======Appium setup on Mac - iOS - START========



Softwares:

HomeBrew

- a. Package manager for mac OS; used to install Software packages
- b. Go to: https://brew.sh/
- c. Hit this command in Terminal (This will download and install Command Line Tools for XCode first):
 - i. /bin/bash -c "\$(curl -fsSL





d. Hit these commands:

iii.

- i. echo 'eval "\$(/opt/homebrew/bin/brew shellenv)"' >> /Users/rajatverma/.zprofile
 ii. eval "\$(/opt/homebrew/bin/brew shellenv)"
- e. To verify that Brew is setup sucessfully
 - i. brew help

Node

- a. Command to install node (this will install npm as well)
 - i. brew install node
- b. If node is already installed in your machine and you want to upgrade the version
 - i. brew upgrade node
- c. To check the version of Node

i. node -v

d. To check the path of Node installation

i. where node

Appium CLI

a. To install Appium using NPM

i. npm install -g appium

b. To check the version of Appium

i. appium -v

c. To check the path of Appium installation

i. where appium

d. To start the Appium server (Default port: 4723)

i. appium

------Appium Desktop Client

a. Go to: https://appium.io/downloads.html

- b Download the DMC file and install it
- **b.** Download the DMG file and install it

c. NOTE:

i. If you are unable to install it -> throws Error like this:



ii. Then,

- 1. Go to System Preferences -> Security & Privacy -> Open Anyway
- 2. Right click on the Appium app -> Click on Open

	General FileVault Firewall Privacy
	A login password has been set for this user Change Password
	Require password 5 minutes 3 after sleep or screen saver begins
	Show a message when the screen is locked Set Lock Message
F	
F	Allow apps downloaded from:
¢.	Allow apps downloaded from:
F	Allow apps downloaded from: App Store • App Store and identified developers

Appium Inspector

a. In the latest version:

i.

They are not giving Appium Inspector included in this app

- 1. This inspector helps in identifying the UI elements for Native apps.
- ii. You need to download other application:
 - 1. https://github.com/appium/appium-inspector/releases
 - 2. Appium-Inspector-mac-2021.12.2.dmg

NOTE:

- 1. We have installed Appium CLI and Appium Desktop app
- 2. We can not run both on the same ports
 - a. To run Appium server on a different port: **appium -p 4725**

XCode

- a. Appium requires XCode to communicate with XCUITest framework
 - i. Before start installation,
 - 1. Make sure you have latest version OS

- a. Click on Safari icon (top-left corner) -> About This MAC -> Software Update
- 2. Configure Apple ID in Account preferences
 - a. System preferences -> Sign in with Apple ID
- b. To download Xcode:
 - i. App Store -> XCode

XCode Command Line Tool

a. Terminal ->

i. xcode-select --install

XCPretty

- a. Optional component
- b. It is used to make XCode output reasonable
- **c.** Terminal ->

i. gem install xcpretty

ii. If you face any issue -

1. sudo gem install xcpretty

Carthage

- a. Dependency Manager
- b. Required for WebDriverAgent
- **c.** Terminal ->

i. brew install carthage

Appium Doctor

a. To install Appium-Doctor:

i. Terminal ->

1. npm install -g appium-doctor

2. appium-doctor --h

Check Appium setup for iOS

a. Terminal ->

i.

i. appium-doctor --ios

b. Now, if you face any warning for XCode like below:

info	AnniumDoctor										
Inaiat	verma@raiats	Mac	Book-A	Air ~ % anni	um-docto	r i/	15				
info	AppiumDector	Ann	ium De	actor u 1 14	00000						
THE	Abbinnoccor	App	Lun De	betor v.1.10	0.0						
1010	AppiumDoctor	***	Diagr	nostic for r	recessary	deper	idenc	les st	arting	###	
info	AppiumDoctor	1	The No	ode.js binam	ry was fo	und at	t: /o	pt/hom	ebrew/	bin/n	ode
info	AppiumDoctor	1	Node v	version is 1	17.3.0						
WARN	AppiumDoctor		Error	running xc:	run simct	1					
info	AppiumDoctor	1	Kcode	Command Lin	ne Tools	are in	nstal	led in	: /Lib	rary/	Develop
er/Co	mmandLineToo	ls									
info	AppiumDoctor	1	DevTa	olsSecurity	is enabl	ed.					
info	AppiumDoctor	1	The Au	uthorization	DB is s	et up	prop	erly.			
info	AppiumDoctor	1	Cartha	age was four	nd at: /o	pt/hor	nebre	w/bin/	cartha	ae. I	nstalle
d was	nion int B 3							.,,		0	

