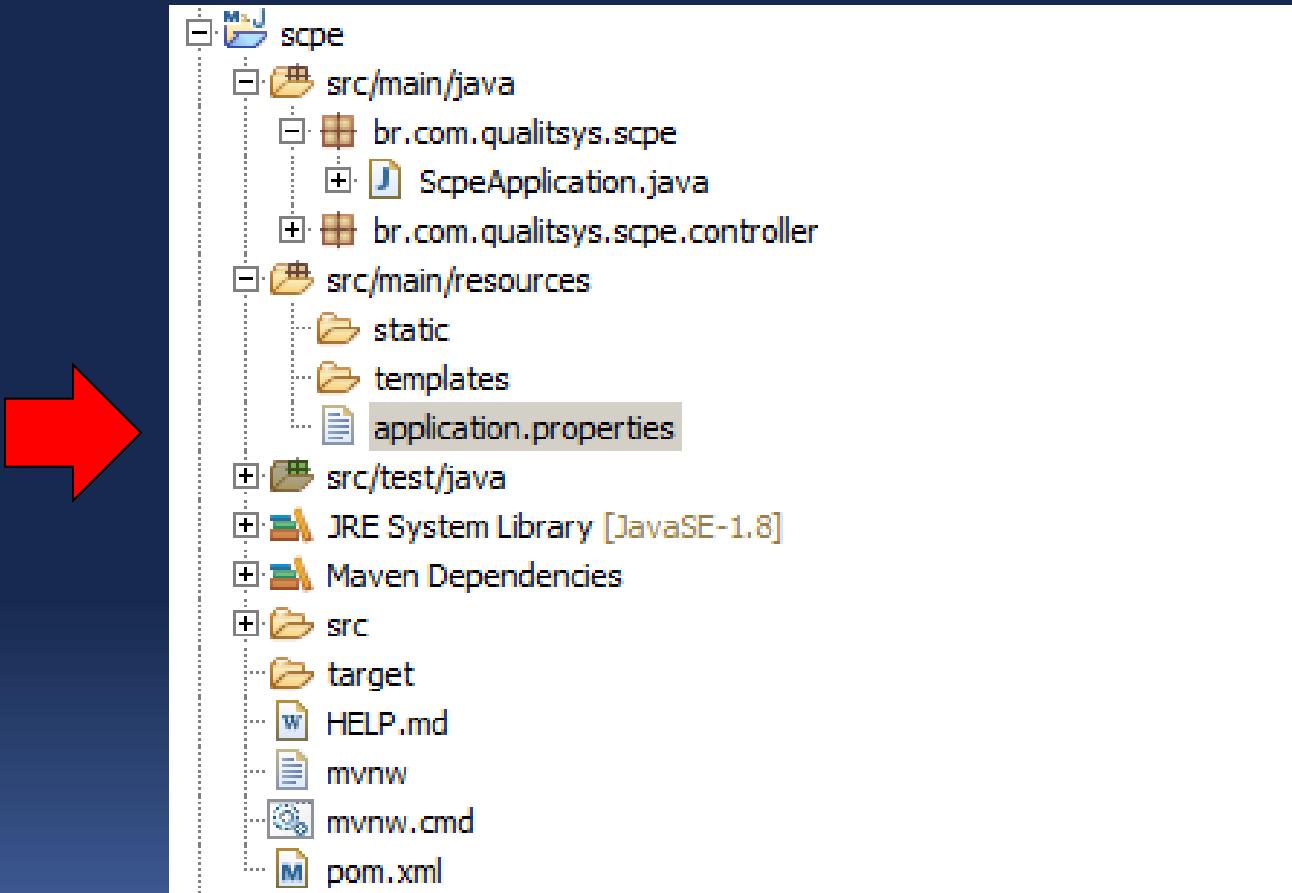
# Criando um Controller

```
1 package br.com.qualitsys.hellospringboot.controller;  
2  
3 public class HelloController {  
4  
5 }
```

# Mudando a porta do Tomcat



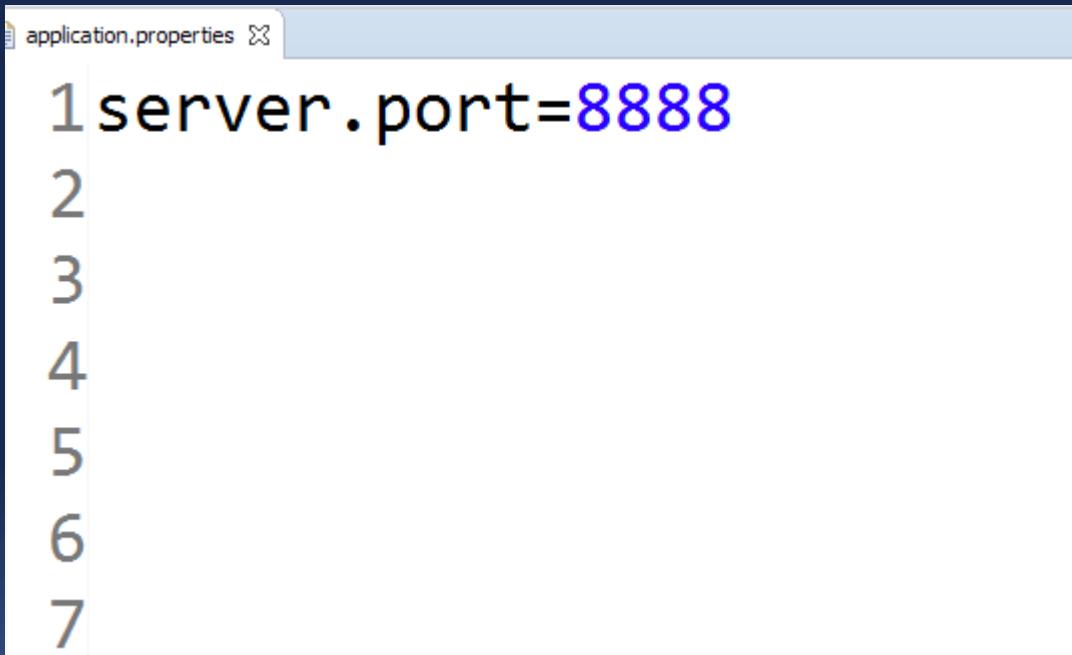
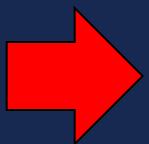
- A porta do **Tomcat** pode ser configurada no arquivo **application.properties**, na pasta **src/main/resources**.



# Mudando a porta do Tomcat



- A porta do Tomcat pode ser configurada no arquivo **application.properties**.



A screenshot of a text editor showing the `application.properties` file. The file contains the following configuration line:

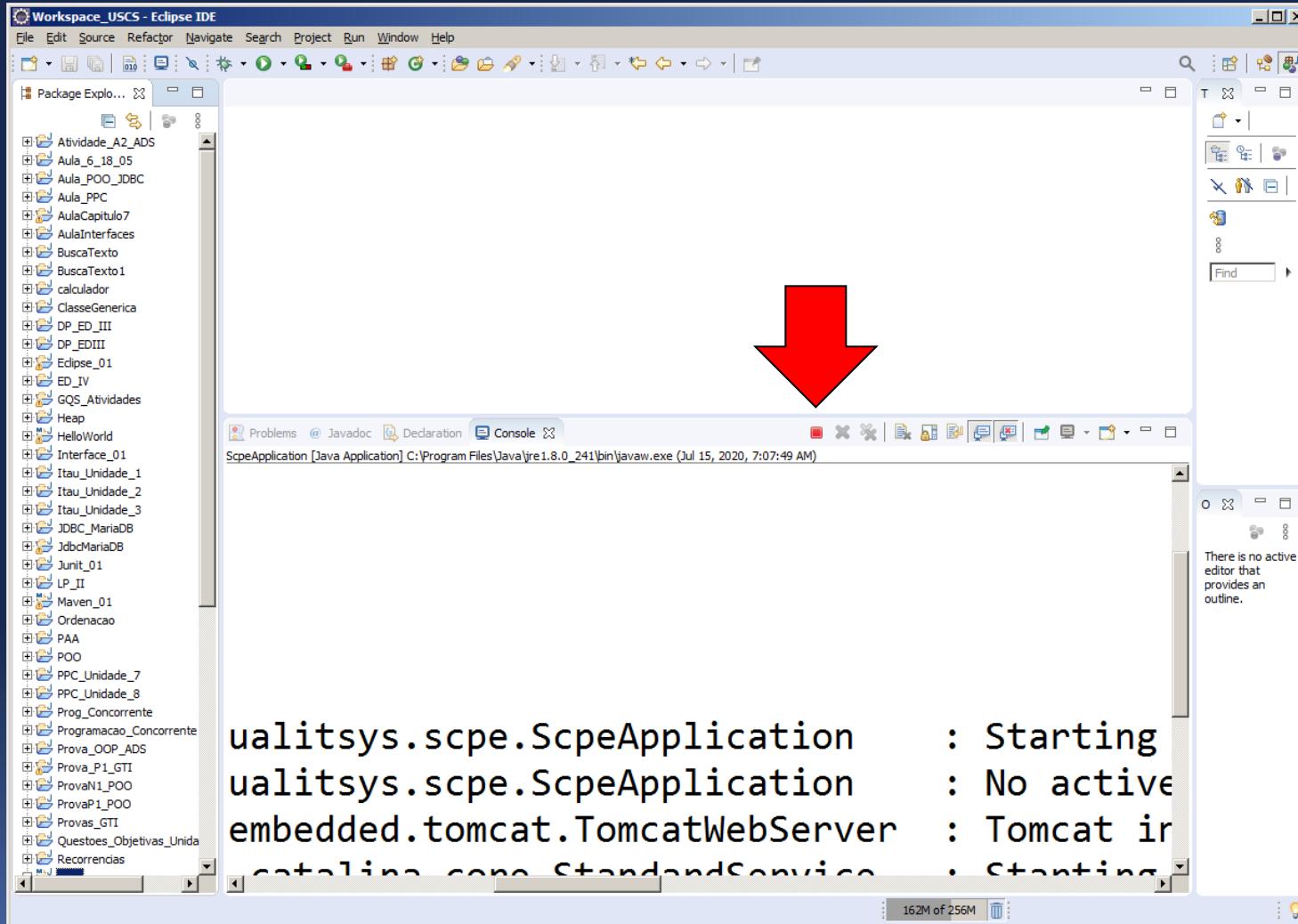
```
server.port=8888
```

The line is highlighted in blue. The text editor has a light gray background and a dark gray header bar. The file is titled "application.properties".



# Stop Tomcat na porta 8080

- Encerramento pode ser feito a partir da IDE Eclipse



# Start Tomcat na porta 8888

## Reiniciando a aplicação

```
Properties Servers Data Source Explorer Snippets Console 
Application [Java Application] C:\Program Files\Java\jre1.8.0_241\bin\javaw.exe (Jul 19, 2020, 10:12:54 AM)

: Starting HellospringbootApplication on Aparecido-PC with PID 6800 (E:\Integ
: No active profile set, falling back to default profiles: default
: Tomcat initialized with port(s): 8888 (http)
: Starting service [Tomcat]
: Starting Servlet engine: [Apache Tomcat/9.0.36]
: Initializing Spring embedded WebApplicationContext
: Root WebApplicationContext: initialization completed in 1044 ms
: Initializing ExecutorService 'applicationTaskExecutor'
: Tomcat started on port(s): 8888 (http) with context path ''
: Started HellospringbootApplication in 1.772 seconds (JVM running for 2.12)
```

# Criando um Controller



- O Spring Boot usa nos bastidores o **Spring MVC**;
- Para que essa classe seja considerada um controller pelo **Spring MVC** a anotaremos com a annotation **@Controller**.

```
package br.com.qualitsys.hellospringboot.controller;  
  
import org.springframework.stereotype.Controller;  
  
@Controller  
public class HelloController {  
  
}
```



# Criando um Controller



- Na classe **HelloController** incluiremos um método chamado **hello()** que irá retornar o string “Hello Spring Boot...”.

```
package br.com.qualitsys.hellospringboot.controller;

import org.springframework.stereotype.Controller;

@Controller
public class HelloController {

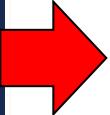
    public String hello() {
        return("Hello Spring Boot...");
    }
}
```



# Criando um Controller



- Para fazer o mapeamento da url que irá estar associada à esse método, incluiremos a annotation `@RequestMapping("/")`;
- Com isso, quando a requisição for feita na porta 8080 ("/") esse método deverá ser chamado pelo Spring Boot;

```
package br.com.qualitsys.hellospringboot.controller;  
  
import org.springframework.stereotype.Controller;  
import org.springframework.web.bind.annotation.RequestMapping;  
  
@Controller  
public class HelloController {  
  
     @RequestMapping("/")  
    public String hello() {  
  
        return("Hello Spring Boot...");  
    }  
  
}
```



# Criando um Controller



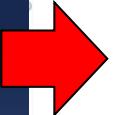
- O mapeamento que iremos fazer não é para uma nova página;
- Queremos nesse caso apenas retornar o string "Hello Spring Boot";
- Para isso iremos incluir a annotation **@ResponseBody**
- Sem essa anotação, o Spring irá tratar o string "Hello Spring Boot" como uma nova página **JSP** ou **Thymeleaf**.

```
package br.com.qualitsys.hellospringboot.controller;

import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.ResponseBody;

@Controller
public class HelloController {

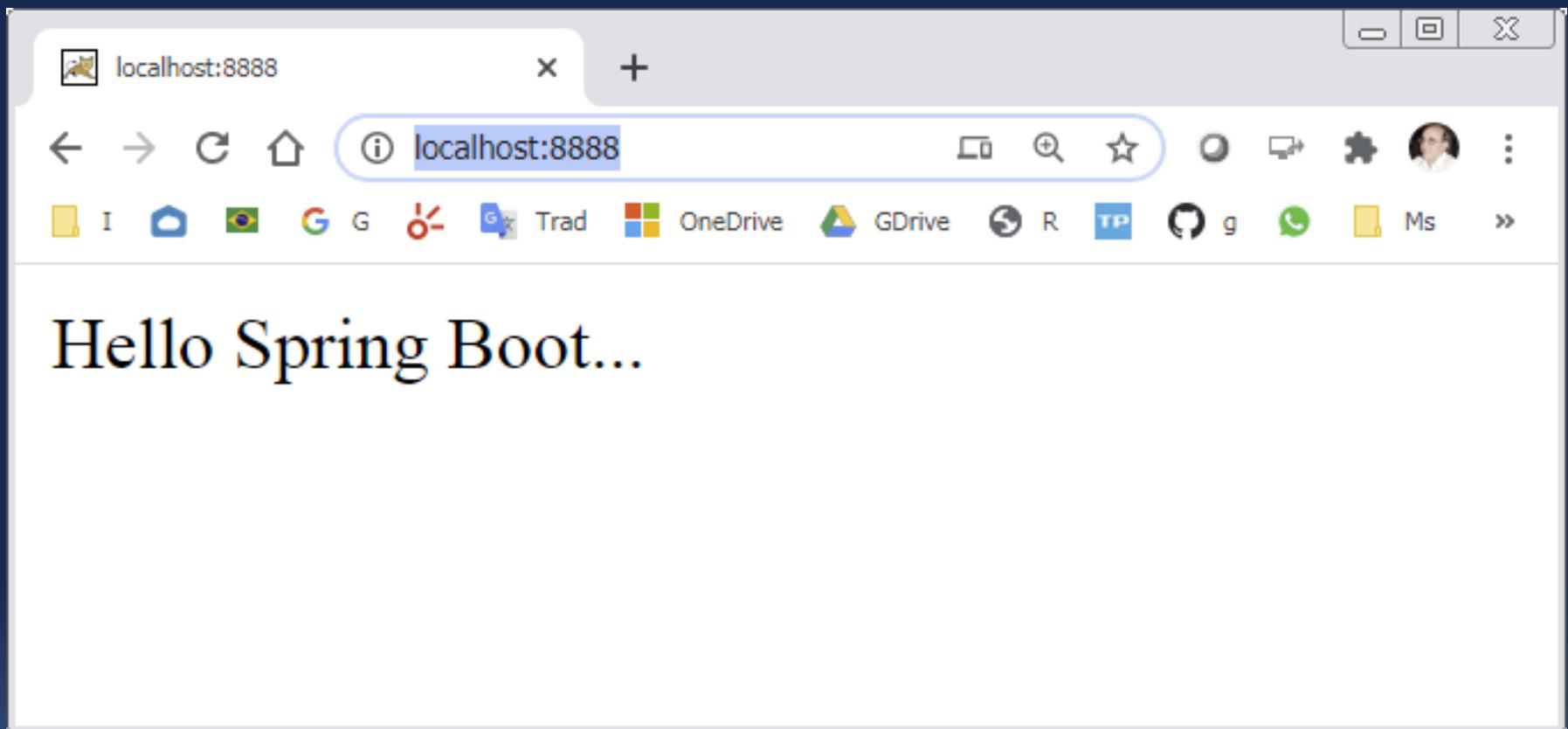
    @RequestMapping("/")
    @ResponseBody
    public String hello() {
        return("Hello Spring Boot...");
    }
}
```

A large red arrow points from the left towards the `@ResponseBody` annotation in the code, highlighting its significance.



