Native TCT 2.4

UTC_ITC_CTC User Guide

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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.

2. Install JDK 1.6 or newer version on Linux PC.

3. Install Tizen 2.4 SDK on Linux PC for SDB connection.

4. These packages should be installed before installing TCT-Manager

    ~$ sudo apt-get install rpm2cpio

    ~$ sudo apt-get install tree

    ~$ sudo apt-get install python-pip

    ~$ sudo apt-get install python-support
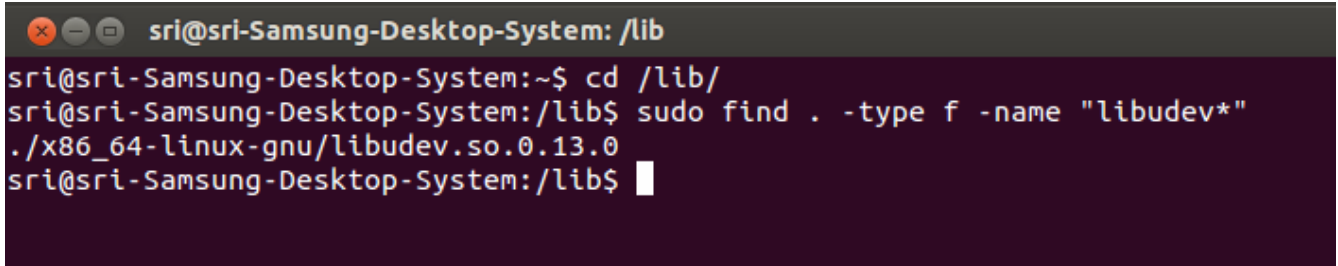
    ~$ sudo apt-get install python-requests

~$ sudo apt-get install python-setuptools

5. *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

2. Getting TCT-binary and TCT-manager

2.1. Download TCT binary

Download TCT binary from site :

http://download.tizen.org/tct/2.4//NATIVE_TCT/2.4_rXX/native-tct_2.4_rXX.zip

~$ unzip native-tct_2.4_rXX.zip

~$ cd native-tct_2.4_rXX/TCT/native-tct-2.4

Native TCT packages are already built and inside in native-tct-2.4/package/mobile folder. You can find zip files in there.

2.2. Tools Permission

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

~$ sudo chmod 777 –R native-tct-2.4

2.3. Folder structure
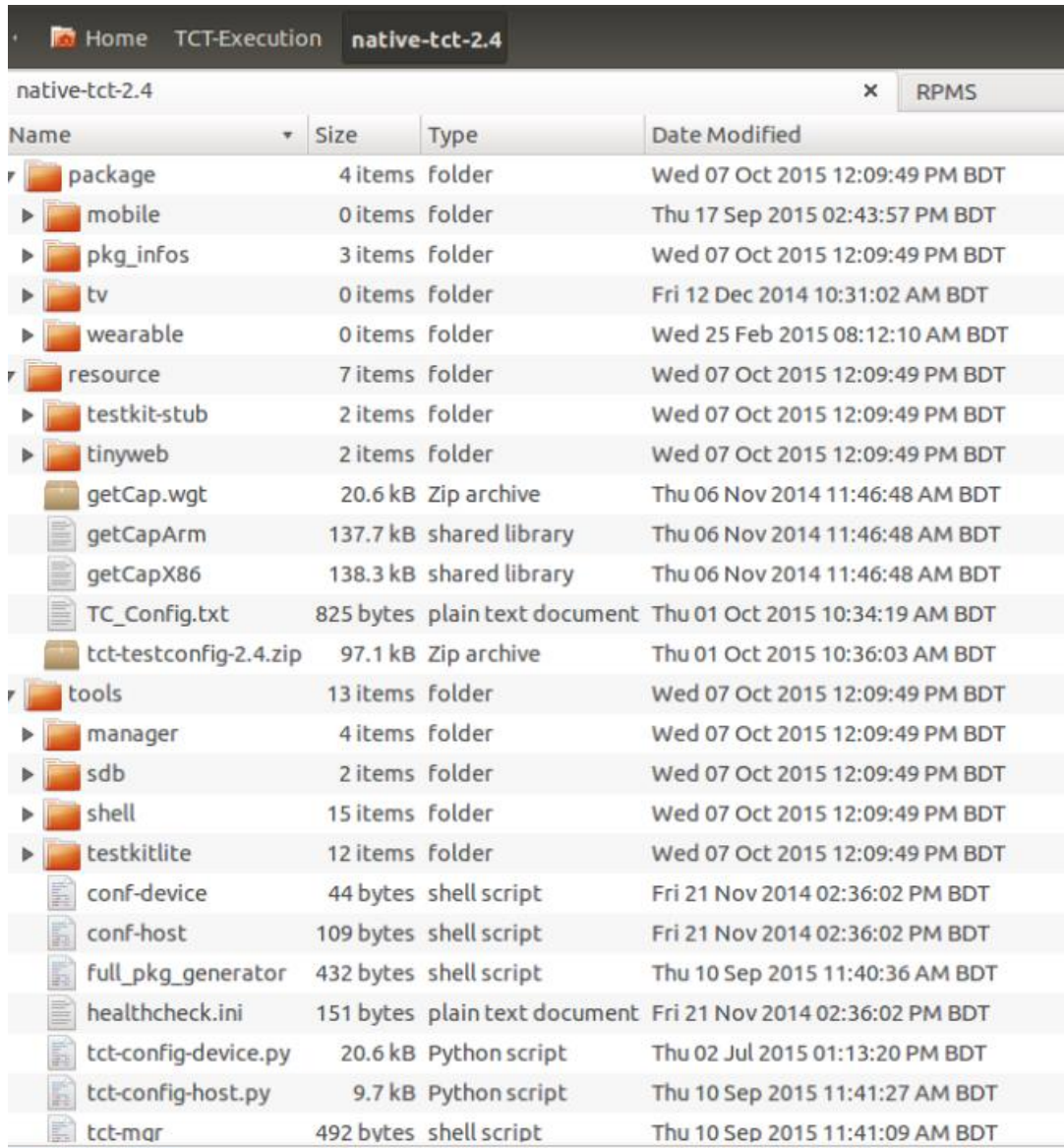
You will find the folder structure like below:

Figure 2. TCT-Manager folder structure

The following table describes the folders contents.

