

Relatório de Deploy em Homologação - CalculatorPlus

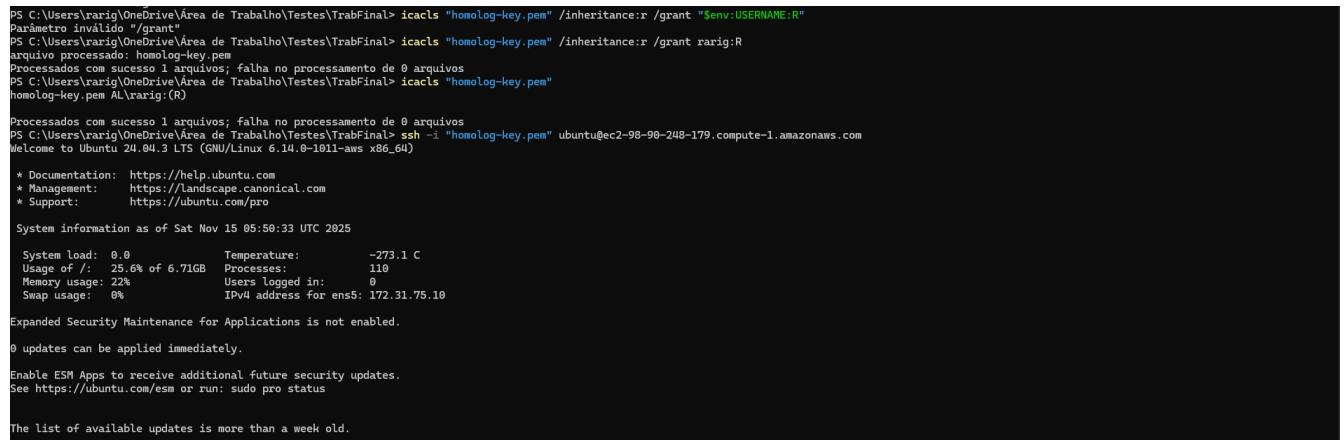
Este documento descreve o processo de deploy manual da aplicação CalculatorPlus em um ambiente de homologação na AWS. Este processo se baseia na instalação manual das dependências, build do projeto com Maven e execução direta da aplicação Java no servidor.

Passo 1: Acesso ao Servidor de Homologação

O processo inicia com o acesso seguro ao servidor de homologação (uma instância EC2 da AWS) via SSH, utilizando uma chave privada específica para este ambiente.

Comandos:

```
# Ajuste de permissão da chave
icacls "homolog-key.pem" /inheritance:r /grant:r ALMEIDG:R
# Acesso SSH
ssh -i "homolog-key.pem" ubuntu@ec2-99-99-248-179.compute-1.amazonaws.com
```



```
PS C:\Users\lraig\OneDrive\Área de Trabalho\Testes\TrabFinal> icacls "homolog-key.pem" /inheritance:r /grant "$env:USERNAME:R"
Parâmetro inválido "/grant"
PS C:\Users\lraig\OneDrive\Área de Trabalho\Testes\TrabFinal> icacls "homolog-key.pem" /inheritance:r /grant rarig:R
arquivo processado: homolog-key.pem
Processados com sucesso 1 arquivos; falha no processamento de 0 arquivos
PS C:\Users\lraig\OneDrive\Área de Trabalho\Testes\TrabFinal> icacls "homolog-key.pem"
homolog-key.pem AL\rarig:(R)

Processados com sucesso 1 arquivos; falha no processamento de 0 arquivos
PS C:\Users\lraig\OneDrive\Área de Trabalho\Testes\TrabFinal> ssh -i "homolog-key.pem" ubuntu@ec2-99-99-248-179.compute-1.amazonaws.com
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1011-aws x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/pro

System information as of Sat Nov 15 05:50:33 UTC 2025

System load: 0.0      Temperature:          -273.1 C
Usage of /: 25.6% of 6.71GB  Processes:           110
Memory usage: 22%        Users logged in:     0
Swap usage:  0%          IPv4 address for ens5: 172.31.75.10

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
```

Figura 1: Acesso SSH ao Servidor

Passo 2: Atualização do Sistema Operacional

Após a conexão, os pacotes do sistema operacional Ubuntu são atualizados para garantir que o ambiente esteja com as últimas versões e correções de segurança.

