

Acessando remotamente um AWS EC2 através de SSH

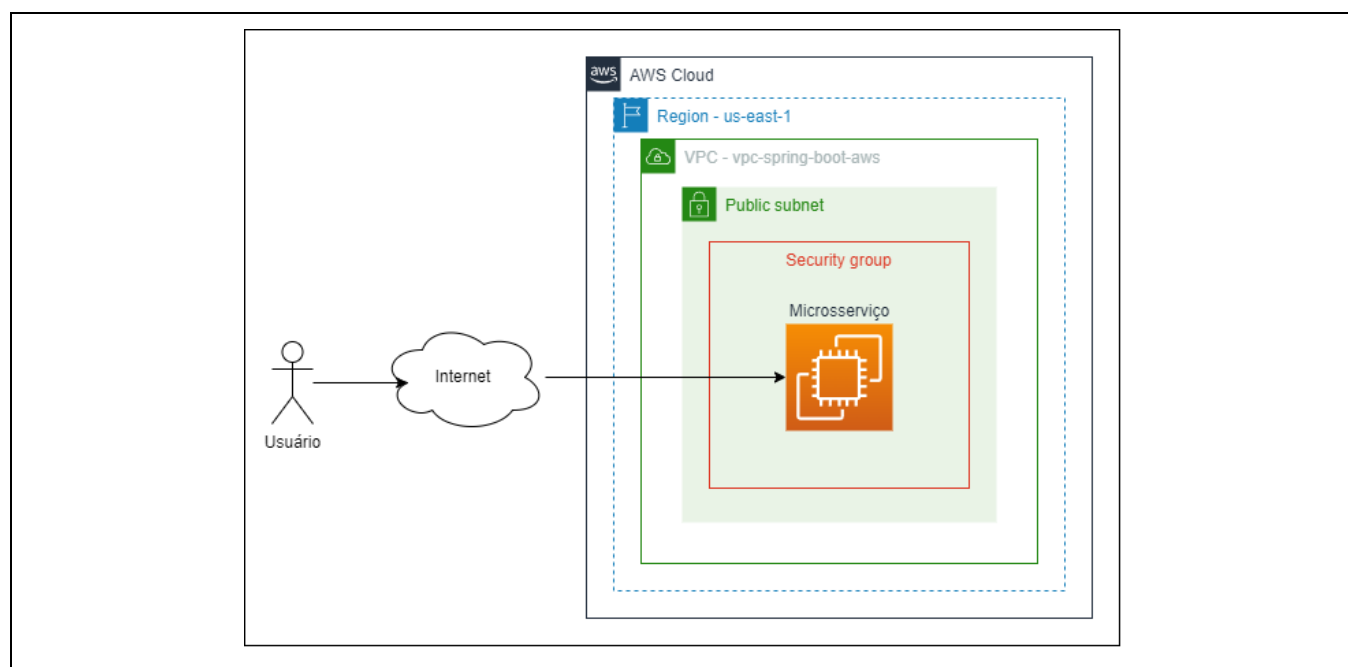


Prof. Thomás da Costa - <https://thomasdacosta.com.br>

Objetivo:

Implantar um servidor EC2 para subir um microserviço desenvolvido em Spring Boot. Este guia é composto por mais partes onde em tutoriais futuros, subiremos o restante da aplicação para expor o serviço para que os usuários possam utilizar.

Desenho da Solução:

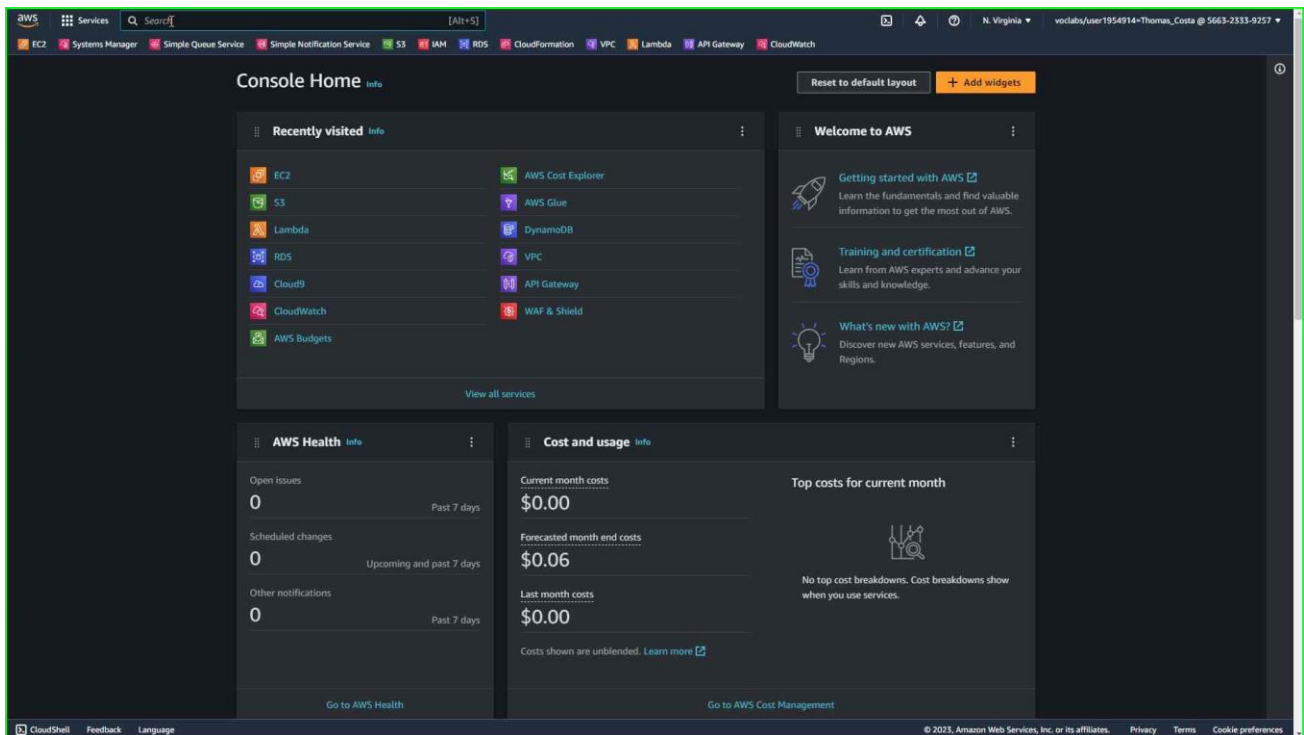


Premissas:

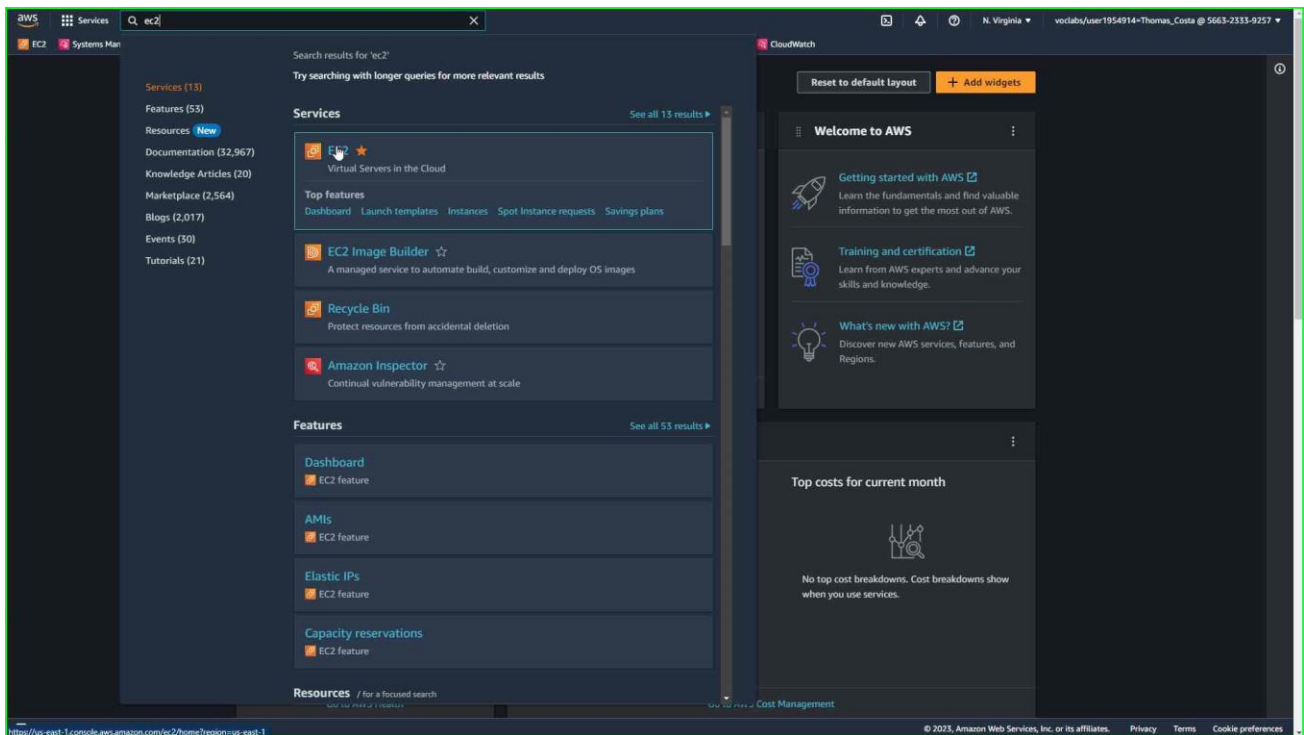
- Necessário baixar os programas:
 - **WinSCP:**
 - https://github.com/thomasdacosta/aula-aws/tree/main/aula_06_maquinas_virtuais/WinSCP-5.21.7-Portable
 - **Putty:**
 - https://github.com/thomasdacosta/aula-aws/blob/main/aula_06_maquinas_virtuais/putty.exe
- Utilizar o arquivo JAR:
 - https://github.com/thomasdacosta/aula-aws/blob/main/aula_06_maquinas_virtuais/spring-boot-localstack.jar

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Entre na opção “Search”:

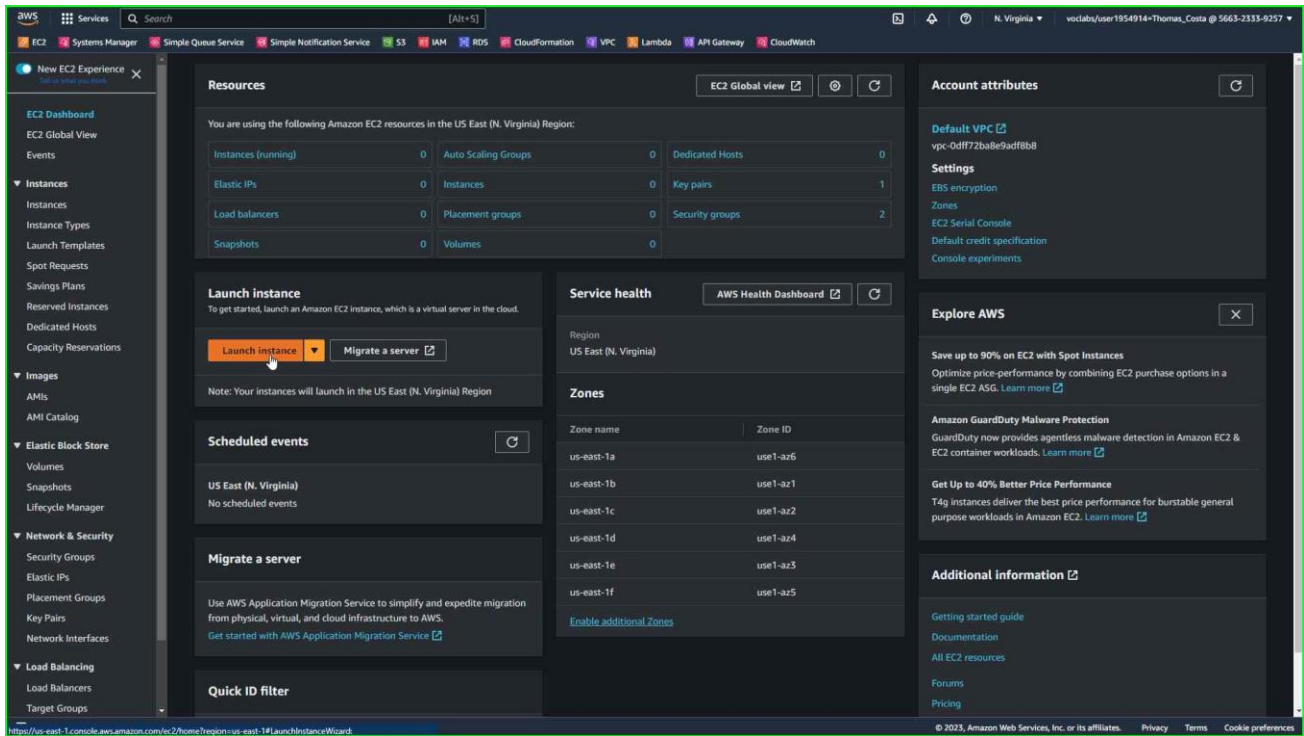


Na tela principal, pesquisar a opção “EC2”:

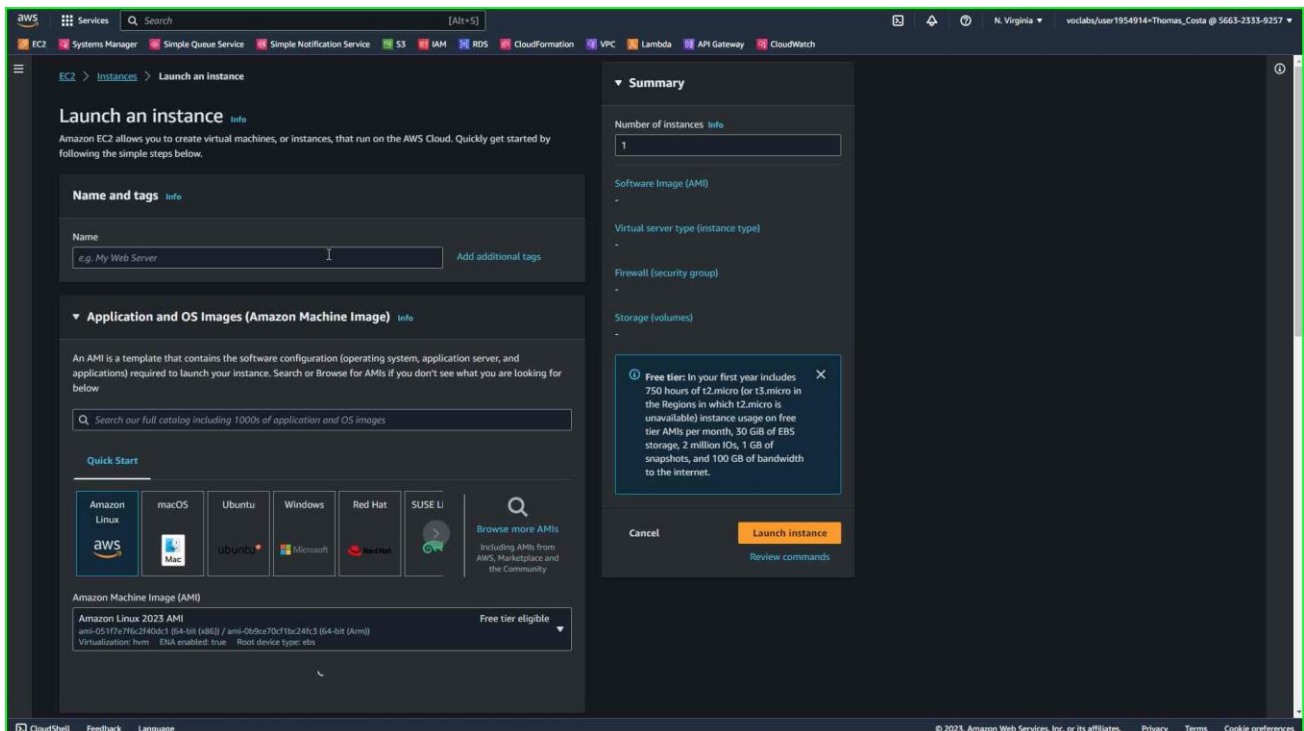


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Clique na opção “Launch instance”:

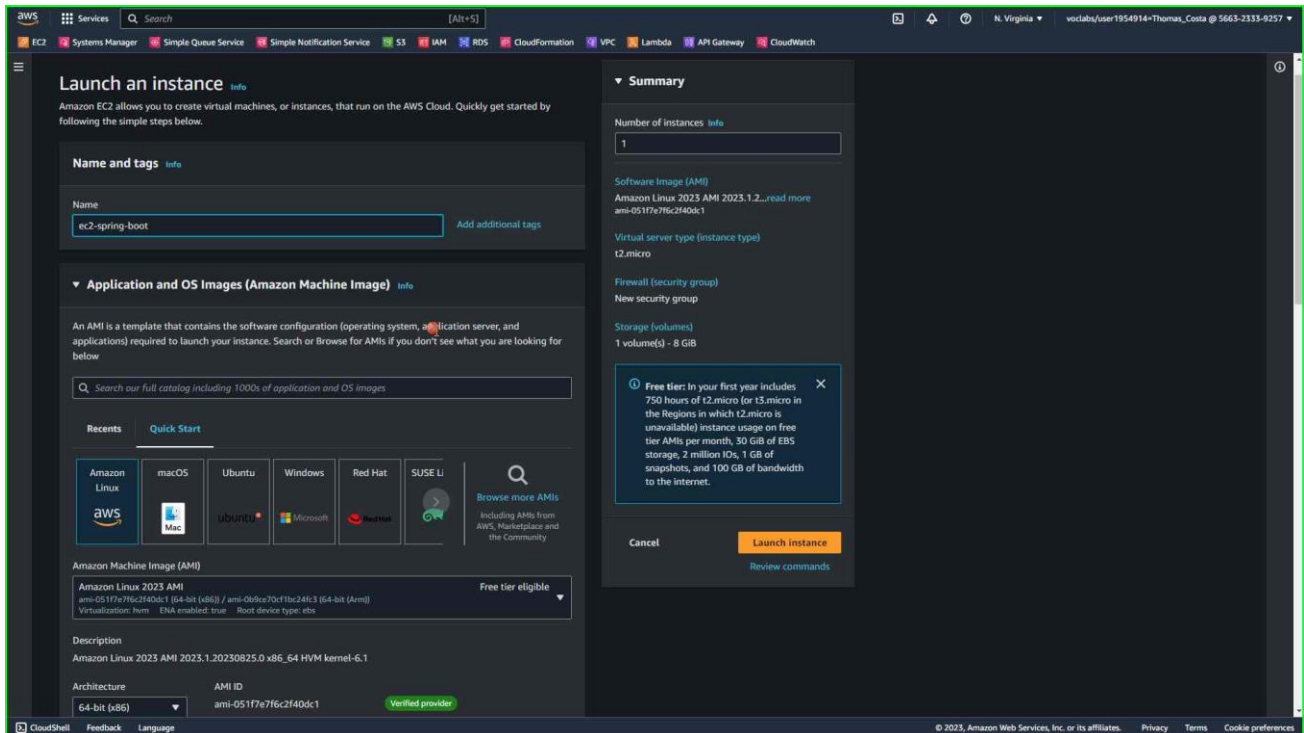


Digite o nome do servidor na caixa de texto “Name”:

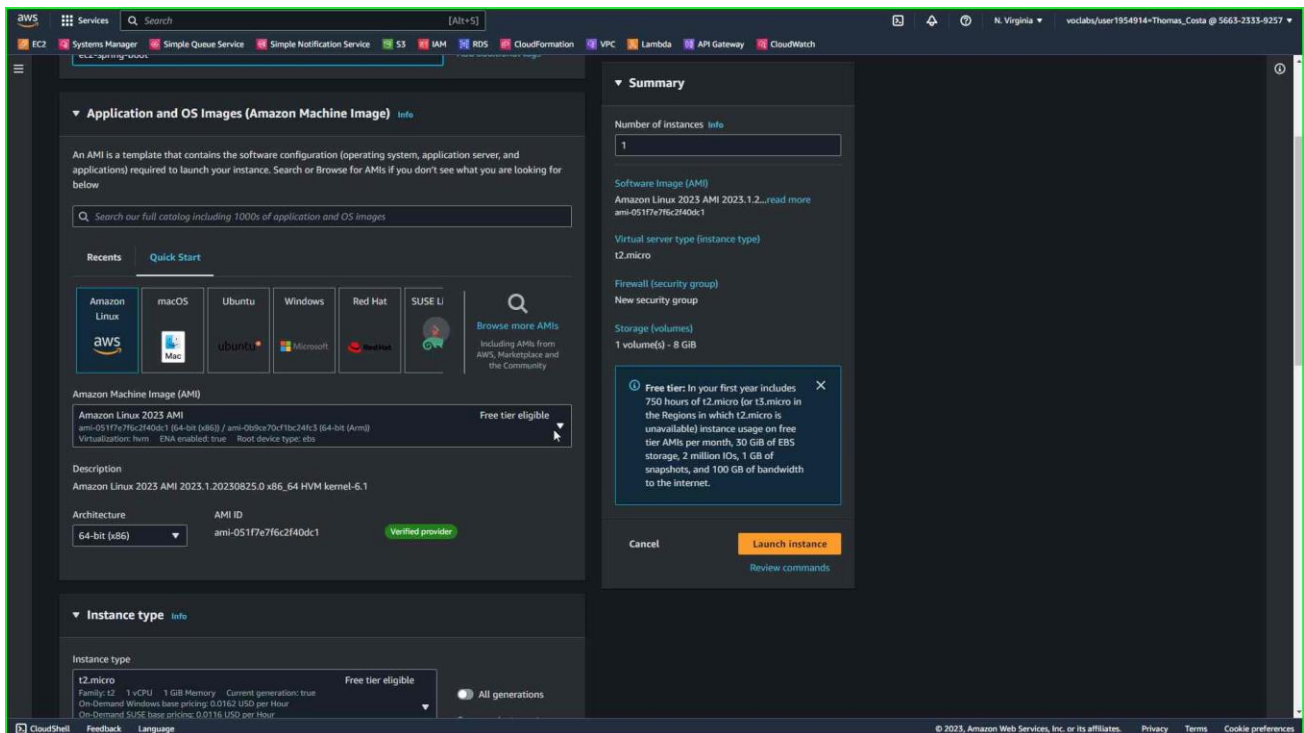


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No nosso exemplo o nome digitado foi “ec2-spring-boot”:

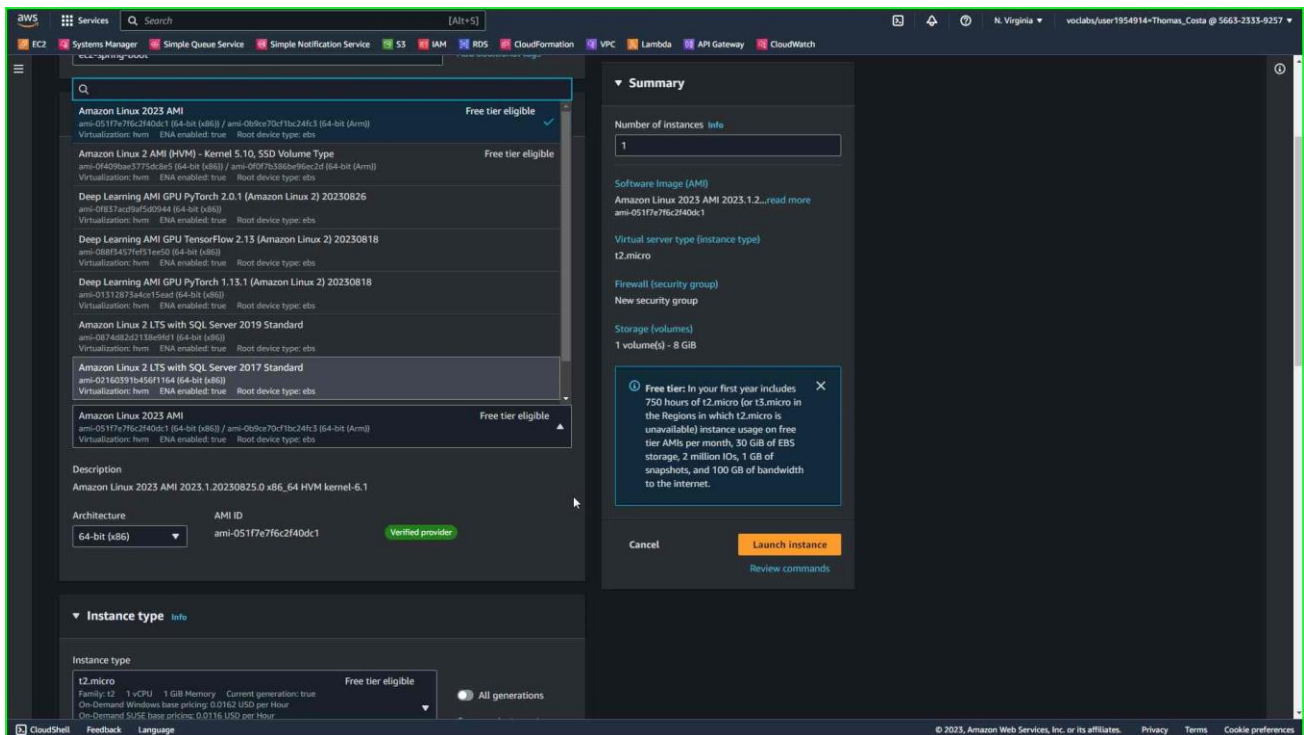


Selecione a máquina da imagem abaixo:

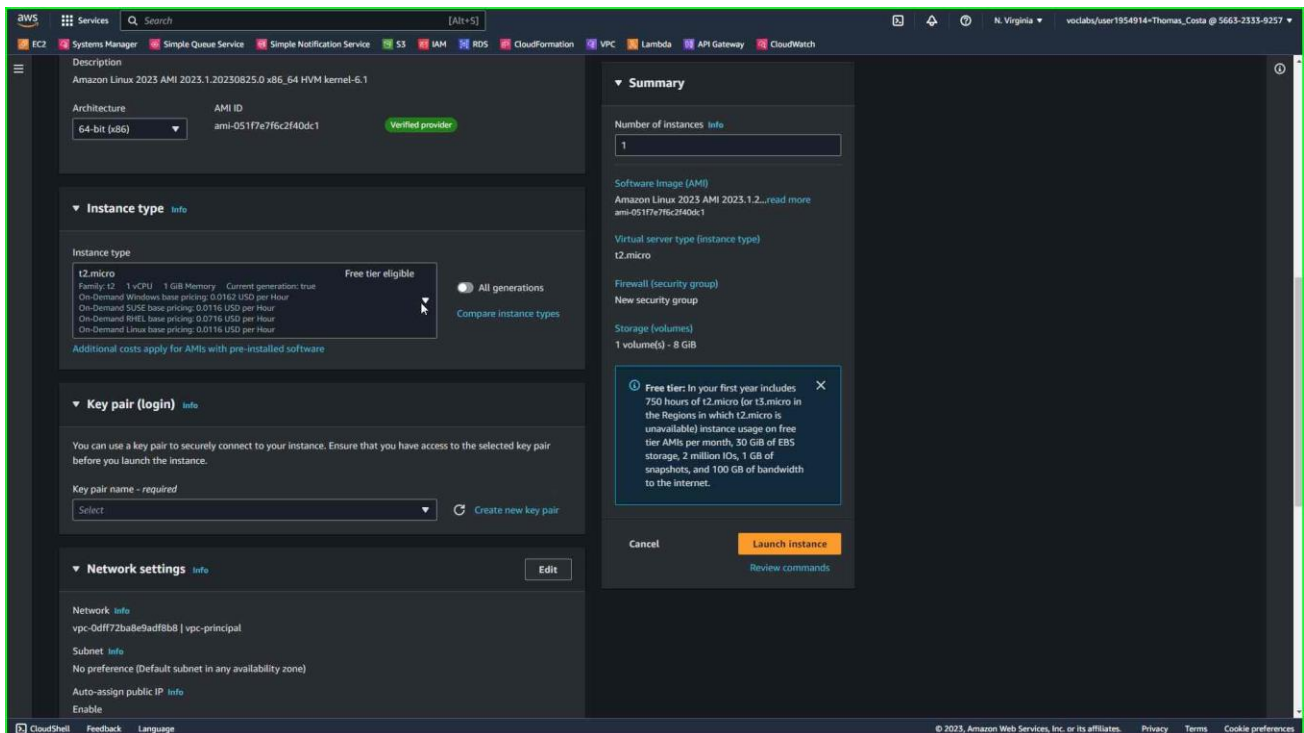


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Selecione a máquina da imagem abaixo:

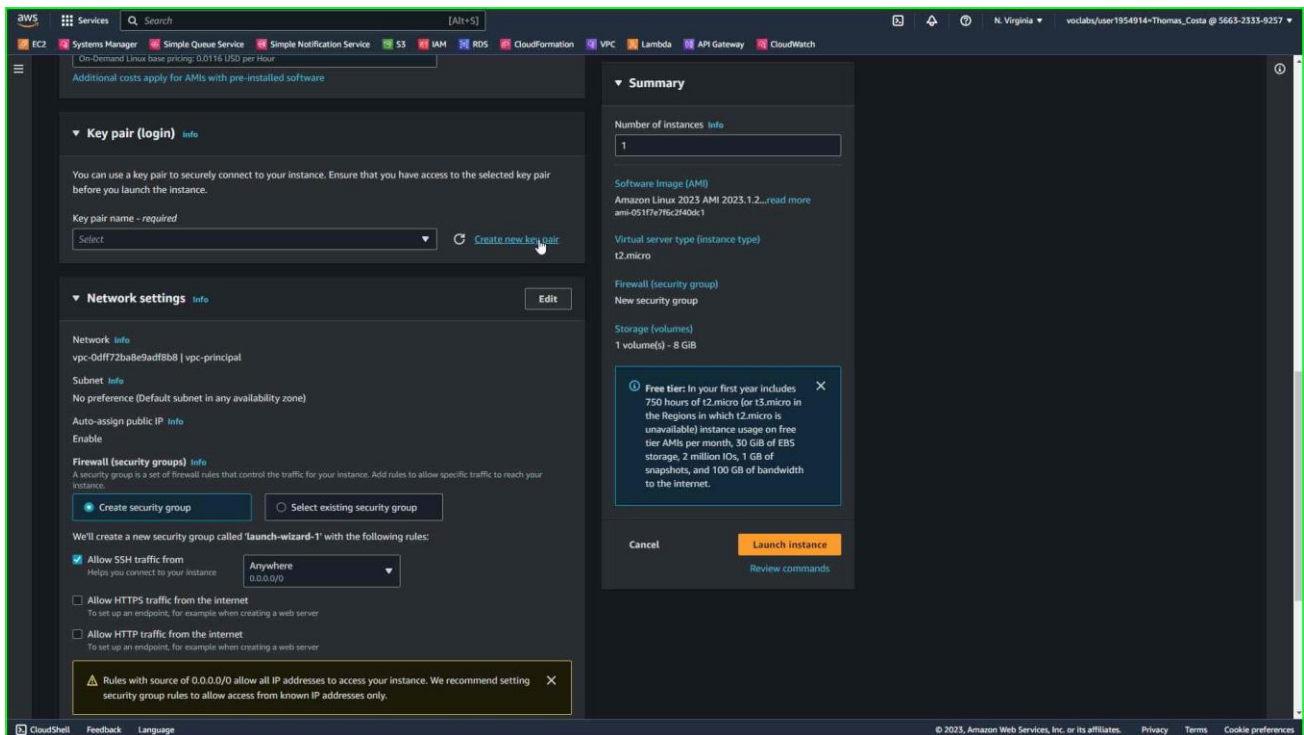


Continue descendo a tela e a opção “Key pair” irá aparecer:

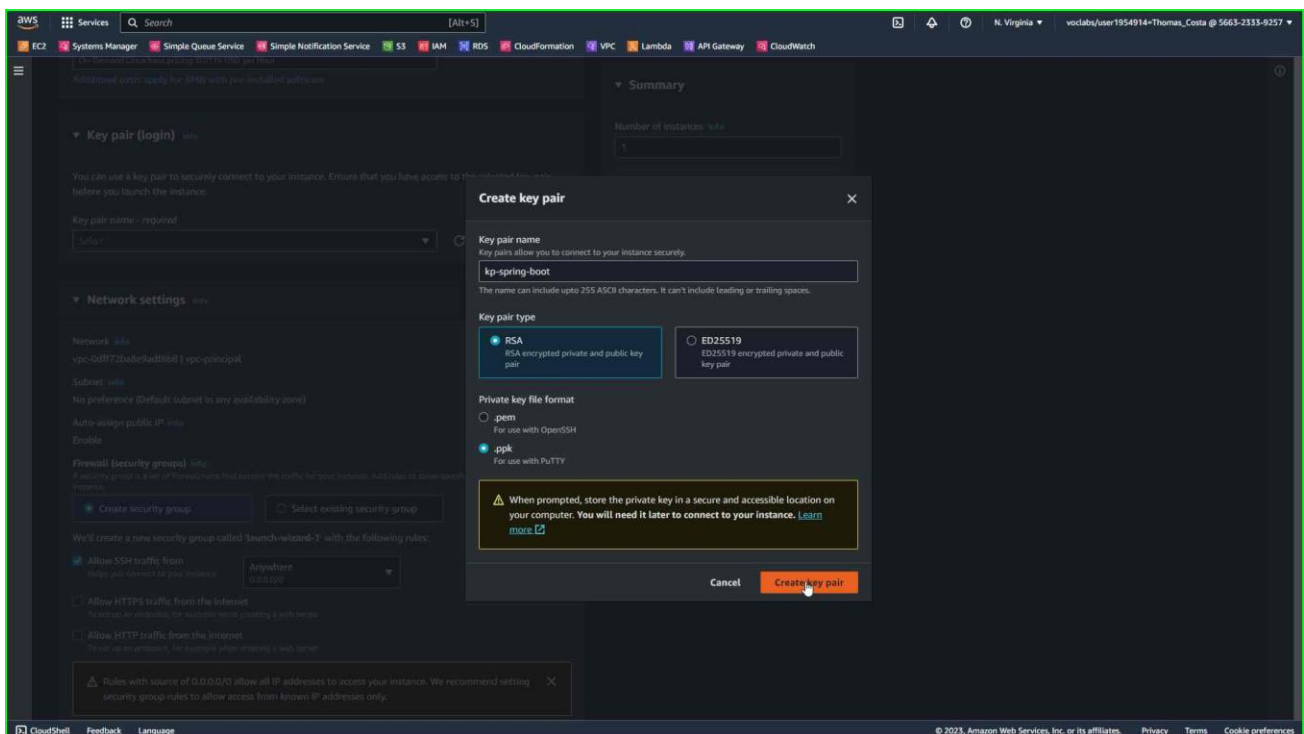


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Clique em “Create new key pair”:

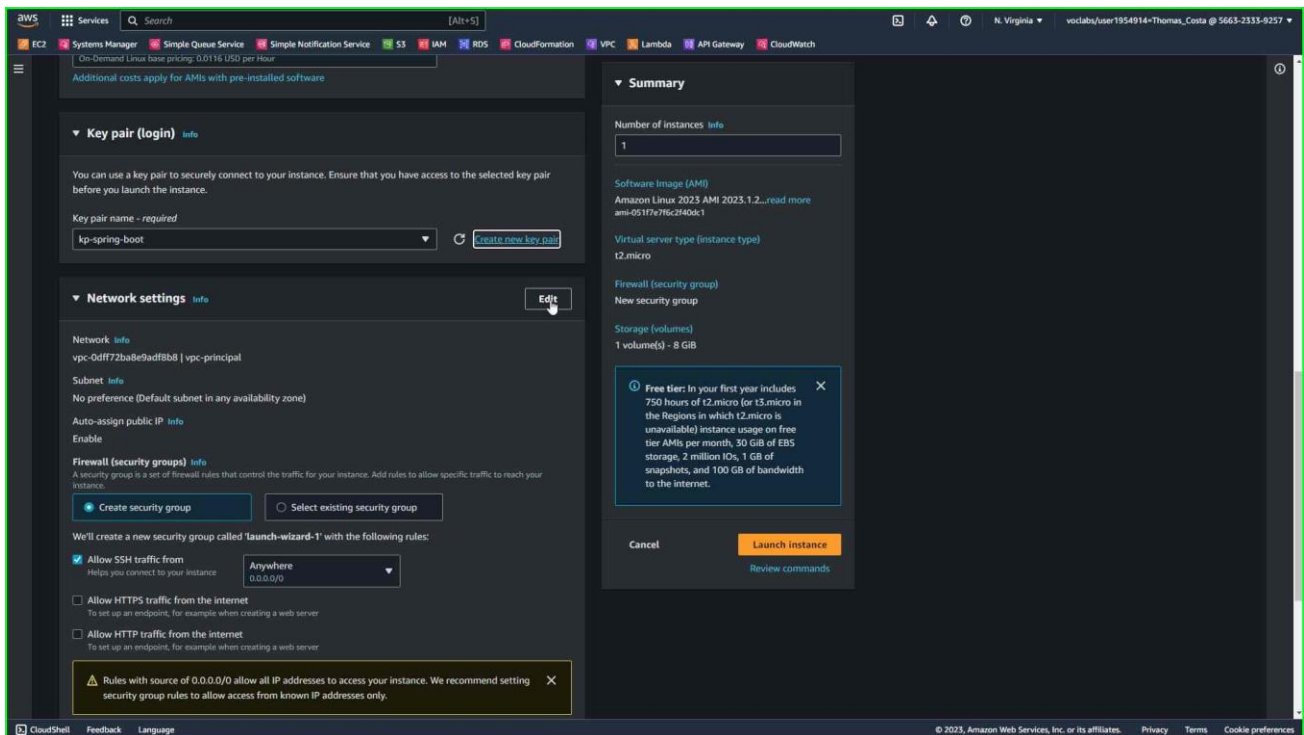


Escreva o nome da chave e selecione as opções “RSA” e “.ppk” e clique em “Create key pair”. Será gerado um arquivo “kp-spring-boot.ppk”, guarde o arquivo para efetuar o acesso posterior a máquina:

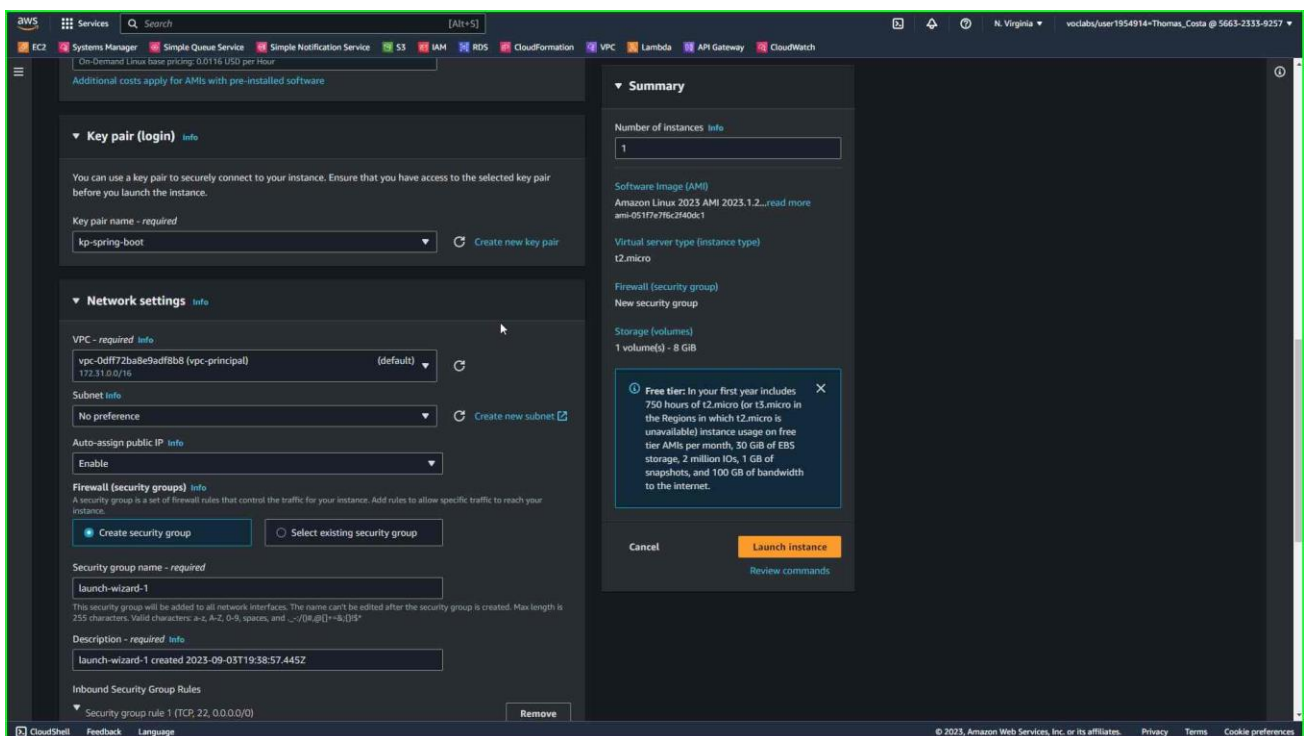


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Na opção “Network settings” clique no botão “Edit”:

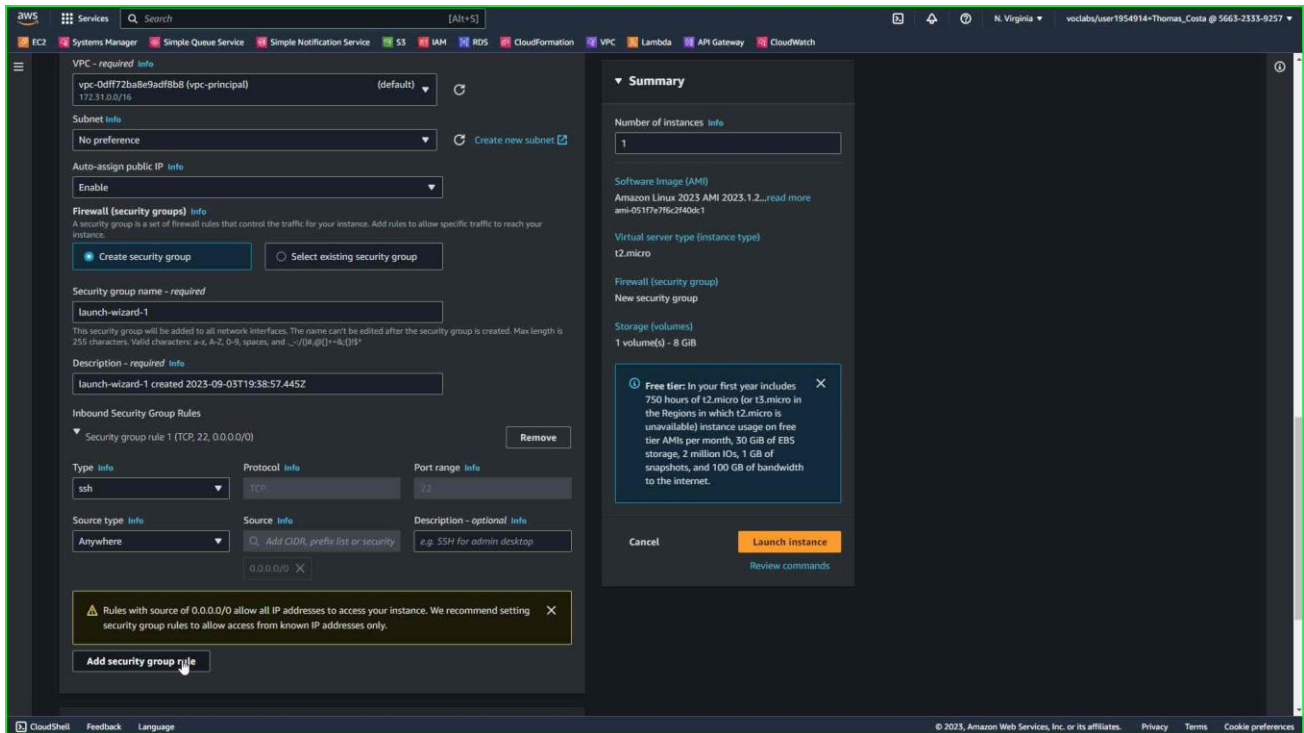


Aparecerá a tela abaixo:

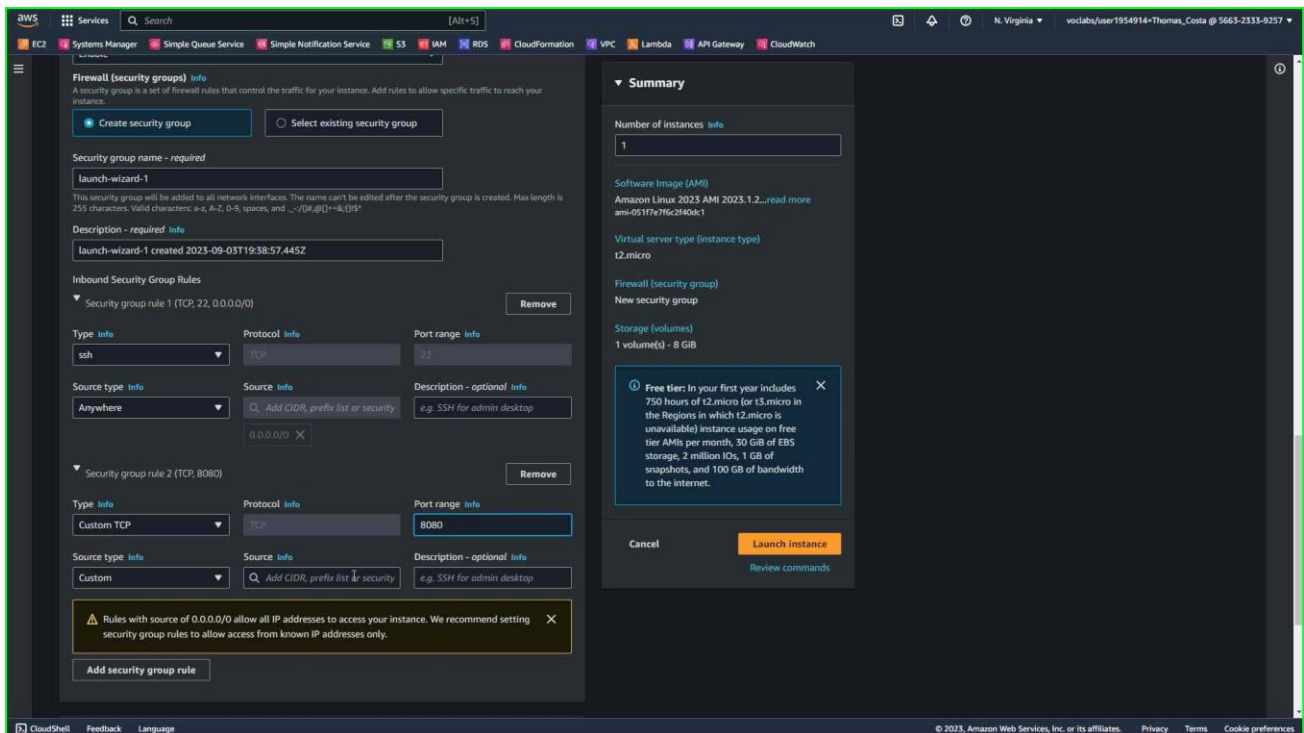


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Clique em “Add security group rule”:

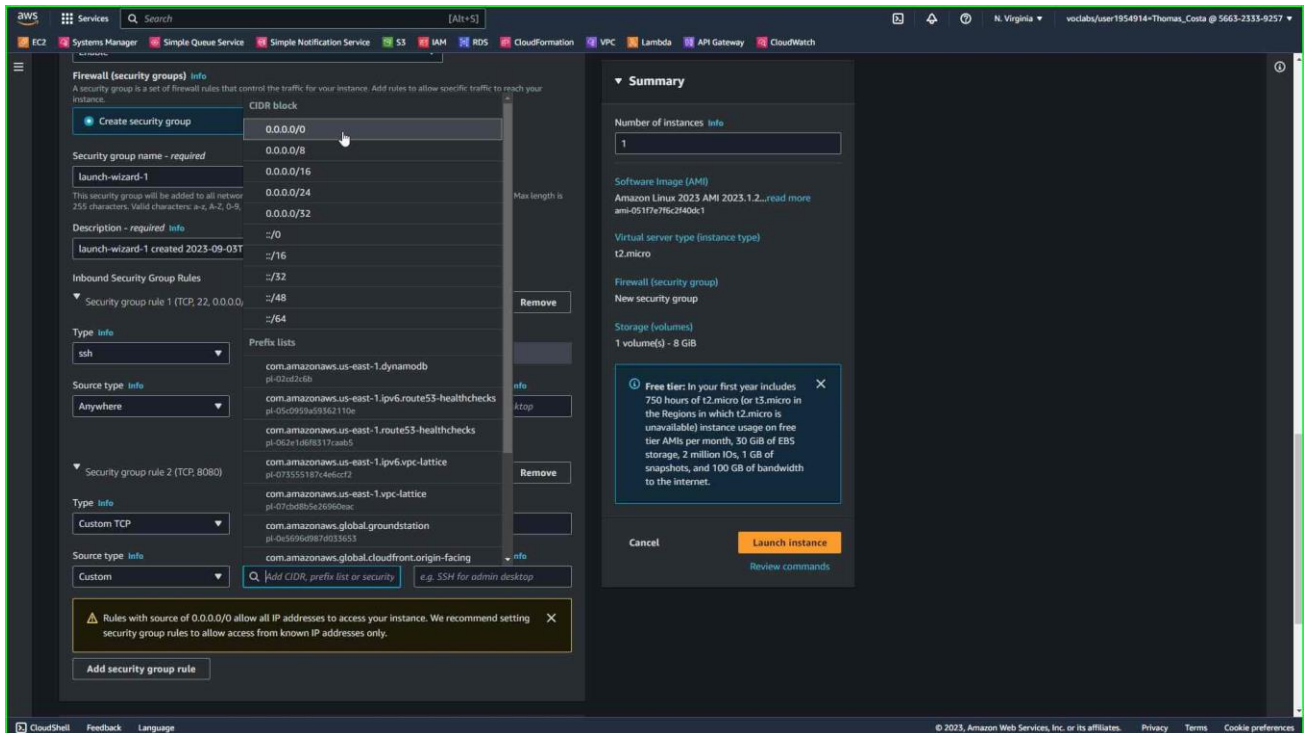


Selecione “Custom TCP” e coloque o número da porta “8080” conforme imagem abaixo:

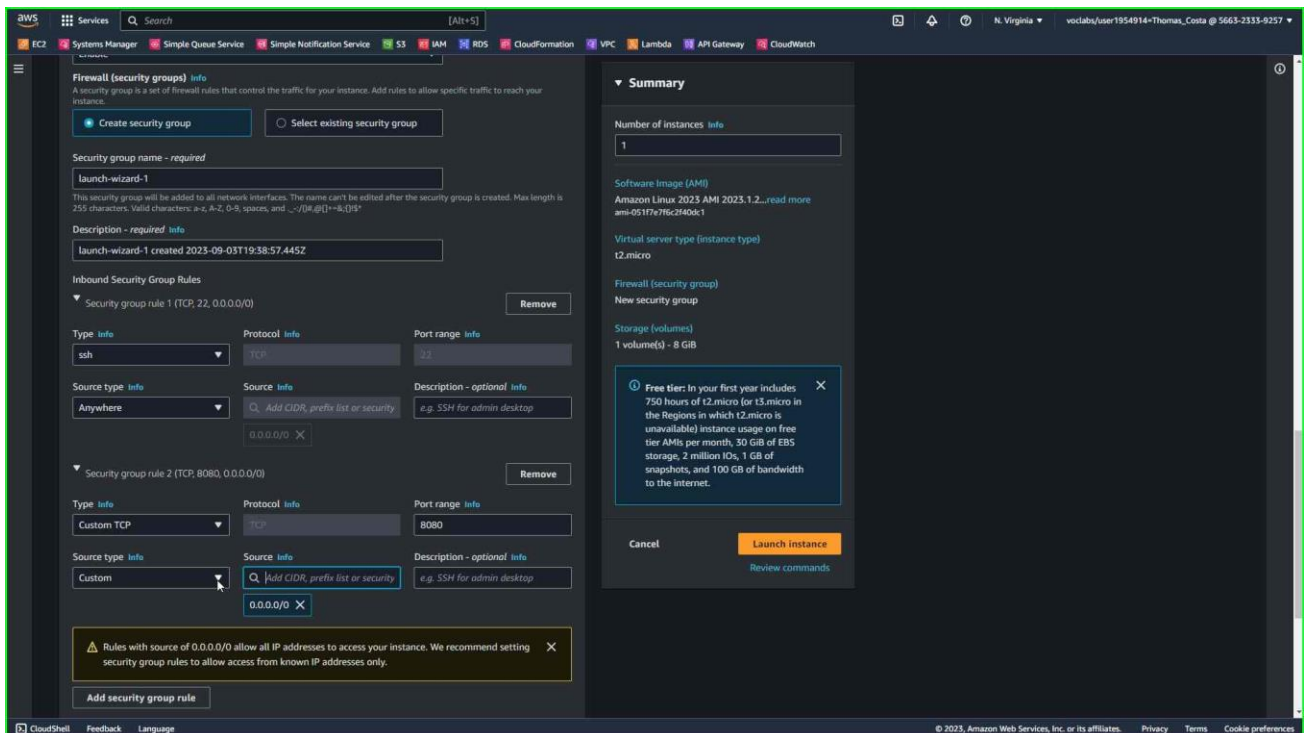


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Em “Source” selecione “0.0.0.0/0”:

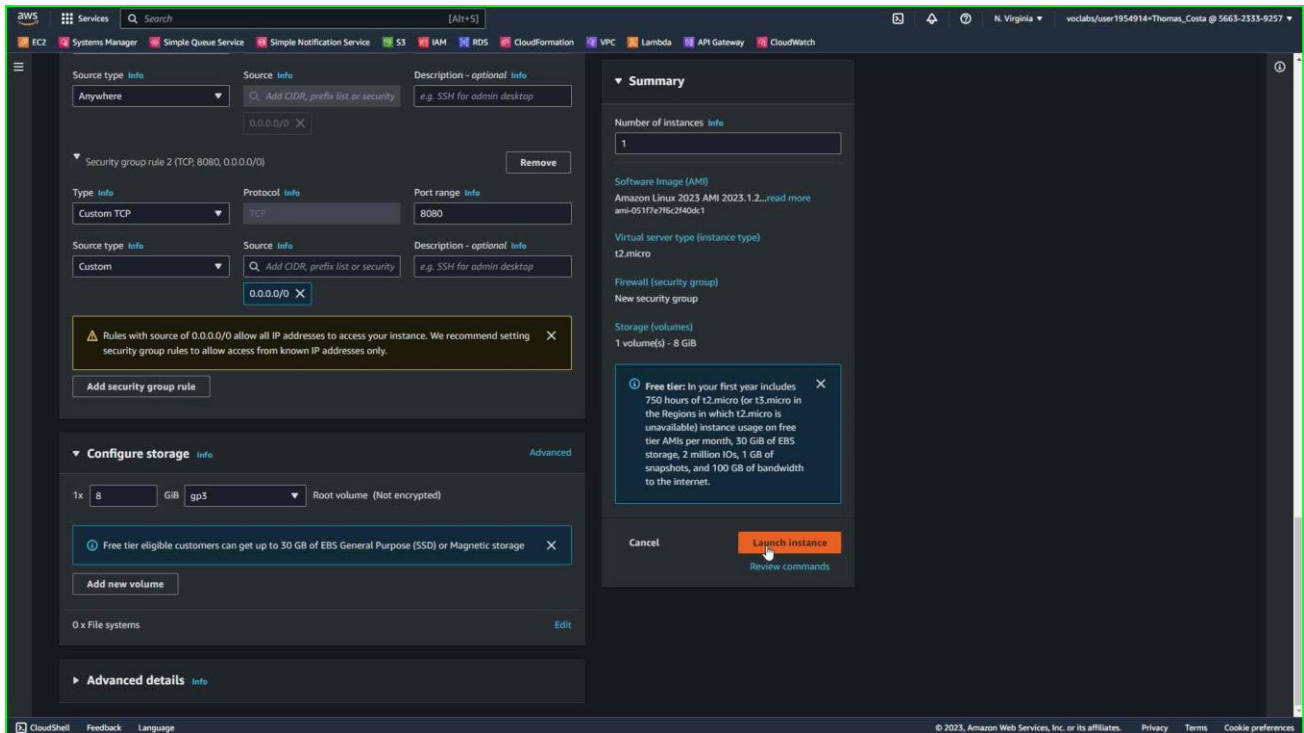


A configurações devem ficar igual a tela abaixo:

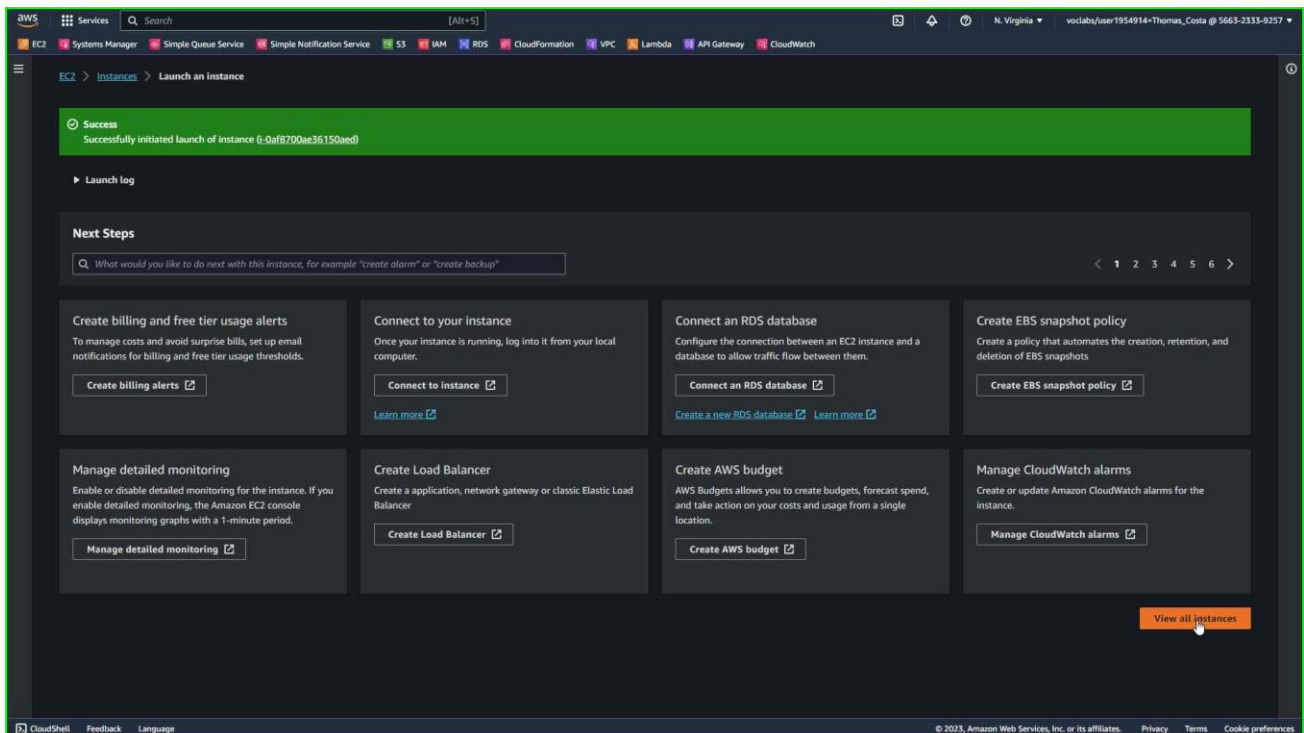


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Clique na opção “Launch instance”:

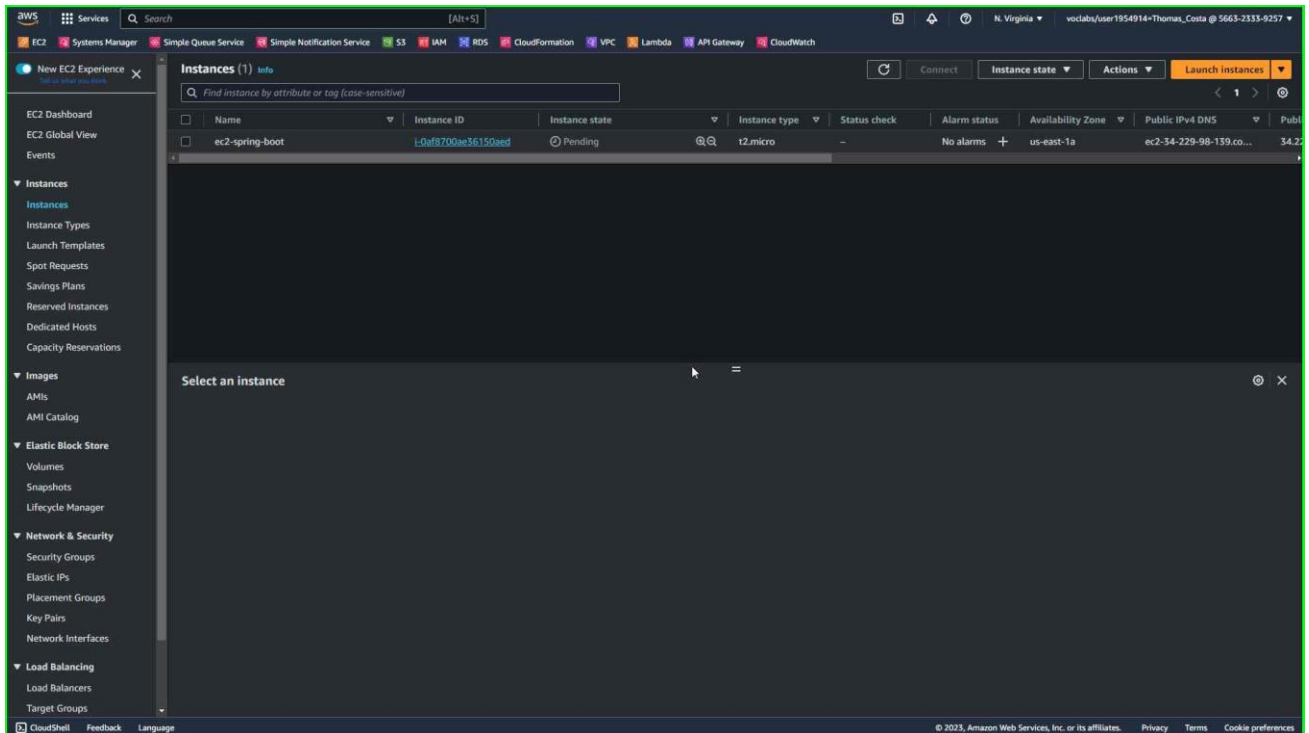


Servidor criado com sucesso. Clique em “View all instances”:

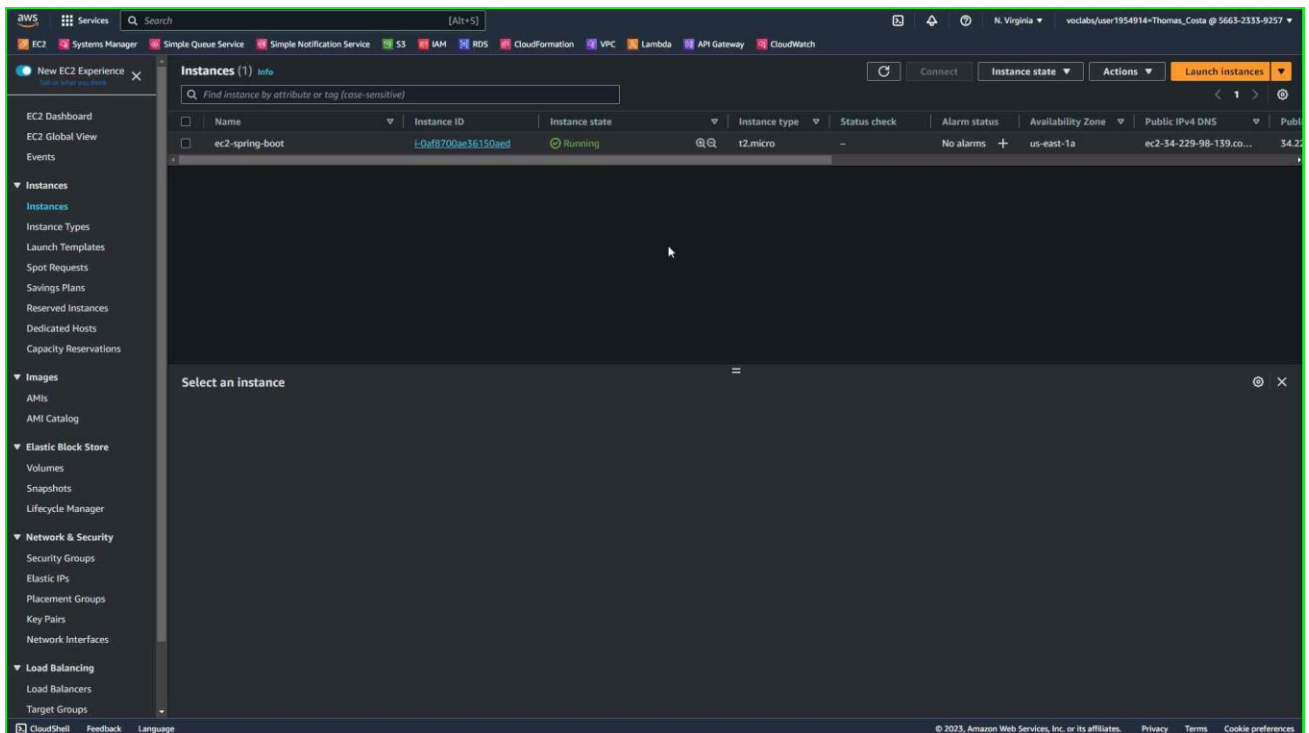


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Servidor em processo de subida. Espere o servidor estar pronto:

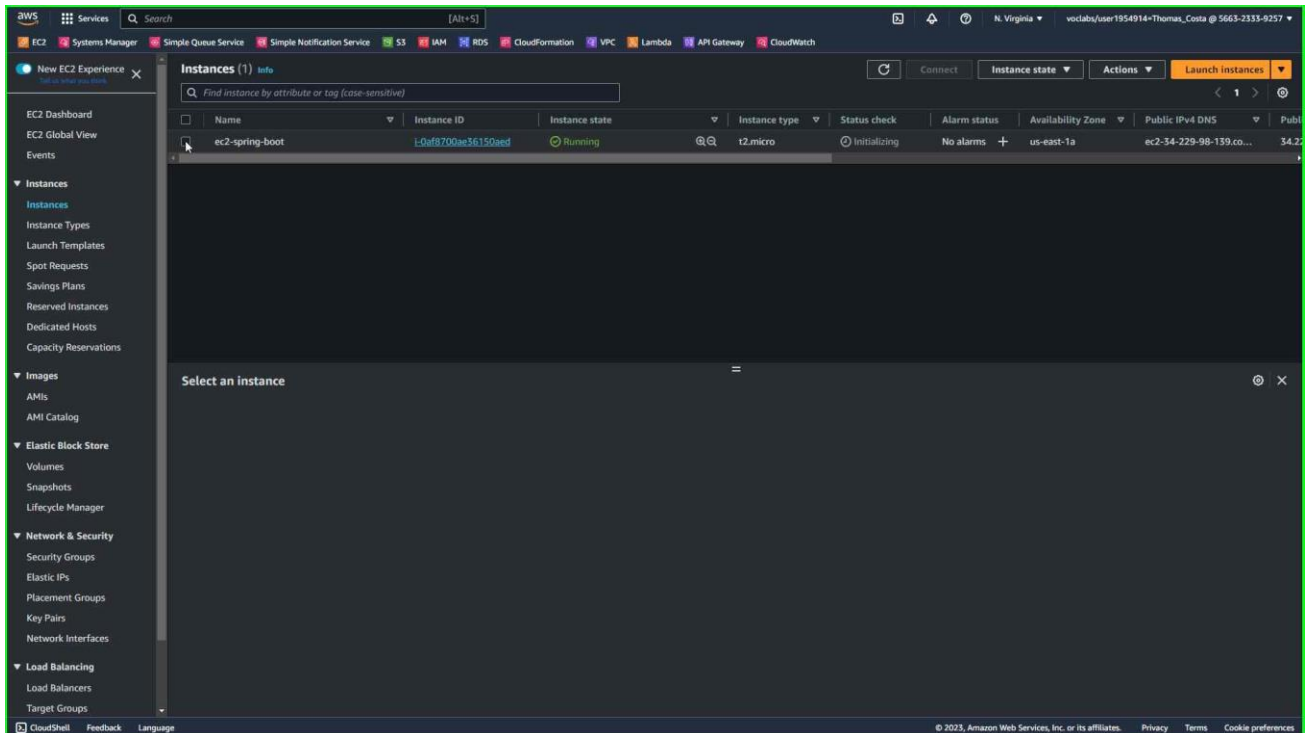


Quando o servidor estiver pronto, apresentará o status de “Running”:

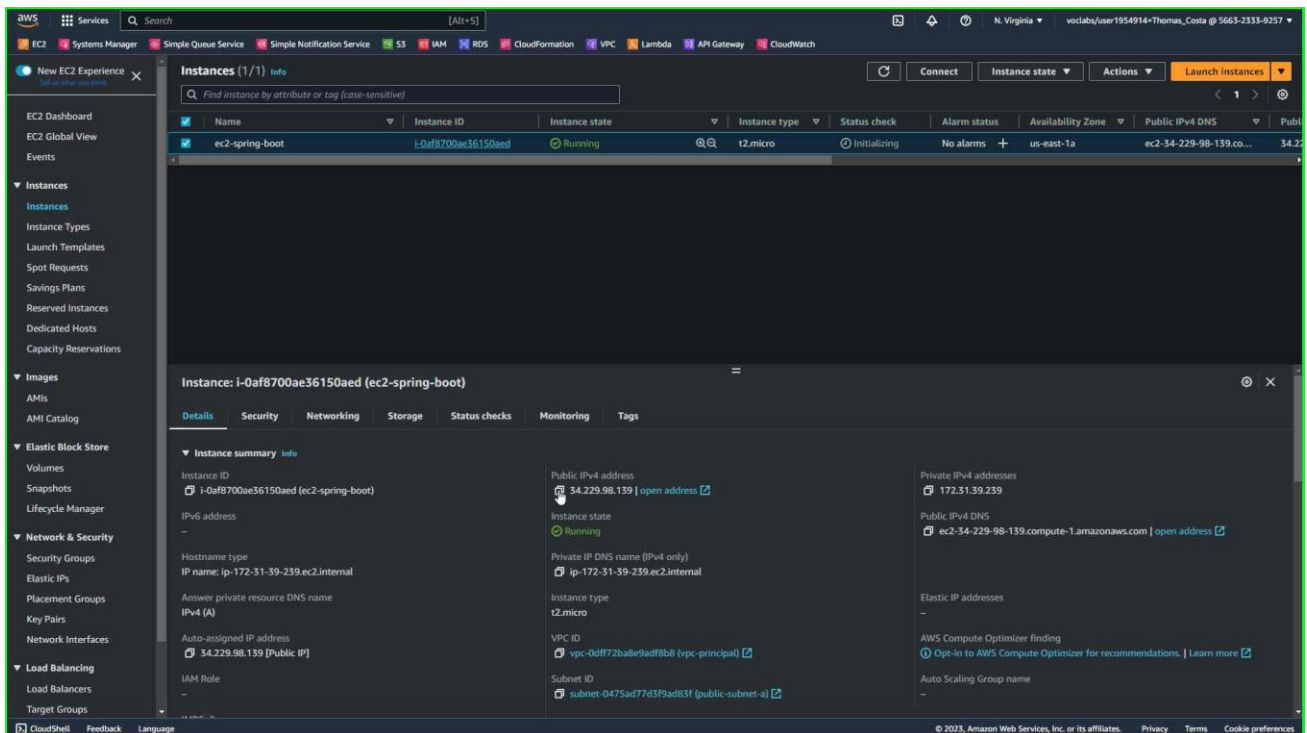


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Selecione o checkbox do servidor:

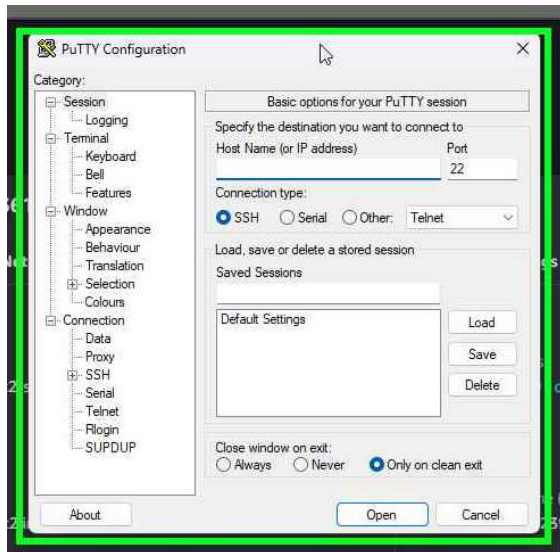


Copie o endereço da opção “Public IPv4 address”:

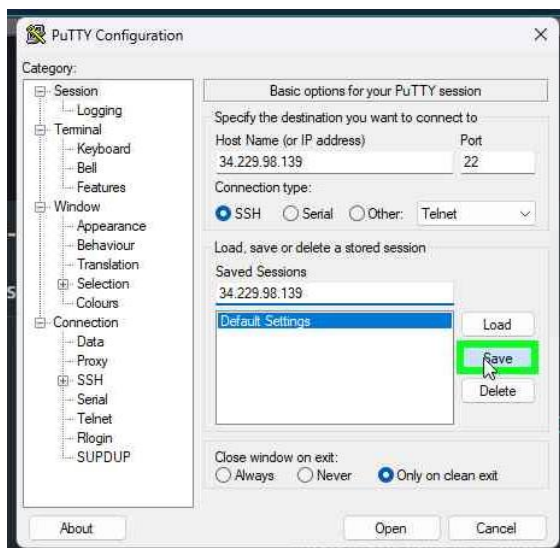


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Entre no “Putty”:

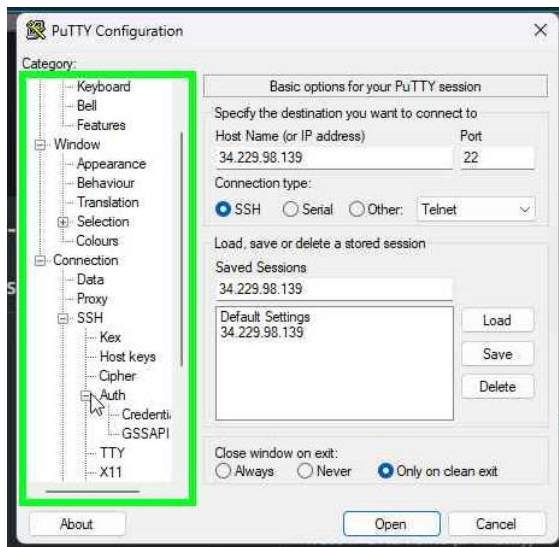


Digite o endereço do servidor nos campos abaixo e clique em “Save”:

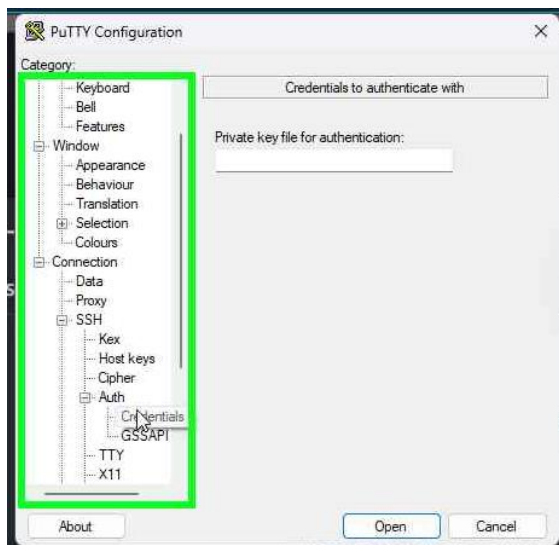


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Selecione a opção “Auth”:

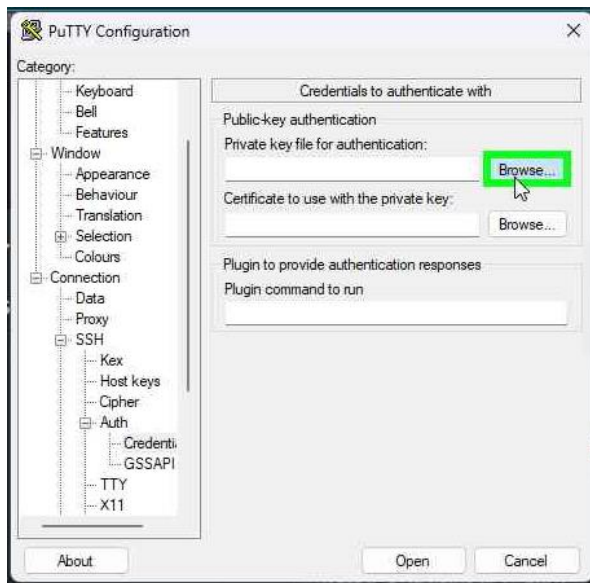


Selecione a opção “Credentials”:

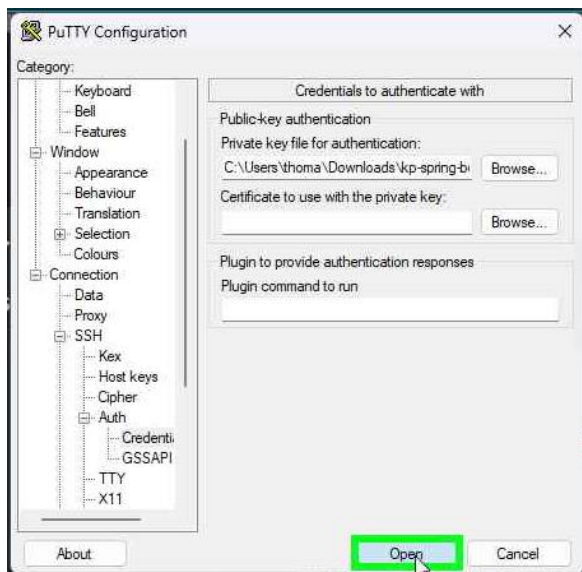


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Selecione a opção “Browse” e selecione o arquivo “kp-spring-boot.ppk”:

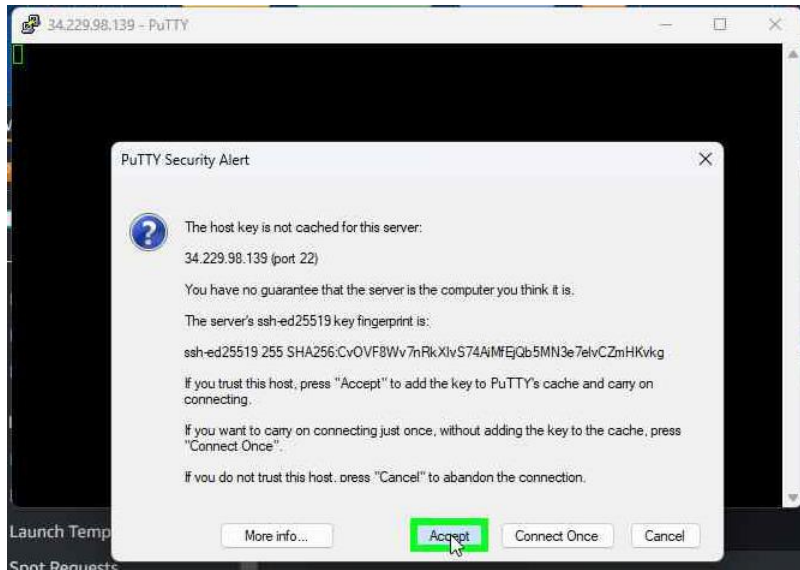


Ao selecionar o arquivo clique no botão “Open”:



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Clique no botão “Accept”:



O acesso ao servidor foi obtido com sucesso:



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Em login digite “ec2-user”:

```

Name                               W                               Instance ID
ec2-user@ip-172-31-39-239:~$ login as: ec2-user
Authenticating with public key "kp-spring-boot"

#
#####
#####\
#####|
\###|
\#|
V= ' ' -> https://aws.amazon.com/linux/amazon-linux-2023

[ec2-user@ip-172-31-39-239 ~]$ ls -la
total 12
drwx-----. 3 ec2-user ec2-user 74 Sep  3 19:41 .
drwxr-xr-x. 3 root     root      22 Sep  3 19:41 ..
-rw-r--r--. 1 ec2-user ec2-user 18 Jan 28  2023 .bash_logout
-rw-r--r--. 1 ec2-user ec2-user 141 Jan 28  2023 .bash_profile
-rw-r--r--. 1 ec2-user ec2-user 492 Jan 28  2023 .bashrc
drwx-----. 2 ec2-user ec2-user 29 Sep  3 19:41 .ssh
[ec2-user@ip-172-31-39-239 ~]$
```

Digite o comando “sudo yum update”:

[illegible]

