Testes e Automação para dispositivos móveis

Tópicos especiais II

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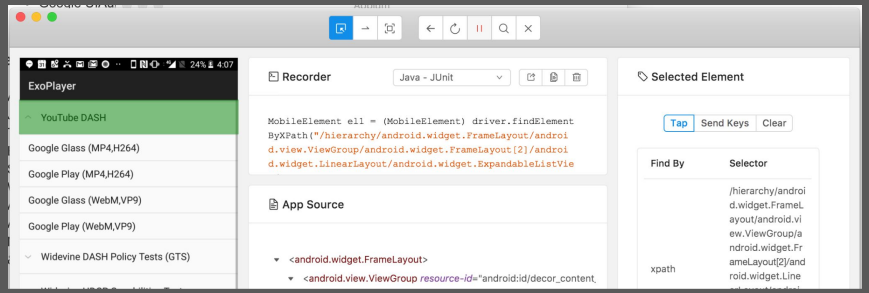
FERRAMENTAS DE AUTOMAÇÃO DE TESTES MOBILE



APPIUM

APPIUM

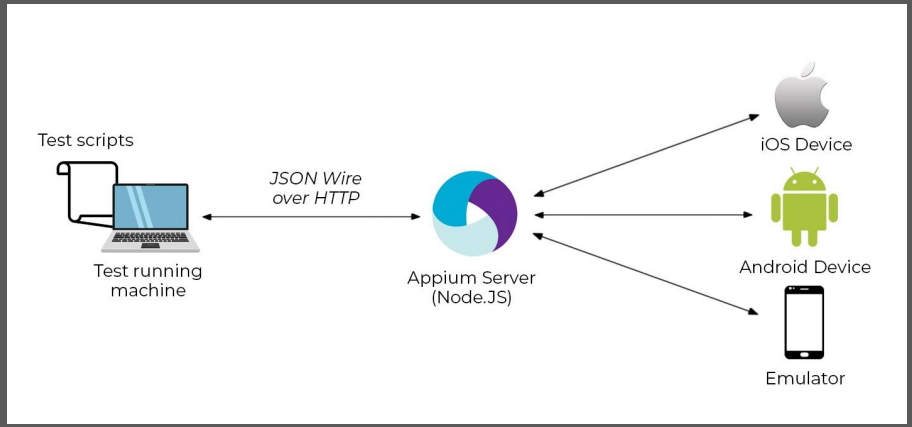
Ferramenta para automação de aplicativos móveis:

- Multiplataformas;
- Código aberto;
- API de automação unificada;
- Capacidade de testar em dispositivos reais ou emuladores;
- Comunidade ativa;
- Suporte para testes website nos dispositivos;

Arquitetura Appium

Servidor Appium: responsável por receber comandos dos testes e executá-los nos dispositivos móveis

Protocolo JSON Wire do WebDriver: seguindo o padrão do WebDriver (responsável por definir como os comandos e respostas são transmitidos entre o servidor e o código de teste) garantindo assim a interoperabilidade com várias linguagens de programação.



Ferramentas
Automação de Testes Mobile

Ambiente de implementação

Pré-condição:

Android Studio com Android SDK tools instalado.

Dispositivo Android ou emulador Android.

Java Development Kit (JDK) instalado.

+

Node.js e npm (Node Package Manager) instalado

+

Conhecer Selenium (Ajuda muito)

Instalando Appium

```
npm i --location=global appium
```

Instalando Appium Doctor

```
npm i --location=global @appium/doctor
```

Instalando Driver

"Appium sem driver não serve para nada..." - https://github.com/appium/appium-uiautomator2-driver

```
appium driver install uiautomator2
```