Comando:

```
sudo apt update && sudo apt upgrade -y
```



```
ubuntu@ip-172-31-75-10:~$ sudo apt update && sudo apt upgrade -y
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe InRelease [15.9 kB]
```

Figura 2: Atualização de Pacotes do Sistema

Passo 3: Instalação de Dependências (Git e Maven)

As ferramentas essenciais para o build e deploy são instaladas: o `git` para controle de versão e o `maven` para gerenciamento e build do projeto Java.

Comando:

```
sudo apt install git maven -y
```

```
Last login: Sat Nov 15 05:58:03 2025 from 187.16.187.165
ubuntu@ip-172-31-75-10:~$ sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
ubuntu@ip-172-31-75-10:~$ sudo apt upgrade -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
ubuntu@ip-172-31-75-10:~$ sudo apt install git maven -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.43.0-1lubuntu7.3).
maven is already the newest version (3.8.4-1lubuntu1).
The following additional packages will be installed:
libbaopalliance-java libapache-pom-java libatinject-jxr330-api-java libcdi-api-java libcommons-cli-java
libcommons-io-java libcommons-lang3-java libcommons-parent-java liberror-prone-java
libgeronimo-annotation-1.3-spec-java libgeronimo-interceptor-3.0-spec-java libguava-java libjcl-base-java
libjansi-java libjsr305-java libmaven-parent-java libmaven-resolver-java libmaven-shared-utils-java libmaven3-core-java
libplexus-cipher-java libplexus-classworlds-java libplexus-component-annotations-java libplexus-interpolation-java
libplexus-sec-dispatcher-java libplexus-utils2-java libsisu-inject-java libsisu-plexus-java libsisu-f4j-java
libwagon-file-java libwagon-http-shaded-java libwagon-provider-api-java
Suggested packages:
libatinject-jsr330-api-java doc libel-api-java libcommons-io-java doc libgcjb-java libjboss305-java-doc
libmaven-shared-utils-java doc libwagon-base-java libplexus-utils2-java doc junit4 testing libcommons-logging-java
liblog4j1.2-java
The following NEW packages will be installed:
```

Figura 3: Instalação de Git e Maven

Passo 4: Instalação do Java

O ambiente de execução Java (JDK 11) é instalado, um pré-requisito para compilar e rodar a aplicacão.