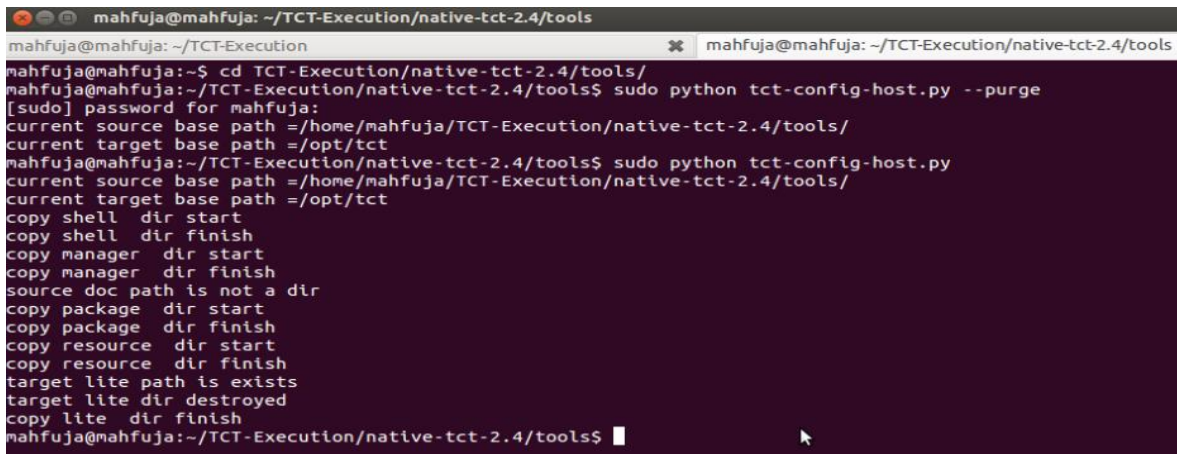| Folder	Description
package	All the packages to be tested in device
resource	Required resources for TCT manager
tools	Contains installation scripts for host and device

Table 1. TCT-Manager folders

2.4. For Host Configuration:

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

    *~/native-tct-2.4/tools/$ **sudo ./conf-host --purge***

2. Set environment on your host

    *~/native-tct-2.4/tools/$ **sudo ./conf-host***

Figure 3. Host Installation

2.5. For Device Configuration:

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

2. Remount system as read-write.

    *~$ **sdb root on***

    *~$ **sdb shell***

    *~$ **mount -o remount,rw /***

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

    *~/native-tct-2.4/tools/$ **sudo ./conf-device --purge***

4. Set environment on your target

~/native-tct-2.4/tools /$ **sudo ./conf-device**

Figure 4. Device Installation

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

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

3. Execute Test Suites

3.1. Run TCT-Manager:

Execute the following command:

~$ tct-mgr
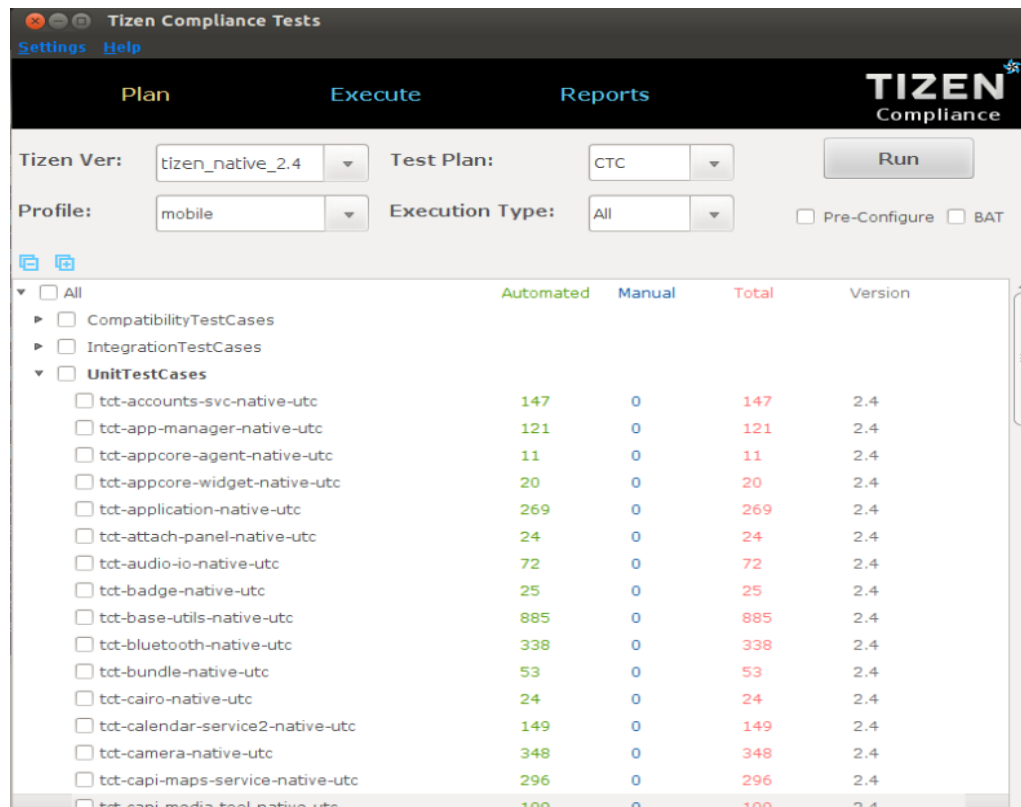
Figure 5. TCT-Manager UI

3.2. Choose Profile:

Choose your profile from profile combo box.
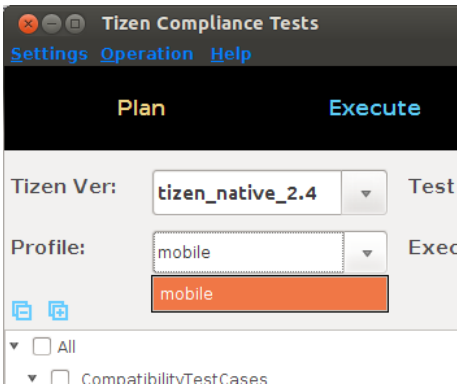
Figure 6. Select Profile