# Executando ...

`http://localhost:8888`



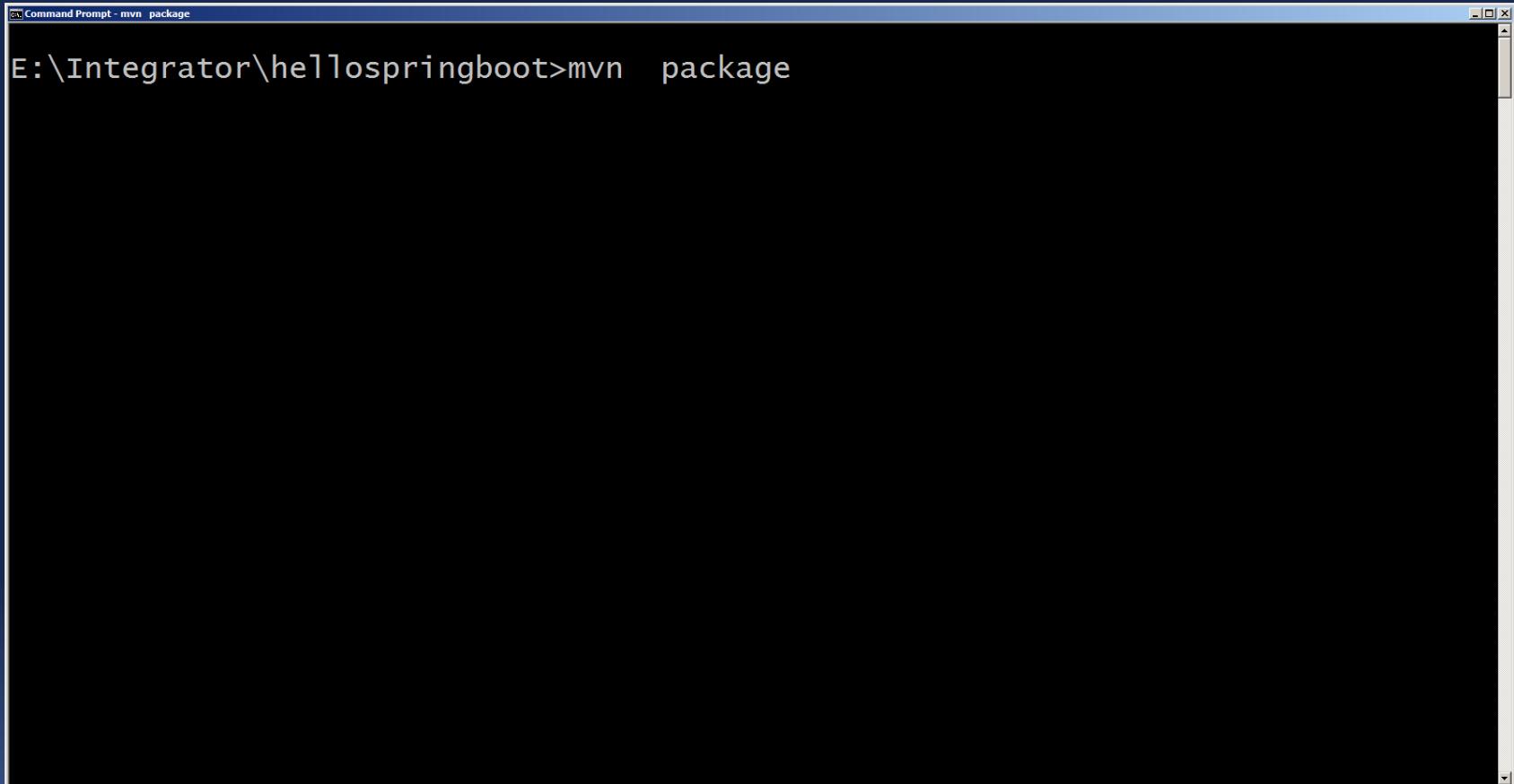
# Gerando arquivo .jar da aplicação...

- Para se criar um jar executável, deve-se incluir no arquivo **pom.xml** a dependência **spring-boot-maven-plugin**.

```
<build>
    <plugins>
        <plugin>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-maven-plugin</artifactId>
        </plugin>
    </plugins>
</build>
```

# Gerando arquivo .jar da aplicação...

- Na pasta do projeto, executar o comando: \$ mvn package

A screenshot of a Windows Command Prompt window titled "Command Prompt - mvn package". The window shows the command "E:\Integrator\hellospringboot>mvn package" entered at the prompt. The rest of the window is blank, indicating that the command has been run but no output is visible.

# Gerando arquivo .jar da aplicação...

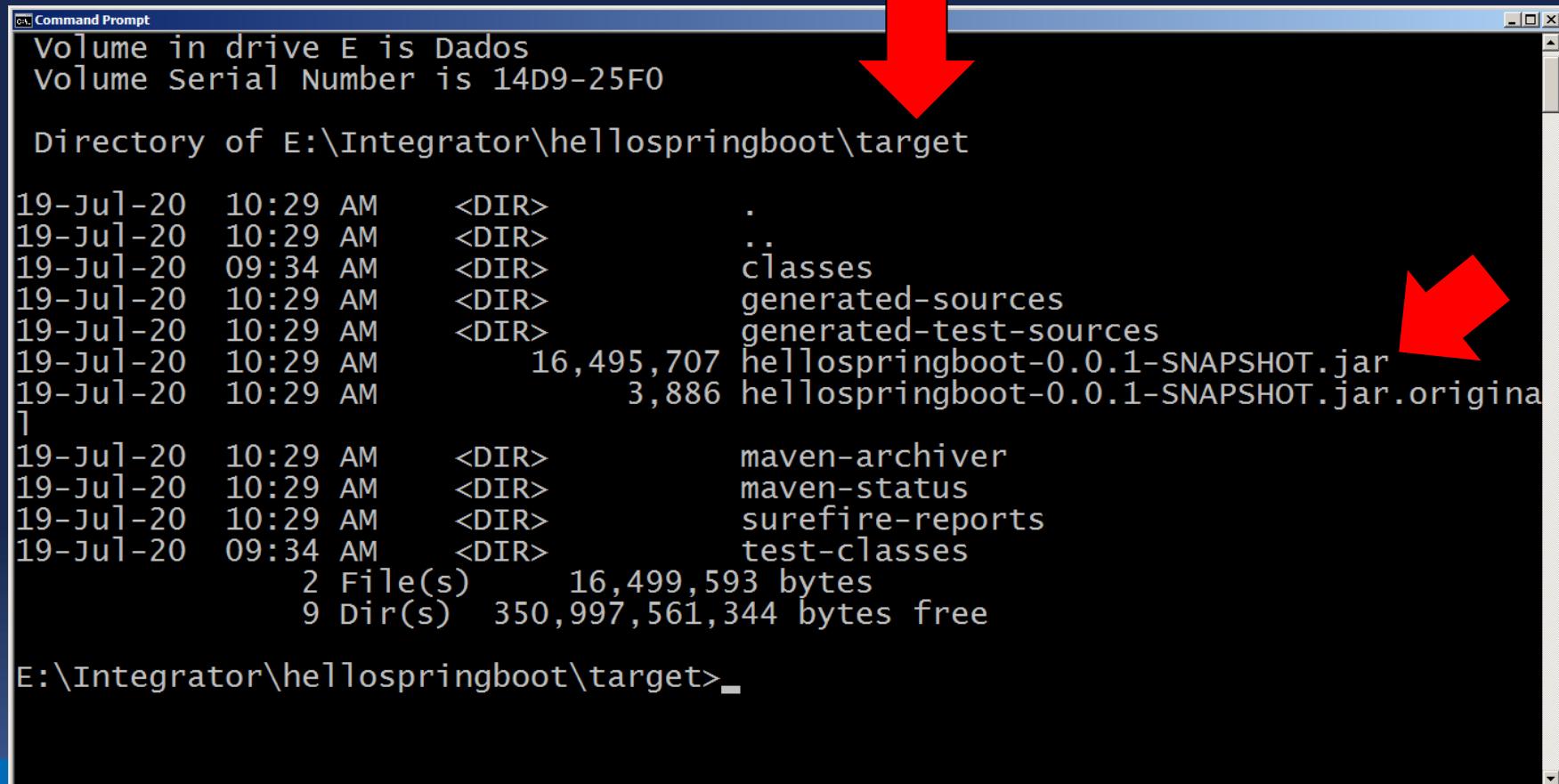
- Na pasta do projeto, executar o comando: \$ mvn package

```
Command Prompt
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-jar-plugin:3.2.0:jar (default-jar) @ hellospring
[INFO] Building jar: E:\Integrator\hellospringboot\target\hellosp
SNAPSHOT.jar
[INFO]
[INFO] --- spring-boot-maven-plugin:2.3.1.RELEASE:repackage (repa
rtingboot) ---
[INFO] Replacing main artifact with repackaged archive
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 11.671 s
[INFO] Finished at: 2020-07-19T10:29:47-03:00
[INFO] -----
```

E:\Integrator\hellospringboot>

# Gerando arquivo .jar da aplicação...

- Na pasta **target** do projeto, pode-se ver o arquivo `myproject-0.0.1-SNAPSHOT.jar`;
- Este arquivo deve ter em torno de 16 MB de tamanho.



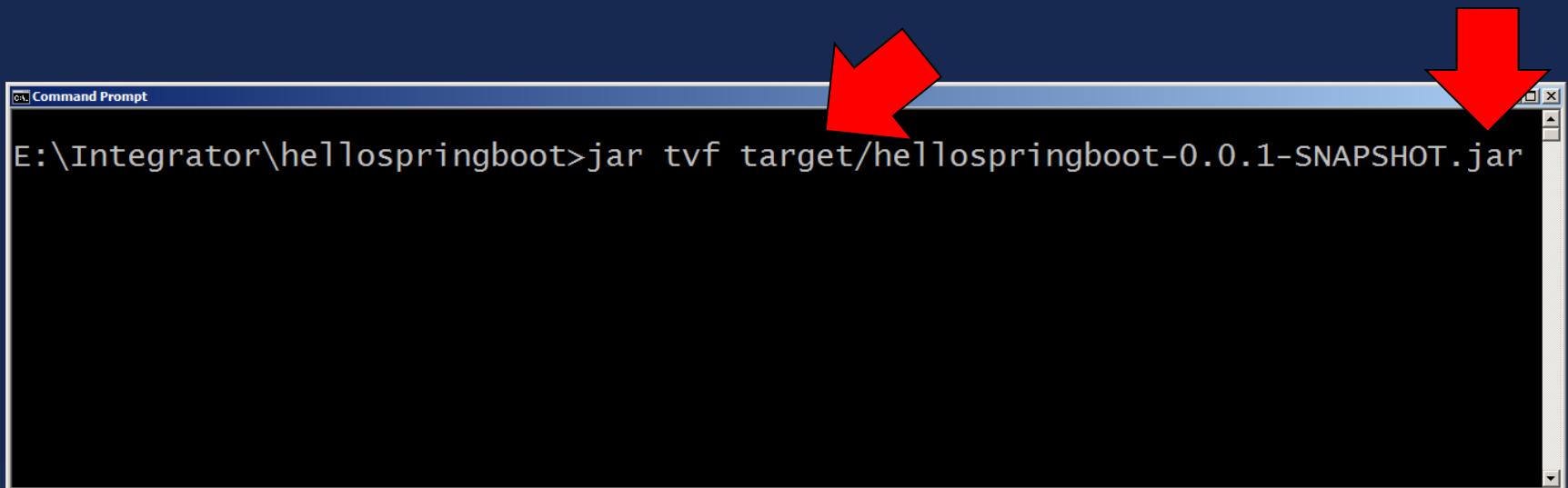
```
Command Prompt
Volume in drive E is Dados
Volume Serial Number is 14D9-25F0
Directory of E:\Integrator\hellospringboot\target

19-Jul-20  10:29 AM    <DIR>          .
19-Jul-20  10:29 AM    <DIR>          ..
19-Jul-20  09:34 AM    <DIR>          classes
19-Jul-20  10:29 AM    <DIR>          generated-sources
19-Jul-20  10:29 AM    <DIR>          generated-test-sources
19-Jul-20  10:29 AM          16,495,707 hellospringboot-0.0.1-SNAPSHOT.jar
19-Jul-20  10:29 AM          3,886   hellospringboot-0.0.1-SNAPSHOT.jar.original
1
19-Jul-20  10:29 AM    <DIR>          maven-archiver
19-Jul-20  10:29 AM    <DIR>          maven-status
19-Jul-20  10:29 AM    <DIR>          surefire-reports
19-Jul-20  09:34 AM    <DIR>          test-classes
                2 File(s)   16,499,593 bytes
                9 Dir(s)  350,997,561,344 bytes free

E:\Integrator\hellospringboot\target>
```

# Gerando arquivo .jar da aplicação...

- Vamos dar uma “espiada” no arquivo .jar gerado pelo Maven;
- \$ jar tvf target/hellospringboot-0.0.1-SNAPSHOT.jar



```
Command Prompt
E:\Integrator\hellospringboot>jar tvf target/hellospringboot-0.0.1-SNAPSHOT.jar
```

# Gerando arquivo .jar da aplicação...

- Vamos dar uma “espiada” no arquivo .jar gerado pelo Maven;
- **\$ jar tvf target/hellospringboot-0.0.1-SNAPSHOT.jar**

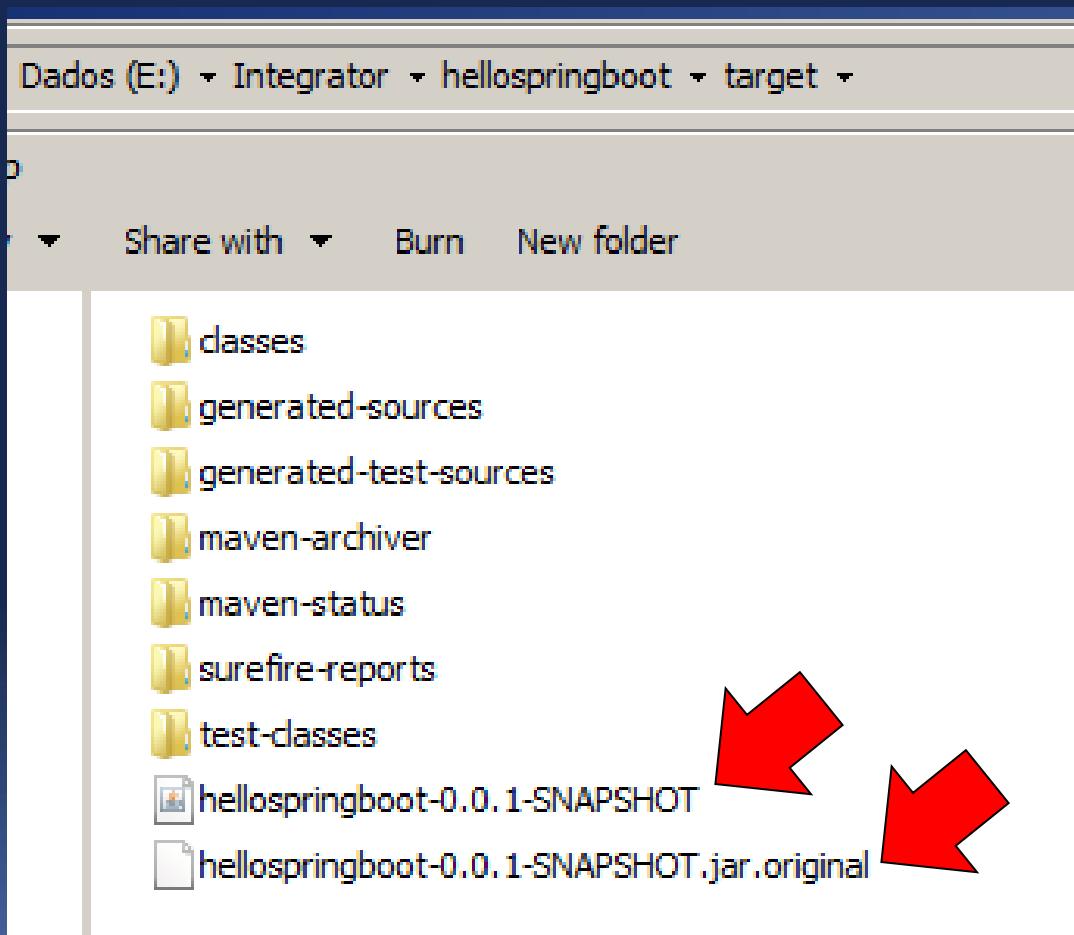
```
Command Prompt
4789 Thu Jun 11 22:50:44 BRT 2020 BOOT-INF/lib/spring-boot-starter-tomcat-2.3.1.RELEASE.jar
3373581 Wed Jun 03 18:03:54 BRT 2020 BOOT-INF/lib/tomcat-embed-core-9.0.36.jar
237826 Mon Aug 26 10:58:30 BRT 2019 BOOT-INF/lib/jakarta.el-3.0.3.jar
268491 Wed Jun 03 18:03:54 BRT 2020 BOOT-INF/lib/tomcat-embed-websocket-9.0.36.jar
1440651 Tue Jun 09 06:43:38 BRT 2020 BOOT-INF/lib/spring-web-5.2.7.RELEASE.jar
688811 Tue Jun 09 06:43:06 BRT 2020 BOOT-INF/lib/spring-beans-5.2.7.RELEASE.jar
956463 Tue Jun 09 06:43:42 BRT 2020 BOOT-INF/lib/spring-webmvc-5.2.7.RELEASE.jar

372705 Tue Jun 09 06:43:12 BRT 2020 BOOT-INF/lib/spring-aop-5.2.7.RELEASE.jar
1227929 Tue Jun 09 06:43:30 BRT 2020 BOOT-INF/lib/spring-context-5.2.7.RELEASE.jar
282183 Tue Jun 09 06:43:00 BRT 2020 BOOT-INF/lib/spring-expression-5.2.7.RELEASE.jar
41472 Mon Dec 16 22:03:32 BRT 2019 BOOT-INF/lib/slf4j-api-1.7.30.jar
1441820 Tue Jun 09 06:43:00 BRT 2020 BOOT-INF/lib/spring-core-5.2.7.RELEASE.jar
23961 Tue Jun 09 06:42:50 BRT 2020 BOOT-INF/lib/spring-jcl-5.2.7.RELEASE.jar
1135 Sun Jul 19 10:29:46 BRT 2020 BOOT-INF/classpath.idx

E:\Integrator\hellospringboot>
```

# Gerando arquivo .jar da aplicação...

- Pode-se também observar na pasta target um arquivo menor chamado **hellospringboot-0.0.1-SNAPSHOT.jar.original**;
- Esse arquivo corresponde ao arquivo jar original criado pelo Maven antes de ser reempacotado pelo **Spring Boot**.