Comando:

```
sudo apt install openjdk-11-jdk -y
```

```
Ubuntu/17.2-31~75~18:~$ java -version
Command 'java' not found, but can be installed with:
sudo apt install openjdk-17-jre-headless # version 17.0.1+8~us1~Ubuntu17.2-24.04.1, or
sudo apt install openjdk-21-jre-headless # version 21.0.8+9~us1~Ubuntu17.2-24.04.1
sudo apt install default-jre # version 2:1.17~75
sudo apt install openjdk-11-jre-headless # version 11.0.28+6~Ubuntu17.2-24.04.1
sudo apt install openjdk-25-jre-headless # version 25+36~1~24.04.2
sudo apt install openjdk-8-jre-headless # version 8u462~ga~us1~Ubuntu17.2-24.04.2
sudo apt install openjdk-19-jre-headless # version 19.0.2+7~4
sudo apt install openjdk-20-jre-headless # version 20.0.2+9~1
sudo apt install openjdk-22-jre-headless # version 22~22ea~1
Ubuntu/17.2-31~75~18:~$ sudo apt install openjdk-11-jdk -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
alsa-topology-data alsamixer-common at-spi2-common at-spi2-core ca-certificates-java dconf-gsettings-backend
desktop-file-utils fonts-ubuntu-cursor fonts-dejaVu-cursor fonts-dejaVu-extra gsettings-desktop-schemas
java-common libatk-bridge2.0 libatk-wrapper-gtk libatk-wrappers java-ini
libatk@0.9-96 libatksp1.0-0@64 libavahi-client3 libavahi-common-data libavahi-common3 libblkdev2@64 liblconf1
liblbdm-amdgpu liblbdm-intel liblbdmconfig1 liblbg1 liblbf7 liblbg1-mesa@ dri liblblkvnd0 liblglx-mesa@ liblglx0
libligraphtic2-3 liblharf-puzzel liblince-dec liblince-jpg libljpeg-turbo8 liblgb1cm2-2 liblmylib0 libpciacesse@0
libpcspice@0 libpcspice@1 libpthread-stubs@0 dev liblsm liblsmw liblukvani libwayland-client@ libwayland-server@ liblvi1-dev
liblvi1-xcb1 liblvi2-dev liblviay7 libxcb-cdr3-0 libxcb-glx libxcb-present@ libxcb-render@ libxcb-shape@ libxcb-shm@
libxcb-sync@ libxcb-xfixes@ libxcb1-dev libxcbcompositel libxdmcp-dev libxkb2 libxlibxinerama libxkbfile libxmuu6
libxpm@ libxrander2 libxrrender1 libxshmfence1 libxv-dev libxtf6t4 libxtst6 libxv libxv@86dgal libxv@86vml
mesa-mesa@ mesa-vulkan-drivers openjdk-11-jdk-headless openjdk-11-jre openjdk-11-jre-headless session-migration@0
x11-common@ x11-utils xlproto-dev xorg-sgml-doctools xtrans-dev
Suggested packages:
default-jre=java-8-jdk libasound2-plugins cups-common libliblec-doc liblcmcs2-utils pscd libsm-doc libxl1-doc
libxcb-dot libxt-dev openjdk-11-jre openjdk-11-jre-headless libsource@ libvisual libvms-mdns fonts-ipafont-gothic
fonts-ipafont-mincho fonts-wqy-microhei | fonts-way-zhenhai fonts-indic mesa-utils
Recommended packages:
luit
The following NEW packages will be installed:
```

Figura 4: Instalação do Java Development Kit

Passo 5: Reinicialização do Servidor

Para garantir que todas as instalações e atualizações sejam corretamente aplicadas, o servidor é reiniciado. Uma nova conexão SSH é estabelecida após o reinício.

Comando:

```
sudo reboot
```

```
no VM guests are running. outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-75-10:~$ java -version
openjdk version "11.0.28" 2025-07-15
OpenJDK Runtime Environment (build 11.0.28+6-post-Ubuntu-1ubuntu124.04.1)
OpenJDK 64-Bit Server VM (build 11.0.28+6-post-Ubuntu-1ubuntu124.04.1, mixed mode, sharing)
ubuntu@ip-172-31-75-10:~$ clientLoop: ssh_packet_write_poll: Connection to 98.90.248.179 port 22: Connection aborted
PS C:\Users\larigOneDrive\Área de Trabalho\Testes\TrabFinal> ssh -i "homolog-key.pem" ubuntu@ec2-98-90-248-179.compute-1.amazonaws.com
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1011-aws x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/pro

System information as of Sat Nov 15 05:58:02 UTC 2025

System load: 0.08      Temperature:        -273.1 C
Usage of /: 40.9% of 6.71GB Processes:           113
Memory usage: 31%
Swap usage:  0%          IPv4 address for ens5: 172.31.75.10

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

4 additional security updates can be applied with ESM Apps.
Learn more about enabling ESM Apps service at https://ubuntu.com/esm

*** System restart required ***
Last login: Sat Nov 15 05:50:34 2025 from 187.16.187.165
ubuntu@ip-172-31-75-10:~$ sudo reboot
Reboot message from root@ip-172-31-75-10: ~ (Sat Nov 15 05:58:02 UTC 2025)
```

Figura 5: Reinicialização do Servidor

Passo 6: Verificação do Histórico de Commits

Antes de clonar, o histórico de commits no GitHub é verificado. Este passo serve como um ponto de controle para garantir que a versão correta do código, com as últimas alterações, será implantada.

