TIZEN™

Tizen 2.3

TCT User Guide

Table of Contents

1. Environment setup

1.1. Symbols and abbreviations

TC	- Test Case
TCT	- Tizen Compliance Test
SDB	- Smart Development Bridge
<name>	- Mandatory argument
[name]	- Optional argument
$ (in shell command)	- Indicates the beginning of a command
\ (in shell command)	– In long commands, the backslash character ensures that newline character is ignored (if you join consecutive lines, please remove unnecessary backslashes)

1.2. Hardware Requirements

1. PC or Laptop that will work as host on which TCT-Manager will be installed
2. Tizen device that will work as target on which TCs will be executed
3. USB Cable for connecting device to host

1.3. Software Requirements

1. Install 32 or 64 bit Ubuntu OS with Linux 12.04 kernel on PC
2. Install JDK 1.6 or newer version on Linux PC.

2. Installing the TCT-Manager

To install the TCT-Manager on your PC:

1. These packages should be installed before running TCT-Manager
   $ sudo apt-get install rpm2cpio
   $ sudo apt-get install tree
   $ sudo apt-get install timeout
   $ sudo apt-get install python-pip
   $ sudo apt-get install python-support
   $ sudo apt-get install python-requests
   $ sudo apt-get install python-setuptools

2. libudev1 or libudev-dev package should be installed for SDB.

   First find the library 'libudev' installation location using command:

   - $ cd /lib/
   - $ find . –type f –name 'libudev*'

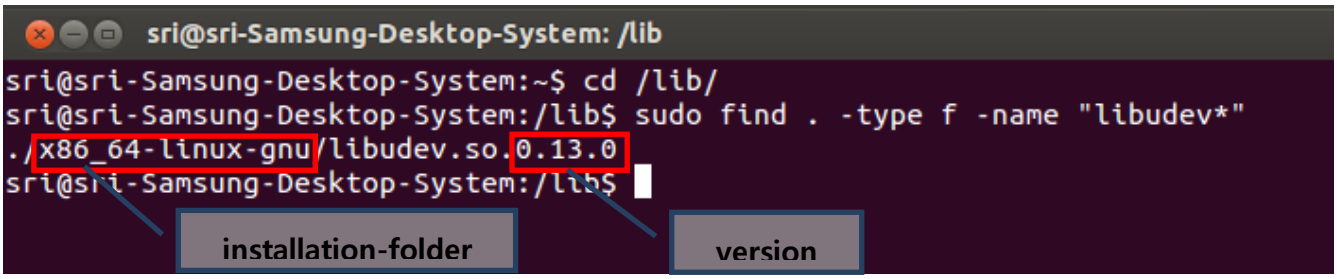


Figure 1: Getting location of libudev

If the package is not properly linked, use the following command:

- $ sudo ln –s /lib/[**installation-folder**]/libudev.so.[**version**] /lib/[**installation-folder**]/libudev.so.0

e.g. $ sudo ln –s /lib/i386-linux-gnu/libudev.so.0.13.0 /lib/i386-linux-gnu/libudev.so.0

3. Download the archive file of TCT-Manager (e.g. native-tct-v2.3.tar) from the TCT server

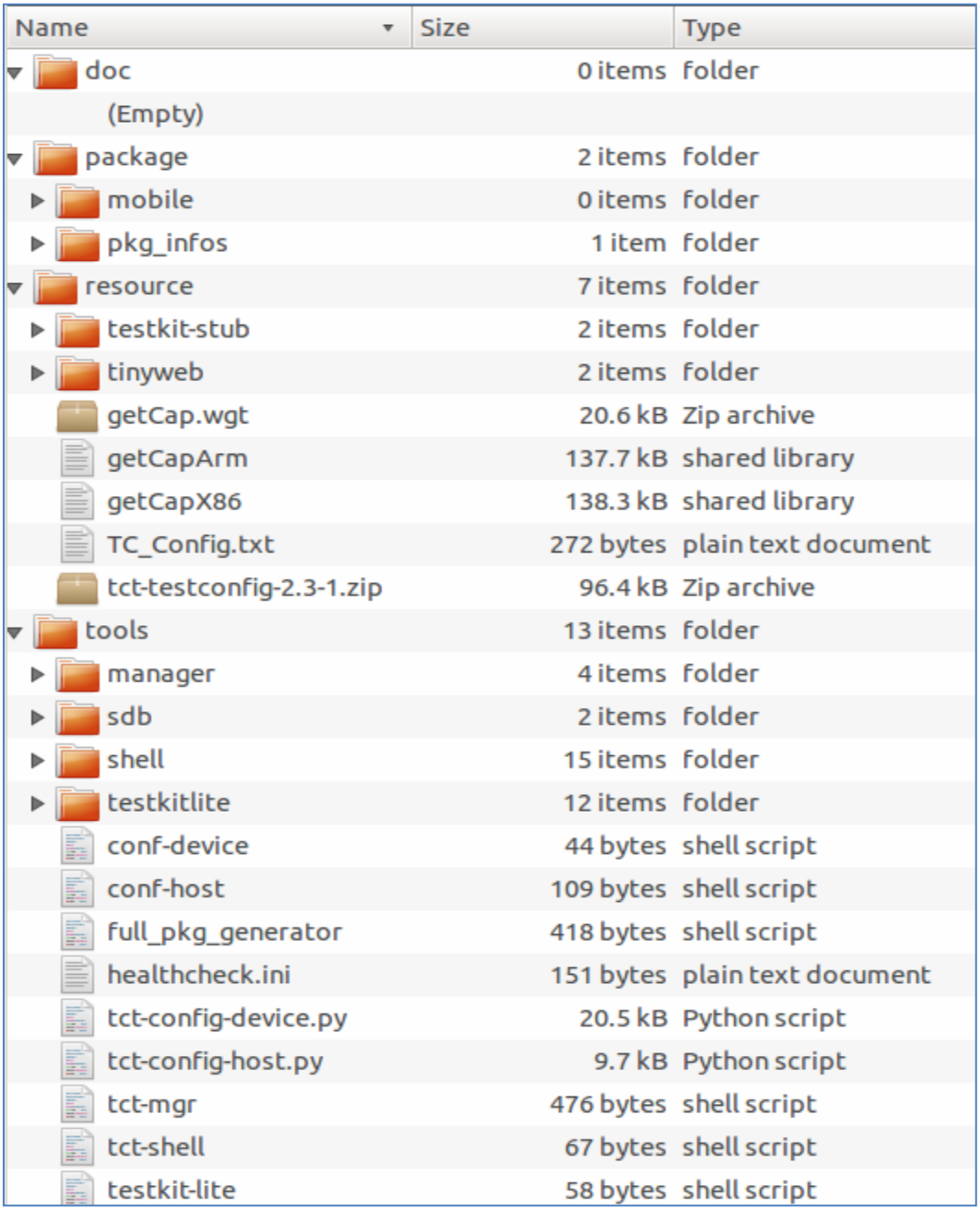
4. Extract the archive file to a local directory /home/[User_name]/native-tct-v2.3/

   ~$ tar –xvf native-tct-v2.3.tar

3. TCT-Manager Installation Process

3.1. Folder structure:

You will find the folder structure like below:



Name	Size	Type
doc	0 items	folder
(Empty)		
package	2 items	folder
mobile	0 items	folder
pkg_infos	1 item	folder
resource	7 items	folder
testkit-stub	2 items	folder
tinyweb	2 items	folder
getCap.wgt	20.6 kB	Zip archive
getCapArm	137.7 kB	shared library
getCapX86	138.3 kB	shared library
TC_Config.txt	272 bytes	plain text document
tct-testconfig-2.3-1.zip	96.4 kB	Zip archive
tools	13 items	folder
manager	4 items	folder
sdb	2 items	folder
shell	15 items	folder
testkitlite	12 items	folder
conf-device	44 bytes	shell script
conf-host	109 bytes	shell script
full_pkg_generator	418 bytes	shell script
healthcheck.ini	151 bytes	plain text document
tct-config-device.py	20.5 kB	Python script
tct-config-host.py	9.7 kB	Python script
tct-mgr	476 bytes	shell script
tct-shell	67 bytes	shell script
testkit-lite	58 bytes	shell script

Figure 2: TCT-Manager folder structure

The following table describes the folders contents.

Table 1: TCT-Manager folders

Folder	Description
package	All the packages to be tested in device
resource	Required resources for TCT manager
tools	Contains installation scripts for host and device

3.2. Tools Permission:

Execute the following command and give access permission to all contents inside tools.

- Extract a 'native-tct-v2.3.zip' file

  ~$ ***sudo unzip native-tct-v2.3.zip***

- Change mode of the native-tct-v2.3 directory

  ~$ ***sudo chmod 777 –R native-tct-v2.3***

- Move to the native-tct-v2.3/tools directory

  ~$ ***cd native-tct-v2.3/tools***

3.3. For Host Configuration:

1. Clean the environment if an older version of TCT-Manager exists in host

   ~ native-tct-v2.3/tools/$ ***sudo python tct-config-host.py --purge***

2. Set environment on your host

   ~ native-tc-vt2.3/tools/$ ***sudo python tct-config-host.py***

3.4. For Device Configuration:

1. Connect the target device to host (PC) through USB.

2. Clean the environment if an older version of TCT-Manager configuration file exists in target device

   ~native-tct-v2.3/tools/$ ***sudo python tct-config-device.py --purge***

3. Set environment on your target

   ~native-tct-v2.3/tools /$ ***python tct-config-device.py***

4. Run below commands to change permission of TCT-Manager

   ~native-tct-v2.3/tools/$ ***sudo chmod –R 777 /opt/tct/tizen_core_2.3***

   ~native-tct-v2.3/tools/$ ***sudo chmod 777 /usr/bin/tct-mgr***

Note:-

1. We recommend to use --purge option (like clean) for getting fresh execution environment

2. If you face any problems, you should do as root.

4. Source Build and Install

4.1. Download TCT Source

Download TCT source from git.