appium

Ferramentas
Automação de Testes Mobile

Rodando Appium Doctor

appium-doctor

```
C:\Users\Samuel>appium-doctor
info AppiumDoctor Appium Doctor v.2.0.25
info AppiumDoctor ### Diagnostic for necessary dependencies starting ###
info AppiumDoctor  ☑ APPIUM_HOME is C:\Users\Samuel\.appium
info AppiumDoctor  ☑ The Node.js binary was found at: C:\Program Files\nodejs\node.EXE
info AppiumDoctor  ☑ Node version is 18.17.1
info AppiumDoctor  ☑ ANDROID_HOME is set to: E:\MobileTest\Android\SDK\
WARN AppiumDoctor  ☒ JAVA_HOME environment variable is NOT set!
info AppiumDoctor    Checking adb, emulator, apkanalyzer.bat
info AppiumDoctor      'adb' is in E:\MobileTest\Android\SDK\platform-tools\adb.exe
info AppiumDoctor      'emulator' is in E:\MobileTest\Android\SDK\emulator\emulator.exe
WARN AppiumDoctor  ☒ apkanalyzer.bat could NOT be found in E:\MobileTest\Android\SDK\!
WARN AppiumDoctor  ☒ Cannot check %JAVA_HOME% requirements since the environment variable itself is not set
info AppiumDoctor ### Diagnostic for necessary dependencies completed, 3 fixes needed. ###
info AppiumDoctor
info AppiumDoctor ### Diagnostic for optional dependencies starting ###
WARN AppiumDoctor  ☒ ffmpeg cannot be found
WARN AppiumDoctor  ☒ mjpeg-consumer cannot be found.
WARN AppiumDoctor  ☒ bundletool.jar cannot be found
WARN AppiumDoctor  ☒ gst-launch-1.0.exe and/or gst-inspect-1.0.exe cannot be found
info AppiumDoctor ### Diagnostic for optional dependencies completed, 4 fixes possible. ###
info AppiumDoctor
info AppiumDoctor ### Manual Fixes Needed ###
info AppiumDoctor The configuration cannot be automatically fixed, please do the following first:
WARN AppiumDoctor  ☒ Make sure the environment variable JAVA_HOME is properly configured for the Appium process. Refer https://github.com/appium/java-clie
WARN AppiumDoctor  ☒ Manually install apkanalyzer.bat and add it to PATH. https://developer.android.com/studio#cmdline-tools and https://developer.android
WARN AppiumDoctor  ☒ Set %JAVA_HOME% environment variable to the root folder path of your local JDK installation
info AppiumDoctor
```

Rodando Appium Server

appium

```
Selecionar npm

C:\Users\Samuel>appium
[Appium] Welcome to Appium v2.1.3
[Appium] Attempting to load driver uiautomator2...
[debug] [Appium] Requiring driver at C:\Users\Samuel\.appium\node_modules\appium-uiautomator2-driver
[Appium] Appium REST http interface listener started on http://0.0.0.0:4723
[Appium] You can provide the following URLs in your client code to connect to this server:
[Appium]        http://192.168.1.14:4723/
[Appium]        http://127.0.0.1:4723/ (only accessible from the same host)
[Appium] Available drivers:
[Appium]   - uiautomator2@2.29.7 (automationName 'UiAutomator2')
[Appium] No plugins have been installed. Use the "appium plugin" command to install the one(s) you want to use.
```

appium

Capabilities

São como um conjunto de preferências ou configurações que definem vários aspectos do seu teste, como qual dispositivo usar, qual aplicativo testar e como interagir com ele.

A idéia é que ao invés de escrever códigos complexo para configurar seu ambiente de teste, você fornece essas preferências em um formato estruturado.

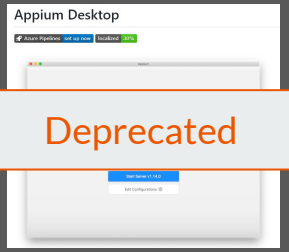
```
{
"platformName": "Android",
 "deviceName": "Samsung Galaxy S10",
 "app": "/caminho/para/seu/app.apk",
 "automationName": "UiAutomator2"
}
```