# Rodando a aplicação

- Para executar a aplicação execute o comando:

```
$ java -jar target/myproject-0.0.1-SNAPSHOT.jar.
```



```
Command Prompt - java -jar target/hellospringboot-0.0.1-SNAPSHOT.jar

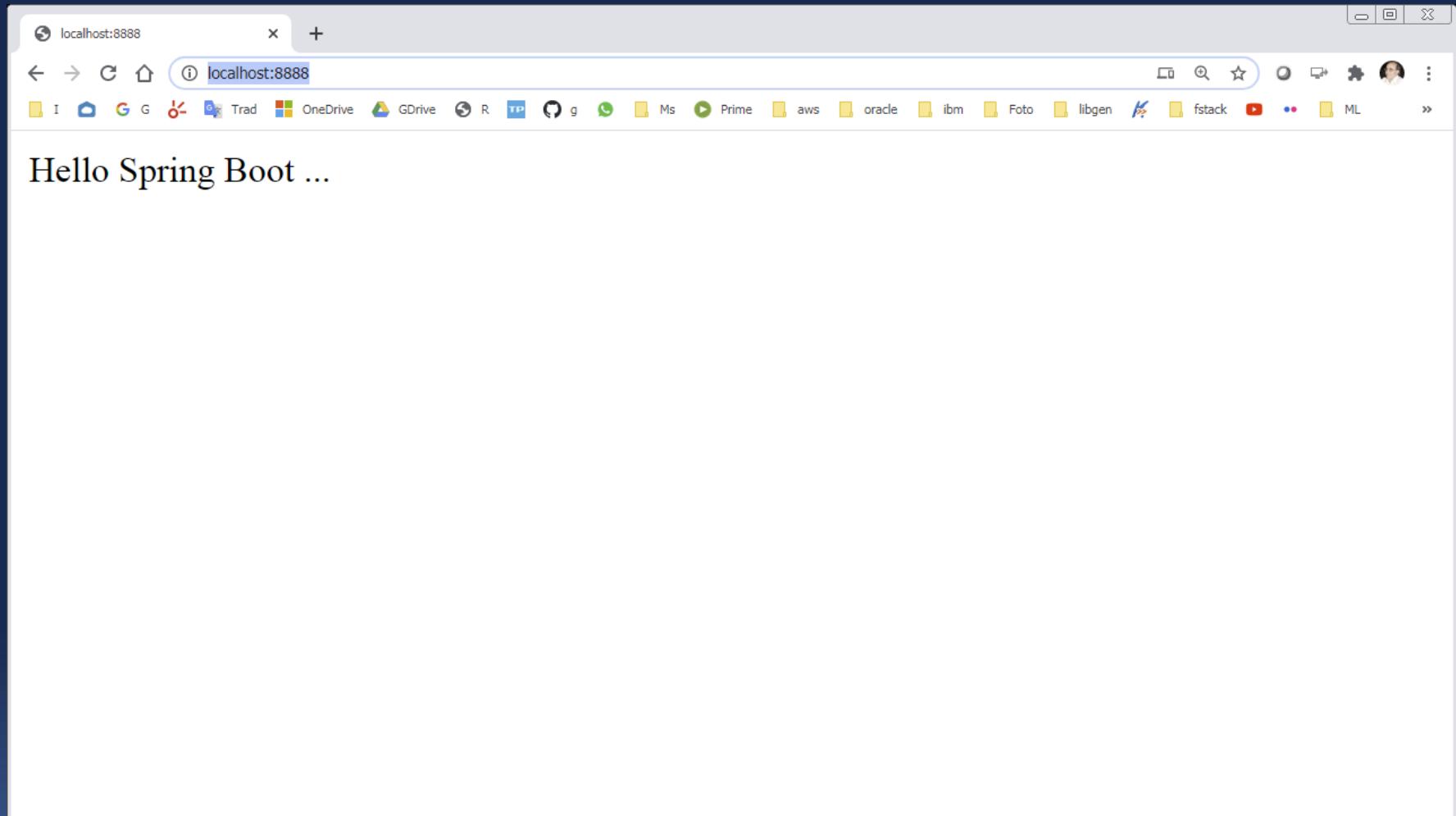
E:\Integrator\hellospringboot>java -jar target/hellospringboot-0.0.1-SNAPSHOT.jar

. .{ } { [ ] [ ] [ [ ] ] [ [ [ ] ] ] ] [ [ [ [ [ ] ] ] ] ]
=====
:: Spring Boot ::          (v2.3.1.RELEASE)

2020-07-19 10:45:00.795  INFO 10568 --- [           main] b.c.q.h.Hellospringboo
tApplication : Starting HellospringbootApplication v0.0.1-SNAPSHOT on Apar
ecido-PC with PID 10568 (E:\Integrator\hellospringboot\target\hellospringboot-0.
0.1-SNAPSHOT.jar started by Aparecido in E:\Integrator\hellospringboot)
2020-07-19 10:45:00.800  INFO 10568 --- [           main] b.c.q.h.Hellospringboo
tApplication : No active profile set, falling back to default profiles: de
fault
2020-07-19 10:45:02.812  INFO 10568 --- [           main] o.s.b.w.embedded.tomca
t.TomcatWebServer : Tomcat initialized with port(s): 8888 (http)
2020-07-19 10:45:02.829  INFO 10568 --- [           main] o.apache.catalina.core.
```

# Chamando a aplicação pelo Browser

🌐 <http://localhost:8888>



# Encerrando a aplicação

**Ctrl + C**

```
c:\ Command Prompt
2020-07-15 07:36:47.399  INFO 13000 --- [nio-8888-exec-2] o.a.c.c.C.[Tomcat
calhost].[/]           : Initializing Spring DispatcherServlet 'dispatcherServ
2020-07-15 07:36:47.401  INFO 13000 --- [nio-8888-exec-2] o.s.web.servlet.D
cherServlet           : Initializing Servlet 'dispatcherServlet'
2020-07-15 07:36:47.415  INFO 13000 --- [nio-8888-exec-2] o.s.web.servlet.D
cherServlet           : Completed initialization in 12 ms
2020-07-15 08:07:52.222  INFO 13000 --- [extShutdownHook] o.s.s.concurrent.
dPoolTaskExecutor     : Shutting down ExecutorService 'applicationTaskExecutor'

E:\uscs\Jornada\scpe> 
```

# Usando postman para enviar requisições http

## Reiniciando a aplicação



```
Command Prompt - java -jar target/hellospringboot-0.0.1-SNAPSHOT.jar  
E:\Integrator\hellospringboot>java -jar target/hellospringboot-0.0.1-SNAPSHOT.ja  
r  
  
=====  
:: Spring Boot ::   (v2.3.1.RELEASE)  
  
2020-07-19 10:47:36.237  INFO 9968 --- [           main] b.c.q.h.Hellospringboot  
Application      : Starting HellospringbootApplication v0.0.1-SNAPSHOT on Apare  
cido-PC with PID 9968 (E:\Integrator\hellospringboot\target\hellospringboot-0.0.  
1-SNAPSHOT.jar started by Aparecido in E:\Integrator\hellospringboot)  
2020-07-19 10:47:36.256  INFO 9968 --- [           main] b.c.q.h.Hellospringboot  
Application      : No active profile set, falling back to default profiles: def  
ault  
2020-07-19 10:47:38.299  INFO 9968 --- [           main] o.s.b.w.embedded.tomcat  
.TomcatWebServer : Tomcat initialized with port(s): 8888 (http)  
2020-07-19 10:47:38.316  INFO 9968 --- [           main] o.apache.catalina.core..
```

# Postman

- O **Postman** é uma ferramenta para teste de API's que utilizam o padrão REST;
- Muito útil, pois é independente de linguagem, podendo assim efetuar testes diversificados, além de combinação de parâmetros e retornos;
- Faça o download do Postman pelo link:  
<https://www.getpostman.com/downloads/>



# Postman

Download Postman App

postman.com/downloads/

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POSTMAN Product Use Cases Pricing Enterprise Explore APIs Learning Center Dashboard Download

## Download Postman for Windows

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[Download](#)

Version 7.28.0 | [RELEASE NOTES](#) | [PRODUCT ROADMAP](#)

Not your OS? Download for [macOS](#) or [Linux \(x64\)](#)

The screenshot shows the Postman application window. The title bar says "Postman". The main interface includes a toolbar with "File", "Edit", "View", "Help", and icons for "New", "Import", and "Runners". Below the toolbar is a navigation bar with "My Workspace" and "Invite". The main workspace shows an "Untitled Request" with a "GET" method to "postman-echo.com/get". The "Body" tab is selected, showing options like "none", "form-data", "x-www-form-urlencoded", "raw", "binary", and "GraphQL". A status message at the bottom says "This request does not have a body".





# Enviando requisição ao Postman

The screenshot shows the Postman application interface. A red arrow points down from the title bar to the request URL field, which contains `http://localhost:8888`. Another red arrow points up from the response body area, which displays the text "Hello Spring Boot ...".

**Postman** File Edit View Help

+ New Import Runner My Workspace ▼ Invite Upgrade

Filter No Environment

History Collections APIs Comments 0

Save Responses Clear all

Today

`GET http://localhost:8888` Send Save

**Untitled Request**

`GET http://localhost:8888`

Params Authorization Headers (6) Body Pre-request Script Tests Settings Cookies Code

Query Params

KEY	VALUE	DESCRIPTION	...	Bulk Edit
Key	Value	Description		

Body Cookies Headers (5) Test Results

Status: 200 OK Time: 187 ms Size: 185 B Save Response

Pretty Raw Preview Visualize Text

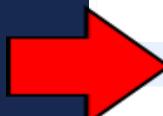
1 Hello Spring Boot ...

Find and Replace Console Build Browse



# Criando .war da aplicação Spring Boot

- Modificar o arquivo pom.xml definindo empacotamento **war**



```
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
    <modelVersion>4.0.0</modelVersion>
    <parent>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-parent</artifactId>
        <version>2.3.1.RELEASE</version>
        <relativePath/> <!-- lookup parent from repository -->
    </parent>
    <groupId>br.com.qualitsys</groupId>
    <artifactId>scpe</artifactId>
    <version>0.0.1-SNAPSHOT</version>
    <packaging>war</packaging>
    <name>scpe</name>
    <description>Demo project for Spring Boot</description>

    <properties>
        <java.version>1.8</java.version>
    </properties>

    <dependencies>
        <dependency>
            <groupId>org.springframework.boot</groupId>
```

# Criando .war da aplicação Spring Boot



- Vamos manter o **Tomcat** configurado para o ambiente de desenvolvimento, mas não o utilizaremos no empacotamento final (**war**);
- Para isso, vamos incluir nova dependência no arquivo **pom.xml**.

```
<dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-tomcat</artifactId>
    <scope>provided</scope>
</dependency>
```

# Criando .war da aplicação Spring Boot

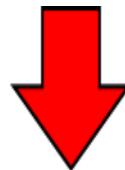
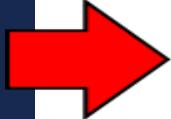
- Arquivo pom.xml modificado

```
<artifactId>junit-vintage-engine</artifactId>
    </exclusion>
</exclusions>
</dependency>

<dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-tomcat</artifactId>
    <scope>provided</scope>
</dependency>

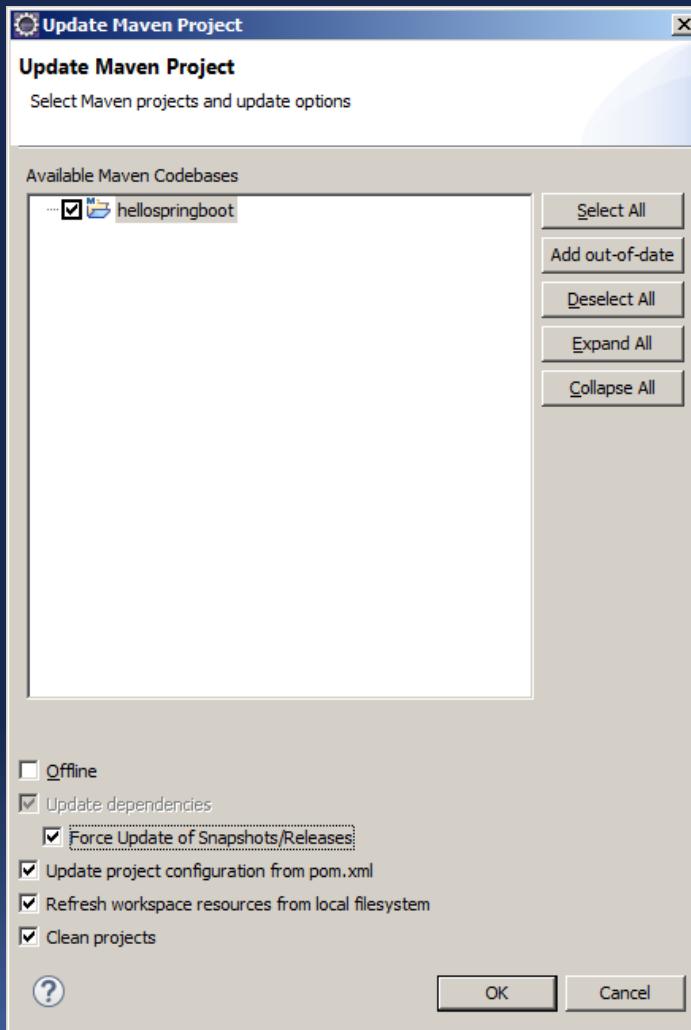
</dependencies>

<build>
    <plugins>
        <plugin>
            <groupId>org.springframework.boot</groupId>
```



# Atualizando o projeto

- ➊ Botão direito no projeto
- ➋ Maven > Update Project



# Alterando a classe principal



- Modificaremos a classe principal da aplicação (onde está o método `main`) para que a aplicação possa operar com um servidor de aplicações Tomcat externo;
- Isso é feito definindo-se a classe principal como filha da classe `SpringBootServletInitializer`;

```
package br.com.qualitsys.hellospringboot;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.boot.web.servlet.support.SpringBootServletInitializer;

@SpringBootApplication
public class HellospringbootApplication extends SpringBootServletInitializer{

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

}
```



# Gerando o arquivo war

Na pasta da aplicação, executar o comando:

A large red arrow points from left to right, indicating the direction of the command.

\$ mvn clean package

# Gerando o arquivo war

```
Command Prompt  
E:\Integrator\hellospringboot>mvn clean package
```

# Gerando o arquivo war

```
DA Command Prompt
[INFO] webapp assembled in [129 msecs]
[INFO] Building war: E:\Integrator\hellospringboot\target\hellospringboot-SNAPSHOT.war
[INFO]
[INFO] --- spring-boot-maven-plugin:2.3.1.RELEASE:repackage (repackage)
[INFO]   SpringBoot
[INFO]   Replacing main artifact with repackaged archive
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 8.520 s
[INFO] Finished at: 2020-07-19T11:06:45-03:00
[INFO] -----
```

E:\Integrator\hellospringboot>

A screenshot of a Windows Command Prompt window titled "DA Command Prompt". The window displays the output of a Maven build command for a Spring Boot application. The log shows the assembly of a webapp, the building of a war file named "hellospringboot-SNAPSHOT.war" at path "E:\Integrator\hellospringboot\target", the use of the "spring-boot-maven-plugin" version 2.3.1.RELEASE, the replacement of the main artifact with a repackaged archive, and finally a "BUILD SUCCESS". The log concludes with the total time taken (8.520 seconds), the finished date and time (2020-07-19T11:06:45-03:00), and a final dash separator. The prompt at the bottom indicates the current directory is "E:\Integrator\hellospringboot".

