**What is Appium?**

APPIUM is a freely distributed open source mobile application UI[Testing](https://www.guru99.com/software-testing.html)framework. Appium allows native, hybrid and web application testing and supports automation test on physical devices as well as an emulator or simulator both. It offers cross-platform application testing, i.e. single API works for both Android and iOS platform test scripts.

**How APPIUM Works?**

* Appium is an 'HTTP Server' written using[a Node.js](https://www.guru99.com/node-js-tutorial.html)platform and drives iOS and an Android session using Webdriver JSON wire protocol. Hence, before initializing the Appium Server, Node.js must be pre-installed on the system.
* When Appium is downloaded and installed, then a server is set up on our machine that exposes a REST API.
* It receives connection and command request from the client and executes that command on mobile devices (Android / iOS).
* It responds back with HTTP responses. Again, to execute this request, it uses the mobile test automation frameworks to drive the user interface of the apps. A framework like:-
  + Apple Instruments for iOS (Instruments are available only in Xcode 3.0 or later with OS X v10.5 and later)
  + Google UIAutomator for Android API level 16 or higher
  + Selendroid for Android API level 15 or less

**1) Explain what is Appium?**

Appium is a freely distributed open source mobile application UI[Testing](https://www.guru99.com/software-testing.html)framework.

**2) List out the Appium abilities?**

Appium abilities are

* Test Web
* Provides cross-platform for Native and Hybrid mobile automation
* Support JSON wire protocol
* It does not require recompilation of App
* Support automation test on physical device as well as similar or emulator both
* It has no dependency on mobile device

**3) List out the pre-requisite to use APPIUM?**

Pre-requisite to use APPIUM is

* ANDROID SDK
* JDK
* TestNG
* Eclipse
* Selenium Server JAR
* Webdriver Language Binding Library
* APPIUM for Windows
* APK App Info On Google Play
* js

**4) List out the limitations of using Appium?**

Appium does not support testing of Android Version lower than 4.2

* Limited support for hybrid app testing. E.g., not possible to test the switching action of application from the web app to native and vice-versa
* No support to run Appium Inspector on Microsoft Windows

**5) Explain how to find DOM element or xPath in a mobile application?**

To find the DOM element use "UIAutomateviewer" to find DOM element for Android application.

**6) Explain the design concept of Appium?**

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**7) What language does Appium support?**

Appium support any language that support HTTP request like Java,[JavaScript](https://www.guru99.com/interactive-javascript-tutorials.html)with Node.js, Python, Ruby, PHP, Perl, etc.

**8) Explain the pros and cons of Appium?**

**Pros**:

* For programmer irrespective of the platform, he is automating ( Android or iOS) all the complexities will remain under single Appium server
* It opens the door to cross-platform mobile testing which means the same test would work on multiple platforms
* Appium does not require extra components in your App to make it automation friendly
* It can automate Hybrid, Web and Native mobile applications

**Cons**:

* Running scripts on multiple iOS simulators at the same time is possible with Appium
* It uses UIAutomator for Android Automation which supports only Android SDK platform, API 16 or higher and to support the older API's they have used another open source library called Selendroid

**9) Explain what is APPIUM INSPECTOR?**

Similar to[Selenium](https://www.guru99.com/selenium-tutorial.html)IDE record and Playback tool, Appium has an "Inspector" to record and playback. It records and plays native application behavior by inspecting DOM and generates the test scripts in any desired language. However, Appium Inspector does not support Windows and use UIAutomator viewer in its option.