1. Make a directory to download the source.

   $ mkdir <folder_name>

2. Clones a repository into a newly created directory.

   $ cd <folder_name>

   $ git clone git://git.tizen.org/test/testsuite/tct/native/tct

   $ cd tct

   $ git checkout tizen_2.3

4.2. Build and Install packages

1. Update 'tct.conf' file with repository which you refer to.

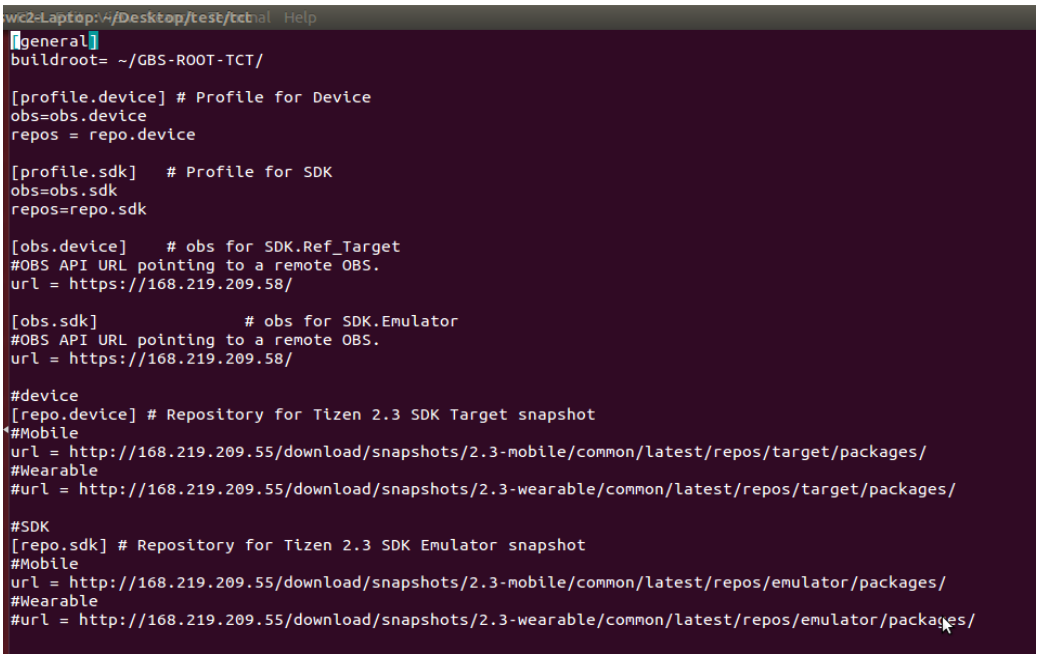


Figure 2. tct.conf file

2. Run init script

$ cd tct/scripts

$ ./init.sh

3. Build packages.

   If you want to build all packages for **device – tcbuild**, for **emulator - tcbuildsdk**

   $ cd tct

   $ sudo ./tcbuild build

   Or if you want to build for specific package,

   $ cd tct

   $ sudo ./tcbuild build <tc_type> <package-name>

   ex) $ sudo ./tcbuild build itc application

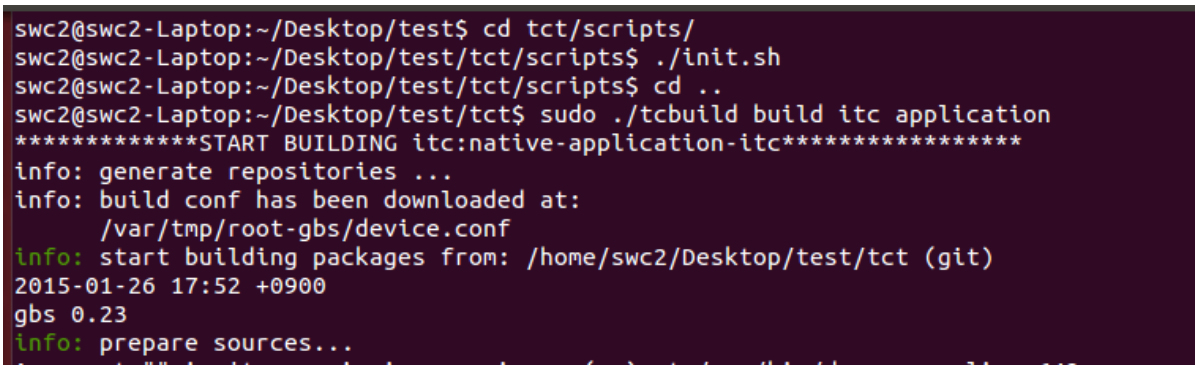


Figure 3. Build a package

4. After build success, install packages.

   If you want to install all packages for **device – tcbuild,** for **emulator - tcbuildsdk**

   $ cd tct

   $ sudo ./tcbuild install

   Or if you want to install for specific package,

   $ cd tct

   $ sudo ./tcbuild install <tc_type> <package-name>

   ex) $ sudo ./tcbuildsdk install itc application

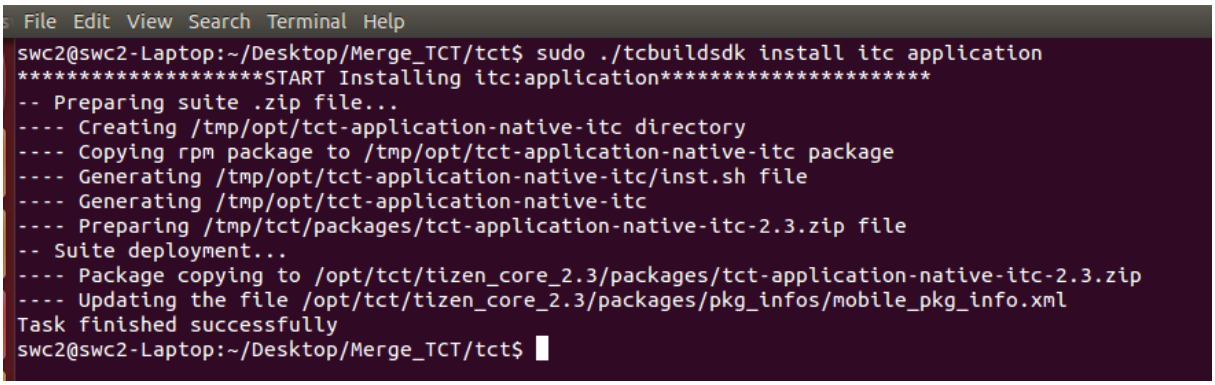


Figure 4. Install a package

5. Execute Test Suites

5.1. Run TCT-Manager:

Execute the following command:

- $ tct-mgr

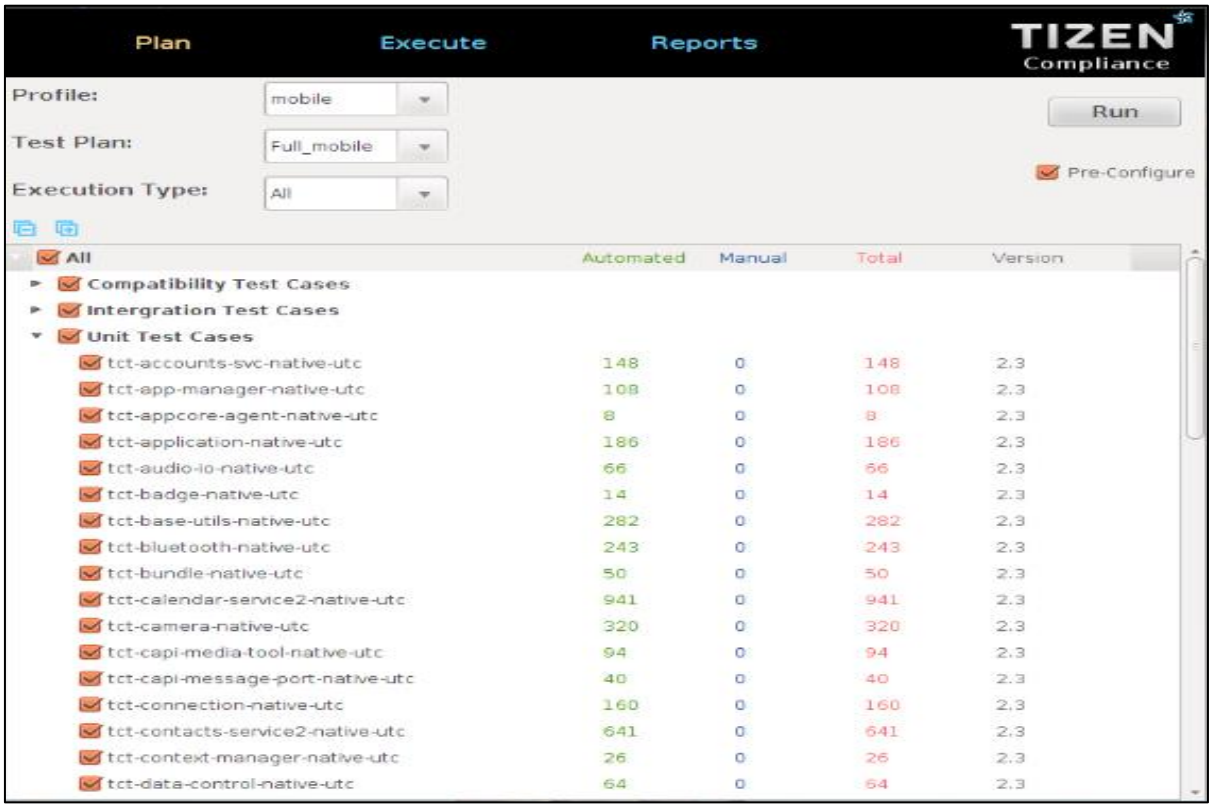


Figure 7: TCT-Manager UI

5.2. Choose Target:

Choose your target from **Settings > Choose Device:**

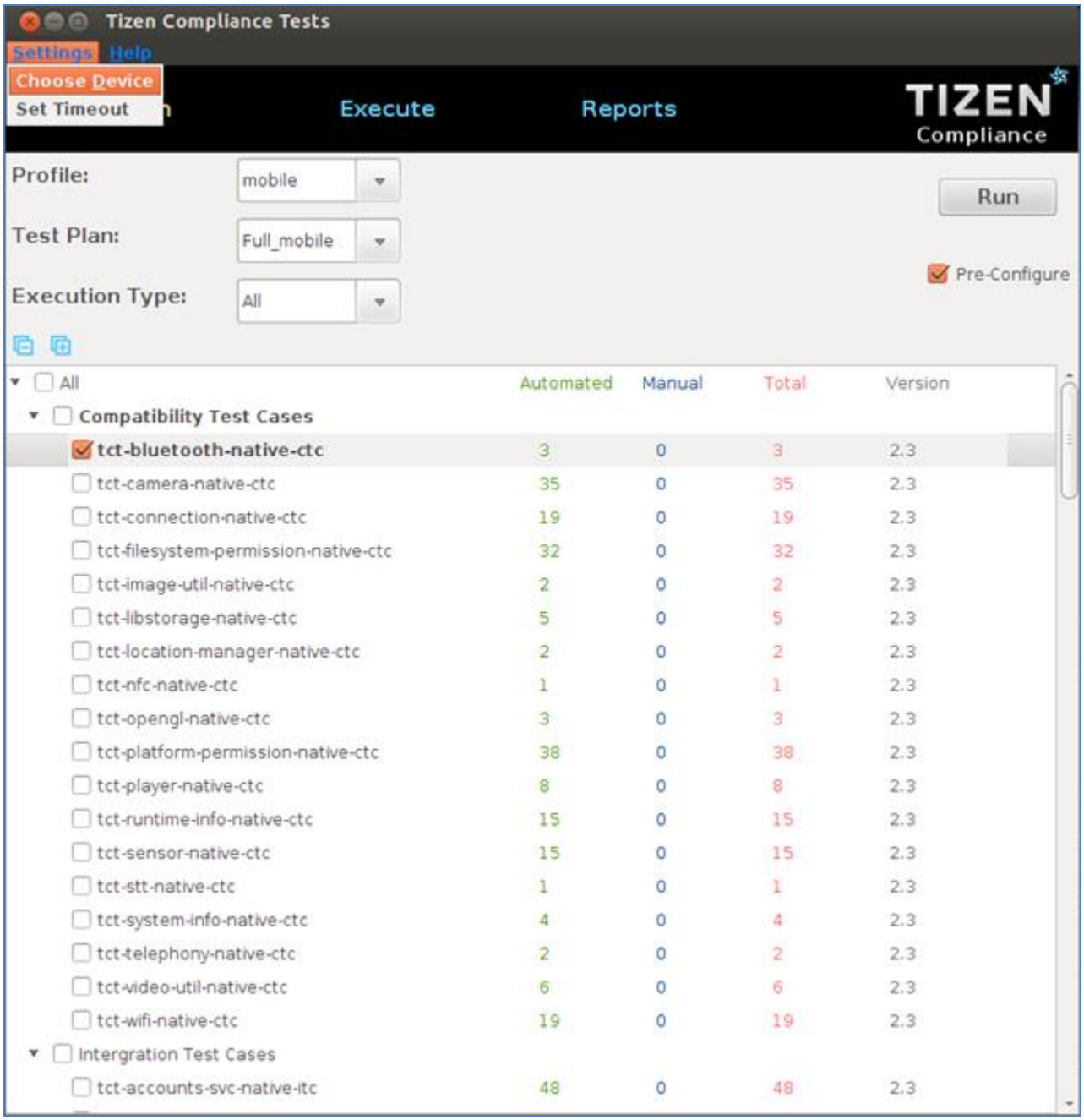


Figure 8: Choose device in TCT-Manager UI

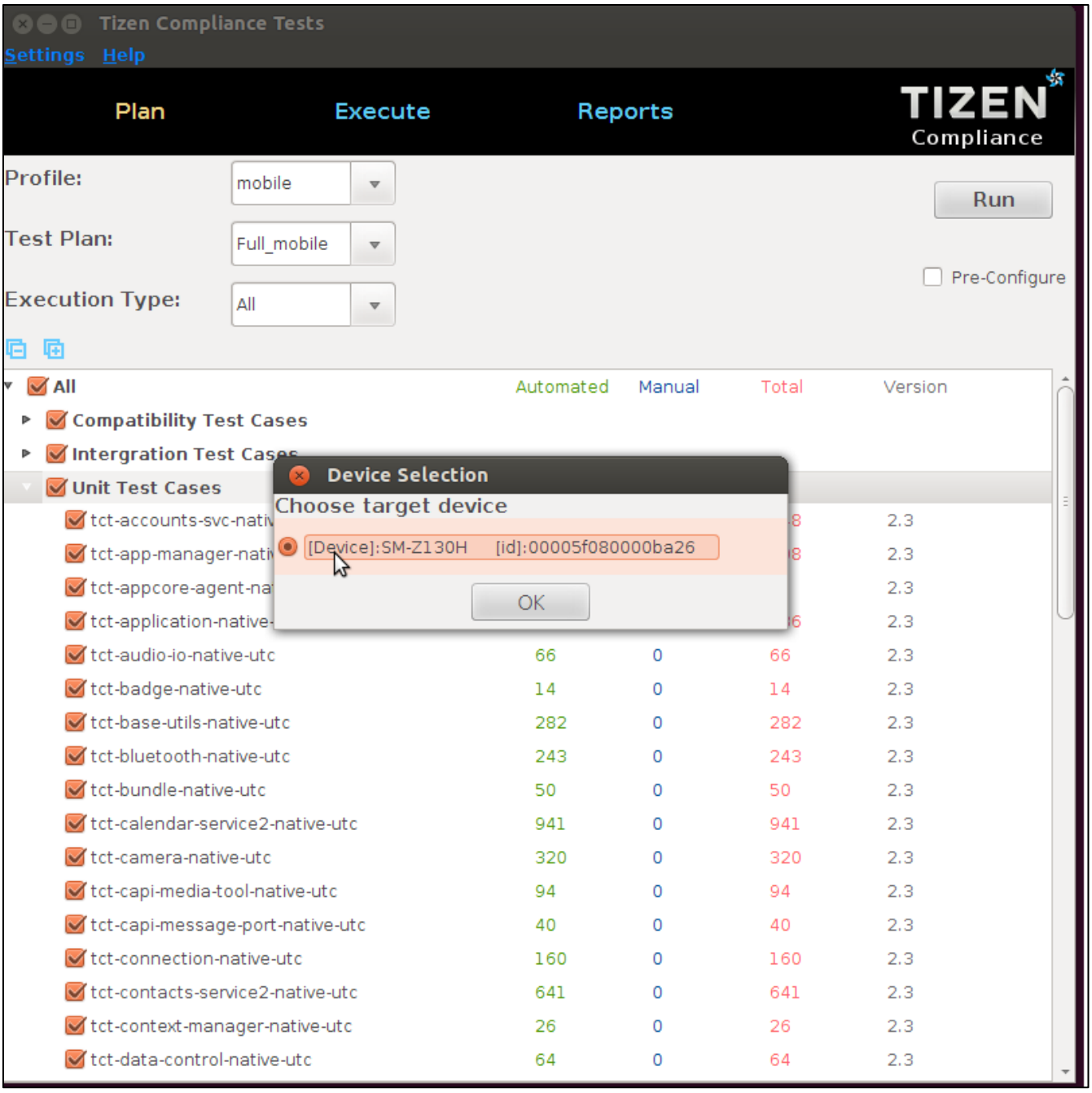


Figure 9: Device selection in TCT-Manager

5.3. Execution by Creating a New Plan:

1. Select suites by checking boxes from trees.
2. Choose profile 'mobile'.
3. Execution type to 'All'
4. Click button 'Run'.

5. If you need to set configurable parameters (e.g. Wi-Fi AP Name, Bluetooth MAC address etc.), then select a test suite which you want to execute, check 'Pre-configure' checkbox
6. press 'Run' button
7. Create a new test plan.