# arquivo war gerado na pasta target

```
Windows Command Prompt

E:\Integrator\hellospringboot\target>dir
Volume in drive E is Dados
Volume Serial Number is 14D9-25F0

Directory of E:\Integrator\hellospringboot\target

19-Jul-20  11:06 AM    <DIR>          .
19-Jul-20  11:06 AM    <DIR>          ..
19-Jul-20  11:06 AM    <DIR>          classes
19-Jul-20  11:06 AM    <DIR>          generated-sources
19-Jul-20  11:06 AM    <DIR>          generated-test-sources
19-Jul-20  11:06 AM    <DIR>          hellospringboot-0.0.1-SNAPSHOT
19-Jul-20  11:06 AM          16,495,311 hellospringboot-0.0.1-SNAPSHOT.war
19-Jul-20  11:06 AM        11,075,862 hellospringboot-0.0.1-SNAPSHOT.war.original
|
```



# Iniciando um Tomcat externo

# Subindo um Tomcat externo

- Para iniciar um servidor Tomcat, posicionar-se na pasta onde o Tomcat foi instalado.



```
E:\>dir apache-tomcat-9.0.34
Volume in drive E is Lados
Volume Serial Number is 14D9-25F0

Directory of E:\apache-tomcat-9.0.34

03-May-20  07:35 PM    <DIR>    .
03-May-20  07:35 PM    <DIR>    ..
03-May-20  07:35 PM    <DIR>    backup
03-Apr-20  05:04 PM    <DIR>    bin
03-Apr-20  05:04 PM            19,540 BUILDING.txt
03-May-20  07:29 PM    <DIR>    conf
03-Apr-20  05:04 PM            5,545 CONTRIBUTING.md
03-Apr-20  05:04 PM    <DIR>    lib
03-Apr-20  05:04 PM            58,153 LICENSE
15-Jul-20  06:29 AM    <DIR>    logs
03-Apr-20  05:04 PM            2,401 NOTICE
03-Apr-20  05:04 PM            3,334 README.md
03-Apr-20  05:04 PM            7,072 RELEASE-NOTES
03-Apr-20  05:04 PM            16,738 RUNNING.txt
03-May-20  08:15 PM    <DIR>    temp
```

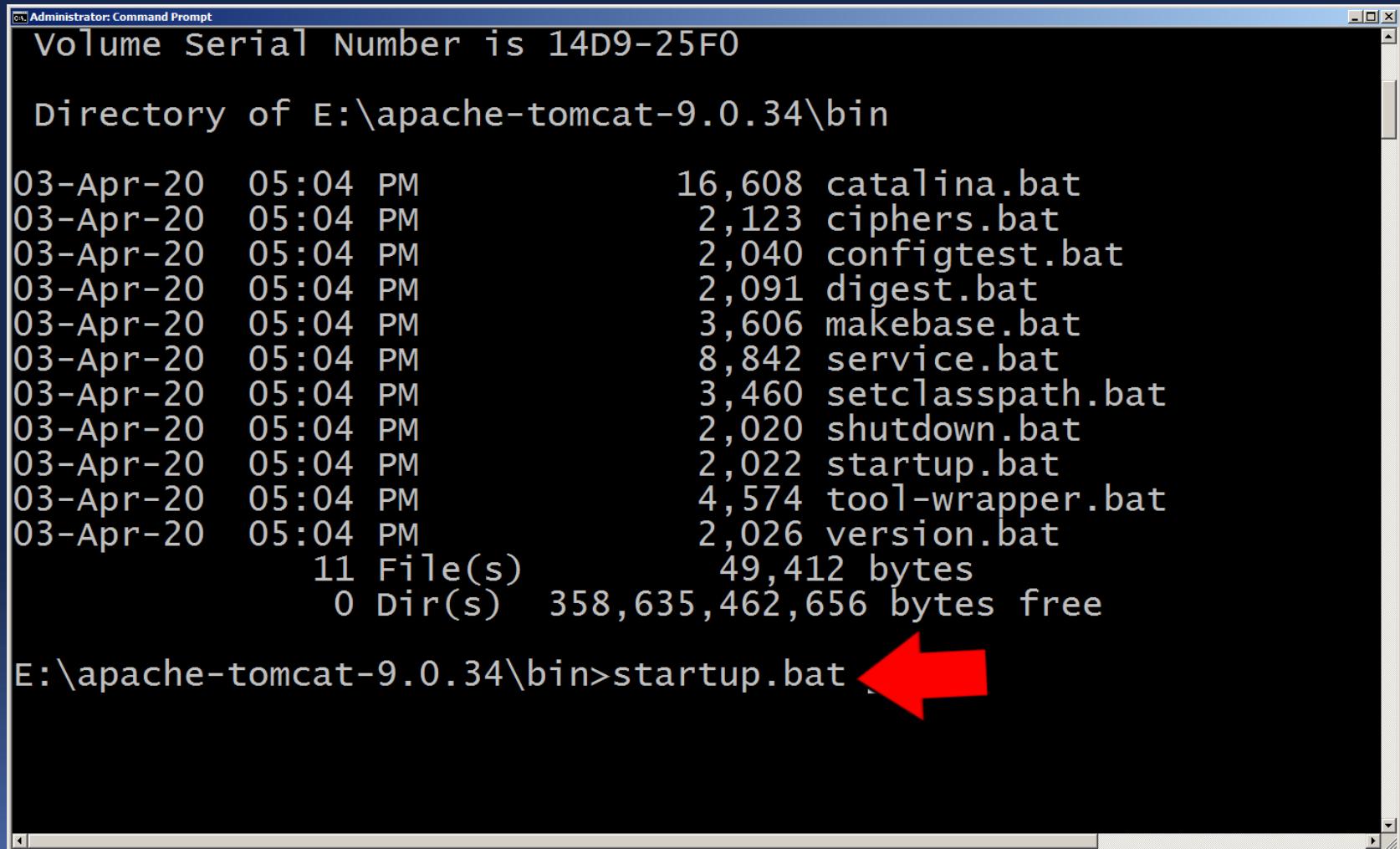
# Subindo um Tomcat externo

- No diretório bin, executar - como administrador -- o procedimento **start.bat**

```
os: Command Prompt  
Directory of E:\apache-tomcat-9.0.34\bin  
  
03-Apr-20  05:04 PM    <DIR>      .  
03-Apr-20  05:04 PM    <DIR>      ..  
03-Apr-20  05:04 PM          35,071 bootstrap.jar  
03-Apr-20  05:04 PM          1,703 catalina-tasks.xml  
03-Apr-20  05:04 PM          16,608 catalina.bat  
03-Apr-20  05:04 PM          24,397 catalina.sh  
03-Apr-20  05:04 PM          2,123 ciphers.bat  
03-Apr-20  05:04 PM          1,997 ciphers.sh  
03-Apr-20  05:04 PM          25,197 commons-daemon.jar  
03-Apr-20  05:04 PM          2,040 configtest.bat  
03-Apr-20  05:04 PM          1,922 configtest.sh  
03-Apr-20  05:04 PM          9,127 daemon.sh  
03-Apr-20  05:04 PM          2,091 digest.bat  
03-Apr-20  05:04 PM          1,965 digest.sh  
03-Apr-20  05:04 PM          3,606 makebase.bat  
03-Apr-20  05:04 PM          3,382 makebase.sh  
03-Apr-20  05:04 PM          8,842 service.bat  
03-Apr-20  05:04 PM          3,460 setclasspath.bat  
03-Apr-20  05:04 PM          3,708 setclasspath.sh  
03-Apr-20  05:04 PM          2,020 shutdown.bat  
03-Apr-20  05:04 PM          1,902 shutdown.sh  
03-Apr-20  05:04 PM          2,022 startup.bat   
03-Apr-20  05:04 PM          1,904 startup.sh  
03-Apr-20  05:04 PM        2,592,256 tcnative-1.dll  
03-Apr-20  05:04 PM        49,369 tomcat-juli.jar
```

# Subindo um Tomcat externo

- No diretório bin, executar - como administrador -- o procedimento **startup.bat**



```
C:\Administrator: Command Prompt
Volume Serial Number is 14D9-25F0

Directory of E:\apache-tomcat-9.0.34\bin

03-Apr-20  05:04 PM                16,608 catalina.bat
03-Apr-20  05:04 PM                 2,123 ciphers.bat
03-Apr-20  05:04 PM                 2,040 configtest.bat
03-Apr-20  05:04 PM                 2,091 digest.bat
03-Apr-20  05:04 PM                 3,606 makebase.bat
03-Apr-20  05:04 PM                 8,842 service.bat
03-Apr-20  05:04 PM                3,460 setclasspath.bat
03-Apr-20  05:04 PM                 2,020 shutdown.bat
03-Apr-20  05:04 PM                 2,022 startup.bat
03-Apr-20  05:04 PM                 4,574 tool-wrapper.bat
03-Apr-20  05:04 PM                 2,026 version.bat
                           11 File(s)        49,412 bytes
                           0 Dir(s)   358,635,462,656 bytes free

E:\apache-tomcat-9.0.34\bin>startup.bat
```

# Tomcat rodando na porta 8888

- Tomcat aguardando requisições na porta **8888**

```
Tomcat
oyDirectory Deployment of web application directory [E:\apa
apps\host-manager] has finished in [31] ms
16-Jul-2020 10:28:53.859 INFO [main] org.apache.catalina.st
oyDirectory Deploying web application directory [E:\apache-
\manager]
16-Jul-2020 10:28:53.875 INFO [main] org.apache.catalina.st
oyDirectory Deployment of web application directory [E:\apa
apps\manager] has finished in [16] ms
16-Jul-2020 10:28:53.875 INFO [main] org.apache.catalina.st
oyDirectory Deploying web application directory [E:\apache-
\ROOT]
16-Jul-2020 10:28:53.906 INFO [main] org.apache.catalina.st
oyDirectory Deployment of web application directory [E:\apa
apps\ROOT] has finished in [31] ms
16-Jul-2020 10:28:53.906 INFO [main] org.apache.coyote.Abst
arting ProtocolHandler ["http-nio-8888"] ←
16-Jul-2020 10:28:53.922 INFO [main] org.apache.catalina.st
Server startup in [568] milliseconds
```

# Acessando arquivo de log do Tomcat

- Tomcat registra ocorrências no servidor na pasta logs.

```
E:\apache-tomcat-9.0.34\logs>dir
Volume in drive E is Dados
Volume Serial Number is 14D9-25F0
Directory of E:\apache-tomcat-9.0.34\logs

16-Jul-20  10:22 AM    <DIR>          .
16-Jul-20  10:22 AM    <DIR>          ..
03-May-20  07:32 PM        29,499 catalina.2020-05-03.log
05-Jun-20  05:08 PM        48,346 catalina.2020-06-05.log
12-Jun-20  08:52 PM        6,737 catalina.2020-06-12.log
15-Jul-20  03:27 PM        6,074 catalina.2020-07-15.log
16-Jul-20  10:28 AM       31,150 catalina.2020-07-16.log
03-May-20  07:27 PM          0 host-manager.2020-05-03.log
05-Jun-20  04:43 PM          0 host-manager.2020-06-05.log
12-Jun-20  08:29 PM          0 host-manager.2020-06-12.log
15-Jul-20  06:29 AM          0 host-manager.2020-07-15.log
16-Jul-20  10:22 AM          0 host-manager.2020-07-16.log
03-May-20  07:32 PM        2,375 localhost.2020-05-03.log
05-Jun-20  05:08 PM        5,884 localhost.2020-06-05.log
12-Jun-20  08:52 PM          655 localhost.2020-06-12.log
15-Jul-20  03:27 PM          411 localhost.2020-07-15.log
16-Jul-20  10:26 AM       2,782 localhost.2020-07-16.log
03-May-20  08:16 PM      1,420 localhost_access_log.2020-05-03.txt
```



# Acessando arquivo de log do Tomcat

- Tomcat registra ocorrências no servidor no arquivo **catalina.2020-07-16.log** na pasta **logs**.

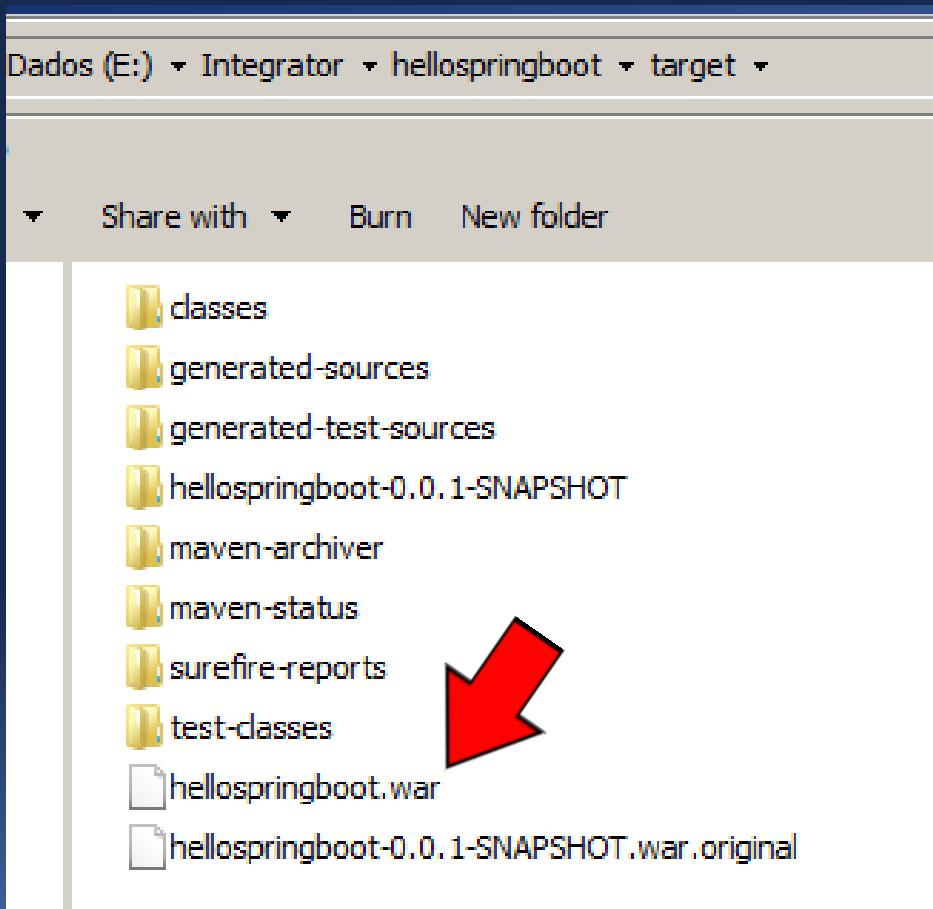


```
Windows Command Prompt
apps\examples] has finished in [265] ms
16-Jul-2020 10:28:53.828 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [E:\apache-tomcat-9.0.34\webapps\host-manager]
16-Jul-2020 10:28:53.859 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [E:\apache-tomcat-9.0.34\webapps\host-manager] has finished in [31] ms
16-Jul-2020 10:28:53.859 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [E:\apache-tomcat-9.0.34\webapps\manager]
16-Jul-2020 10:28:53.875 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [E:\apache-tomcat-9.0.34\webapps\manager] has finished in [16] ms
16-Jul-2020 10:28:53.875 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [E:\apache-tomcat-9.0.34\webapps\ROOT]
16-Jul-2020 10:28:53.906 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [E:\apache-tomcat-9.0.34\webapps\ROOT] has finished in [31] ms
16-Jul-2020 10:28:53.906 INFO [main] org.apache.coyote.AbstractProtocol.start Starting Protocol Handler ["http-nio-8888"]
16-Jul-2020 10:28:53.922 INFO [main] org.apache.catalina.startup.Catalina.start Server startup in [568] milliseconds

E:\apache-tomcat-9.0.34\logs>
```

# Instalando a aplicação no Tomcat

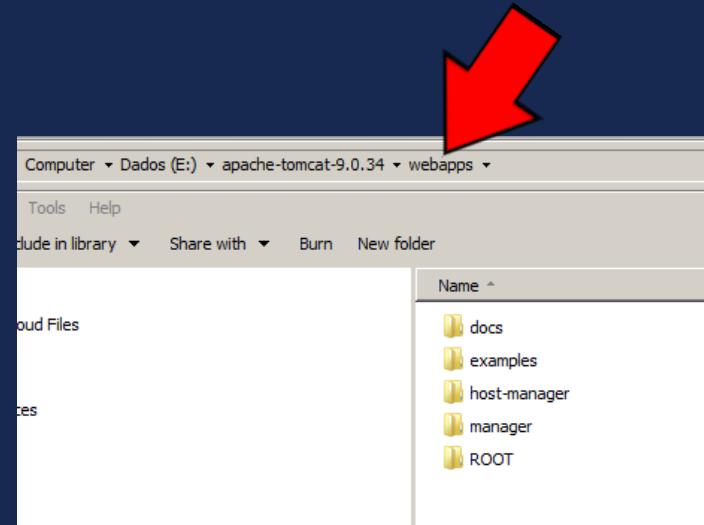
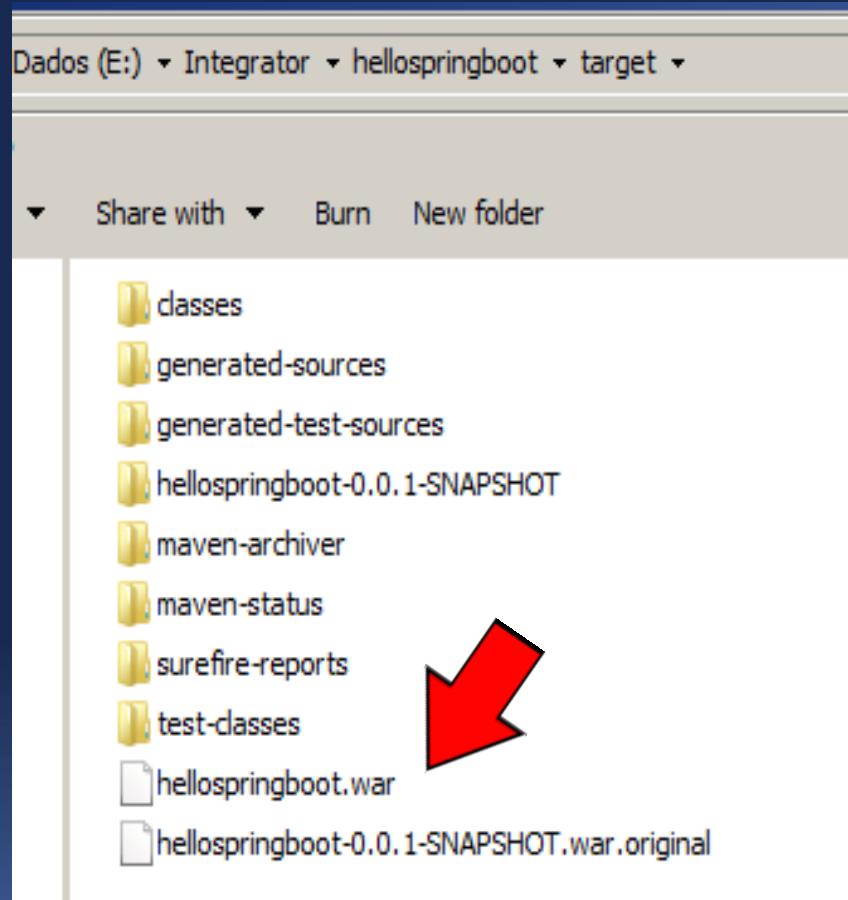
- Para simplificar o manuseio do .war faremos um **rename** de **hellospringboot-0.0.1-SNAPSHOT.war** para **hellospringboot.war** na pasta target do projeto



# Instalando a aplicação no Tomcat



- A nossa aplicação (materializada no arquivo **.war**) deverá ser copiada para a pasta webapps do Tomcat.