- ii. Then, we need to change the XCode installation path
- iii. Recommended path: /Applications/Xcode.app/Contents/Developer

- c. <u>http://yangruixuan.github.io/blog/how-to-change-the-path-to-the-active-xcode-inst</u> <u>allation-for-your-machine/</u>
 - i. To know the XCode installation path -> xcode-select -p
 - ii. Change the path-> sudo xcode-select --switch
 /Applications/Xcode.app/Contents/Developer/

UIKitCatalog App for Simulator

- a. This app is open-source and very helpful if you want to practice automation for different views
- b. Developed by Apple and now, adopted by Appium to perform testing at their end
- c. Go to: https://github.com/appium/ios-uicatalog
- d. Download ZIP
- e. Go to the downloaded path
 - i. Open the terminal inside this location -> **UIKitCatalog**
 - ii. cd /Users/rajatverma/Desktop/Work/Other\ Apps/ios-uicatalog-master/UIKitCatalog
- f. We need to build this application
 - i. Terminal:
 - 1. npm install
 - ii. UIKitCatalog Inside this location, you must get an folder structure
 - iii. build/Release-iphonesimulator/UIKitCatalogiphonesimulator.app

1. UIKitCatalogiphonesimulator.app ->

a. This is the application which we can use for practice Automation

	ios-uicatalog-n	naster		
	···· ··· ··· ··· ··· ··· ··· ··· ··· ·	Q Search		
1	Name	Date Modified	Size	Ki
p	gulpfile.js	Apr 1, 2020 at 6:17 AM	211 bytes	Ja
**	index.js	Apr 1, 2020 at 6:17 AM	1 KB	Ja
15	LICENSE	Apr 1, 2020 at 6:17 AM	10 KB	Te
ations	mode_modules	Today at 5:23 PM		Fo
a	package-lock.json	Today at 5:25 PM	409 KB	JS
	🖬 package.json	Apr 1, 2020 at 6:17 AM	2 KB	JS
nents	E README.md	Apr 1, 2020 at 6:17 AM	3 KB	Μ
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rk	UIKitCatalog.swiftmodule	Today at 5:25 PM		Fo
	UlKitCatalog.build	Today at 5:25 PM		Fo

Create Driver Session

Simulator

- a. Open Xcode
- b. Click on Xcode (Top-Left corner) -> Developer Tools -> Simulator



c.

f.

- d. By default, it will open any device in Simulator
- e. If you want to change it, then, File -> Open Device -> Select the Device

	Open Simulator	> - iOS 15.2 >	iPhone 8			
	Save Screen #	s watchOS 8.3	iPhone 11			
	Record Screen #	R	iPhone 11 Pro			
we e e	Stop Recording		iPhone 11 Pro Max			
ing man	Save Complication Bundle		iPhone SE (2nd generation)			
github.	GPU Selection	>	iPhone 12 mini	THURSDAY		
ison.md		-	iPhone 12	6		
ps://ww	Close Window 34	W J	iPhone 12 Pro	-		
atures.	Please install it with 'npm		iPhone 12 Pro Max	No more		
WARN App	iumDoctor → set-simulator-		iPhone 13 Pro	events today		
WARN App	iumDoctor + Why idb is nee	\M/olc	iPhone 13 Pro Max			
/appium/	appium-idb	vveic	iPhone 13 mini	Calendar		
ppium.io	/docs/en/drivers/ios-xcuite		✓ iPhone 13		ecent Projects	
WARN App lication	<pre>iumDoctor → ios-deploy is s to real device. Please re</pre>		iPod touch (7th generation)			
to inst	all it	Create a nor	iPad Pro (9.7-inch)	Reminders News		
info App	iumDoctor ###	Create an app	iPad (9th generation)			
info App	iumDoctor jumDoctor Byel Run appiumed		iPad Air (4th generation)			
pplied!		Start working	iPad Pro (11-inch) (3rd generation)			
info App rajatver	iumDoctor ma@raiats-MacBook-Air ~ % []		iPad Pro (12.9-inch) (5th generation)	Wallet Settings		
		Open a proje	iPad mini (6th generation)			
		Show this window	when Xcode			

Appium Desktop and Appium Inspector

- a. We are going to use these 2 to establish the connection between application and device
- b. Start Appium server using Appium Server GUI
- c. Start Appium Inspector

