Web Runtime Test Suite User Guide

Version 1.0

Contents

1 Introduction

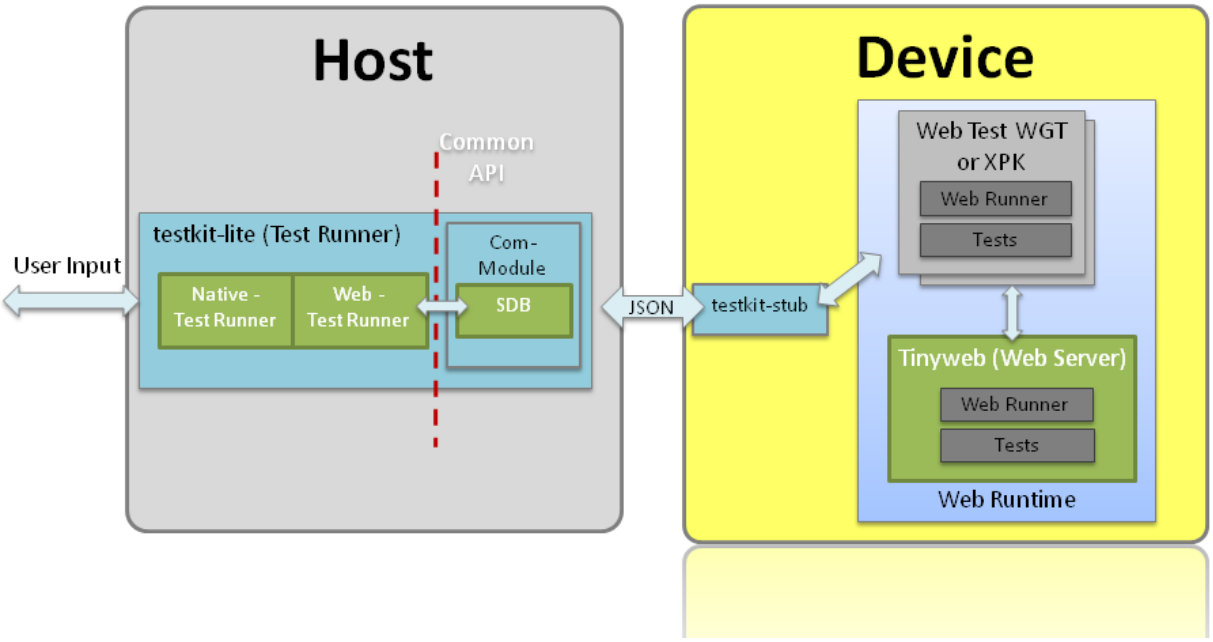
This document provides method to run WRT Test Suite on TIZEN and Android Crosswalk. You can use the following method to run it with testkit-lite. Testkit tool-chain includes 3 components:

- testkit-lite: a command-line interface application deployed on Host
- testkit-stub: a test stub application deployed on Device
- tinyweb: a web service application deployed on Device