# Instalando a aplicação no Tomcat



- Aplicação copiada na pasta **webapps** do Tomcat



Name	Date modified	Type	Size
docs	03-Apr-20 5:04 PM	File folder	
examples	03-Apr-20 5:04 PM	File folder	
hellospringboot	19-Jul-20 11:22 AM	File folder	
host-manager	03-Apr-20 5:04 PM	File folder	
manager	03-Apr-20 5:04 PM	File folder	
ROOT	03-Apr-20 5:04 PM	File folder	
hellospringboot.war	19-Jul-20 11:06 AM	WAR File	16,109 KB



# Observando o log do Tomcat



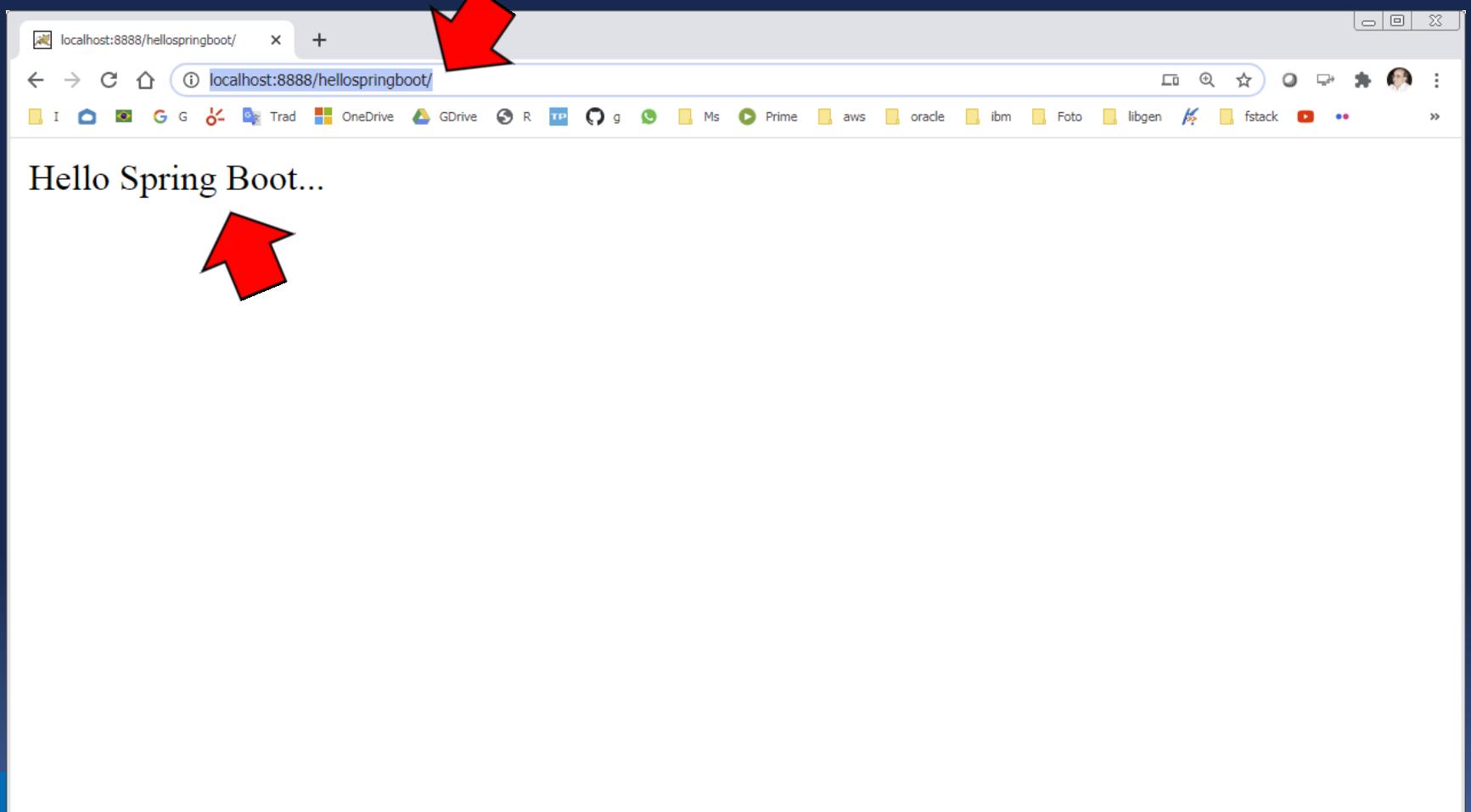
- Visualizando o log do Tomcat após a **cópia** da aplicação (arquivo **.war**)

```
Tomcat
2020-07-19 11:22:41.514 INFO 6188 --- [alina-utility-2] b.c.q.h.HellospringbootApplication : Starting HellospringbootApplication v0.0.1-SNAPSHOT on Aparecido-PC with PID 6188 (E:\apache-tomcat-9.0.34\webapps\hellospringboot\WEB-INF\classes started by Aparecido in E:\apache-tomcat-9.0.34\bin)
2020-07-19 11:22:41.521 INFO 6188 --- [alina-utility-2] b.c.q.h.HellospringbootApplication : No active profile set, falling back to default profiles: default
2020-07-19 11:22:42.360 INFO 6188 --- [alina-utility-2] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 804 ms
2020-07-19 11:22:42.764 INFO 6188 --- [alina-utility-2] o.s.s.concurrent.ThreadPoolTaskExecutor : Initializing ExecutorService 'applicationTaskExecutor'
2020-07-19 11:22:42.926 INFO 6188 --- [alina-utility-2] b.c.q.h.HellospringbootApplication : Started HellospringbootApplication in 1.963 seconds (JVM running for 836.235)
19-Jul-2020 11:22:42.934 INFO [Catalina-utility-2] org.apache.catalina.startup.HostConfig.deployWAR Deployment of web application archive [E:\apache-tomcat-9.0.34\webapps\hellospringboot.war] has finished in [5,411] ms
2020-07-19 11:27:56.419 INFO 6188 --- [io-8888-exec-12] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
2020-07-19 11:27:56.430 INFO 6188 --- [io-8888-exec-12] o.s.web.servlet.DispatcherServlet : Completed initialization in 9 ms
```

# Reexecutando a aplicação no Tomcat externo

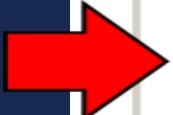


- Visualizando a pasta webapps após a cópia do arquivo .war
- A pasta do projeto relativa ao arquivo .war foi criada pelo Tomcat;
- No browser entrar com => <http://localhost:8888/hellospringboot/>



# Renomeando o nome da aplicação

- Tomcat criou na pasta webapps um outra pasta chamada hellospringboot que corresponde à pasta do nosso projeto no Tomcat.



Name	Date modified	Type	Size
docs	03-Apr-20 5:04 PM	File folder	
examples	03-Apr-20 5:04 PM	File folder	
hellospringboot	19-Jul-20 11:22 AM	File folder	
host-manager	03-Apr-20 5:04 PM	File folder	
manager	03-Apr-20 5:04 PM	File folder	
ROOT	03-Apr-20 5:04 PM	File folder	
hellospringboot.war	19-Jul-20 11:06 AM	WAR File	16,109 KB



# Fazendo deploy na nuvem (Integrator.com.br)

📞 (011) 3230.8717 📧 suporte@integrator.com.br



HOME

PLANOS & SERVIÇOS

ATENDIMENTO

ASSINE JÁ



# Portando a aplicação para o Host Integrator

## • Ativando **cPANEL**

### DADOS DE ACESSO AO PAINEL DE CONTROLE cPanel:

---

URL: <https://209.172.51.58:2083/> \*

Usuário: qualitsys

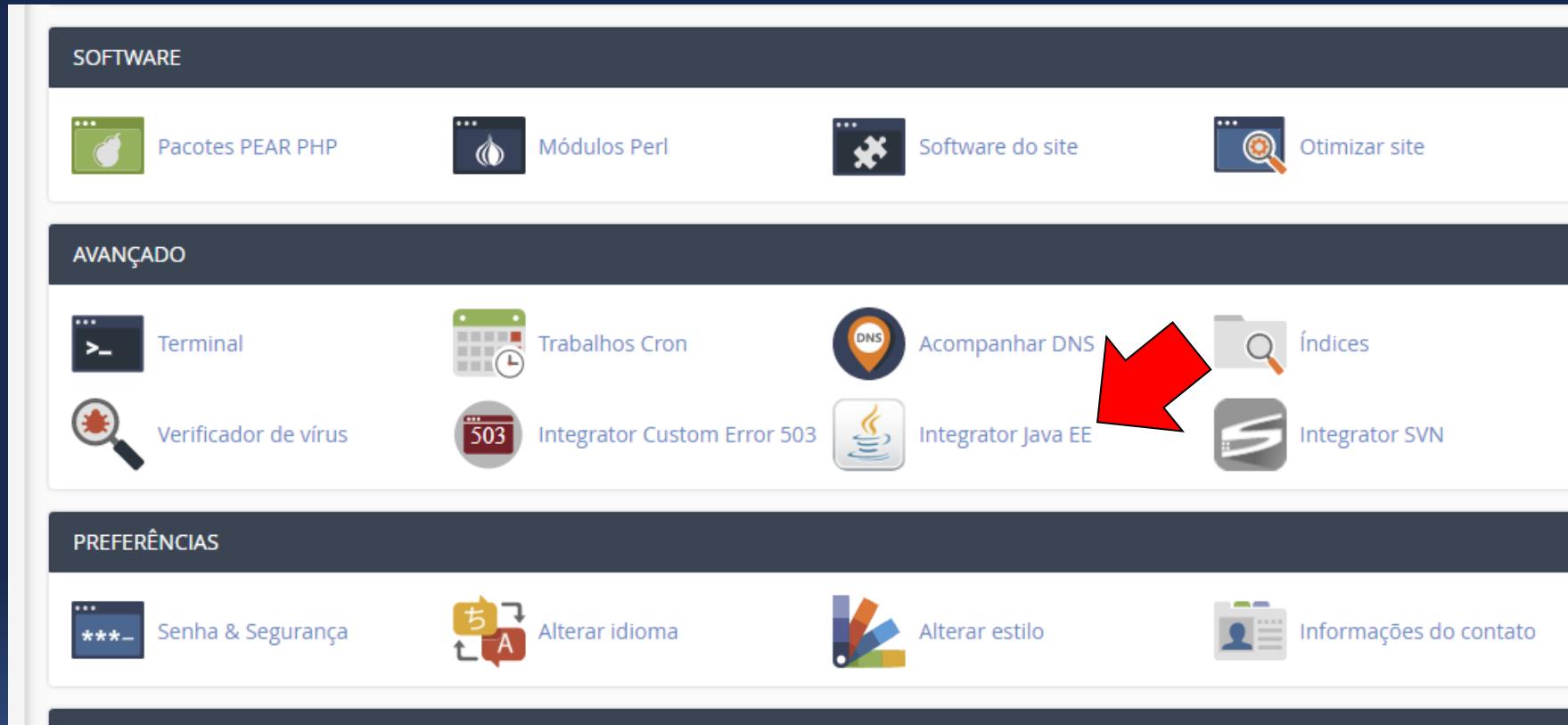
Senha: yqK#-R32Ay7H

Caso o domínio aponte para o servidor da Integrator, acesse:

URL: <https://cpanel.qualitsys.net/>

# Portando a aplicação para o Host Integrator

- Após ativação do CPANEL, acessar o menu AVANÇADO > Integrator Java EE



The screenshot shows the 'AVANÇADO' section of the Host Integrator software. A red arrow points to the 'Integrator Java EE' icon, which is located next to the 'Acompanhar DNS' icon. Other options in the 'AVANÇADO' menu include Terminal, Trabalhos Cron, Verificador de vírus, Integrator Custom Error 503, Índices, and Integrator SVN.

AVANÇADO	
Terminal	Trabalhos Cron
Verificador de vírus	Acompanhar DNS
Integrator Custom Error 503	Índices
	Integrator Java EE
	Integrator SVN

# Portando a aplicação para o Host Integrator

## ○ Tela Integrator Java EE Wizard



### Integrator Java EE Wizard

Instale seu servidor Java e gerencie através deste painel de controle

Instale o servidor Java selecionando-o abaixo:

JDK 12.0.2+10

Tomcat 9.0.4

Instalar Servidor

 O servidor Java anterior será completamente substituído em caso de nova instalação



Executando

Servidor Java

Mapear Dominio

Logs

Alterar JDK

Acesso

Memória

Localização

Alertar

Manager

Deploy

UnDeploy

**JDK Configurada no Servidor Java:** jdk1.8.0\_191

**Servidor Java Instalado:** /home/qualitsys/appservers/apache-tomcat-9.0.4

**Logs de saída do console:** /home/qualitsys/appservers/apache-tomcat-9.0.4/logs/stdout.log

Stop

Forçar Stop

# Mapeamento de Domínio

- No cPanel > Integrator Java EE Wizard > Mapear Dominio > Nome do aplicativo
- Clicar em Adicionar Mapeamento

**cPanel**

**Integrator Java EE Wizard**

Instale seu servidor Java e gerencie através deste painel de controle

Instale o servidor Java selecionando-o abaixo:

JDK 12.0.2+10 Tomcat 9.0.4 Instalar Servidor

O servidor Java anterior será completamente substituído em caso de nova instalação

Executando

Servidor Java Mapear Dominio Logs Alterar JDK Acesso Memória Localização Alertar Manager Deploy UnDeploy

Por favor, selecione domínio ou subdomínio para uso do servidor Java:

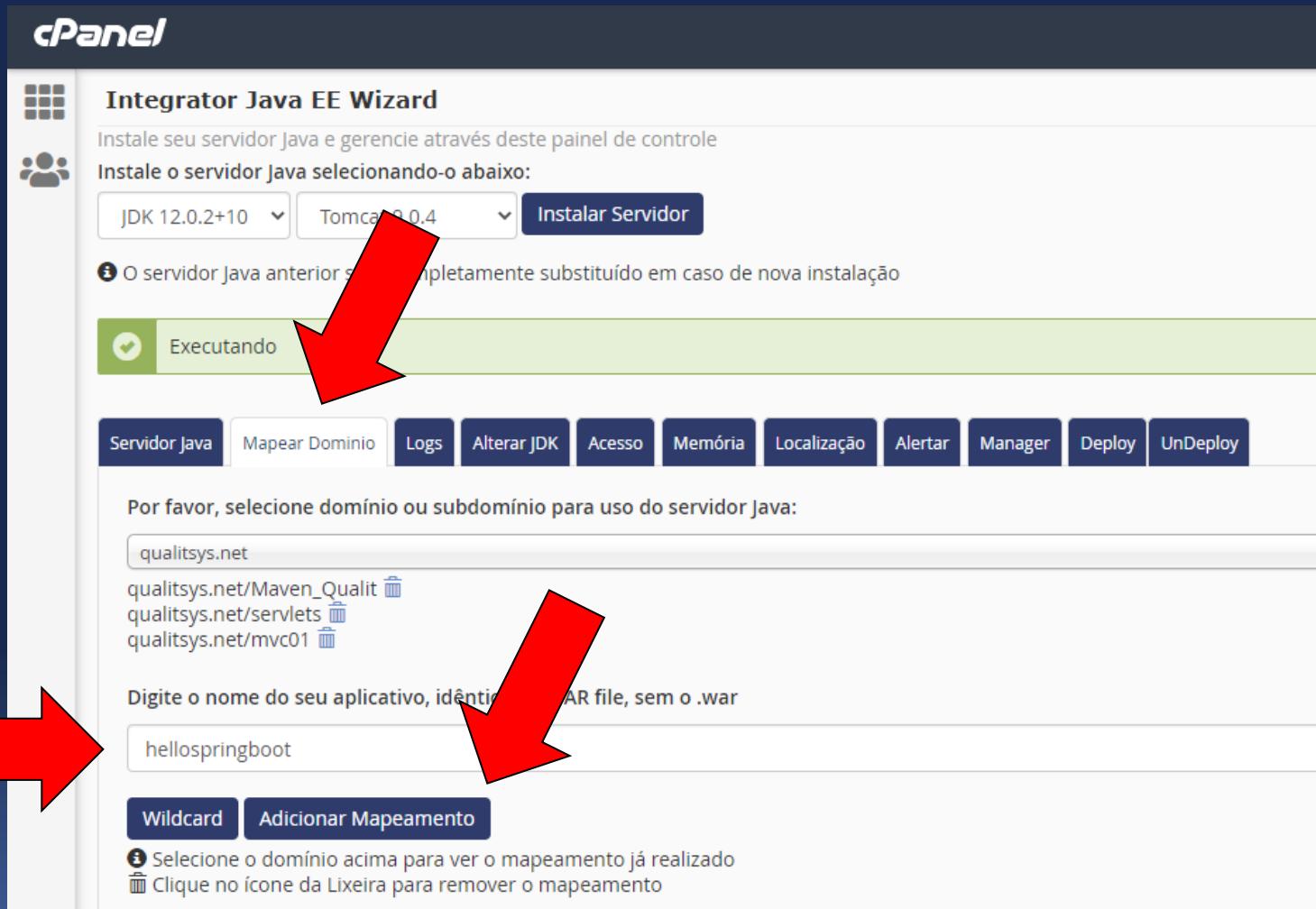
qualitsys.net  
qualitsys.net/Maven\_Qualit  
qualitsys.net/servlets  
qualitsys.net/mvc01

Digite o nome do seu aplicativo, idêntico ao AR file, sem o .war

hellospringboot

Wildcard Adicionar Mapeamento

Seleccione o domínio acima para ver o mapeamento já realizado  
Clique no ícone da Lixeira para remover o mapeamento



# Mapeamento de Domínio

## ● Mapeamento realizado



The screenshot shows the 'Integrator Java EE Wizard' interface. At the top, it says 'Mapeado no Domínio' (Mapped to Domain) with a green checkmark icon. Below this, there's a link to 'Voltar' (Back). On the left sidebar, under 'Integrator J', there are links for 'Instale seu servid' (Install your service) and 'Instale o serviço' (Install the service), both of which are currently inactive. A button for 'JDK 12.0.2+10' is shown. A note below states: 'O servidor Java anterior será completamente substituído em caso de nova instalação' (The previous Java server will be completely replaced in case of a new installation). The main panel shows a green bar indicating the task is 'Executando' (Running). Below this, a navigation menu includes 'Servidor Java', 'Mapear Dominio' (selected), 'Logs', 'Alterar JDK', 'Acesso', 'Memória', 'Localização', 'Alertar', 'Manager', 'Deploy', and 'UnDeploy'. A list of domains is displayed: 'qualitsys.net', 'qualitsys.net/Maven\_Qualit', 'qualitsys.net/servlets', 'qualitsys.net/mvc01', and 'qualitsys.net/hellospringboot'. A large red arrow points from the bottom left towards the list of domains.