Passo 7: Clone e Build do Projeto

O código-fonte é clonado do repositório. Uma primeira tentativa de build falha por ser executada no diretório raiz. O problema é corrigido entrando no diretório do projeto (`CalculatorPlusProject`) e executando o build novamente.

Comandos:

```
git clone https://github.com/def-ale/CalculatorPlus.git
cd CalculatorPlusProject/
mvn clean package
```

Passo 8: Sucesso do Build

O Maven baixa todas as dependências necessárias e compila o projeto. O processo termina com a mensagem “BUILD SUCCESS”.

Commits

main All users All time

Commits on Nov 15, 2025

teste deploy 3	e79d24c
def-ale committed 22 minutes ago	
tratando circularidade	e328fd8
def-ale committed 25 minutes ago	
teste deploy 2	6c0b37f
def-ale committed 28 minutes ago	
teste de deploy	99df7ef
def-ale committed 41 minutes ago	
Adicionando Mock no userdetails	00dfc96
def-ale committed 45 minutes ago	
Adicionando Mock no passwordEncoder para os testes	baf3096
def-ale committed 48 minutes ago	
fix de erro no application	87060ef
def-ale committed 1 hour ago	
testando deploy	8b4acd9
def-ale committed 1 hour ago	
adicionando tag lazy	6603f9a
def-ale committed 1 hour ago	
Adiciona PasswordConfig para corrigir circular dependency do PasswordEncoder	a498146
def-ale committed 1 hour ago	
Projeto CalculatorPlus	6de5b6b
def-ale committed 1 hour ago	

Figura 6: Histórico de Commits no GitHub

```
No such revisions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-75-10:~$ cd ~
ubuntu@ip-172-31-75-10:~$ git clone https://github.com/def-ale/CalculatorPlus.git
Cloning into 'CalculatorPlus'...
remote: Enumerating objects: 192, done.
remote: Counting objects: 100% (192/192), done.
remote: Compressing objects: 100% (170/170), done.
remote: Total 192 (delta 6), reused 192 (delta 6), pack-reused 0 (from 0)
Receiving objects: 100% (192/192), 5.60 MiB | 39.00 MiB/s, done.
Resolving deltas: 100% (6/6), done.
ubuntu@ip-172-31-75-10:~$ cd CalculatorPlus
ubuntu@ip-172-31-75-10:~/CalculatorPlus$ mvn clean package
[INFO] Scanning for projects...
[INFO] -----
[INFO] BUILD FAILURE
[INFO] -----
[INFO] Total time: 0.133 s
[INFO] Finished at: 2025-11-15T06:01:00Z
[INFO] -----
[ERROR] The goal you specified requires a project to execute but there is no POM in this directory (/home/ubuntu/CalculatorPlus). Please verify you invoked Maven from the correct directory. --> [Help 1]
[ERROR]
[ERROR] To see the full stack trace of the errors, re-run Maven with the -e switch.
[ERROR] Re-run Maven using the -X switch to enable Full debug logging.
[ERROR]
[ERROR] For more information about the errors and possible solutions, please read the following articles:
[ERROR] [Help 1] http://cwiki.apache.org/confluence/display/MAVEN/MissingProjectException
ubuntu@ip-172-31-75-10:~/CalculatorPlus$ ls
CalculatorPlusProject
ubuntu@ip-172-31-75-10:~/CalculatorPlus$ cd CalculatorPlusProject/
ubuntu@ip-172-31-75-10:~/CalculatorPlus/CalculatorPlusProject$ ls
pom.xml  src
ubuntu@ip-172-31-75-10:~/CalculatorPlus/CalculatorPlusProject$ mvn clean package
[INFO] Scanning for projects...
Downloading from central: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-starter-parent/2.5.4/spring-boot-starter-parent-2.5.4.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-starter-parent/2.5.4/spring-boot-starter-parent-2.5.4.pom (8.6 kB at 21 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-dependencies/2.5.4/spring-boot-dependencies-2.5.4.pom
Downloaded from central: https://repo.maven.apache.org/maven2/com/databricks/oss/java-driver-bom/4.11.3/java-driver-bom-4.11.3.pom
Downloaded from central: https://repo.maven.apache.org/maven2/com/databricks/oss/java-driver-bom/4.11.3/java-driver-bom-4.11.3.pom (4.1 kB at 81 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/io/dropwizard/metrics/metrics-bom/4.1.25/metrics-bom-4.1.25.pom
Downloaded from central: https://repo.maven.apache.org/maven2/io/dropwizard/metrics/metrics-bom/4.1.25/metrics-bom-4.1.25.pom (5.3 kB at 113 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/io/dropwizard/metrics/metrics-parent/4.1.25/metrics-parent-4.1.25.pom
Downloaded from central: https://repo.maven.apache.org/maven2/io/dropwizard/metrics/metrics-parent/4.1.25/metrics-parent-4.1.25.pom (17 kB at 160 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/groovy/groovy-bom/3.0.8/groovy-bom-3.0.8.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/groovy/groovy-bom/3.0.8/groovy-bom-3.0.8.pom (26 kB at 394 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/infinispan/infinispan-bom/12.1.7.Final/infinispan-bom-12.1.7.Final.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/infinispan/infinispan-bom/12.1.7.Final/infinispan-bom-12.1.7.Final.pom (18 kB at 370 kB/s)
```