Appium Inspector Edit

i. App path: /Users/rajatverma/Desktop/Work/Other\ Apps/ios-uicatalog-master/UIKitCatalog/build/Release-iphonesimulator/UIKi tCatalog-iphonesimulator.app
ew Window Help

Remote Host 127.0.0.1				Remote Port 4723		
Remote Path /wd/hub			SSL SSL			
> Advanced Settings						
Desired Capabilities Sa	aved Capability Sets 1 Attach	to Session				
platformName	text V	iOS	Ū	JSON Representation		
appium:deviceName	text \lor	iPhone	Ū			
appium:automationName	text V	XCUITest	Ū	{ "platformName": "iOS".		
appium:udid	text \vee	18FB4726-3A15-498D-8F	Ū	"appium:deviceName": "iPhone", "appium:automationName": "XCUITest".		
appium:app	text \vee	/Users/rajatverma/Desktop/	Ū	"appium:udid": "18FB4726-3A15-498D-8F7E-84965AB706EF", "appium:app": "/Users/rajatverma/Desktop/Work/OtherApps/ios-uicatalog-		
 Automatically add necessa 	ry Appium vendor prefixes on start		+	<pre>master/UIKitCatalog/build/Release-iphonesimulator/UIKitCatalog- iphonesimulator.app" }</pre>		

- d. To get the device name:
 - i. Simulator -> Settings -> General -> About -> Name
- e. To get the udid (Unique Identifier):
 - i. Terminal ->

1. List of simulators:

a. xcrun simctl list

b. xcrun xctrace list devices

ii. XCode:

- 1. Window -> Devices and Simulators ->
- 2. Select the device
- 3. 18FB4726-3A15-498D-8F7E-84965AB706EF



======Appium setup on Mac - Android - START=========

Appium Setup on MAC - Android

- ✓ Emulator
- Real Device

- Create Android Virtual Device
- Enable USB Debugging on Real Device
- ✓ Create new Driver Session
- 1.

Softwares

Installed previously (Above section)

a.

```
1. Install homebrew (package manager for macOS and is used to install software packages)
Link: https://brew.sh/
Command: /usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
2. Install node and npm (Appium dependencies)
Commands to check if node and npm are installed:
node -v
npm -v
Command to install node: brew install node (This will install
Command to check node installation path: where node
                                                            Important update:
3. Install Appium server using NPM (Appium CLI)
Command to install Appium: npm install ñg Appium
Command to check Appium version: appium -v
Command to check Appium installation path: where appium
0R
3. Install Appium server using Appium Desktop client
Download link: https://appium.io
```

Java JDK

a. Go to:

https://www.oracle.com/in/java/technologies/javase/javase8-archive-downloads.html

- b. Download and install
- c. Verify whether Java is setup or not? -> Terminal ->

i. java -version

Android Studio

- a. <u>https://developer.android.com/studio</u>
- b. Download and Install it
- c. Android Studio -> More Actions -> SDK Manager
 - i. Android SDK Location: /Users/rajatverma/Library/Android/sdk

Appeara	ance & Behavior > System Settings > Android Sl	рк		Reset
Manager	for the Android SDK and Tools used by the IDE			
Android	SDK Location: /Users/rajatverma/Library/Android/s	Edit	Optimize disk space	
SDK Pla	atforms SDK Tools SDK Update Sites			
Each Ai an API "show j	ndroid SDK Platform package includes the Android p evel by default. Once installed, the IDE will automatio backage details" to display individual SDK componen	latform and sources pertai cally check for updates. C ıts.	ining to heck	
N	ame		PI Le R	evision Status
	– Android API 32			
	✓ Android SDK Platform 32	32	2 1	Installed
	✓ Google APIs ARM 64 v8a System Image	32	2 2	Installed
	Google APIs Intel x86 Atom_64 System Image	e 32	2 2	Not installed
	🗌 Google Play ARM 64 v8a System Image	32	2 2	Not installed
	🗌 Google Play Intel x86 Atom_64 System Image	e 32	2 2	Not installed
	– Android 12.0 (S)			
Ŧ	Android SDK Platform 31	31		Not installed
Ŧ	Sources for Android 31	31		Not installed
	Android TV Intel x86 Atom System Image	31	3	Not installed
	ARM 64 v8a System Image	31	2	Not installed
	📃 Intel x86 Atom_64 System Image	31	2	Not installed
	Google TV Intel x86 Atom System Image	31	3	Not installed
	🗌 Google APIs ARM 64 v8a System Image	31	8	Not installed
	Google APIs Intel x86 Atom_64 System Image	e 31	8	Not installed
	📃 Google Play ARM 64 v8a System Image	31	8	Not installed
	📃 Google Play Intel x86 Atom_64 System Image	e <u>31</u>	8	Not installed
	🗌 Android 11.0 (R)			
	Android SDK Platform 30	30) 3	Not installed
	Sources for Android 30	30) 1	Not installed
		Hide Obsolete Package	s 🗸 Sł	now Package Details
		Cancel	Ар	ріу ОК

ii.

Android	d SDK Location: /Users/rajatverma/Library/Android/sdk		Edit Optimize disk spa
SDK I	Platforms SDK Tools SDK Update Sites		
Below for up	are the available SDK developer tools. Once installed, th dates. Check "show package details" to display availabl	ne IDE will automatically e versions of an SDK To	check ol.
	Name	Version	Status
*	 Android SDK Build-Tools 32 NDK (Side by side) Android SDK Command-line Tools (latest) CMake Android Auto API Simulators Android Auto Desktop Head Unit Emulator Android Emulator Android SDK Platform-Tools Google Play APK Expansion library Google Play Instant Development SDK Google Play Licensing Library Google Play services Google Web Driver Intel x86 Emulator Accelerator (HAXM installer) Layout Inspector image server for API 29-30 Layout Inspector image server for API S 	1 1.1 30.9.4 31.0.3 1 1.9.0 1 49 2 7.6.5 6 3	Installed Not Installed Not Installed Not Installed Not installed Installed Installed Not installed Not installed
	Layout Inspector image server for API S	3	Not installed
		Hide Obsolete Package	s 📃 Show Package Deta

- iv. Click on Apply
- d. To install Intel HAXM:
 - i. Terminal -> brew install intel-haxm
 - This is required only for Intel processor ii.
 - I have MacBook Air with M1 chip, so no need for this iii.

Set Environment Variables

- a. Terminal ->
 - i. Navigate to home directory: **cd** ~/
 - ii. Create zprofile file: **touch .zprofile**
 - iii. Open zprofile file: **open -e .zprofile**
 - 1. Add below entries:

a. export JAVA_HOME=\$(/usr/libexec/java_home)

Important note: If above path doesn't work, try /Library/Java/JavaVirtualMachines/your_jdk_version/Conte

nts/Home

Here, your_jdk_version can be jdk15.0.2.jdk for example.

b. export ANDROID_HOME=\${HOME}/Library/Android/sdk

c. export

PATH="\${JAVA_HOME}/bin:\${ANDROID_HOME}/tools:\${A NDROID_HOME}/platform-tools:\${PATH}"

- 2. Close this file to save
- iv. source .zprofile
- b. Verify setup using below commands
 - i. echo \$JAVA_HOME
 - ii. echo \$ANDROID_HOME
 - iii. echo \$PATH

Check Appium setup for Android

- a. Terminal ->
 - i. appium-doctor --android

Emulator setup: Create AVD and start it

- a. AVD Android Virtual Device
- b. Open Android Studio
 - i. More actions -> AVD Manager
 - 1. Category -> Phone
 - 2. Name -> Pixel 3 -> Next
 - 3. System Image -> Select Latest
- c. AVD name: Pixel 3
- d. Go to:

https://github.com/appium/appium/blob/master/sample-code/apps/ApiDemos-d ebug.apk

- e. Start Appium server
- f. Start Appium Inspector:

		Appium Server Select C	loud Providers							
		Remote Host 127.0.0.1				Demote Dest 4700				
						Remote Port 4/23				
		Remote Path /wd/hub				SSL				
		> Advanced Settings								
		Desired Capabilities Saved Capability Sets 2 Attach to Session								
		platformName text V android			Ð	ISON Representation				
		appium:deviceName text V Pixel 3			Ū	John Representation				
		appium:automationName	text \vee	UIAutomator2	Ū	{ "platformName": "android".		2		
		appium:udid text \lor emulator-5554			٥	"appium:deviceName": "Pixel 3", "appium:automationName": "UIAutomator2",				
		appium:app text V /Users/rajatverma/Desktop,			Ū	"appium:udid": "emulator-5554", "appium:app": "/Users/rajatverma/Desktop/W	ork/OtherApps/ApiDemos-debug	apk"		
		Automatically add necessary Applum vendor prefixes on start				}				
	i.	Posired Capabilities Docu	umentation				Save Save As Star	t Session		
σ	To get th	e udid (Unic	we Identifier)							
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h.										
======A	Appium	setup on I	Mac - Andro	bid - END=	==	======				