# Deploy do Aplicativo

Upload arquivo .war

cPanel

### Integrator Java EE Wizard

Instale seu servidor Java e gerencie através deste painel de controle

Instale o servidor Java selecionando-o abaixo:

JDK 12.0.2+10 Tomcat 9.0.4 Instalar Servidor

O servidor Java anterior será completamente substituído em caso de nova instalação

Executando

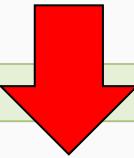
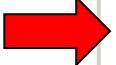
Servidor Java Mapear Dominio Logs Alterar JDK Acesso Memória Localização Alertar Manager Deploy UnDeploy

apache-tomcat-9.0.34 webapps

New folder

Name	Date modified	Type	Size
docs	03-Apr-20 5:04 PM	File folder	
examples	03-Apr-20 5:04 PM	File folder	
hellospringboot	16-Jul-20 11:13 AM	File folder	
host-manager	03-Apr-20 5:04 PM	File folder	
manager	03-Apr-20 5:04 PM	File folder	
ROOT	03-Apr-20 5:04 PM	File folder	
hellospringboot.war	15-Jul-20 11:14 AM	WAR File	16,109 KB

Clique aqui para enviar o arquivo



# Deploy do Aplicativo

● Clique para Deploy

**Integrator Java EE Wizard**

Instale seu servidor Java e gerencie através deste painel de controle

Instale o servidor Java selecionando-o abaixo:

JDK 12.0.2+10 ▾ Tomcat 9.0.4 ▾ **Instalar Servidor**

**Info** O servidor Java anterior será completamente substituído em caso de nova instalação

**Executando**

Servidor Java Mapear Dominio Logs Alterar JDK Acesso Memória Localização Alertar Manager Deploy UnDeploy

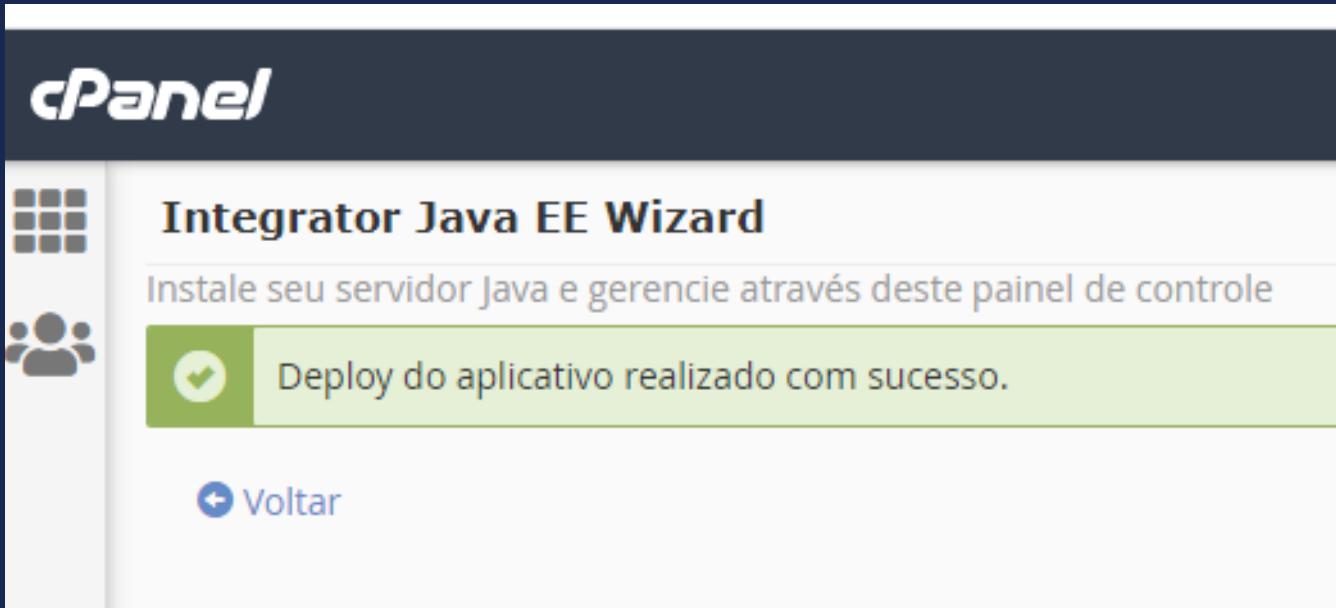
Clique aqui para enviar o arquivo

hellospringboot.war - Clique para Deploy ✓



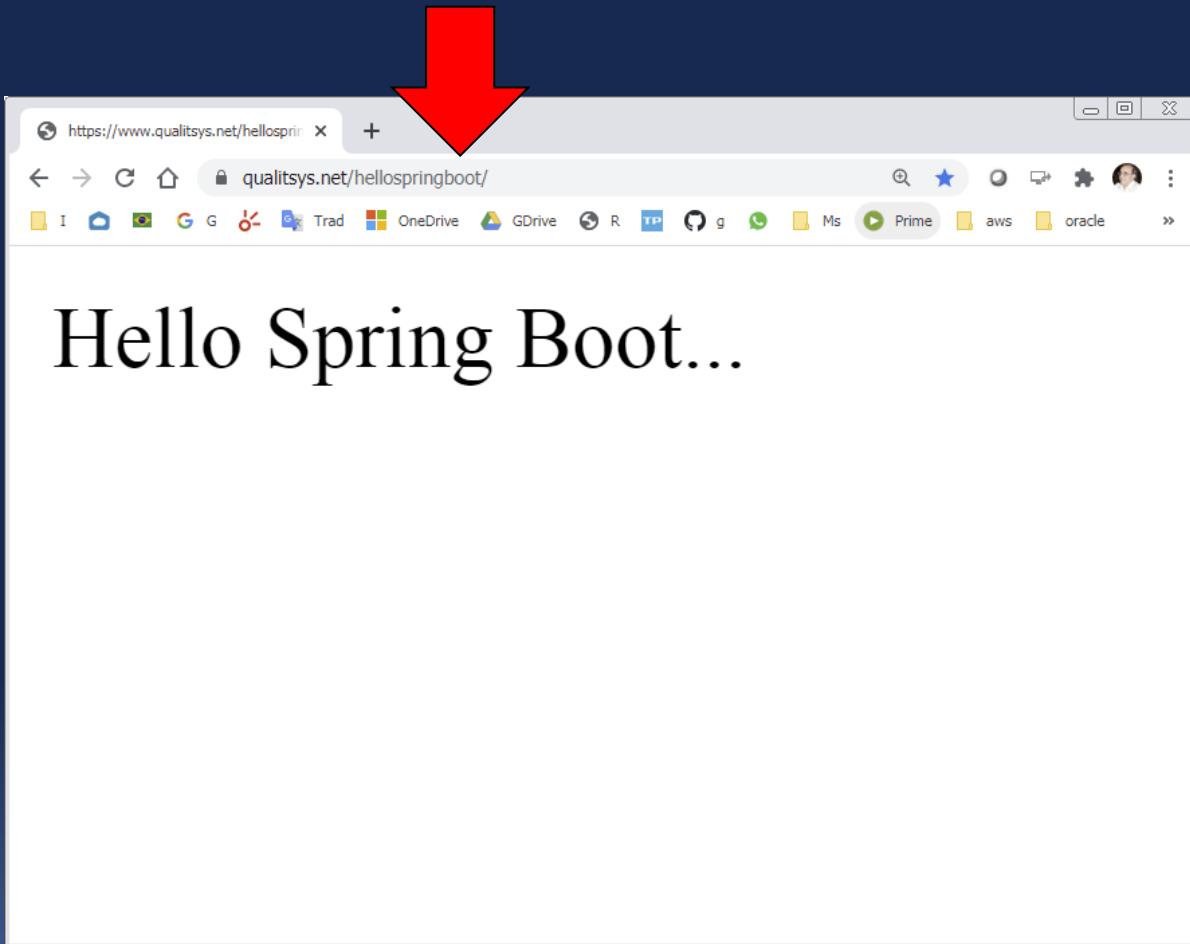
# Deploy do Aplicativo

- Deploy realizado com sucesso!

A screenshot of the cPanel Integrator Java EE Wizard interface. The title bar says "cPanel". On the left is a sidebar with icons for "Grid" and "User". The main area has a dark header with the text "Integrator Java EE Wizard" and a sub-header "Instale seu servidor Java e gerencie através deste painel de controle". Below this is a green button with a checkmark icon and the text "Deploy do aplicativo realizado com sucesso.". At the bottom left is a "Voltar" button with a back arrow icon.

# Testando aplicação na nuvem

• <https://www.qualitsys.net/hellospringboot/>





# Salvando projeto no github



# Salvando projeto no Repositório git local

A screenshot of a Windows File Explorer window. The path bar at the top shows "Dados (E:) \ Integrator \ hellospringboot". The main area displays a list of files and folders from a Maven project:

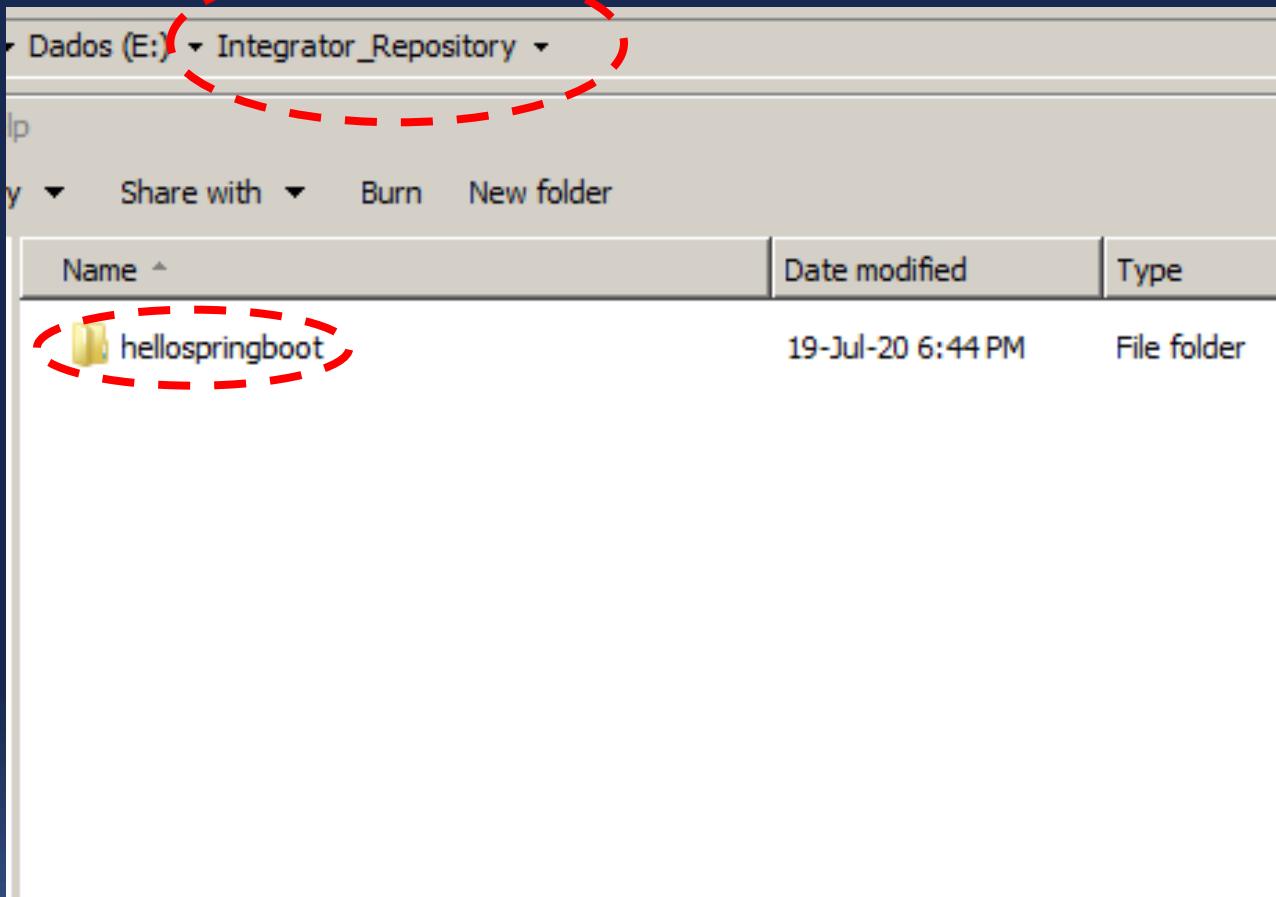
Name	Date modified	Type	Size
.mvn	19-Jul-20 11:20 AM	File folder	
.settings	19-Jul-20 10:54 AM	File folder	
src	19-Jul-20 11:20 AM	File folder	
target	19-Jul-20 11:13 AM	File folder	
.classpath	19-Jul-20 10:55 AM	CLASSPATH File	2 KB
.project	19-Jul-20 11:20 AM	Text Document	1 KB
HELP	19-Jul-20 10:55 AM	PROJECT File	2 KB
mvnw	19-Jul-20 11:20 AM	Markdown Source File	1 KB
mvnw	19-Jul-20 11:20 AM	File	10 KB
pom	19-Jul-20 10:53 AM	Windows Command ...	7 KB

A screenshot of a Windows File Explorer window. The path bar at the top shows "Dados (E:)". The main area displays a list of folders:

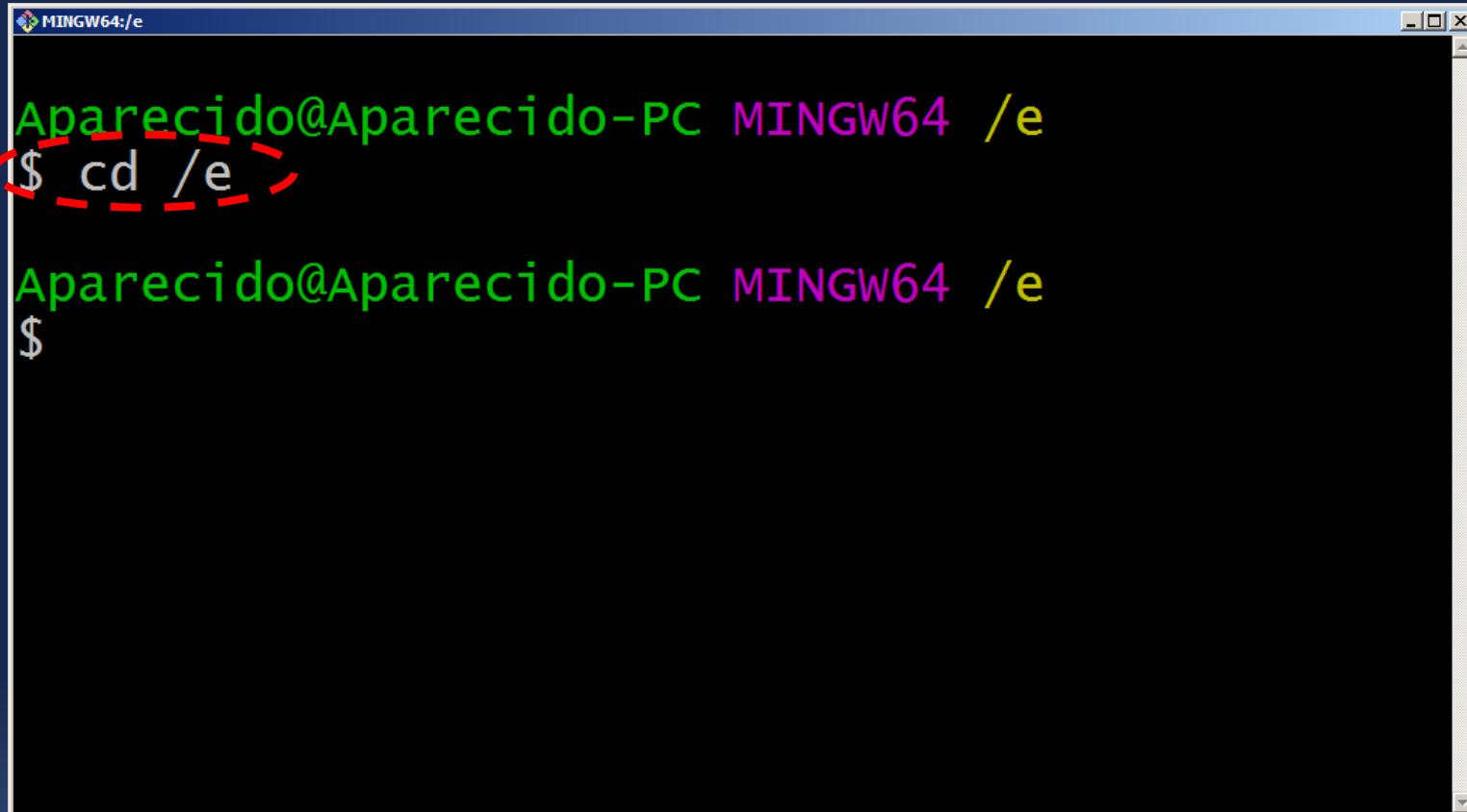
Name
apache_Maven_Local_Repository
apache-maven-3.6.3
apache-tomcat-9.0.34
Calibre_Library
clojure
Dados_Diversos
Eclipse
ExIMES
FATEC
Integrator_Projetos
Integrator_Repository
Java_Full_Stack
Spring_Boot



# Projeto salvo no repositório local



# Acessando o repositório git local c/gitbash



A screenshot of a Windows terminal window titled "MINGW64:/e". The window contains the following text:

```
Aparecido@Aparecido-PC MINGW64 /e
$ cd /e
Aparecido@Aparecido-PC MINGW64 /e
$
```

The command `cd /e` is highlighted with a red dashed underline. The terminal window has a standard Windows title bar and scroll bars.