Figura 7: Clonando o repositório e iniciando o build

```

Downloaded from central: https://repo.maven.apache.org/maven2/com/google/guava/28.2-android/jar/guava-28.2-android.jar (0.6 kB at 10 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/com/google/guava/28.2-android/guava-28.2-android.jar (2.6 MB at 4.5 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-lang3/3.7/commons-lang3-3.7.jar (500 kB at 841 kB/s)
[INFO] Replacing main artifact with repackaged archive
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time:  59.817 s
[INFO] Finished at: 2025-11-15T06:02:27Z
[INFO] -----
ubuntu@ip-172-31-75-10:~/CalculatorPlus/CalculatorPlusProject$
```

Figura 8: Build concluído com sucesso

Passo 9: Análise dos Logs de Teste

Durante o processo de build, o Maven executa a suíte de testes automatizados. Os logs detalhados mostram o progresso e os resultados de cada teste.

```

Assertiva: ArithmeticException foi lançada conforme esperado para divisão por zero.
  -- Teste 'divisaoPorZeroLancaException' finalizado com sucesso. --
[INFO] Tests run: 3, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.066 s - in br.edu.calc.plus.CalculatorPlus.jogoTest.JogoTest
[INFO]
[INFO] Results:
[INFO] Tests run: 19, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- maven-jar-plugin:3.2.0:jar (default-jar) @ CalculatorPlus ---
Downloading from central: https://repo.maven.apache.org/maven/shared/file-management/3.0.0/file-management-3.0.0.pom
```

Figura 9: Log detalhado da execução dos testes

Passo 10: Confirmação dos Testes

Ao final da fase de teste, um resumo confirma que todos os 19 testes foram executados com sucesso, sem falhas ou erros, garantindo a qualidade e a integridade do código.

Passo 11: Execução da Aplicação

Com o arquivo .jar gerado pelo build, a aplicação é iniciada. O comando `java -jar` é executado de dentro do diretório `target`, onde o artefato foi criado. O logo do Spring Boot confirma o início da aplicação.