2 Web Testing Architecture

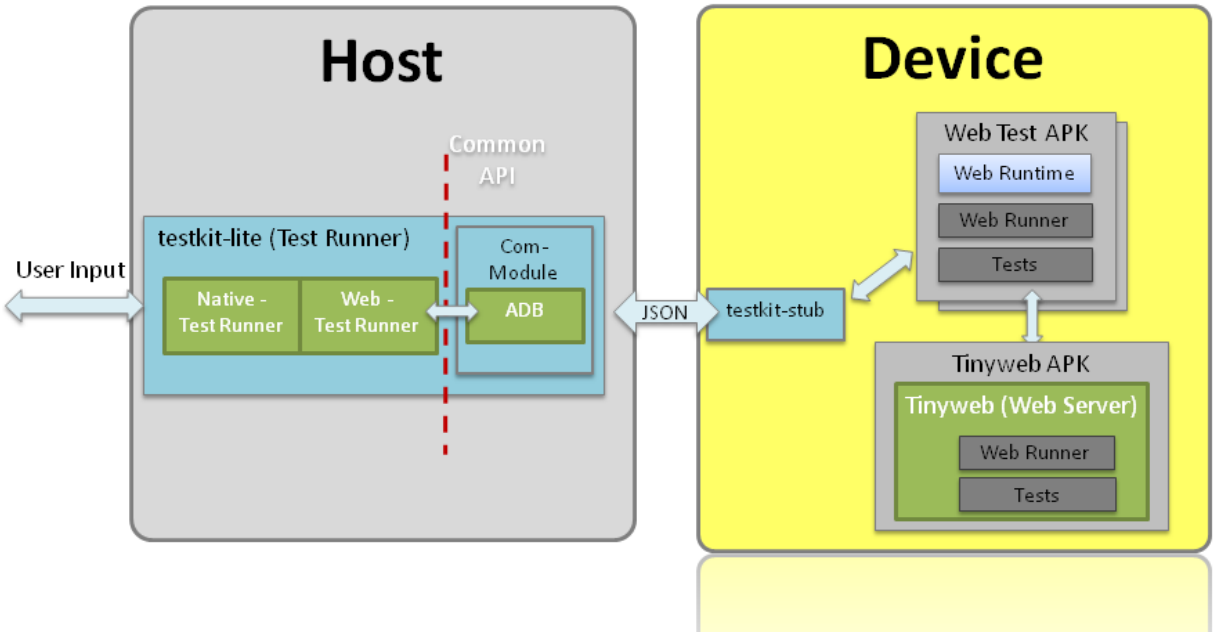
- Web Testing on Tizen

  - Architecture



- Web Testing on Android

- Architecture



There are two types of Webapi tests:

- Web service dependent

Client side is a stub test package which link to remote web runner, no local TCs and web runner, thus avoid cross origin issue.

Server side include tinyweb, webrunner and TCs.

- Web service independent

Self contained test package which include all things - web runner, TCs.

3 Install testkit-lite on Host

- Deploy testkit-lite
  - Install dependency *python-requests* (version>1.0)

```
$ sudo apt-get install python-pip
$ sudo pip install requests
```

  - Install testkit-lite from source code in GitHub

```
$ git clone git@github.com:testkit/testkit-lite.git
$ cd testkit-lite && sudo python setup.py install
```

4 WRT Test on Tizen Crosswalk

- Download sdb tool and deploy it to Host
  - Download link and manual link of sdb

    http://download.tizen.org/sdk/latest/tizen/binary/sdb_<version>_<host>.zip

    https://developer.tizen.org/dev-guide/2.2.1/org.tizen.gettingstarted/html/dev_env/smart_development_bridge.htm
  - Deploy sdb to Host

```
$ unzip sdb_<version>_<host>.zip
$ sudo cp data/tools/sdb /usr/bin/sdb
$ sudo chmod +x /usr/bin/sdb
```

- Preparation for Tizen device
  - Set Tizen device to root mode

```
$ sdb root on
```

  - Make a tct folder

```
$ sdb shell "mkdir  -p /opt/usr/media/tct/"
$ sdb shell "chmod  777 /opt/usr/media/tct/"
```

- Install crosswalk on Tizen device
  - Download crosswalk from here

    https://download.01.org/crosswalk/releases/crosswalk/tizen-ivi/canary/<version>/crosswalk-<version>.i686.rpm

    https://download.01.org/crosswalk/releases/tizen-extensions-crosswalk/tizen-ivi/canary/<version>/tizen-extensions-crosswalk-<version>.i686.rpm

- Deploy crosswalk to Tizen device

```
$ sdb push crosswalk-<version>.i686.rpm /opt/home/developer
$ sdb push tizen-extensions-crosswalk-<version>.i686.rpm /opt/home/developer
$ sdb shell "rpm -ivh /opt/home/developer/crosswalk-<version>.i686.rpm"
$ sdb shell "rpm -ivh /opt/home/developer/tizen-extensions-crosswalk-<version>.i686.rpm"
```

- Deploy testkit-stub and launch it
  - Make binary for testkit-stub from source code in GitHub

```
$ git clone git@github.com:testkit/testkit-stub.git
$ cd testkit-stub && make
```

Note: The generated testkit-stub type depends on your OS system type (32/64 bit).

  - Deploy binary to Tizen device

```
$ sdb push testkit-stub /opt/home/developer
$ sdb shell "chmod +x /opt/home/developer/testkit-stub"
```

  - Launch testkit-stub

```
$ sdb shell "/opt/home/developer/testkit-stub --port:8000"
```

- Deploy tinyweb and launch it
  - Make binaries for tinyweb from source code in Github

```
$ git clone git@github.com:testkit/tinyweb.git
$ cd tinyweb && make
```

Note: The generated tinyweb type depends on your OS system type (32/64 bit).