# Acessando o repositório git local c/gitbash

```
MINGW64:/e/integrator_repository
Aparecido@Aparecido-PC MINGW64 /e
$ cd integrator_repository

Aparecido@Aparecido-PC MINGW64 /e/integrator_repository
$ ls -d hellospringboot/
hellospringboot/ >

Aparecido@Aparecido-PC MINGW64 /e/integrator_repository
$
```

# Monitoração do repositório pelo git

## git init

```
MINGW64:/e/integrator_repository
Aparecido@Aparecido-PC MINGW64 /e/integrator_repository
$ git init
Initialized empty Git repository in E:/Integrator_Repository/.git/
Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (master)
$
```

# git status

- A cor **vermelha** indica que a pasta do nosso projeto (`hellospringboot`) ainda não está sendo monitorada pelo git.

```
MINGW64:/e/integrator_repository
on branch master
No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    hellospringboot/
nothing added to commit but untracked files present (use
"git add" to track)

Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (master)
$
```

## git add .

- Esse comando irá incluir o projeto (todos os arquivos) para serem monitorados pelo git

```
MINGW64:/e/integrator_repository
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in hellospringboot/src/main/resources/application.properties.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in hellospringboot/src/test/java/br/com/qualitsys/hellospringboot/HellospringbootApplicationTests.java.
The file will have its original line endings in your working directory

Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (master)
$
```

# git status

- ➊ Os arquivos com a cor **verde** indicam que ainda não foram comitados.

```
MINGW64:/e/integrator_repository
    new file: hellospringboot/pom.xml
    new file: hellospringboot/src/main/java/br/com/
qualitsys/hellospringboot/HellospringbootApplication.java
    new file: hellospringboot/src/main/java/br/com/
qualitsys/hellospringboot/controller/HelloController.java
    new file: hellospringboot/src/main/resources/ap-
plication.properties
    new file: hellospringboot/src/test/java/br/com/
qualitsys/hellospringboot/HellospringbootApplicationTests-
.java

Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (master)
$
```

**git commit -m “v1.0.0 – 19/07/2020”**

```
MINGW64:/e/integrator_repository
create mode 100644 hellospringboot/.mvn/wrapper/maven-wr
create mode 100644 hellospringboot/.mvn/wrapper/maven-wr
create mode 100644 hellospringboot/mvnw
create mode 100644 hellospringboot/mvnw.cmd
create mode 100644 hellospringboot/pom.xml
create mode 100644 hellospringboot/src/main/java/br/com/
  lospringbootApplication.java
create mode 100644 hellospringboot/src/main/java/br/com/
  troller/HelloController.java
create mode 100644 hellospringboot/src/main/resources/ap
create mode 100644 hellospringboot/src/test/java/br/com/
  lospringbootApplicationTests.java

Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (
```

\$ |

# git status

```
MINGW64:/e/integrator_repository
Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (master)
$ git status
on branch master
nothing to commit, working tree clean

Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (master)
$ |
```

# ssh-keygen (Chave de segurança)



- A chave de segurança é gerada para se acessar o github a partir do repositório local;
- As chaves são criadas em 2 arquivos na pasta do usuário:  
`c:/users/Aparecido/.ssh/id_rsa` e `c:/users/Aparecido/.ssh/id_pub`

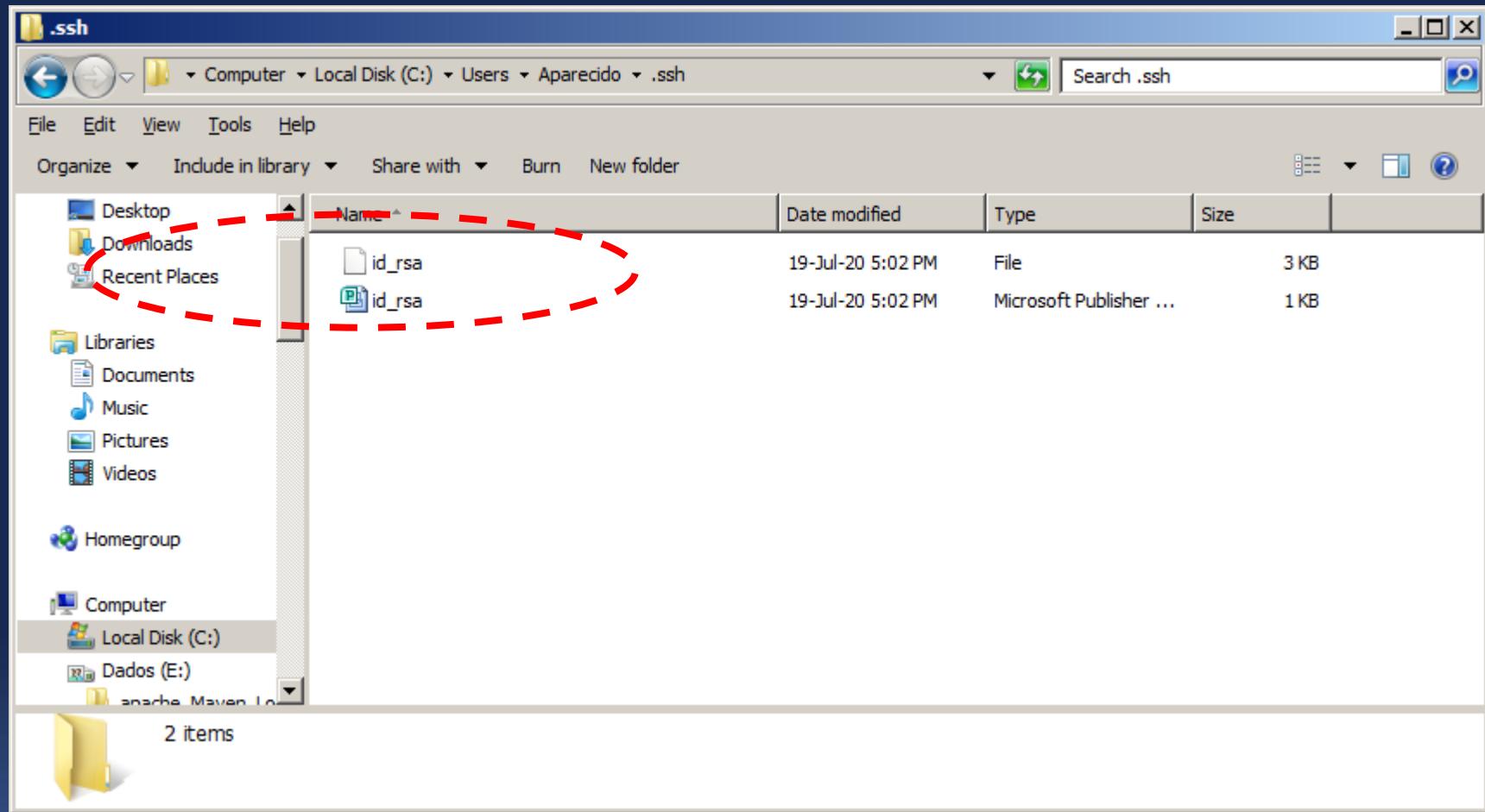
```
MINGW64:/e/integrator_repository
Your identification has been saved in /c/users/Aparecido/
.ssh/id_rsa
Your public key has been saved in /c/users/Aparecido/.ssh
/id_rsa.pub
The key fingerprint is:
SHA256:0vF18nQYnW/Z7160qnpXOPJ7qZ41BoRGk3ZHLEJp1SY Aparec
ido@Aparecido-PC
The key's randomart image is:
+---[RSA 3072]---+
|   o+++.+
|   .*oE.*.
|   .ooo=o
|   . . . o . o
|   . S * . .+ .
|   + * .oo...
|   o . .ooo..o
|   . . .o+o+.
|   .o.+*=...+
+---[SHA256]---+
Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (
master)
$
```



# ssh-keygen (Chave de segurança)



c:/users/Aparecido/.ssh/id\_rsa e c:/users/Aparecido/.ssh/id\_pub



# Abrindo os arquivos de segurança



c:/users/Aparecido/.ssh/id\_rsa

A screenshot of the Notepad++ application window. The title bar reads "C:\Users\Aparecido\.ssh\id\_rsa - Notepad++". The menu bar includes File, Edit, Search, View, Encoding, Language, Settings, Tools, Macro, Run, Plugins, Window, and Help. The toolbar below the menu has various icons for file operations like Open, Save, Print, and Find. There are two tabs open: "Teste\_01.java" and "id\_rsa". The "id\_rsa" tab is active and contains the following text:

```
1 -----BEGIN OPENSSH PRIVATE KEY-----
2 b3B1bnNzaC1rZXktdjEAAAAABG5vbmUAAAAEbm9uZ
3 NhAAAAAwEAAQAAAYExr43OvIVd4o4rvNR722VrKv
4 OY7g38Dpr8UeXRqfJ22K1cUIh0hL4MItM0G/g1osx
5 exg7ykD0QuiwMoBvE5u+A2GU/vu5pS80QOyhEZVGu
6 bMeNwSHXBY1DXkS1i08w2MFnPhJJRJn8elo8/48TF
7 oipsPd55NrW+mEJCV1cQHyj/eAKy05Akm2WE8/m0F
8 0FkJR+VH2dVbeTYAvnvWgXP+FVrlIIFSZBxhW40HC
9 7DKdpHkHCqAPKPb5LvmRPdzTG1zw3FQkDyTpcmtw+
10 Y+unBo7UjB1dzyX5C6uv307hFxPZeIs2XIyLIxyTA
11 EAAAGBAMa+NzryFXeKOK7zUe9tlayr0b//wxhtITB
12 H10anydtipXFCIdIS+DCLTNBv4NaLMW3y0rI3rOF1
13 sDKAbxObvgNh1P77uaUvNEDsoRGVRrjDjC/B+txKr
14 Q15EtYtPMNjBZz4SSUSZ/HpaPP+PExeCgH+saeD1V
15 vphCQldXEB8o/3gCstoQJt1hPP5tBVCJNSIM/qtS
16 W3k2AL571oFz/hVa5YiBUMQcYVuNBwuAeyfWwD5hk
17 Dyj2+S75kT3c0xtc8NxUJA8k6XJrcPvyDA5+Irm6D
```

The status bar at the bottom shows "Normal text file", "length : 2,610 lines : 39", "Ln : 1 Col : 1 Sel : 0 | 0", "Unix (LF)", "UTF-8", and "INS".

# Abrindo os arquivos de segurança



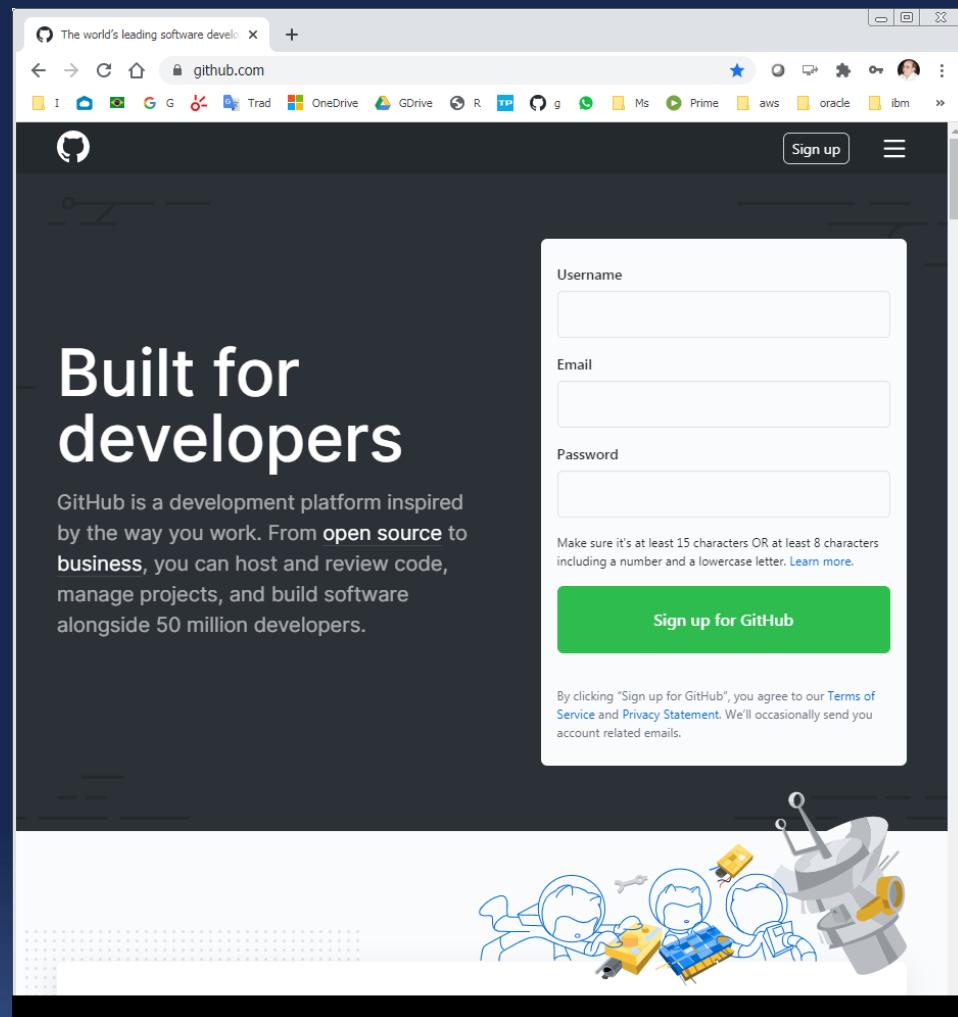
c:/users/Aparecido/.ssh/id\_pub

A screenshot of the Notepad++ application window. The title bar reads "C:\Users\Aparecido\.ssh\id\_rsa.pub - Notepad++". The menu bar includes File, Edit, Search, View, Encoding, Language, Settings, Tools, Macro, Run, Plugins, Window, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Find. The status bar at the bottom shows "Normal text file", "length : 576 lines : 2", "Ln : 1 Col : 1 Sel : 0 | 0", "Unix (LF)", "UTF-8", and "INS". Three tabs are visible: "Teste\_01.java", "id\_rsa", and "id\_rsa.pub", with "id\_rsa.pub" being the active tab. The main text area displays two lines of text:

```
1 ssh-rsa AAAAB3NzaC1yc2EAAAQABAAABgQDGv-
2
```



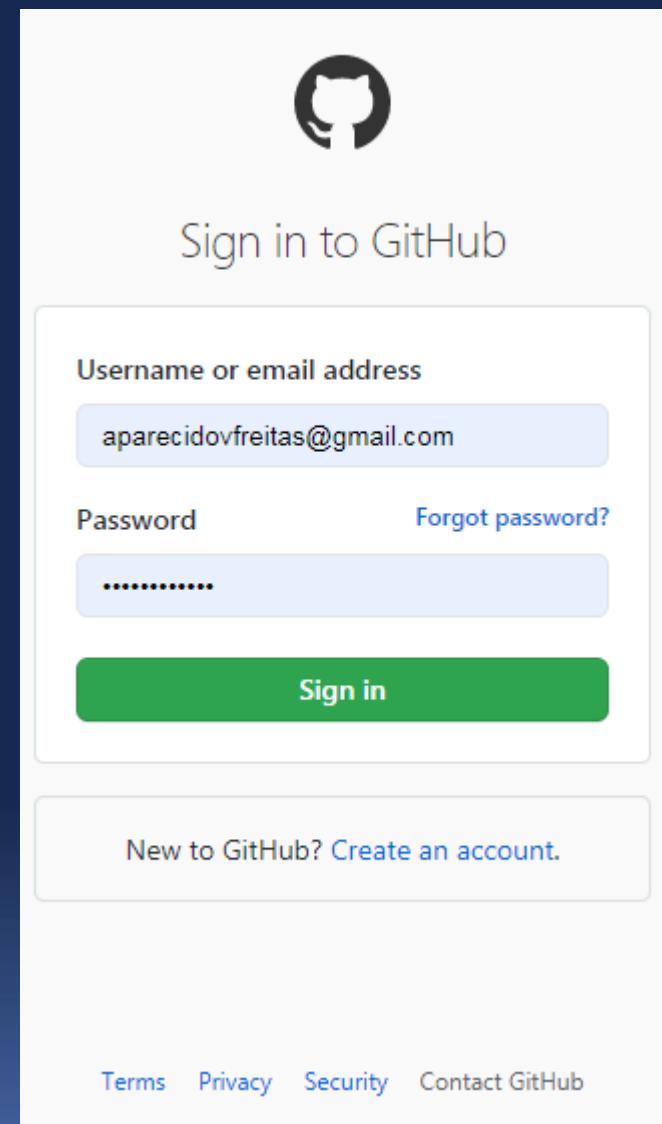
# Acessando o github



The screenshot shows the GitHub sign-up page. At the top, there's a navigation bar with links like "Sign up" and a menu icon. Below the navigation is a large input form with three fields: "Username", "Email", and "Password". Each field has a placeholder and a red border. Below the fields is a note: "Make sure it's at least 15 characters OR at least 8 characters including a number and a lowercase letter." A green "Sign up for GitHub" button is centered below the note. At the bottom of the form, a small note states: "By clicking 'Sign up for GitHub', you agree to our [Terms of Service](#) and [Privacy Statement](#). We'll occasionally send you account related emails." The background of the page features a dark theme with a cartoon illustration of two blue robots working on a grey satellite dish.