3.3. Choose Target:

Choose your target from **Settings > Choose Device:**
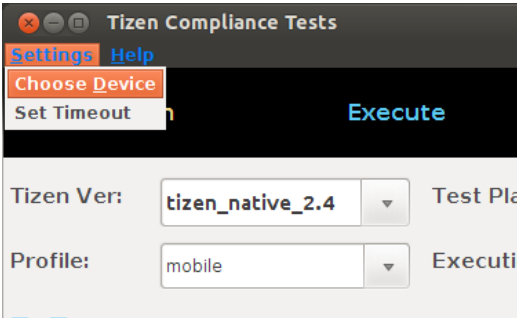
Figure 7. Choose device in TCT-Manager UI
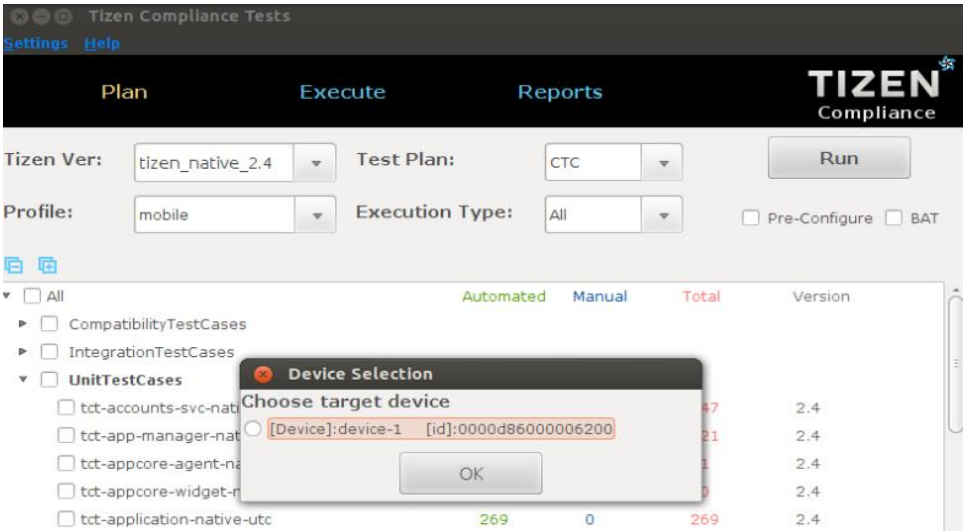
Figure 8. Device selection in TCT-Manager

3.4. Execution by Creating a New Plan:

1. Select suites by checking boxes from trees.

2. Choose profile.

3. Select Execution Type to 'All'.

4. Click button 'Run'. Leave Pre-Configure box unchecked at first time.

   ※ If you check the box from second time, pre-configurations will be set as default.

5. Press 'Run' button.

6. Create a new test plan.

7. Input new plan name and then click 'OK'.
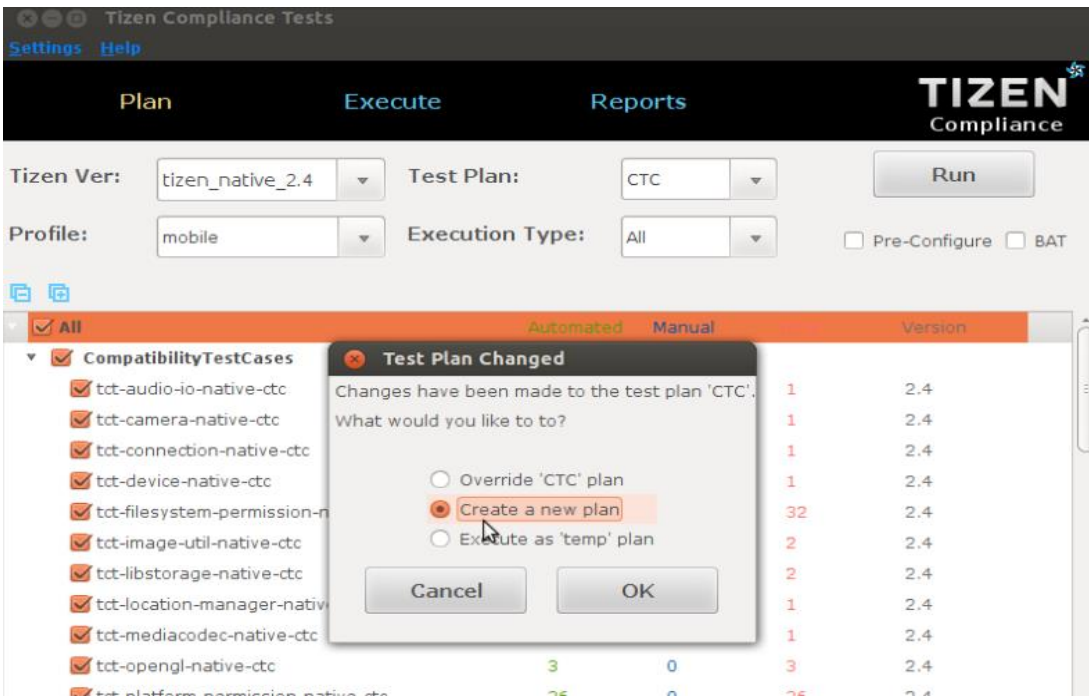
Figure 9. Creating a new plan in TCT-Manager
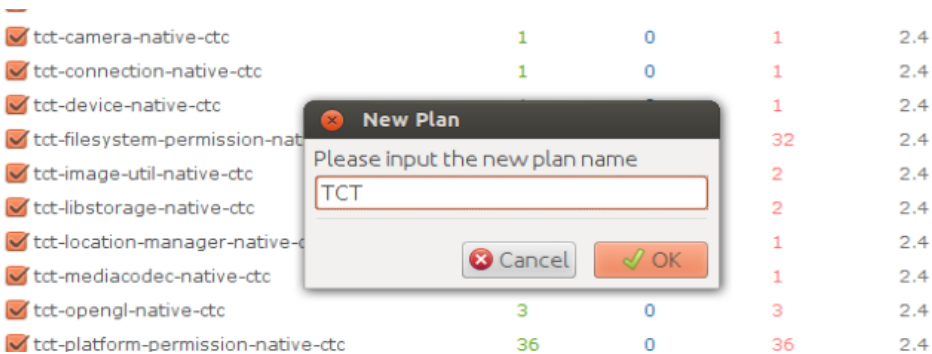
Figure 10. Input plan name in TCT-Manager