  - Deploy binaries to Tizen device

```
$ sdb push tinyweb /opt/home/developer/
$ sdb shell "chmod a+x /opt/home/developer/tinyweb"
$ sdb push cgi-getcookie /opt/home/developer/
$ sdb shell "chmod a+x /opt/home/developer/cgi-getcookie"
$ sdb push cgi-getfield /opt/home/developer/
```

```
$ sdb shell "chmod a+x /opt/home/developer/cgi-getfield"
$ sdb push server.pem /opt/home/developer/
$ sdb shell "chmod 666 /opt/home/developer/server.pem"
$ sdb shell "ln -s /usr/lib/libssl.so.1.0.0 /opt/home/developer/libssl.so"
$ sdb shell "ln -s /usr/lib/libcrypto.so.1.0.0 /opt/home/developer/libcrypto.so"
```

- Launch tinyweb

```
$ DPATH=`sdb shell "printenv PATH"`
$ timeout 5 sdb shell "env LD_LIBRARY_PATH=/opt/home/developer
PATH=$DPATH:/opt/home/developer tinyweb -ssl_certificate
/opt/home/developer/server.pem -document_root /opt/usr/media/tct/ -
listening_ports 80,8080,8081,8082,8083,8443s; sleep 3s"
```

- Pack test suite package

  Please see ***Web_Test_Suite_Packaging_Guide***, Chapter 3.3 "*Pack Web Test Suite Packages for Tizen IVI*", to choose suitable mode package for Tizen device.

- Install test suite on Tizen device

```
$ sdb push <test_suite_name>-<version>.xpk.zip /opt/usr/media/tct
$ sdb shell unzip -o /opt/usr/media/tct/<test_suite_name>-<version>.xpk.zip -d
/opt/usr/media/tct
$ sdb shell /opt/usr/media/tct/opt/<test_suite_name>/inst.sh
```

- Launch WRT test with lite

```
$ testkit-lite -f device:/opt/usr/media/tct/opt/<test_suite_name>/tests.xml
```

- Uninstall test suite

```
$ sdb shell /opt/usr/media/tct/opt/<test_suite_name>/inst.sh -u
```

5 WRT Test on Android Crosswalk

- Deploy Android ADT bundle (Android SDK, IDE included) and Android NDK

  -Deploy Android ADT bundle by referring to link below

  http://developer.android.com/sdk/installing/bundle.html

  -Deploy Android NDK by referring to link below

  http://developer.android.com/tools/sdk/ndk/index.html

- Deploy adb Tool to Host

  -Append Android SDK's tools and platform-tools directories to PATH environment

```
$ export PATH=${PATH}:/path/to/adt-bundle-<version>/sdk/tools: /path/to/adt-bundle-<version>/sdk/platform-tools
```

- Install crosswalk on Android device
  - Download crosswalk from here

    https://download.01.org/crosswalk/releases/crosswalk/android/canary/<version>/x86/crosswalk-apks-<version>-x86.zip
  - Deploy crosswalk to Android device

```
$ unzip crosswalk-apks-<version>-x86.zip -d /path/to/
$ adb install /path/to/crosswalk-apks-<version>-x86/XWalkRuntimeLib.apk
```

- Deploy testkit-stub and launch it
  - Make binary for testkit-stub from source code in GitHub

```
$ git clone git@github.com:testkit/testkit-stub.git
$ cd testkit-stub/android/jni/ && /path/to/android-ndk-<version>/ndk-build
```

  - Import project testkit-stub to Android developer Tool by location testkit-stub/android
  - Export the android project to APK and install APK to android device

```
$ adb install /path/to/TestkitStub.apk
```

  - Launch testkit-stub by clicking the testkit-stub App icon in launcher

- Deploy tinyweb and launch it
  - Make binaries for tinyweb from source code in GitHub

```
$ git clone git@github.com:testkit/tinyweb.git
$ cd tinyweb/android/native/jni/ && /path/to/ android-ndk-<version>/ndk-build
```

  - Copy tinyweb/android/native/libs/ to folder tinyweb/android/assets/system/libs/

    For example:

```
$ cp -r /path/to/tinyweb/android/native/libs/
/path/to/tinyweb/android/assets/system/libs/
```

  - Import project tinyweb to Android developer Tool by location tinyweb /android
  - Export the android project to APK and install APK to android device

```
$ adb install /path/to/TinywebTestService.apk
```

  - Launch tinyweb by clicking the tinyweb app icon in launcher

- Pack test suite package

  Please see ***Web_Test_Suite_Packaging_Guide***, Chapter 3.1 "*Pack Web Test Suite Packages for Android*".

  Note: For Android device, only embedded mode APK package is supported.

- Install test suite on Android device

```
$ unzip -o <test_suite_name>-<version>.apk.zip -d /path/to/
$ /path/to/opt/<test_suite_name>/inst.sh
```

- Launch WRT test with lite

```
$ testkit-lite -f /path/to/opt/<test_suite_name>/tests.xml --comm androidmobile
```

- Uninstall test suite

```
$ /path/to/opt/<test_suite_name>/inst.sh -u
```