https://appium.io/docs/en/2.1/guides/caps/

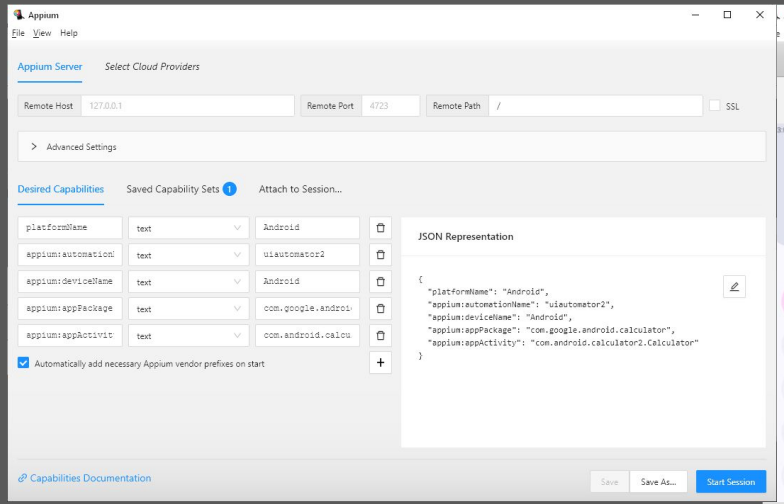
Usando o Client do Windows

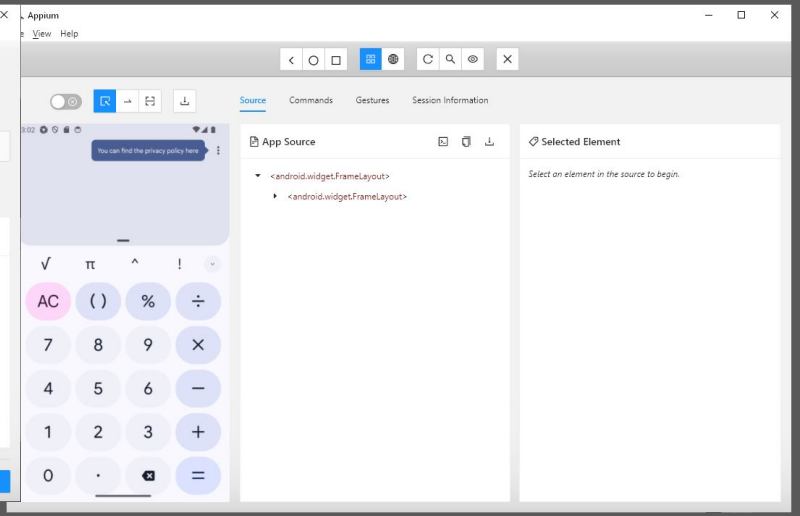
Ferramentas

Automação de Testes Mobile



Deprecated





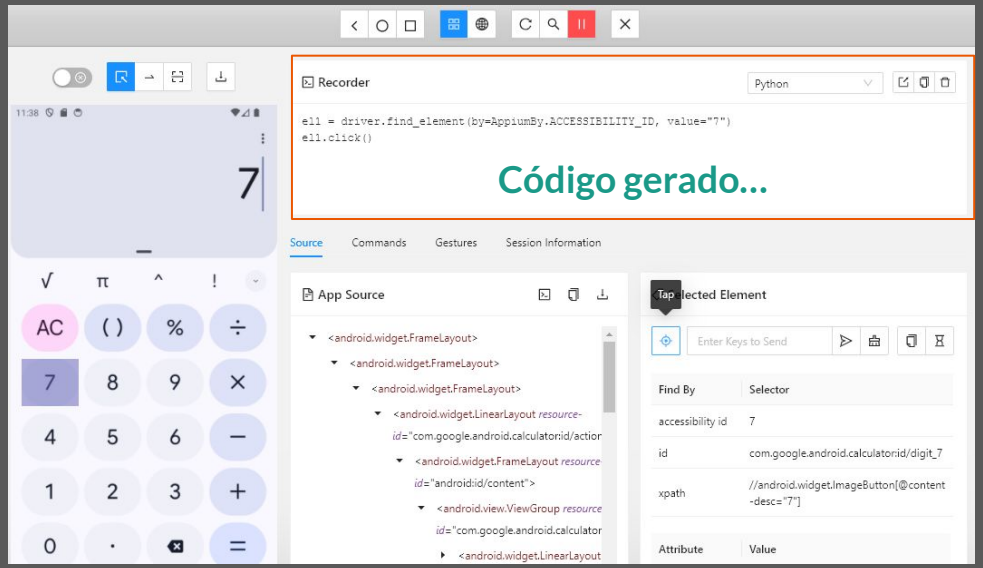
https://github.com/appium/appium-inspector/releases

appium

Escrevendo nosso primeiro teste...