3.5. Perform Health check:

As shown in Figure 11, 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.
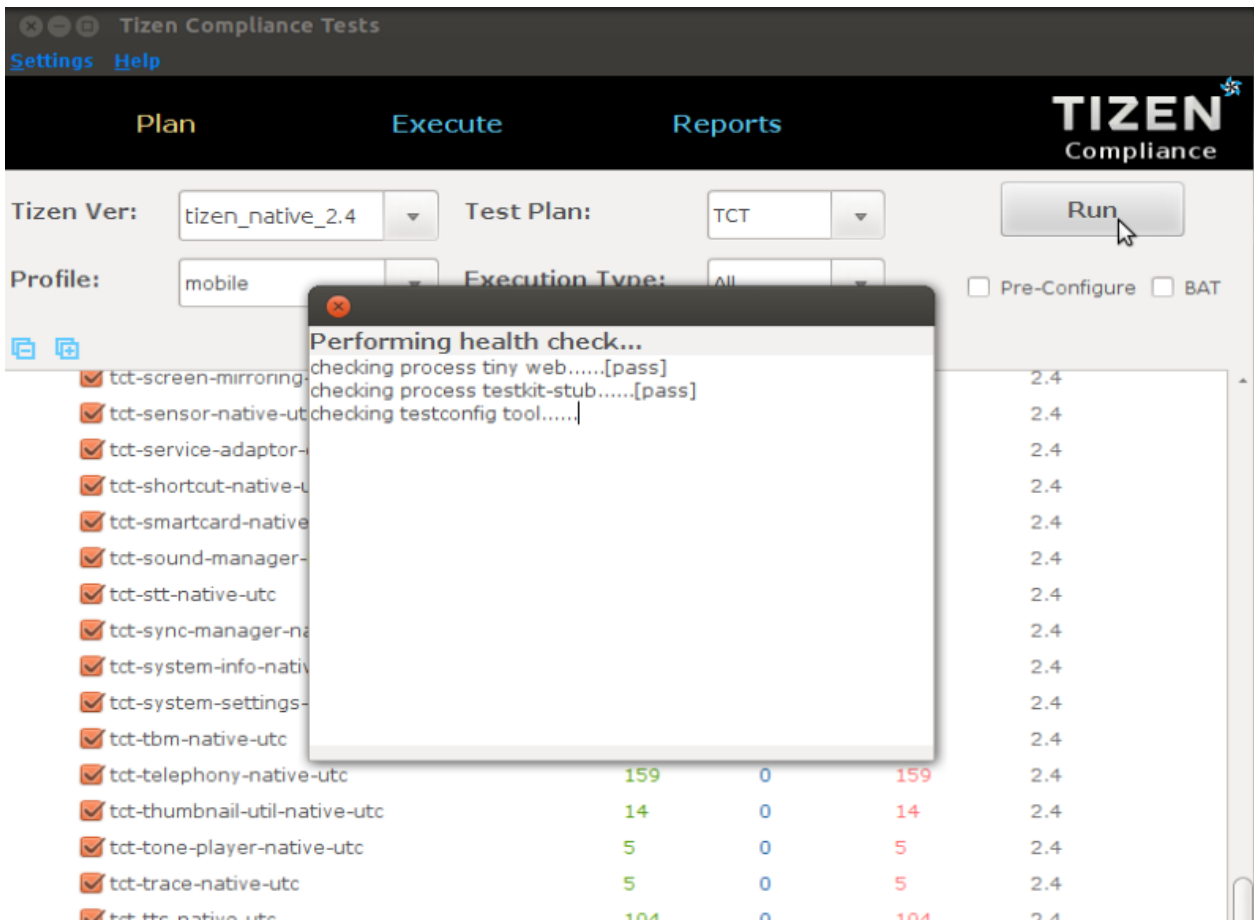
Figure 11. Health check monitoring after execution Run in TCT-Manager