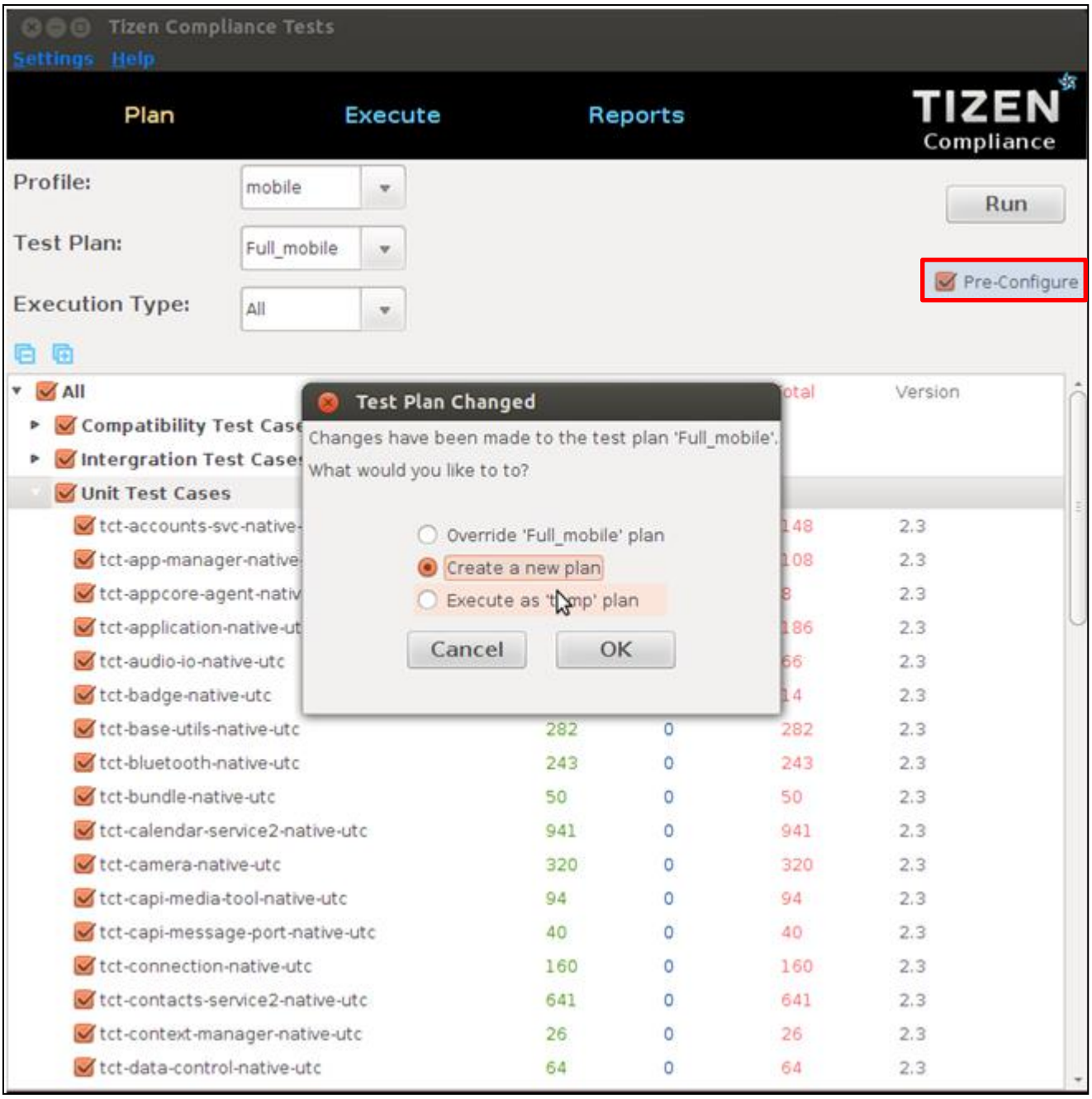


Figure 10: Creating a new plan in TCT-Manager

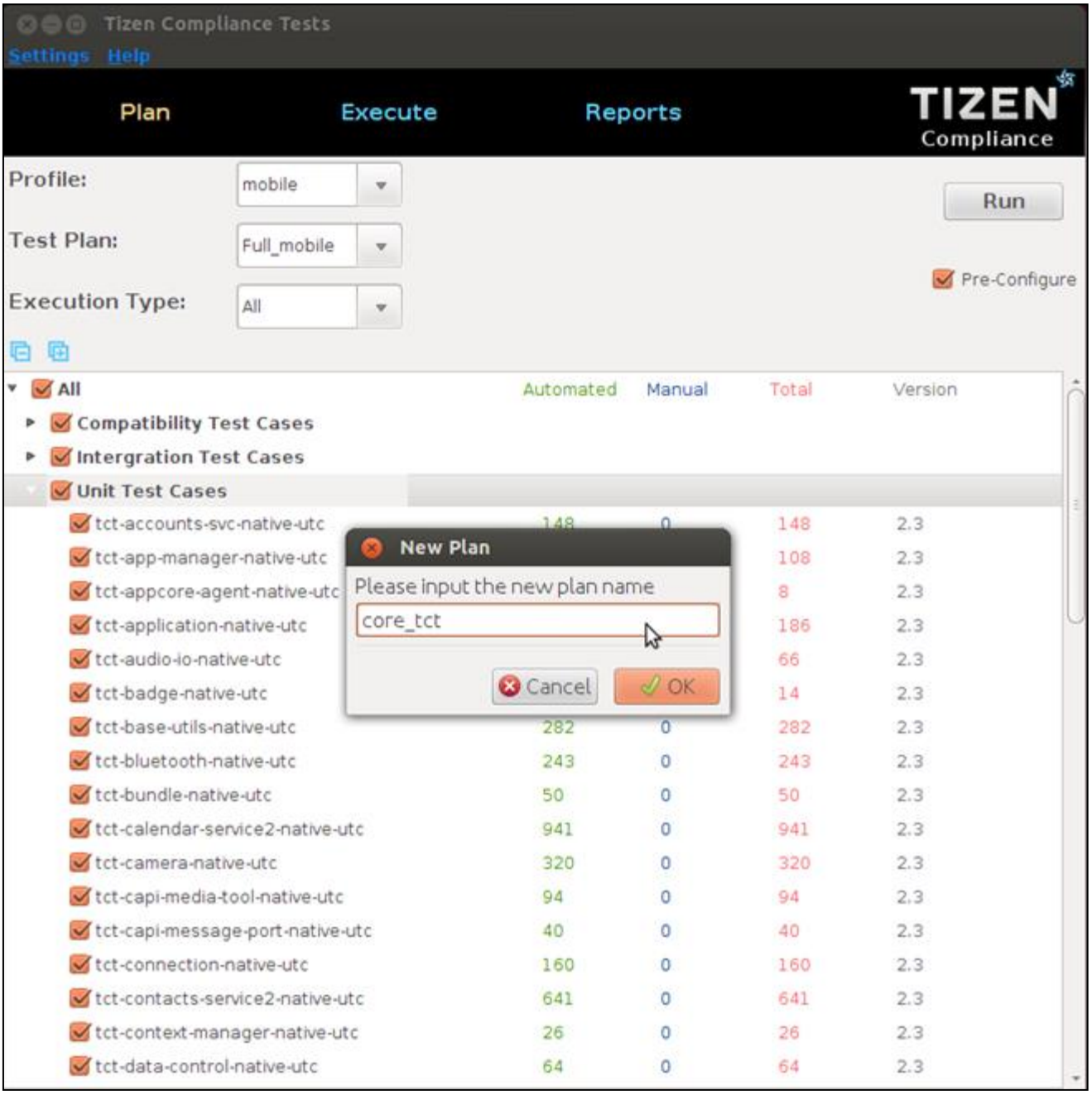


Figure 11: Input plan name in TCT-Manager

5.4. Performs a Health check:

As shown in Figure 12, health check routines will be invoked to check the status of the target before executing the selected test suites. After all health check routines pass, TCT-Manager runs selected test suites.