Comando:

```
cd target/
java -jar CalculatorPlus-1.0.0.jar
```

Passo 12: Confirmação Final do Deploy

O deploy é confirmado como um sucesso. Os logs do servidor mostram as queries do Hibernate sendo executadas, e a tela de login da aplicação é acessível no navegador, indicando que a aplicação está totalmente funcional no ambiente de homologação.

```

ubuntu@ip-172-31-75-10:~/C x + v
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/junit/platform/junit-platform-launcher/1.10.1/junit-platform-launcher-1.10.1.jar
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/junit/platform/junit-platform-launcher/1.10.1/junit-platform-launcher-1.10.1.jar (184 kB at 3.9 MB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/junit/platform/junit-platform-launcher/1.10.1/junit-platform-launcher-1.10.1.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/junit/platform/junit-platform-launcher/1.10.1/junit-platform-launcher-1.10.1.pom (3.0 kB at 72 kB/s)
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] [INFO] Running br.edu.calc.plus.CalculatorPlus.partidaTest.PartidaServiceTest
[INFO] [INFO] -- Setup inicializado para PartidaServiceTest --
[INFO] [INFO] Mocks inicializados.
[INFO] [INFO] Partida padrão criada com 1 acerto e 0 erro.
[INFO] [INFO] -- Setup concluído --
[INFO] [INFO] 
[INFO] [INFO] -- Iniciando teste: savePartida_respostaIncorrecta_removeMetadeBonus --
[INFO] [INFO] Objetivo: Resposta incorreta deve remover metade do bônus do jogo da partida.
[INFO] [INFO] Assertiva: A bonificação da partida deve ser -1 (metade do bônus removido).
[INFO] [INFO] -- Teste 'savePartida_respostaIncorrecta_removeMetadeBonus' finalizado com sucesso. --
[INFO] [INFO] -- Finalizando PartidaServiceTest --
[INFO] [INFO] Mocks fechados.
[INFO] [INFO] -- Finalização concluída --
[INFO] [INFO] 
[INFO] [INFO] -- Setup inicializado para PartidaServiceTest --
[INFO] [INFO] Mocks inicializados.
[INFO] [INFO] Partida padrão criada com 1 acerto e 0 erro.
[INFO] [INFO] -- Setup concluído --
[INFO] [INFO] 
[INFO] [INFO] -- Iniciando teste: getMeusJogos_deveRetornarCamposCorretos --
[INFO] [INFO] Objetivo: Verificar se getMeusJogos retorna corretamente os campos da DTO.
[INFO] [INFO] Assertiva: A lista de DTOs deve ter tamanho 1.
[INFO] [INFO] Assertiva: Os campos do DTO devem corresponder à partida padrão (1 acerto, 0 erros).
[INFO] [INFO] -- Teste 'getMeusJogos_deveRetornarCamposCorretos' finalizado com sucesso. --
[INFO] [INFO] -- Finalizando PartidaServiceTest --
[INFO] [INFO] Mocks fechados.
[INFO] [INFO] -- Finalização concluída --
[INFO] [INFO] 
[INFO] [INFO] -- Setup inicializado para PartidaServiceTest --
[INFO] [INFO] Mocks inicializados.
[INFO] [INFO] Partida padrão criada com 1 acerto e 0 erro.
[INFO] [INFO] -- Setup concluído --
[INFO] [INFO] 
[INFO] [INFO] -- Iniciando teste: userJaCompetiuHoje_deveRetornarTrueOrDefault --
[INFO] [INFO] Objetivo: Verificar se o método identifica corretamente se o usuário já competiu hoje.
[INFO] [INFO] Assertiva: Deve retornar true quando o repositório indica que o usuário já competiu.
[INFO] [INFO] Assertiva: Deve retornar false quando o repositório indica que o usuário não competiu.
[INFO] [INFO] -- Teste 'userJaCompetiuHoje_deveRetornarTrueOrDefault' finalizado com sucesso. --
[INFO] [INFO] -- Finalizando PartidaServiceTest --
[INFO] [INFO] Mocks fechados.
[INFO] [INFO] -- Finalização concluída --
[INFO] [INFO] 
[INFO] [INFO] -- Setup inicializado para PartidaServiceTest --