3.6. Edit Pre-Configuration File:

If you execute any package which needs pre-condition, a dialog is displayed to show the configurable parameters for testing as shown in Figure 12. 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. Before running TCT, leave Pre-Configure box unchecked.
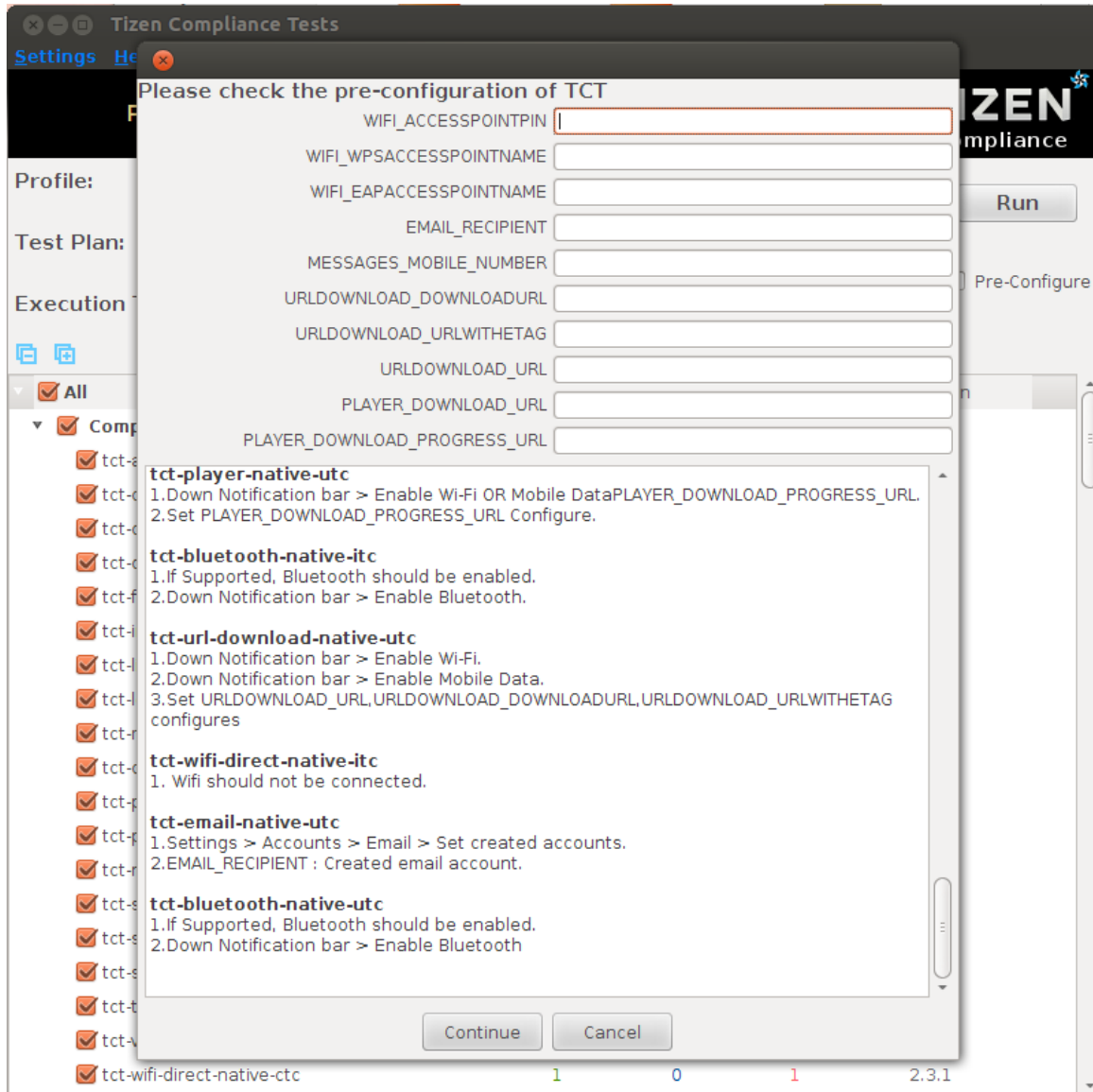
Figure 12. Edit Pre-Configuration file before execution.

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.	*If there is no H/W camera, please connect USB samsung camera. *For TV profile, please connect USB samsung TV camera.
capi-maps-service	Get credential app_id and app_code from HERE developer site(https://developer.here.com).	**[Set the Pre-Configure dialog of TCT-Manager UI]** *MAPS_PROVIDER_KEY : app_id/app_code ex) abcd/1234

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) *Contacts > Select Sim > Save Contact Information.
connection	If Supported, Enable Wi-Fi If Supported, Enable Mobile Data Network	*Down Notification bar > Enable Wi-Fi. *Down Notification bar > Enable Mobile Data.
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
media-content	If Supported, SD card should be inserted.	*Insert SD card.
nfc	If Supported, NFC should be ON.	*Down Notification bar > Enable NFC
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
push	If Supported, Enable Wi-Fi or Data Network. Get push app id and app secret. - App ID is basic identification string value to register your application to Push server. Push server identify your application package identify your App ID. You can get Application ID with below guide document: Maybe, you have to request to Tizen.org via email. https://developer.tizen.org/development/tutorials/native-application/messaging/push - AppSecret is kind of pass code of your App ID. When any servers or other applications request to send push notification to your application, they must send request including your application's (target) App ID and App Secret. So, you can do push TCT with your own AppID and AppSecret. Adding notices: Please check push tutorial's "Managing Security" section with care.	*Down Notification bar > Enable Wi-Fi or Mobile Data. **[Set the Pre-Configure dialog of TCT-Manager UI]** *PUSH_APPID *PUSH_APPSECRET
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.

telephony	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM card.
webkit2	Must be connected to internet using Wi-Fi or data network.	*Down Notification bar > Enable Wi-Fi or Mobile Data
wifi-direct	Wifi should not be connected.	*Down Notification bar > Disable Wi-Fi
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_WPSACCESSPOINTNAME (Wi-Fi router's name) *Wi-Fi_ACCESSPOINTPIN (Wi-Fi router`s password)