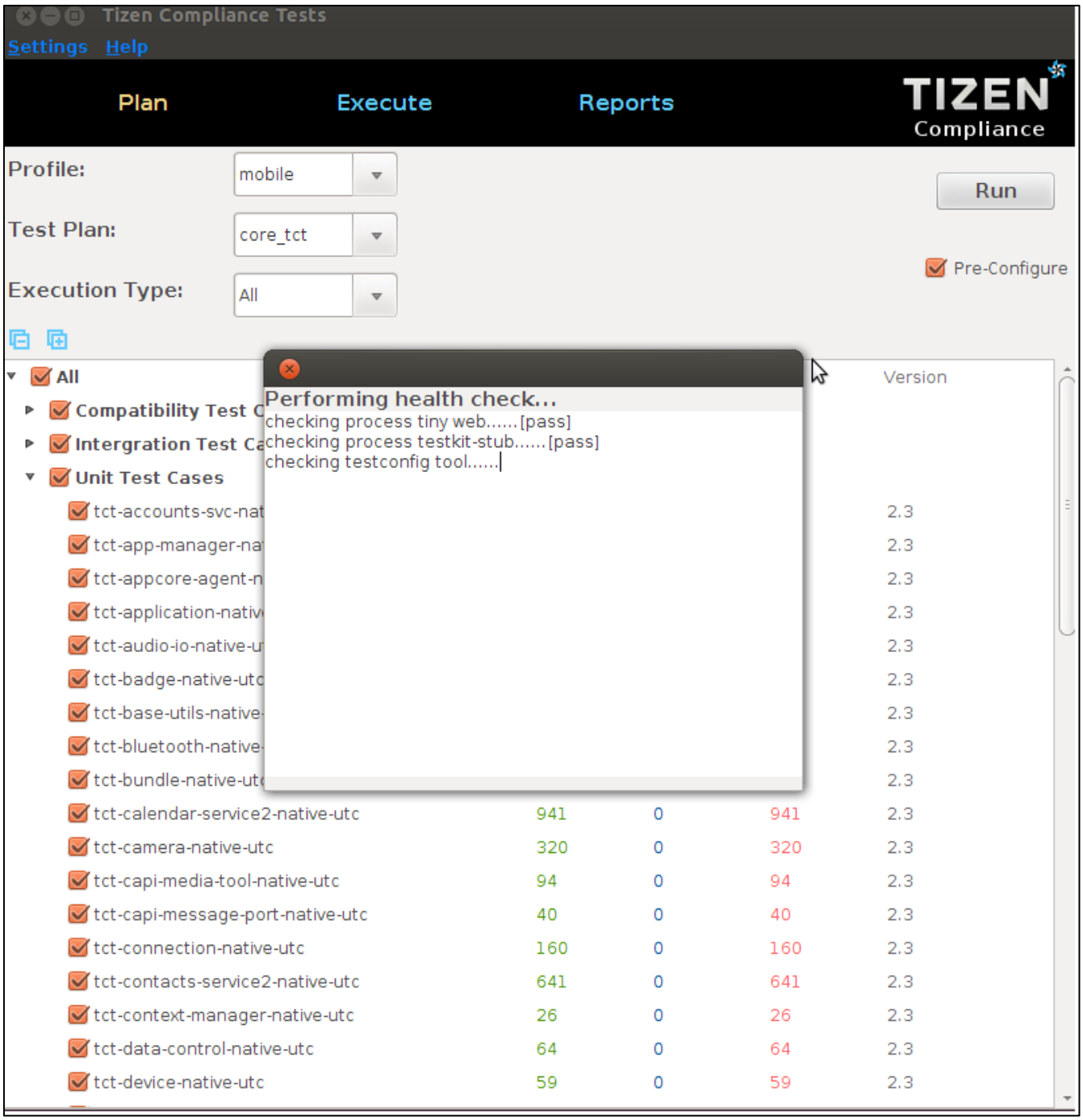


Figure 12: Health check monitoring after execution Run in TCT-Manager

5.5. Edit Pre-Configuration File:

If you had checked the 'Pre-Configure' checkbox then a dialog is displayed to show the configurable parameters as shown in Figure 13. Change the values of parameters as per the test environment and press 'Continue'. For e.g. value of EMAIL_RECIPIENT should be set as the email address of recipient to which email should be sent.

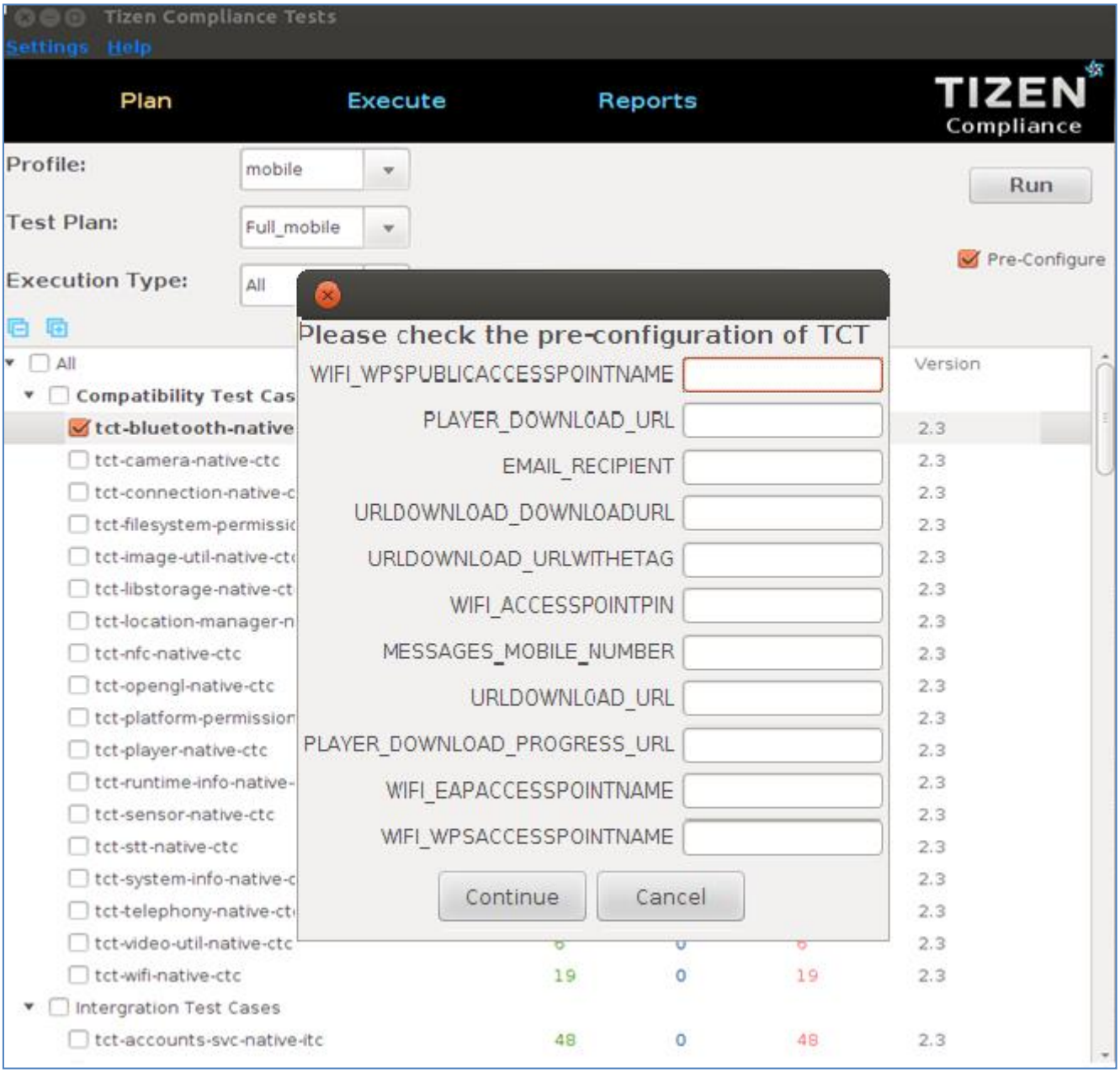


Figure 13: Edit Pre-Configuration file before execution.

Below is the pre-requisites list of individual modules suggesting the necessary changes in configuration values:-

UTC		
Packages	**Pre-requisites**	**DEVICE [How to find Information]**
bluetooth	If Supported, Bluetooth should be enabled.	*Down Notification bar > Enable Bluetooth
camera	If Supported, Camera should be working.	
contacts-service2	If Supported, SIM Card should be inserted.	*Insert SIM card. *SDN information should be written in SIM Card. (Only allow to write this information to tele-company)
email	Must be set an email account.	*Settings > Accounts > Email > Set created accounts **[Set the Pre-Configure dialog of TCT-Manager UI]** *EMAIL_RECIPIENT : Created email account
location-manager	If Supported, GPS should be enabled.	*Down Notification bar > Enable GPS
messages	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM Card **[Set the Pre-Configure dialog of TCT-Manager UI]** *MESSAGES_MOBILE_NUMBER ex) +821012345678
nfc	If Supported, NFC should be ON.	*Down Notification bar > Enable NFC
player	1. Ear-Jack should be connected. 2. Must be connected to internet using Wi-Fi or data network.	*Connect Ear-Jack *Down Notification bar > Enable Wi-Fi OR Down Notification bar > Enable Mobile Data **[Set the Pre-Configure dialog of TCT-Manager UI]** *PLAYER_DOWNLOAD_URL ex) http://www.archive.org/download/WaltzingMathilda-avi/WaltzingMathilda320X240_512kb.mp4 *PLAYER_DOWNLOAD_PROGRESS_URL ex) http://content.bitsontherun.com/videos/ntPYsD4L-1ahmry41.mp4
radio	If Supported, Ear-jack should be connected.	*Connect Ear-jack
telephony	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM card.
wifi	If Supported, Wi-Fi should be enabled.	*Down Notification bar > Enable Wi-Fi

ITC		
Packages	**Pre-requisites**	**DEVICE [How to find Information]**
bluetooth	If Supported, Bluetooth should be enabled.	*Down Notification bar > Enable Bluetooth
camera	If Supported, Camera should be available.	
connection	If Supported, Enable Wi-Fi If Supported, Enable Mobile Data Network	*Down Notification bar > Enable Wi-Fi. *Down Notification bar > Enable Mobile

		Data.
contacts-service2	1. If Supported, SIM Card should be inserted. 2. Create a contact in SIM	*Insert SIM card. *SDN information should be written in SIM Card. (Only allow to write this information to tele-company) * Contacts > Select Sim > Save Contact Information
email	Must be set an email account.	*Settings > Accounts > Email > Set created accounts **[Set the Pre-Configure dialog of TCT-Manager UI]** *EMAIL_RECIPIENT : Created email account
key-manager	Must be set the time as correct	*Once connect mobile data or wi-fi, it comes correct when 'auto udpate' set. Or Settings > Data and Time : Set by manual.
location-manager	If Supported, GPS should be enabled.	*Down Notification bar > Enable GPS
messages	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM Card **[Set the Pre-Configure dialog of TCT-Manager UI]** *MESSAGES_MOBILE_NUMBER ex) +821012345678
player	Must be connected to internet using Wi-Fi or data network.	*Down Notification bar > Enable Wi-Fi OR Down Notification bar > Enable Mobile Data **[Set the Pre-Configure dialog of TCT-Manager UI]** *PLAYER_DOWNLOAD_URL ex) http://www.archive.org/download/WaltzingMathilda-avi/WaltzingMathilda320X240_512kb.mp4 *PLAYER_DOWNLOAD_PROGRESS_URL ex) http://content.bitsontherun.com/videos/ntPYsD4L-1ahmry41.mp4
radio	If Supported, Ear-jack should be connected.	*Connect Ear-jack
runtime-info	1. Connect Ear-Jack 2. Enablle silent mode 3. Enable auto-rotate	*Connect Ear-jack *Down Notification bar > Enable Mute Mode *Down Notification bar > Enable Auto rotate
sound-manager	Connect Ear Jack	*Connect Ear-jack
system-settings	1. Enable USB Debugging 2. Enable Key Motion 3. Enable silent mode 4. SET 24 hours time format 5. Mobile Data Network should be enabled.	*Settings > Developer Options > Enable USB Debugging *Down Notification bar > Enable Mute Mode *Settings > Date and Time > Enable 24-hour clock *Down Notification bar > Enable Mobile Data