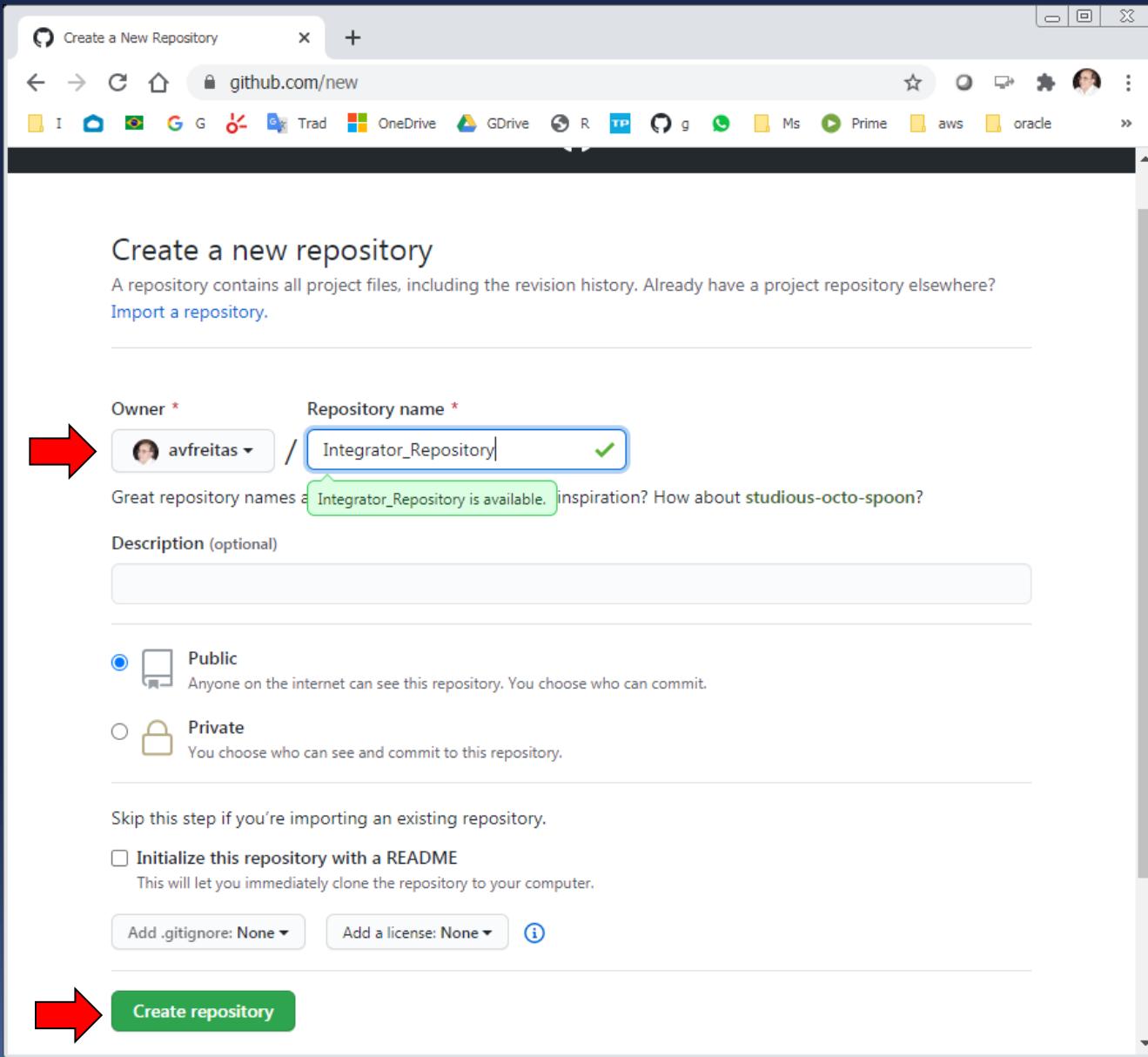
## Built for developers

GitHub is a development platform inspired by the way you work. From [open source](#) to [business](#), you can host and review code, manage projects, and build software alongside 50 million developers.



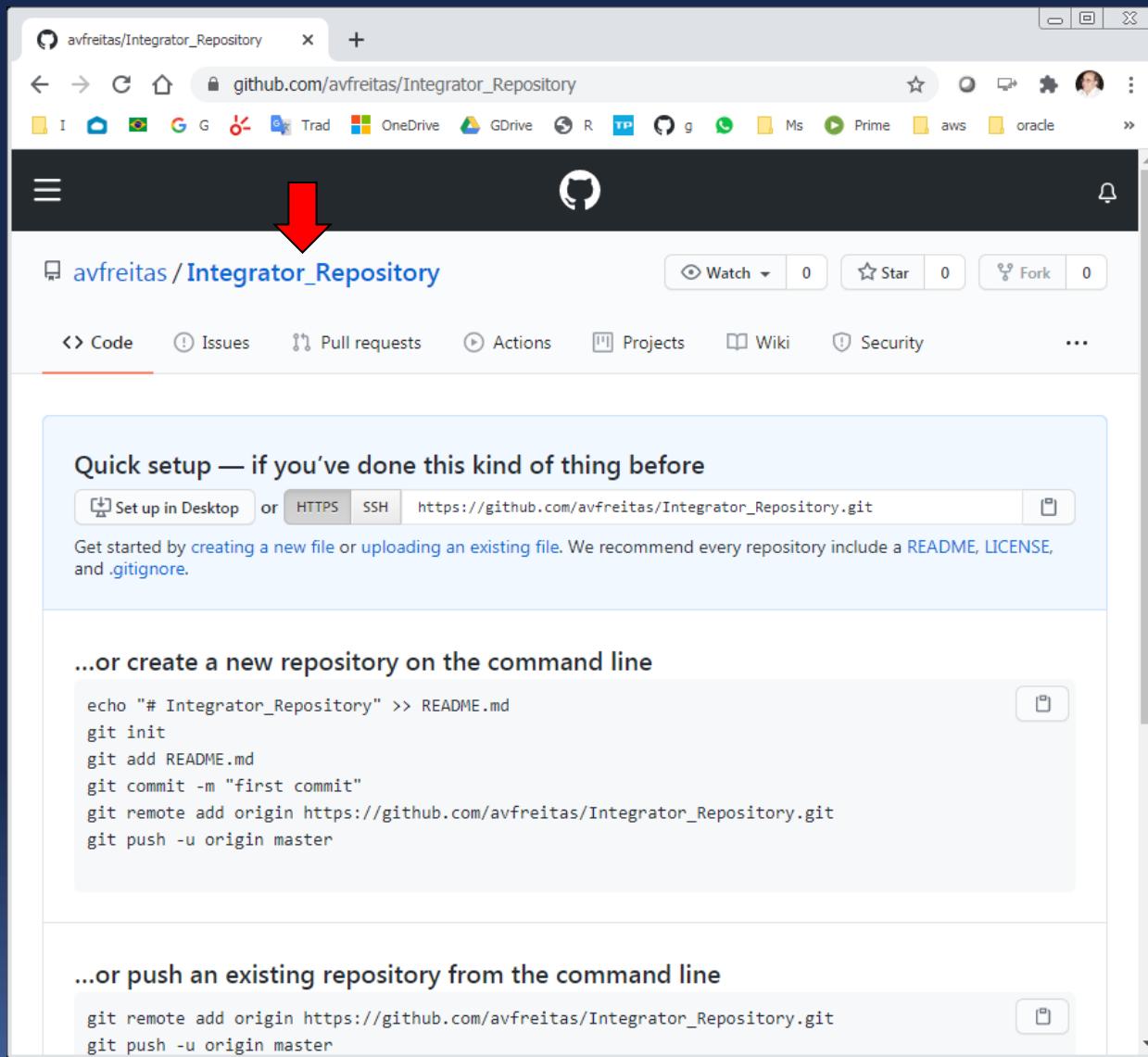
The screenshot shows the GitHub sign-in page. At the top, there's a GitHub logo and the text "Sign in to GitHub". Below that is a large input form for "Username or email address", which contains the text "aparecidovfreitas@gmail.com". To the right of the input field is a "Forgot password?" link. Below the input field is a "Password" field containing a series of asterisks. A green "Sign in" button is positioned below the password field. At the bottom of the form, a link says "New to GitHub? Create an account." At the very bottom of the page, there are links for "Terms", "Privacy", "Security", and "Contact GitHub".

# Criando novo repositório remoto



The screenshot shows the GitHub interface for creating a new repository. The URL in the address bar is `github.com/new`. The main title is "Create a new repository". Below it, a sub-instruction says "A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository." A red arrow points to the "Owner" dropdown, which is set to "avfreitas". The "Repository name" field contains "Integrator\_Repository" and has a green checkmark icon. A tooltip below the field says "Integrator\_Repository is available.". The "Description (optional)" field is empty. Under "Visibility", the "Public" option is selected (indicated by a blue radio button), with the sub-instruction "Anyone on the internet can see this repository. You choose who can commit.". The "Private" option is also shown with its sub-instruction. Below these settings, there's a note about skipping the step if importing an existing repository. A checkbox for "Initialize this repository with a README" is checked, with the sub-instruction "This will let you immediately clone the repository to your computer.". At the bottom, there are buttons for "Add .gitignore: None" and "Add a license: None", followed by a help icon. A large red arrow points to the "Create repository" button at the bottom right.

# Criando novo repositório remoto



A screenshot of a web browser window displaying a GitHub repository page. The URL in the address bar is [github.com/avfreitas/Integrator\\_Repository](https://github.com/avfreitas/Integrator_Repository). A large red arrow points to the repository name "avfreitas / Integrator\_Repository" in the title bar.

The page shows a "Quick setup — if you've done this kind of thing before" section with instructions for setting up the repository. It provides links for "Set up in Desktop" (using HTTPS or SSH), a copy link, and a GitHub icon. Below this, it says: "Get started by [creating a new file](#) or [uploading an existing file](#). We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#)".

Below this section, there is a command-line setup guide:

```
echo "# Integrator_Repository" >> README.md  
git init  
git add README.md  
git commit -m "first commit"  
git remote add origin https://github.com/avfreitas/Integrator_Repository.git  
git push -u origin master
```

At the bottom, there is another command-line guide:

```
git remote add origin https://github.com/avfreitas/Integrator_Repository.git  
git push -u origin master
```

# Subindo repositório local para github

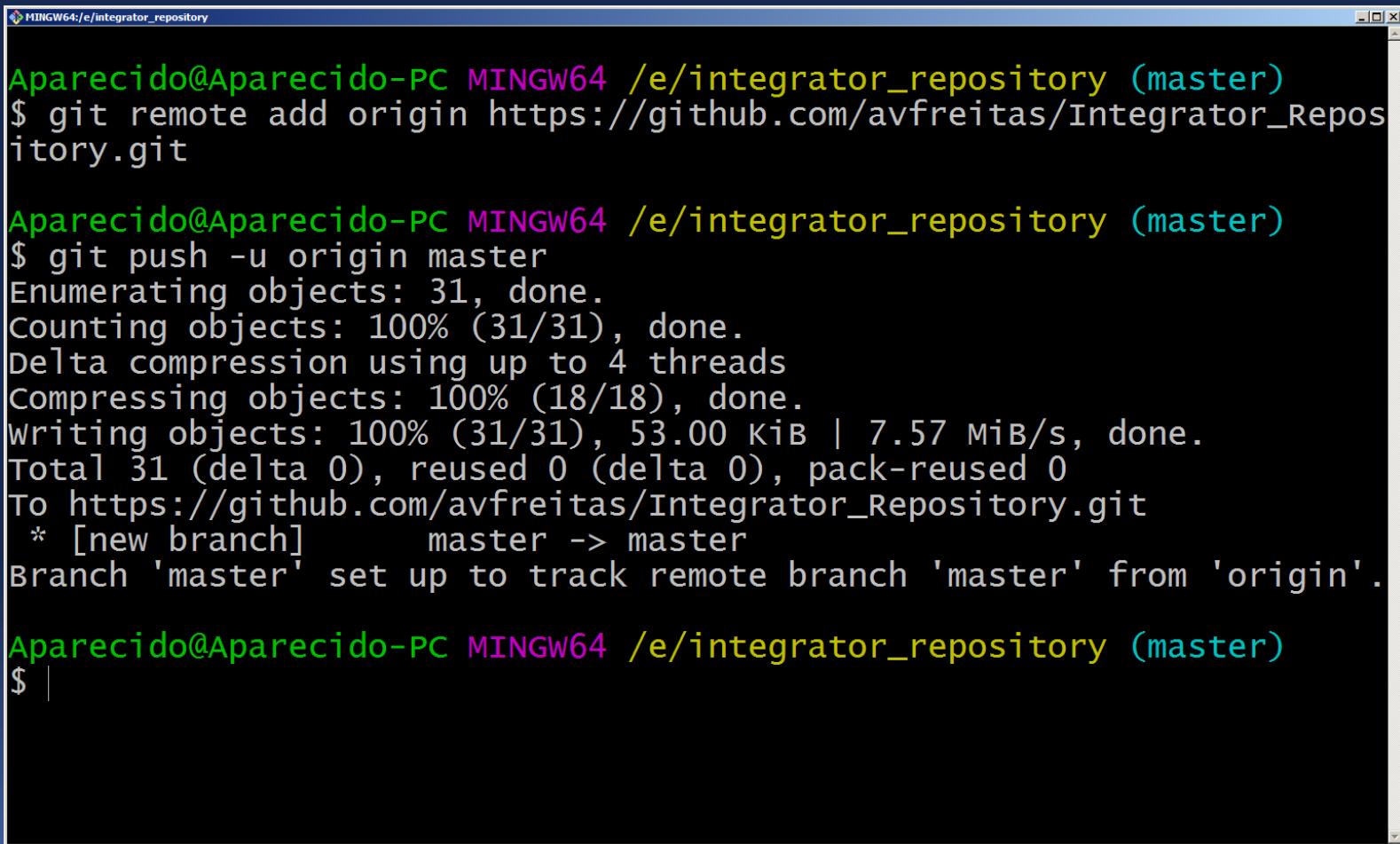
...or push an existing repository from the command line

```
git remote add origin git@github.com:avfreitas/git_Repository_Integrator.git  
git push -u origin master
```



# Subindo repositório local github

```
$ git remote add origin https://github.com/avfreitas/integrator_repository  
$ git push -u origin master
```



A screenshot of a Windows terminal window titled "MINGW64:/e/integrator\_repository". The window contains the following text:

```
Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (master)  
$ git remote add origin https://github.com/avfreitas/Integrator_Repository.git  
  
Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (master)  
$ git push -u origin master  
Enumerating objects: 31, done.  
Counting objects: 100% (31/31), done.  
Delta compression using up to 4 threads  
Compressing objects: 100% (18/18), done.  
Writing objects: 100% (31/31), 53.00 KiB | 7.57 MiB/s, done.  
Total 31 (delta 0), reused 0 (delta 0), pack-reused 0  
To https://github.com/avfreitas/Integrator_Repository.git  
 * [new branch] master -> master  
Branch 'master' set up to track remote branch 'master' from 'origin'.  
  
Aparecido@Aparecido-PC MINGW64 /e/integrator_repository (master)  
$ |
```



# Projeto hellospringboot salvo no github

The screenshot shows a GitHub repository page for the user 'avfreitas'. The repository name is 'Integrator\_Repository'. A red dashed oval highlights the repository name in the URL bar and the main title. Another red dashed oval highlights the 'hellospringboot' folder under the repository's contents. The page displays basic repository information: master branch, 1 branch, 0 tags, 1 commit (v1.0.0 from 19/07/2020), and 12 minutes ago. A button to 'Add a README' is visible. To the right, sections for 'About' (no description, website, or topics provided), 'Releases' (no releases published, Create a new release), and 'Packages' (no packages published, Publish your first package) are shown. The bottom navigation bar includes links for GitHub, Contact GitHub, Pricing, API, Training, Blog, and About.