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.	*If there is no H/W camera, please connect USB samsung camera. *For TV profile, please connect USB samsung TV camera.
capi-maps-service	If Supported, Enable Wi-Fi or Data Network. Get credential app_id and app_code from HERE developer site(https://developer.here.com).	*Down Notification bar > Enable Wi-Fi or Mobile Data. **[Set the Pre-Configure dialog of TCT-Manager UI]** *MAPS_PROVIDER_KEY : app_id/app_code ex) abcd/1234
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.
nfc	If Supported, NFC should be ON.	*Down Notification bar > Enable NFC
location-manager	If Supported, GPS should be enabled.	*Down Notification bar > Enable GPS
media-content	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 **[Set the Pre-Configure dialog of TCT-Manager UI]** *MESSAGES_MOBILE_NUMBER ex) +821012345678

push	If Supported, Enable Wi-Fi or Data Network. Get push app id and app secret. - App ID is basic identification string value to register your application to Push server. Push server identify your application package identify your App ID. You can get Application ID with below guide document: Maybe, you have to request to Tizen.org via email. https://developer.tizen.org/development/tutorials/native-application/messaging/push - AppSecret is kind of pass code of your App ID. When any servers or other applications request to send push notification to your application, they must send request including your application's (target) App ID and App Secret. So, you can do push TCT with your own AppID and AppSecret. Adding notices: Please check push tutorial's "Managing Security" section with care.	*Down Notification bar > Enable Wi-Fi or Mobile Data. **[Set the Pre-Configure dialog of TCT-Manager UI]** *PUSH_APPID *PUSH_APPSECRET
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
telephony	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM card. ※ SPN information 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 exhttp://mirrors.ustc.edu.cn/videolan-ftp/vlc/2.1.5/win32/vlc-2.1.5-win32.zip *URLDOWNLOAD_URLWITHETAG ex) http://www.w3.org/Protocols/rfc2616/rfc2616-sec14.html
webkit2	Must be connected to internet using Wi-Fi or data network.	*Down Notification bar > Enable Wi-Fi OR Down Notification bar > Enable Mobile Data
wifi-direct	Wifi should not be connected.	*Down Notification bar > Disable Wi-Fi

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_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]**
platform-permission	If Supported, Bluetooth should be enabled. If Supported, SIM card should be inserted. If Supported, SD card should be inserted.	*Down Notification bar > Enable Bluetooth *Insert SIM card. *Insert SD card.
telephony	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM card.

3.7. Execution Progress:

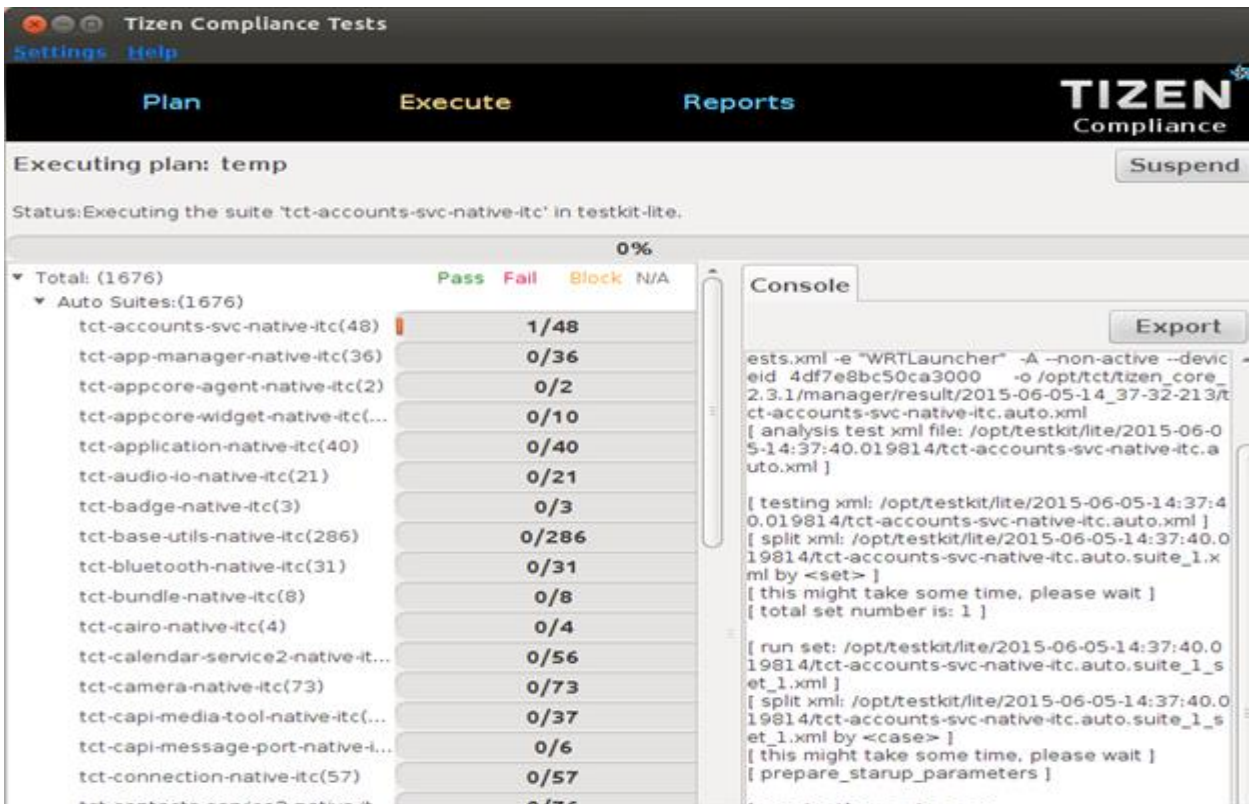When executing the test, this screen will be shown as in Figure 13.