telephony	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM card. ※ SPN infomration should be written in SIM Card. (Only allow to write this information to tele-company)
url-download	Must be connected to Internet using Wi-Fi or data network.	*Down Notification bar > Enable Wi-Fi OR Down Notification bar > Enable Mobile Data **[Set the Pre-Configure dialog of TCT-Manager UI]** *URLDOWNLOAD_URL ex) https://download.tizen.org/misc/Tizen-Brand/01-Primary-Assets/Logo/On-Light/01-RGB/Tizen-Logo-On-Light-RGB.png *URLDOWNLOAD_DOWNLOADURL ex) https://cdn.download.tizen.org/sdk/sdk-images/2.0/tizen-sdk-image-2.0.0-ubuntu32.zip *URLDOWNLOAD_URLWITHETAG ex) http://www.w3.org/Protocols/rfc2616/rfc2616-sec14.html
wifi	If Supported, Wi-Fi should be enabled.	*Down Notification bar > Enable Wi-Fi **[Set the Pre-Configure dialog of TCT-Manager UI]** *Wi-Fi_WPSPUBLICACCESSPOINTNAME : (Router should be in WPS mode & public (i.e. without password)) *Wi-Fi_WPSACCESSPOINTNAME (Wi-Fi router's name) *Wi-Fi_ACCESSPOINTPIN (Wi-Fi router`s password) *Wi-Fi_EAPACCESSPOINTNAME (Should be enterprise access point mode and public. This Wi-Fi router should be different from above WPS enabled public Wi-Fi router.)>

CTC		
Packages	**Pre-requisites**	**DEVICE [How to find Information]**
bluetooth	If Supported, Bluetooth should be enabled.	*Down Notification bar > Enable Bluetooth
filesystem-permission	If Supported, SD card should be inserted.	*Insert SD card.
libstorage	If Supported, SD card should be inserted.	*Insert SD card.
messages	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM Card *SDN & SPN information should be written in SIM Card. (Only allow to write this information to tele-company) **[Set the Pre-Configure dialog of TCT-Manager UI]** *MESSAGES_MOBILE_NUMBER ex) +821012345678
platform-	If Supported, Bluetooth should be enabled.	*Down Notification bar > Enable Bluetooth

permission		
player	Ear-phone should be connected.	*Connect Ear-jack
telephony	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM card.

5.6. Execution Progress:

When executing the test, this screen will be shown as in Figure 14.

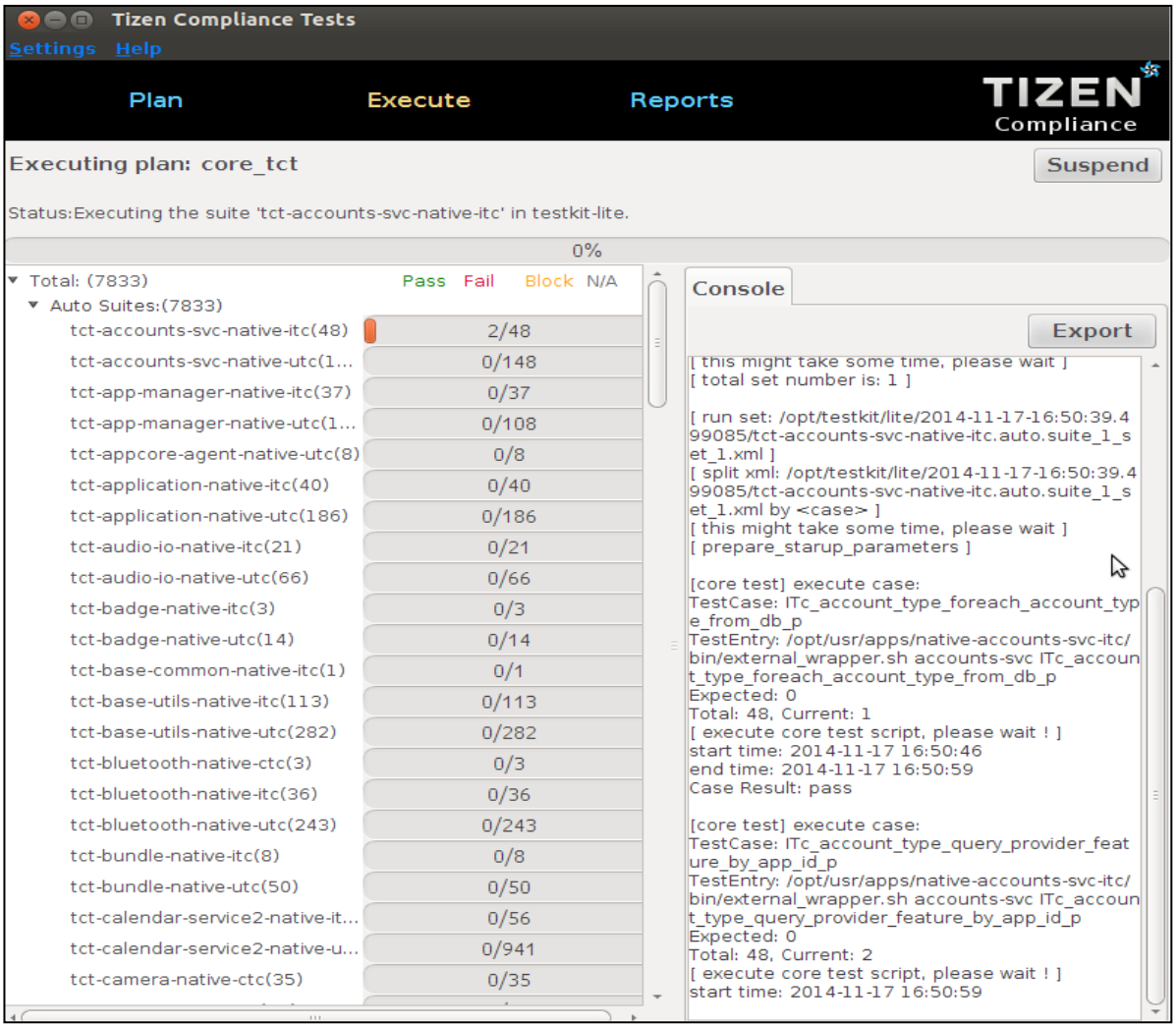


Figure 14: Execution progress while Running Test Suite in TCT-Manager

5.7. Execution Report:

After executing all the test suites, Reports tab will show a results list as in Figure 15.

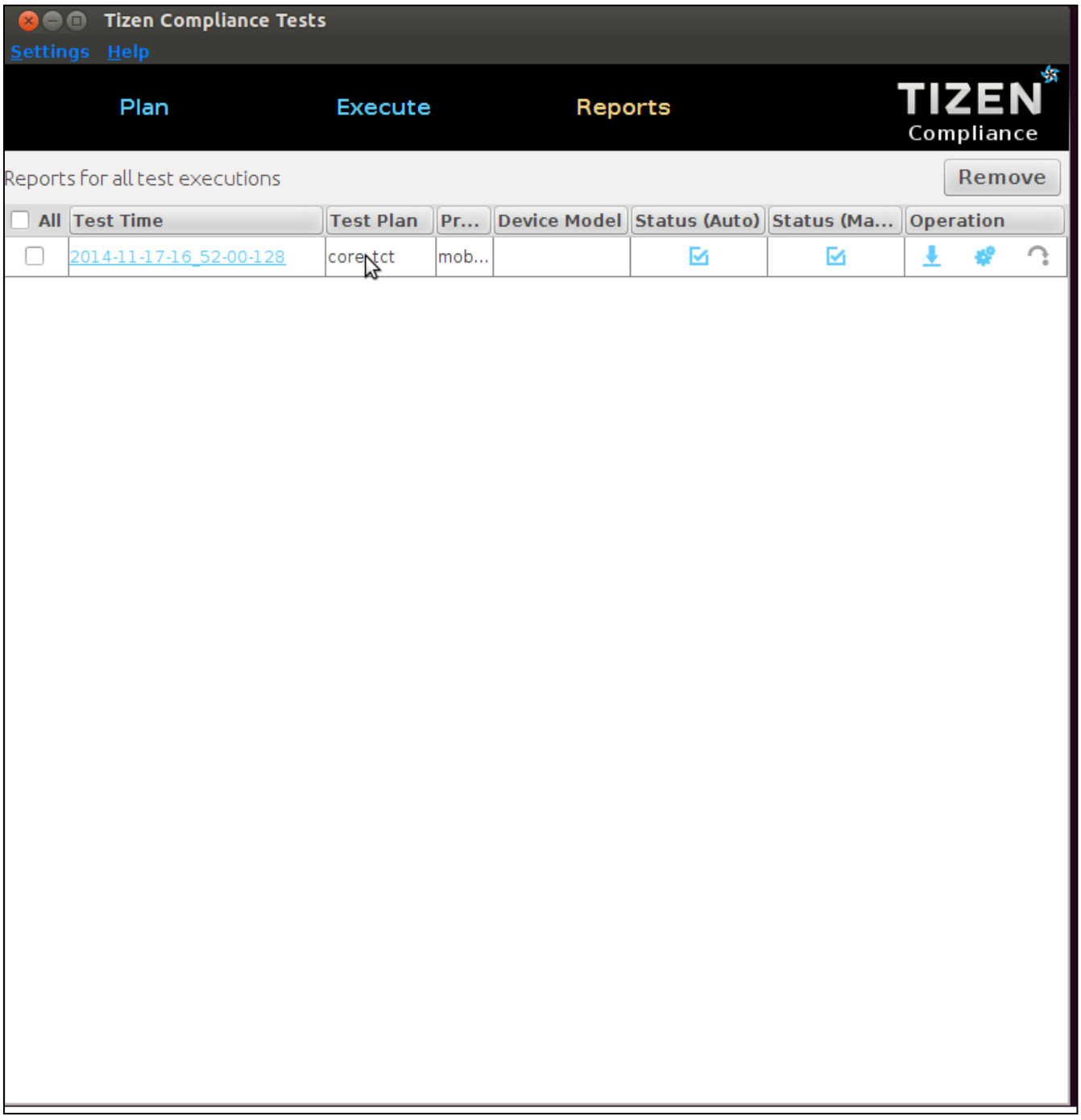


Figure 15: Execution report after completing execution in TCT-Manager

5.8. Download Result:

You can download the result file by clicking red marked button showed in Figure 16.