```

Figura 10: Resumo da execução dos testes

```

[INFO] Results:
[INFO]
[INFO] Tests run: 19, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] -----
[INFO] [INFO] --- maven-jar-plugin:3.2.0:jar (default-jar) @ CalculatorPlus ---
[INFO] Building jar: /home/ubuntu/CalculatorPlus/CalculatorPlusProject/target/CalculatorPlus-1.0.0.jar
[INFO]
[INFO] [INFO] --- spring-boot-maven-plugin:2.5.4:repackage (repackage) @ CalculatorPlus ---
[INFO] Replacing main artifact with repackaged archive
[INFO] -----
[INFO] [INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 23.806 s
[INFO] Finished at: 2025-11-15T06:34:35Z
[INFO]
ubuntu@ip-172-31-75-10:~/CalculatorPlus/CalculatorPlusProject$ java -jar CalculatorPlus-1.0.0.jar
Error: Unable to access jarfile CalculatorPlus-1.0.0.jar
ubuntu@ip-172-31-75-10:~/CalculatorPlus/CalculatorPlusProject$ cd target/
ubuntu@ip-172-31-75-10:~/CalculatorPlus/CalculatorPlusProject/target$ java -jar CalculatorPlus-1.0.0.jar

:: Spring Boot ::          (v2.5.4)

2025-11-15 06:35:27.631  INFO 2702 --- [           main] b.e.calc.plus.CalculatorPlusApplication : Starting CalculatorPlusApplication v1.0.0 using Java 11.0.28 on ip-172-31-75-10 with PID 2702 (/home/ubuntu/CalculatorPlus/CalculatorPlusProject/target/CalculatorPlus-1.0.0.jar started by ubuntu in /home/ubuntu/CalculatorPlus/CalculatorPlusProject/target)
2025-11-15 06:35:27.637  INFO 2702 --- [           main] b.e.calc.plus.CalculatorPlusApplication : No active profile set, falling back to default profiles: default
2025-11-15 06:35:30.549  INFO 2702 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in DEFAULT mode.
2025-11-15 06:35:30.674  INFO 2702 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 114 ms. Found 3 JPA repository interfaces.
2025-11-15 06:35:31.468  INFO 2702 --- [           main] trationDelegate$BeanPostProcessorChecker : Bean 'org.springframework.security.access.expression.method.DefaultMethodSecurityExpressionHandler' of type [org.springframework.security.access.expression.method.DefaultMethodSecurityExpressionHandler] is not eligible for getting processed by all BeanPostProcessors (for example: not eligible for auto-proxying)
2025-11-15 06:35:31.483  INFO 2702 --- [           main] trationDelegate$BeanPostProcessorChecker : Bean 'methodSecurityMetadataSource' of type [org.springframework.security.access.method.DelegatingMethodSecurityMetadataSource] is not eligible for getting processed by all BeanPostProcessors (for example: not eligible for auto-proxying)

```

Figura 11: Iniciando a aplicação Spring Boot

```

usuario usuario0_
2025-11-15 07:16:23.213  INFO 3989 ---- [           main] b.e.calc.plus.CalculatorPlusApplication : ##### Calculator Web - Started #####
2025-11-15 07:17:30.654  INFO 3989 ---- [nio-9000-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/]   : Initializing Spring DispatcherServlet 'dispatcherServlet'
2025-11-15 07:17:30.655  INFO 3989 ---- [nio-9000-exec-1] o.s.web.servlet.DispatcherServlet   : Initializing Servlet 'dispatcherServlet'
2025-11-15 07:17:30.658  INFO 3989 ---- [nio-9000-exec-1] o.s.web.servlet.DispatcherServlet   : Completed initialization in 2 ms
Hibernate:
    select
        count(*) as col_0_0_
    from
        usuario usuario0_
Hibernate:
    select
        sum(partida0_.bonificacao) as col_0_0_
    from
        partida partida0_
Hibernate:
    select
        count(jogo0_.idjogo) as col_0_0_
    from
        jogo jogo0_
    where
        jogo0_.resultado<>jogo0_.resposta
Hibernate:
    select
        count(jogo0_.idjogo) as col_0_0_
    from
        jogo jogo0_
    where
        jogo0_.resultado=jogo0_.resposta
Hibernate:
    select
        count(jogo0_.idjogo) as col_0_0_
    from
        jogo jogo0_ cross
    join
        partida partida0_
    where
        jogo0_.partida=partida0_.id
        and jogo0_.resultado=jogo0_.resposta
        and partida0_.data>=?
```

Figura 12: Aplicação rodando e tela de login