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Caso exista alguma atualização será exibido o que será atualizado:

```
ec2-user@ip-172-31-39-239:~  
#  
#####  
Amazon Linux 2023  
#####  
https://aws.amazon.com/linux/amazon-linux-2023  
V~  
/m/  
[ec2-user@ip-172-31-39-239 ~]$ ls -la  
total 12  
drwx----- 3 ec2-user ec2-user 74 Sep  3 19:41 .  
drwxr-xr-x  3 root     root     22 Sep  3 19:41 ..  
-rw-r--r--  1 ec2-user ec2-user 18 Jan 28  2023 .bash_logout  
-rw-r--r--  1 ec2-user ec2-user 141 Jan 28  2023 .bash_profile  
-rw-r--r--  1 ec2-user ec2-user 492 Jan 28  2023 .bashrc  
drwx----- 2 ec2-user ec2-user 29 Sep  3 19:41 .ssh  
[ec2-user@ip-172-31-39-239 ~]$ sudo yum update  
Last metadata expiration check: 0:04:52 ago on Sun Sep  3 19:41:19 2023.  
Dependencies resolved.  
Nothing to do.  
Complete!  
[ec2-user@ip-172-31-39-239 ~]$
```

Digite o comando “sudo yum install java-17-amazon-corretto” para a instalação do Java:

```
ec2-user@ip-172-31-39-239:~  
#  
#####  
Amazon Linux 2023  
#####  
https://aws.amazon.com/linux/amazon-linux-2023  
V~  
/m/  
[ec2-user@ip-172-31-39-239 ~]$ ls -la  
total 12  
drwx----- 3 ec2-user ec2-user 74 Sep  3 19:41 .  
drwxr-xr-x  3 root     root     22 Sep  3 19:41 ..  
-rw-r--r--  1 ec2-user ec2-user 18 Jan 28  2023 .bash_logout  
-rw-r--r--  1 ec2-user ec2-user 141 Jan 28  2023 .bash_profile  
-rw-r--r--  1 ec2-user ec2-user 492 Jan 28  2023 .bashrc  
drwx----- 2 ec2-user ec2-user 29 Sep  3 19:41 .ssh  
[ec2-user@ip-172-31-39-239 ~]$ sudo yum update  
Last metadata expiration check: 0:04:52 ago on Sun Sep  3 19:41:19 2023.  
Dependencies resolved.  
Nothing to do.  
Complete!  
[ec2-user@ip-172-31-39-239 ~]$ sudo yum install java-17-amazon-corretto
```


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Selecione a opção “y” para concluir a instalação do Java:

```
ec2-user@ip-172-31-39-239:~  
libX11 x86_64 1.7.2-3.amzn2023.0.3 amazonlinux 657 k  
libX11-common noarch 1.7.2-3.amzn2023.0.3 amazonlinux 152 k  
libXau x86_64 1.0.9-6.amzn2023.0.2 amazonlinux 31 k  
libXext x86_64 1.3.4-6.amzn2023.0.2 amazonlinux 41 k  
libXi x86_64 1.7.10-6.amzn2023.0.2 amazonlinux 40 k  
libXinerama x86_64 1.1.4-8.amzn2023.0.2 amazonlinux 15 k  
libXrandr x86_64 1.5.2-6.amzn2023.0.2 amazonlinux 28 k  
libXrender x86_64 0.9.10-14.amzn2023.0.2 amazonlinux 28 k  
libXt x86_64 1.2.0-4.amzn2023.0.2 amazonlinux 181 k  
libXtst x86_64 1.2.3-14.amzn2023.0.2 amazonlinux 21 k  
libbrotli x86_64 1.0.9-4.amzn2023.0.2 amazonlinux 315 k  
libjpeg-turbo x86_64 2.1.4-2.amzn2023.0.2 amazonlinux 190 k  
libpng x86_64 2:1.6.37-10.amzn2023.0.2 amazonlinux 128 k  
libxcb x86_64 1.13.1-7.amzn2023.0.2 amazonlinux 230 k  
pixman x86_64 0.40.0-3.amzn2023.0.3 amazonlinux 295 k  
xml-common noarch 0.6.3-56.amzn2023.0.2 amazonlinux 32 k  
  
Transaction Summary  
-----  
Install 35 Packages  
  
Total download size: 100 M  
Installed size: 262 M  
Is this ok [y/N]: y
```

Java instalado com sucesso:

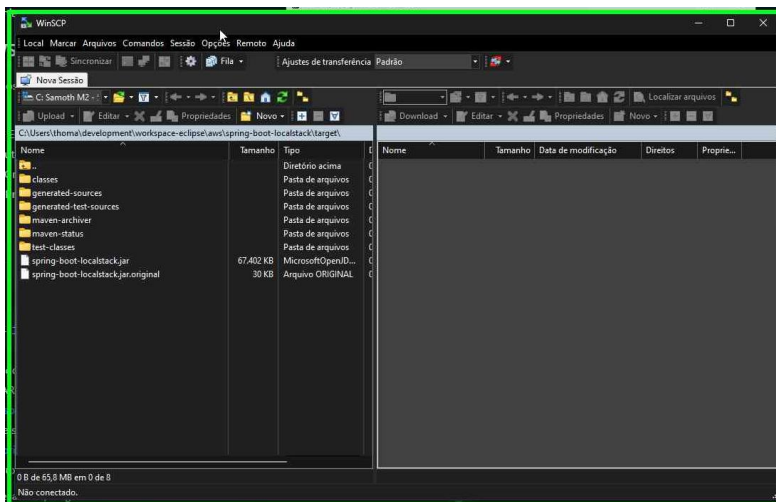
```
ec2-user@ip-172-31-39-239:~  
java-17-amazon-corretto-headless-1:17.0.8+7-1.amzn2023.1.x86_64  
javapackages-filesystem-6.0.0-7.amzn2023.0.5.noarch  
langpacks-core-font-en-3.0-21.amzn2023.0.4.noarch  
libICE-1.0.10-6.amzn2023.0.2.x86_64  
libSM-1.2.3-8.amzn2023.0.2.x86_64  
libX11-1.7.2-3.amzn2023.0.3.x86_64  
libX11-common-1.7.2-3.amzn2023.0.3.noarch  
libXau-1.0.9-6.amzn2023.0.2.x86_64  
libXext-1.3.4-6.amzn2023.0.2.x86_64  
libXi-1.7.10-6.amzn2023.0.2.x86_64  
libXinerama-1.1.4-8.amzn2023.0.2.x86_64  
libXrandr-1.5.2-6.amzn2023.0.2.x86_64  
libXrender-0.9.10-14.amzn2023.0.2.x86_64  
libXt-1.2.0-4.amzn2023.0.2.x86_64  
libXtst-1.2.3-14.amzn2023.0.2.x86_64  
libbrotli-1.0.9-4.amzn2023.0.2.x86_64  
libjpeg-turbo-2.1.4-2.amzn2023.0.2.x86_64  
libpng-2:1.6.37-10.amzn2023.0.2.x86_64  
libxcb-1.13.1-7.amzn2023.0.2.x86_64  
pixman-0.40.0-3.amzn2023.0.3.x86_64  
xml-common-0.6.3-56.amzn2023.0.2.noarch  
  
Complete!  
[ec2-user@ip-172-31-39-239 ~]$
```

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Digite o comando “java --version” e verifique se o Java foi instalado corretamente:

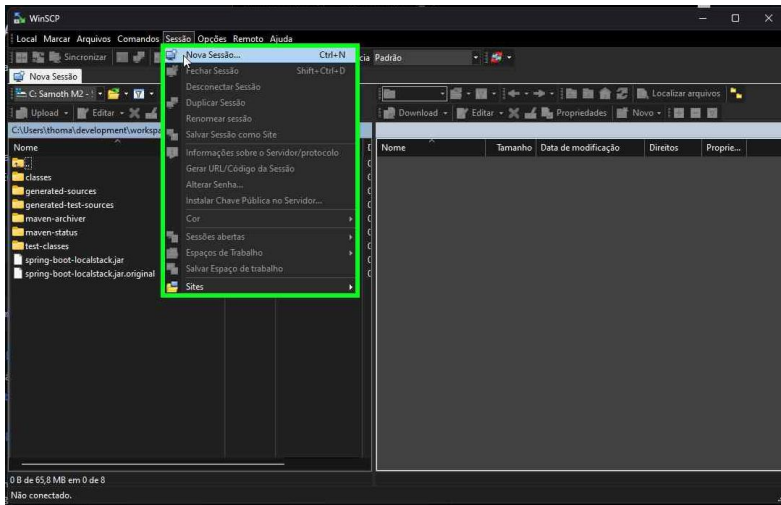
```
ec2-user@ip-172-31-39-239:~$ ls -la
total 12
drwx-----, 3 ec2-user ec2-user 74 Sep  3 19:41 .
drwxr-xr-x, 3 root    root    22 Sep  3 19:41 ..
-rw-r--r--, 1 ec2-user ec2-user 18 Jan 28 2023 .bash_logout
-rw-r--r--, 1 ec2-user ec2-user 141 Jan 28 2023 .bash_profile
-rw-r--r--, 1 ec2-user ec2-user 492 Jan 28 2023 .bashrc
drwx-----, 2 ec2-user ec2-user 29 Sep  3 19:41 .ssh
ec2-user@ip-172-31-39-239 ~$ java --version
openjdk 17.0.8 2023-07-18 LTS
OpenJDK Runtime Environment Corretto-17.0.8.7.1 (build 17.0.8+7-LTS)
OpenJDK 64-Bit Server VM Corretto-17.0.8.7.1 (build 17.0.8+7-LTS, mixed mode, sharing)
ec2-user@ip-172-31-39-239 ~$
```

Execute o programa “WinSCP”:

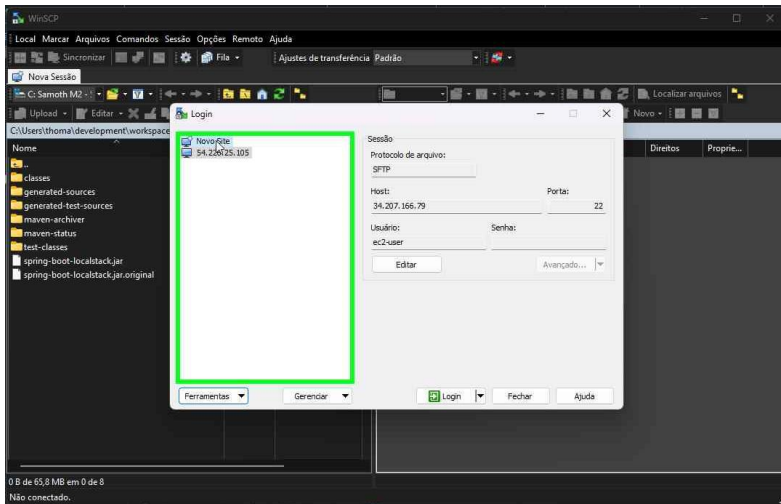


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Clique em “Sessão” -> “Nova Sessão”:

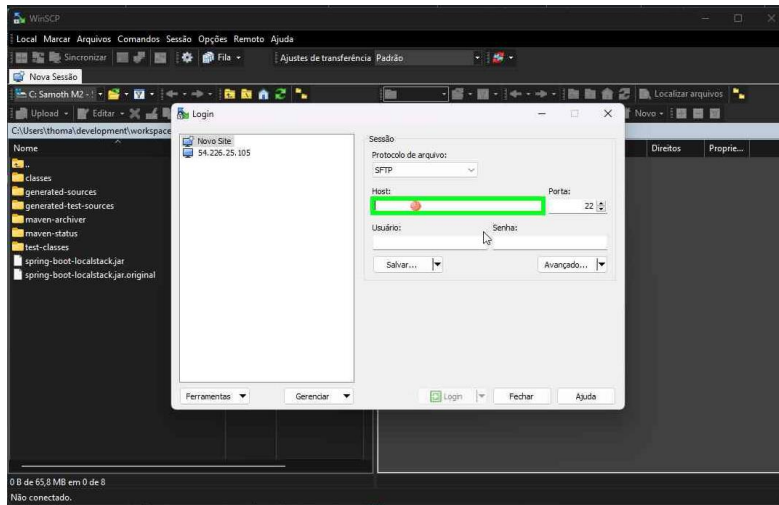


Clique em “Novo Site”:

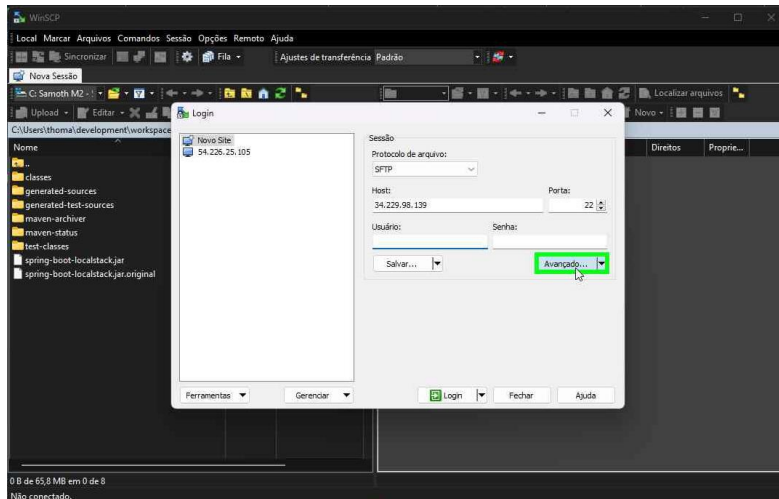


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Digite o endereço do servidor criado anteriormente no nosso exemplo:

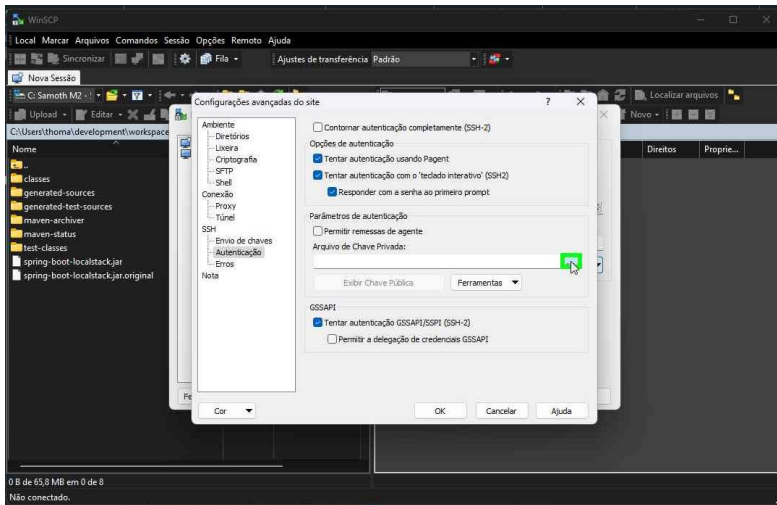


Selecione a opção “Avançado”:

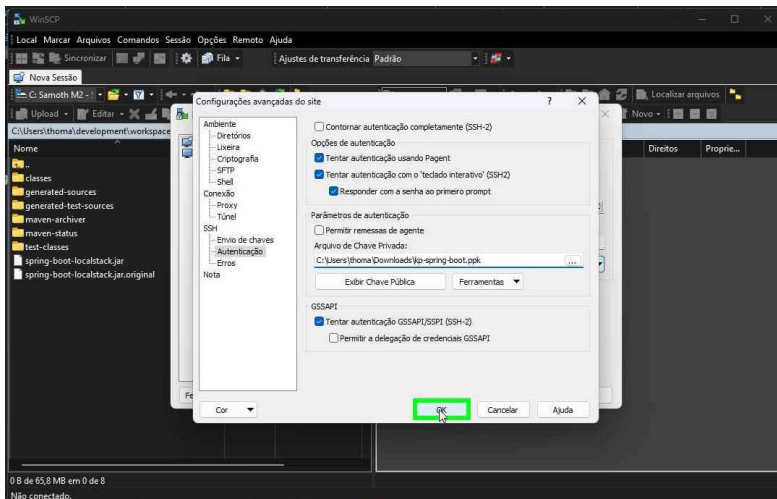


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Selecione a opção “SSH” -> “Autenticação”:

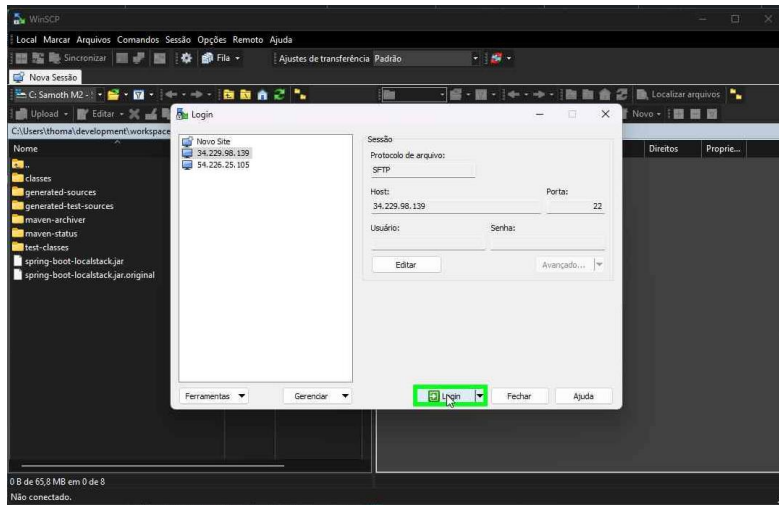


Escolha o arquivo “kp-spring-boot.ppk” conforme imagem abaixo. Clique em “OK”:

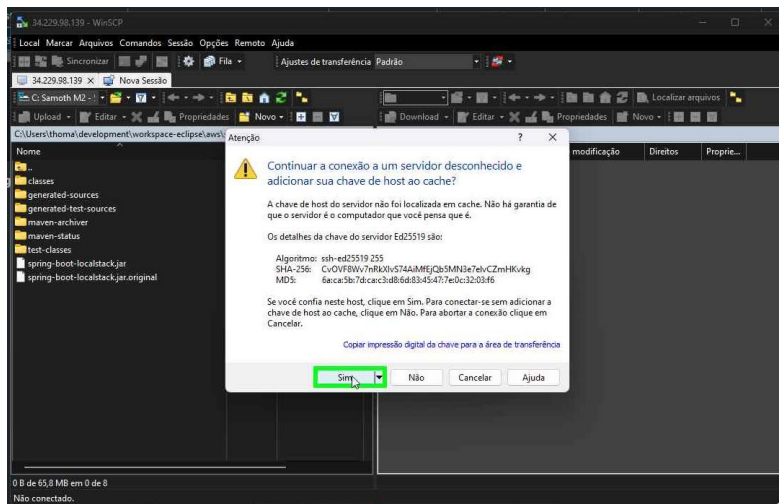


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Clique em “Login”:

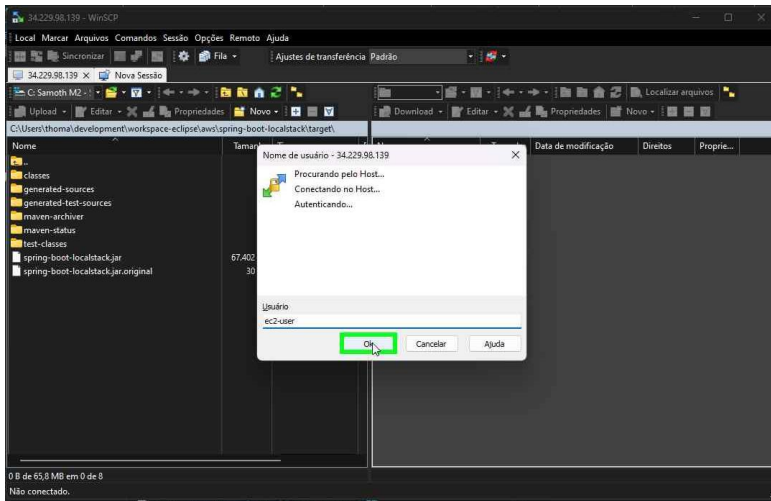


Selecione a opção “Sim”:

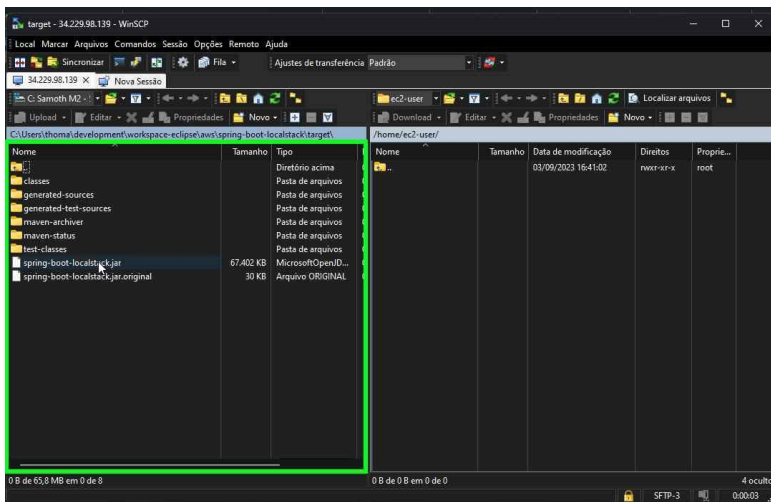


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Digite o usuário “ec2-user”:

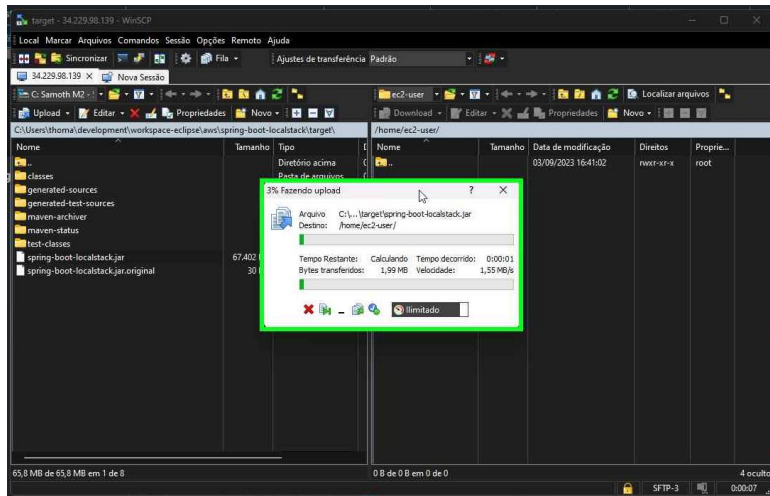


Selecione o arquivo “spring-boot-localstack.jar” e arraste para o lado direito. O arquivo será enviado para a pasta “/home/ec2-user”:

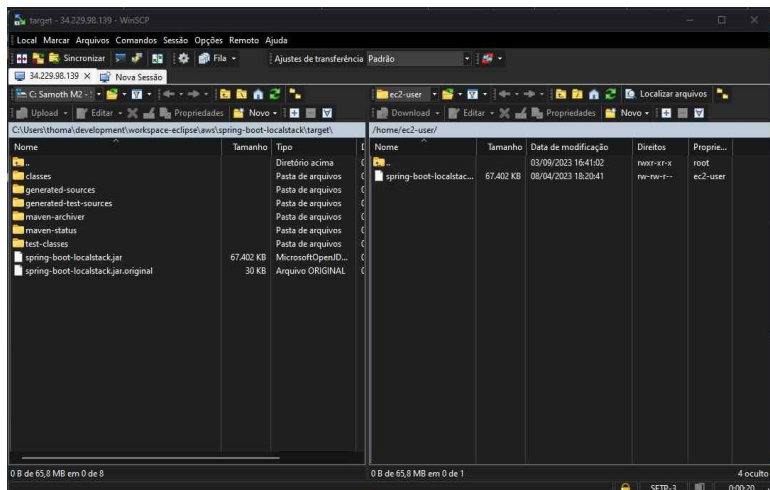


Acessando remotamente um AWS EC2 através de SSH

Efetuando o upload do arquivo:



Arquivo transferido com sucesso:



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Digite o comando “java -jar spring-boot-localstack.jar”:

```
ec2-user@ip-172-31-39-239:~$ ls -la
total 12
drwx----- 3 ec2-user ec2-user 74 Sep  3 19:41 .
drwxr-xr-x  3 root    root    22 Sep  3 19:41 ..
-rw-r--r--  1 ec2-user ec2-user 18 Jan 28 2023 .bash_logout
-rw-r--r--  1 ec2-user ec2-user 141 Jan 28 2023 .bash_profile
-rw-r--r--  1 ec2-user ec2-user 492 Jan 28 2023 .bashrc
drwx----- 2 ec2-user ec2-user 29 Sep  3 19:41 .ssh
ec2-user@ip-172-31-39-239:~$ java --version
openjdk 17.0.8 2023-07-18 LTS
OpenJDK Runtime Environment Corretto-17.0.8.7.1 (build 17.0.8+7-LTS)
OpenJDK 64-Bit Server VM Corretto-17.0.8.7.1 (build 17.0.8+7-LTS, mixed mode, sharing)
ec2-user@ip-172-31-39-239:~$ ls -la
total 67416
drwx----- 3 ec2-user ec2-user 108 Sep  3 19:51 .
drwxr-xr-x  3 root    root    22 Sep  3 19:41 ..
-rw-r--r--  1 ec2-user ec2-user 18 Jan 28 2023 .bash_logout
-rw-r--r--  1 ec2-user ec2-user 141 Jan 28 2023 .bash_profile
-rw-r--r--  1 ec2-user ec2-user 492 Jan 28 2023 .bashrc
drwx----- 2 ec2-user ec2-user 29 Sep  3 19:41 .ssh
-rw-rw-r--  1 ec2-user ec2-user 69018692 Apr  8 21:20 spring-boot-localstack.jar
ec2-user@ip-172-31-39-239:~$ java -jar spring-boot-localstack.jar
```

O microsserviço será executado com sucesso. É possível acessar o endereço [http://\[54.162.246.161\]:8080/hello](http://[54.162.246.161]:8080/hello) para uma requisição de uma API Rest. Substitua o endereço entre chaves pelo IP da sua máquina.

```
ec2-user@ip-172-31-44-62:~$ java -jar spring-boot-localstack.jar
Spring Boot (v3.2.2)
2024-01-21T22:50:52.613Z INFO 25638 --- [main] b.c.t.SpringBootLocalstackApplication : Starting SpringBootLocalstackApplication v1.0.0-SNAPSHOT using Java 17.0.10 with PID 25638 (/home/ec2-user/spring-boot-localstack.jar started by ec2-user in /home/ec2-user)
2024-01-21T22:50:52.617Z INFO 25638 --- [main] b.c.t.SpringBootLocalstackApplication : No active profile set, falling back to 1 default profile: "default"
2024-01-21T22:50:54.999Z INFO 25638 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 8080 (http)
2024-01-21T22:50:55.026Z INFO 25638 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-01-21T22:50:55.027Z INFO 25638 --- [main] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.18]
2024-01-21T22:50:55.221Z INFO 25638 --- [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2024-01-21T22:50:55.222Z INFO 25638 --- [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 2463 ms
2024-01-21T22:50:56.462Z INFO 25638 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 8080 (http) with context path ''
2024-01-21T22:50:56.501Z INFO 25638 --- [main] b.c.t.SpringBootLocalstackApplication : Started SpringBootLocalstackApplication in 5.142 seconds (process running for 6.3)
```

Acessando remotamente um AWS EC2 através de SSH

Acessando o serviço do Spring Boot:

