Tools and versions:

Idea version: 2019.1

Appium version: 1.13.0

1. Change settings to run web test on a certain iOS device in mobile cloud. Run test with your changes. Did test pass?

Yes, web test on iOS (iPhone 7) device runs successfully. Web test for Android (LG G6) device runs successfully.

2. Change settings to run native test on a certain/random Android device in mobile cloud. Add support of appPackage and appActivity parameters for Android devices (reading from a .properties file and then setting in the DesiredCapabilities). Locally installed Appium DT has no need in these parameters, but for Appium server of EPAM mobile cloud it’s mandatory.

3. Run test with your changes. Did test pass?

Yes, test passed successfully. I used Calculator application. Because Calculator is already installed on device. With already install application test passed successfully.

When I tried to install new application (e.g. ContactManager from in.smartappcart.contactmanager package) I get following error message Original error: Could not find package in.smartappcart.contactmanager on the device". I suppose that it’s related to Appium version. As I get the same error when I run native test for real device using Appium 1.14.0.   
And with Appium 1.13.0 native test on real device run successfully.

4. Try to use autoLaunch capability with app as before instead of appPackage and appActivity. Does this approach work?  
autoLaunch capability is set to true by default. It means that app will be launched under test automatically. If autoLaunch is set to false, method driver.launch() app should be called. Otherwise test will be failed as app is not opened.

6. Implement changes to avoid device disconnection and reboot on mobile web test completion.

@AfterSuite and @AfterGroups annotation can be used. driver.quit() should be called in methods with these annotations. I this case all tests from suite or group will be run and only after that driver be stopped.   
During test implementation I comment out driver.quit(). And emulator was switched on during my tests.

7. Implement changes that proof web site loading indeed.

e.g. page title, httpstatuscode can be checked.