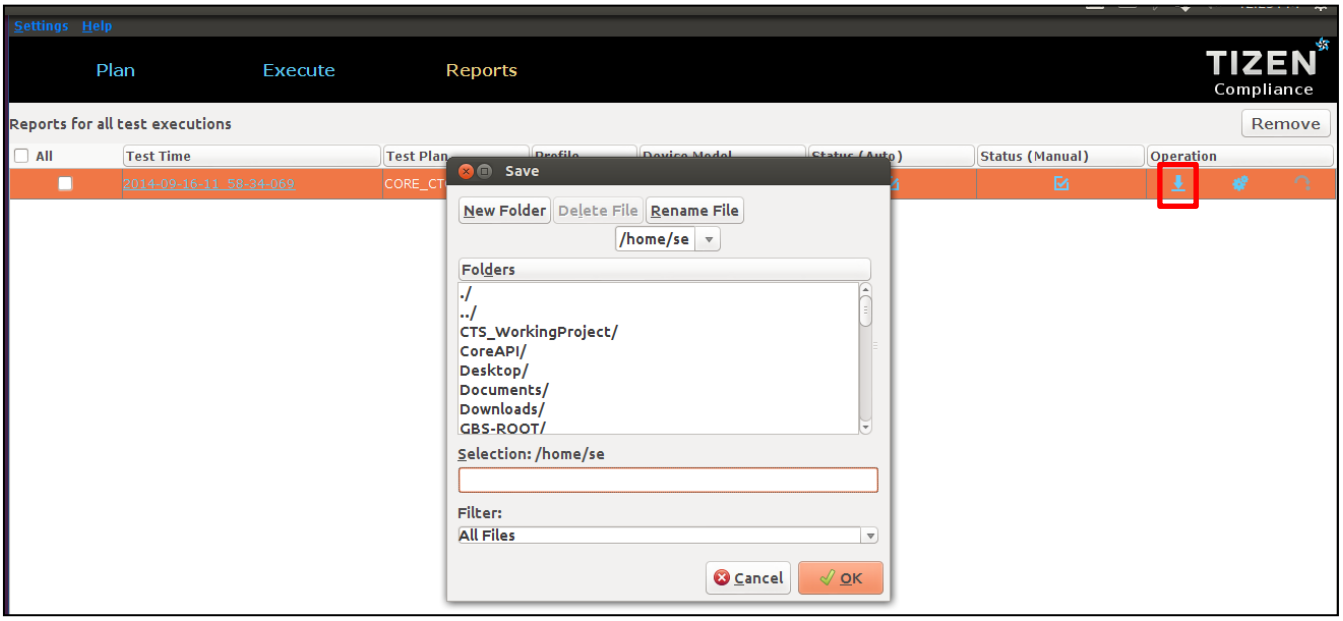


Figure 16: Download the Execution report in TCT-Manager

5.9. View Result Summary:

Click the red marked link to view result summary in browser as shown in Figure 17.

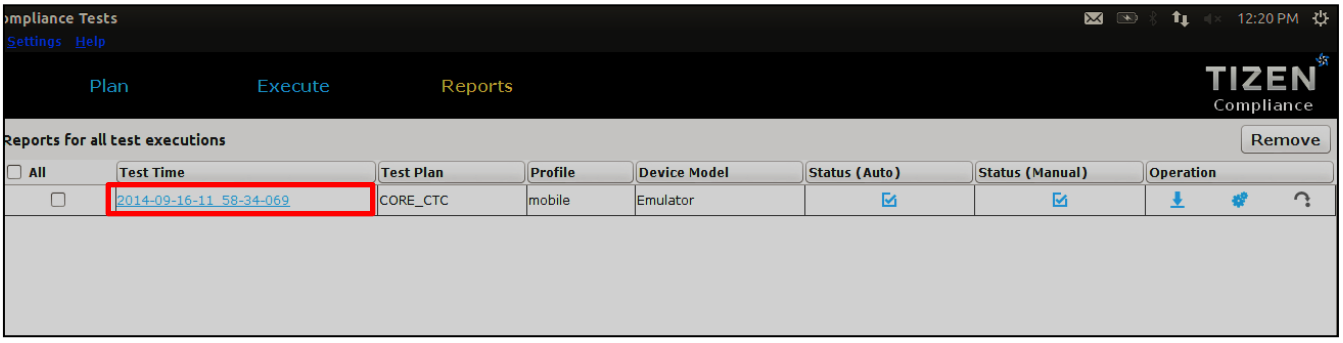
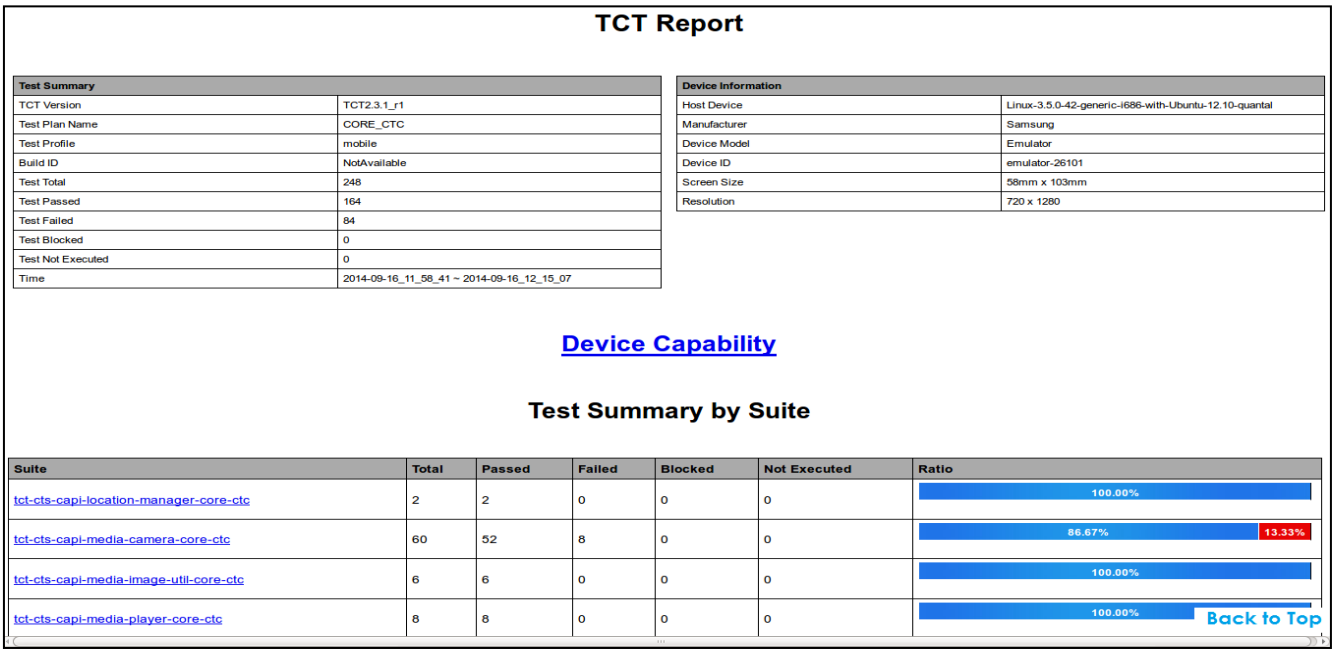


Figure 17: View the Execution report in TCT-Manager

TCT-manager provides detailed information about test results. TCT Report (Figure-18)

shows

how many test suites were executed, how many test cases were checked, how many test cases passed or failed, etc.



TCT Report

Test Summary	
TCT Version	TCT2.3.1_r1
Test Plan Name	CORE_CTC
Test Profile	mobile
Build ID	NotAvailable
Test Total	248
Test Passed	164
Test Failed	84
Test Blocked	0
Test Not Executed	0
Time	2014-09-16_11_58_41 ~ 2014-09-16_12_15_07

Device Information	
Host Device	Linux-3.5.0-42-generic-i686-with-Ubuntu-12.10-quantal
Manufacturer	Samsung
Device Model	Emulator
Device ID	emulator-26101
Screen Size	58mm x 103mm
Resolution	720 x 1280

Device Capability

Test Summary by Suite

Suite	Total	Passed	Failed	Blocked	Not Executed	Ratio
tct-cts-capi-location-manager-core-ctc	2	2	0	0	0	100.00%
tct-cts-capi-media-camera-core-ctc	60	52	8	0	0	86.67% / 13.33%
tct-cts-capi-media-image-util-core-ctc	6	6	0	0	0	100.00%
tct-cts-capi-media-player-core-ctc	8	8	0	0	0	100.00%

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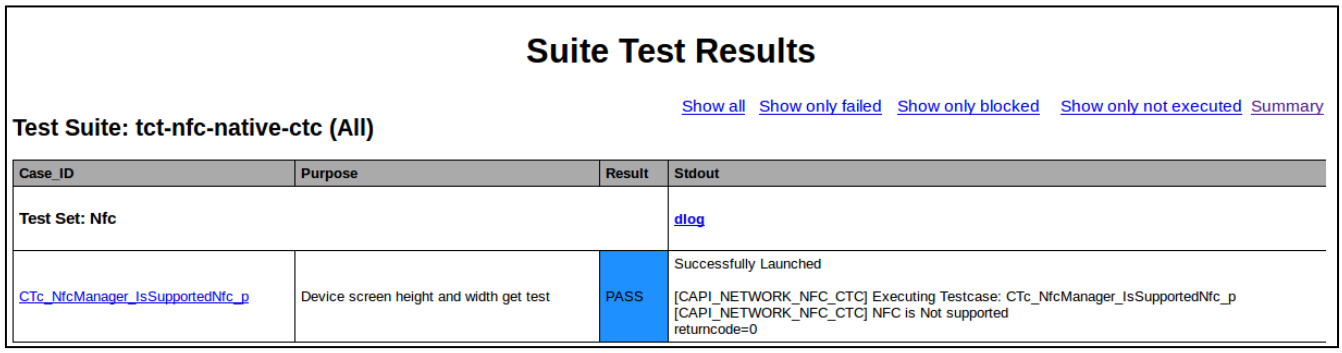
Figure 18: View the Execution report summary in TCT-Manager

5.10.View Result Details:

By clicking the name of each test suite, you can check the name, purpose, result and error log of each test case (Figure 19).