Ferramentas

Automação de Testes Mobile



Botões nativos do Android

Botões Busca de elemento e Gravador

Botões para seleção de App Híbrido ou Nativo

Escrevendo nosso primeiro teste


```
from appium import webdriver
from appium.webdriver.common.appiumby import AppiumBy
from appium.options.android import UiAutomator2Options
```

Imports Appium libraries

```
caps = {}
caps["platformName"] = "Android"
caps["appium:automationName"] = "uiautomator2"
caps["appium:appPackage"] = "com.google.android.calculator"
caps["appium:appActivity"] = "com.android.calculator2.Calculator"
```

Set Desired Capabilities

```
options = UiAutomator2Options()
options.load_capabilities(caps)
driver = webdriver.Remote("http://127.0.0.1:4723", options=options)
```

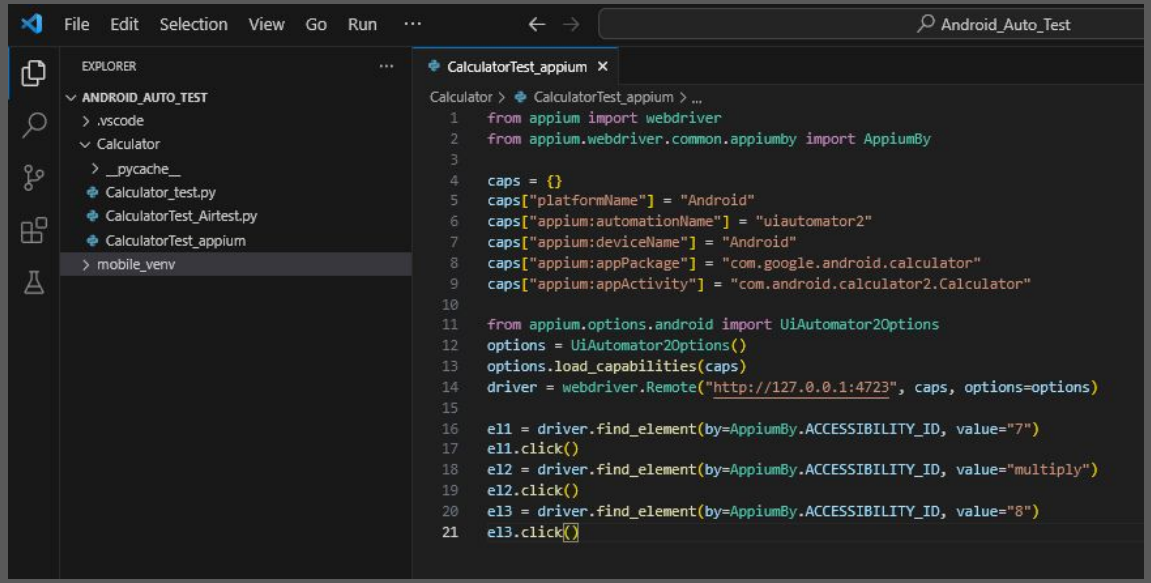
Inicializar options, drivers e capabilities

```
el1 = driver.find_element(by=AppiumBy.ACCESSIBILITY_ID, value="7")
el1.click()
el2 = driver.find_element(by=AppiumBy.ACCESSIBILITY_ID, value="multiply")
el2.click()
el3 = driver.find_element(by=AppiumBy.ACCESSIBILITY_ID, value="8")
el3.click()
```

Step by step

appium

Ferramentas
Automação de Testes Mobile



Rode o arquivo - python nome_do_seu_test.py

https://appium.io/docs/en/2.1/quickstart/test-py/

Executar nosso script Appium

- Primeiro crie uma classe python no VS Code;
- Baixe as dependências - pip install Appium-Python-Client;
- Copie o código gerado pelo Appium inspector.

Hands-on