Suite Test Results

Show all Show only failed Show only blocked Show only not executed Summary

Test Suite: tct-nfc-native-ctc (All)

Case_ID	Purpose	Result	Stdout
Test Set: Nfc			dlog
CTc_NfcManager_IsSupportedNfc_p	Device screen height and width get test	PASS	Successfully Launched [CAPI_NETWORK_NFC_CTC] Executing Testcase: CTc_NfcManager_IsSupportedNfc_p [CAPI_NETWORK_NFC_CTC] NFC is Not supported returncode=0

Figure 19: View the Execution Report Details in TCT-Manager

5.11.Execution Log Export:

Export execution log by clicking export button marked red in Figure-20.

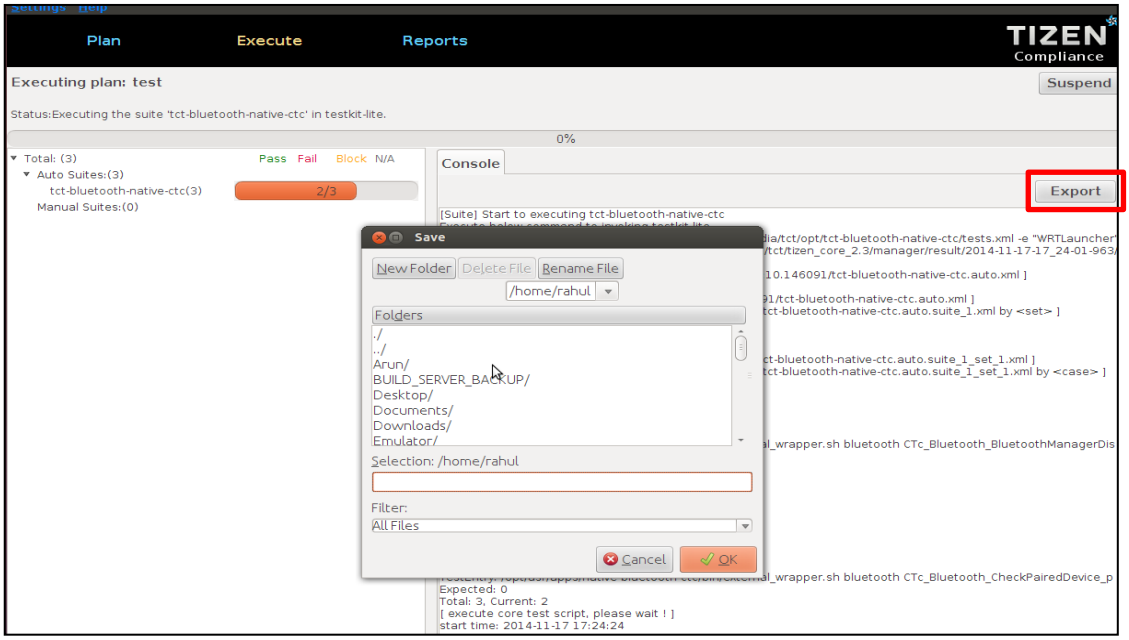


Figure 20: Exporting Log of Execution Report from TCT-Manager

5.12.Stop Execution:

While executing test suites if executions need to be stopped, click the window close button which will prompt like below (Figure 21).

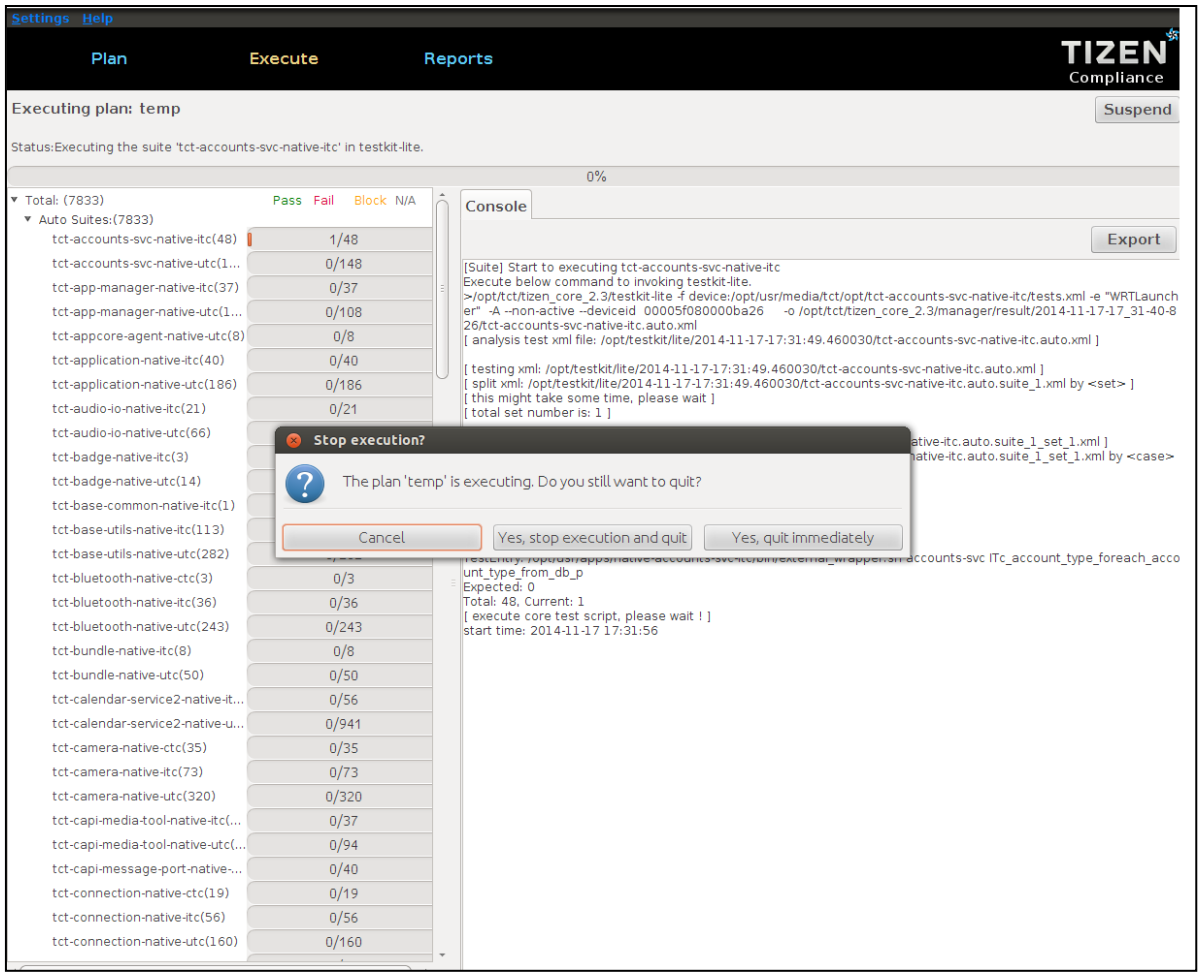


Figure 21: Stop the test-suite execution while execution is running in TCT-Manager

5.13.Rerun Failed Test Cases:

If you want to re-run for failed test cases, click rerun button (Figure 22).

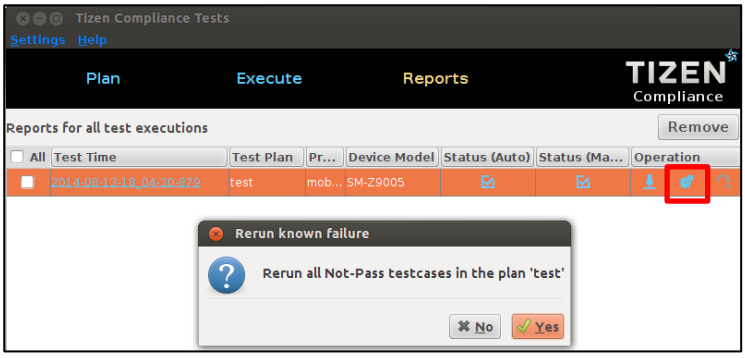


Figure 22: Rerun Failed TCs

6. Appendix

- Certain ports should be opened if company firewall is applied to Wi-Fi being used. These ports are needed to create email account, download file and sppc module for sending and receiving push notifications.

  5223, 110, 143, 465, 587, 993, 995, 8000, 8081, 8088, 8080, 80, 443