Figure 13. Execution progress while Running Test Suite in TCT-Manager

3.8. Execution Report:

After executing all the test suites, Reports tab will show a results list as in Figure 14.
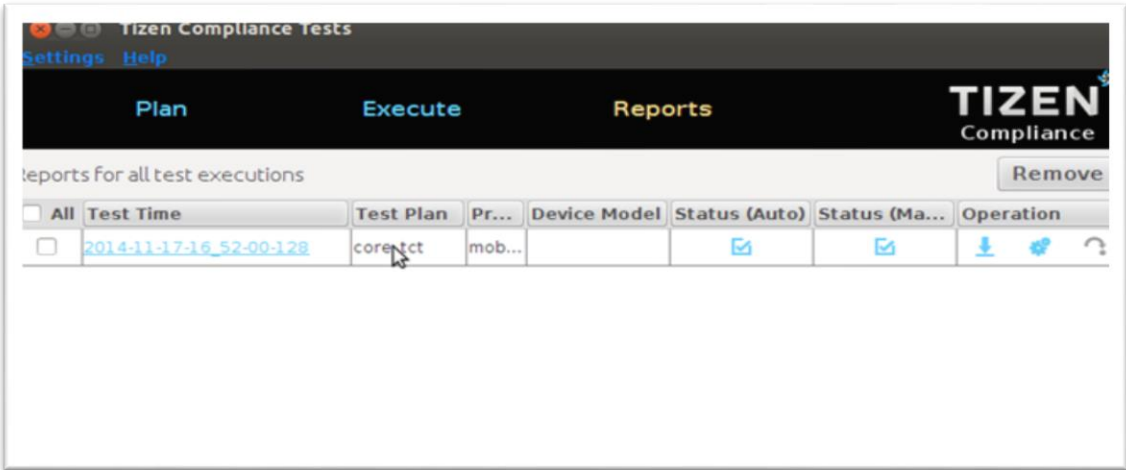

Figure 14. Execution report after completing execution in TCT-Manager

3.9. Download Result:

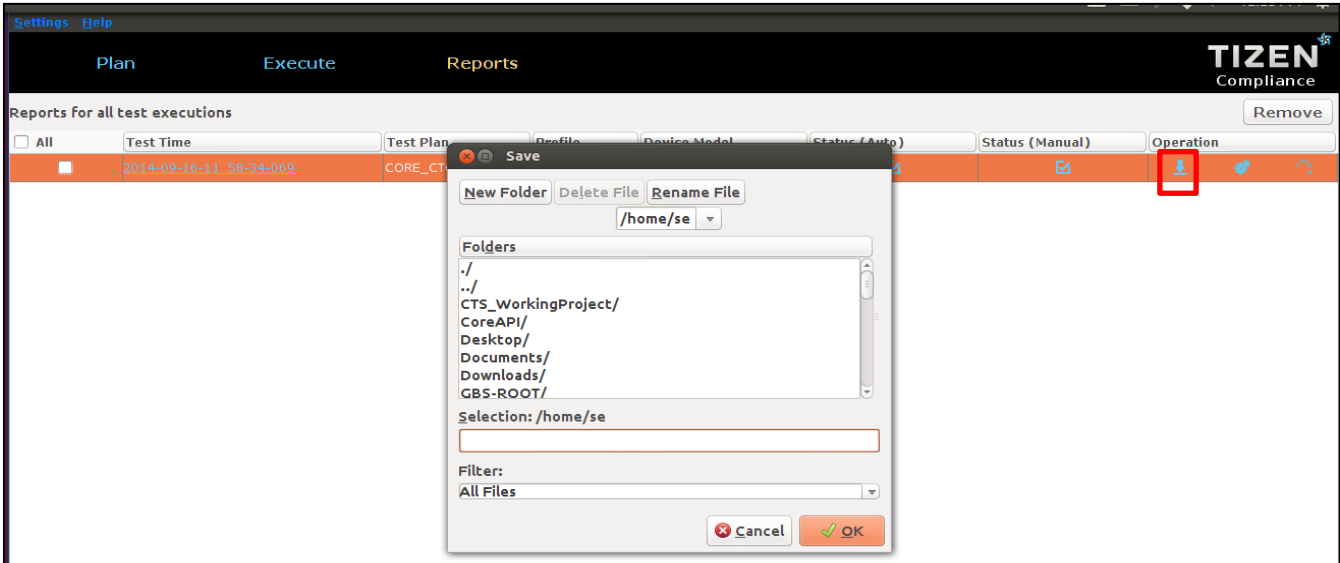You can download the result file by clicking red marked button showed in Figure 15.

Figure 15. Download the Execution report in TCT-Manager

3.10. View the Execution report in browser
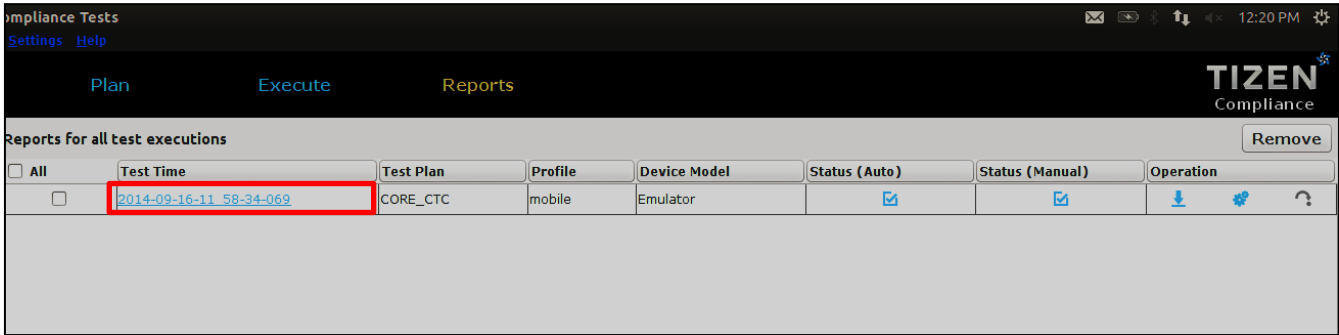
Click the red marked link to view result summary in browser as shown in Figure 16.

Figure 16. View the Execution report in TCT-Manager

TCT-manager provides detailed information about test results. TCT Report (Figure 17) shows how many test suites were executed, how many test cases were checked, how many test cases passed or failed, etc.
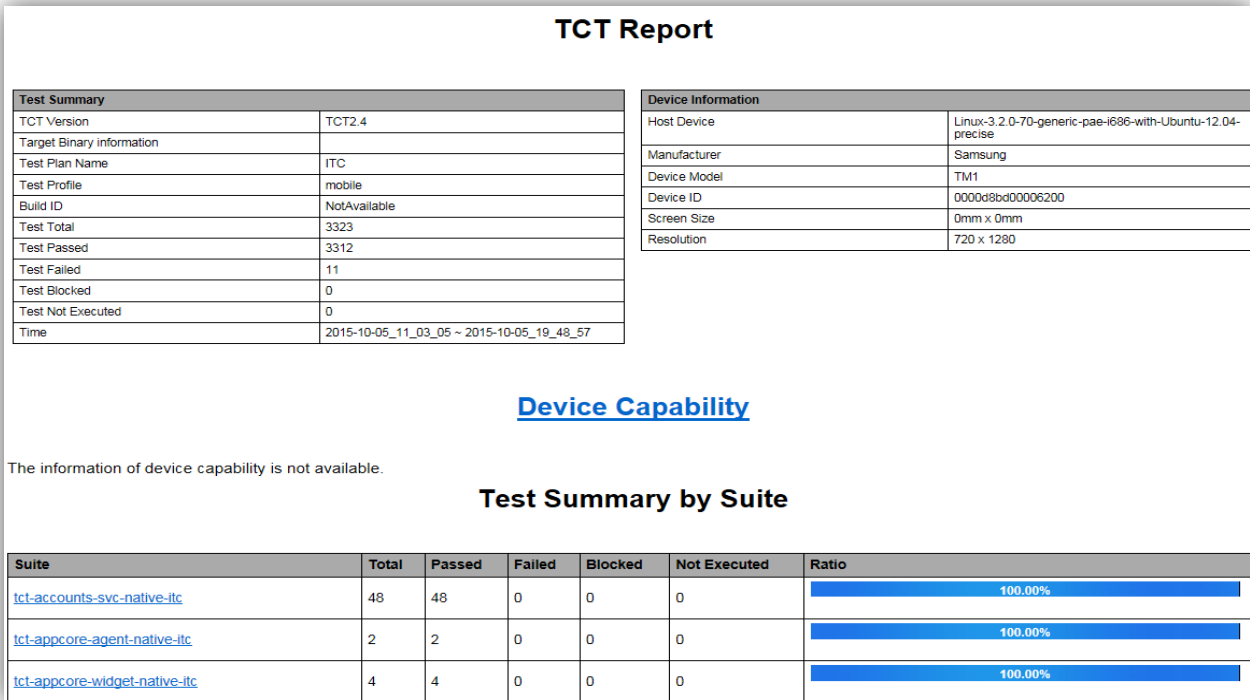

Figure 17. View the Execution report summary in TCT-Manager

3.11. 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 18). Also you can see sdb dlog by clicking dlog link.

Figure 18. View the Execution Report Details in TCT-Manager

3.12. Execution Log Export:

Export execution log by clicking export button marked red in Figure 19.
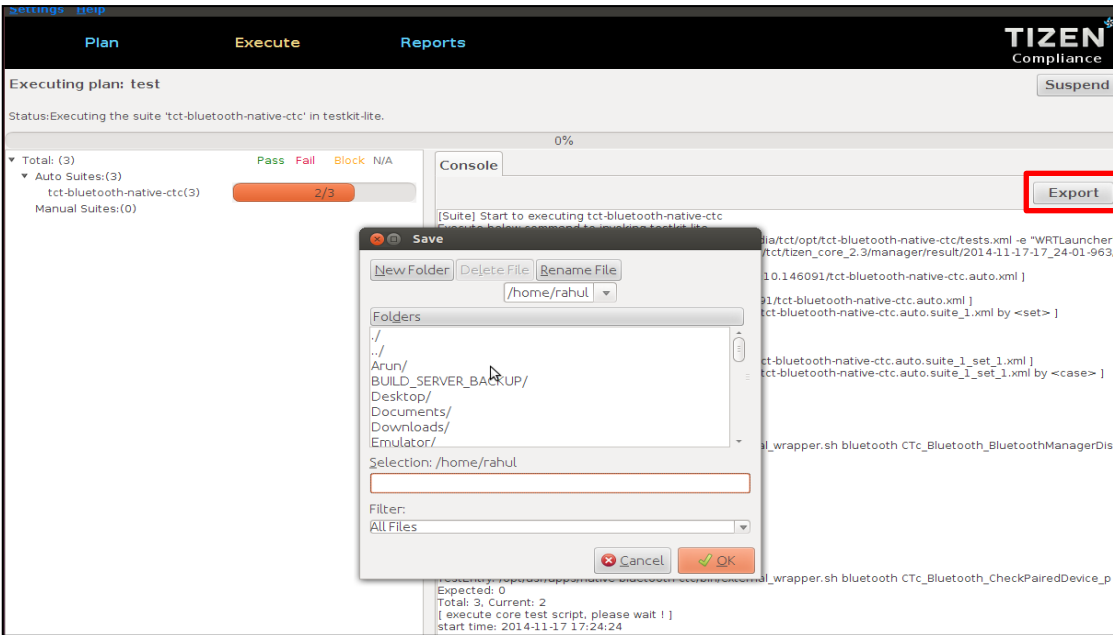

Figure 19. Exporting Log of Execution Report from TCT-Manager

3.13. Stop Execution:

While executing test suites if executions need to be stopped, click the window close button which will prompt like below (Figure 20).
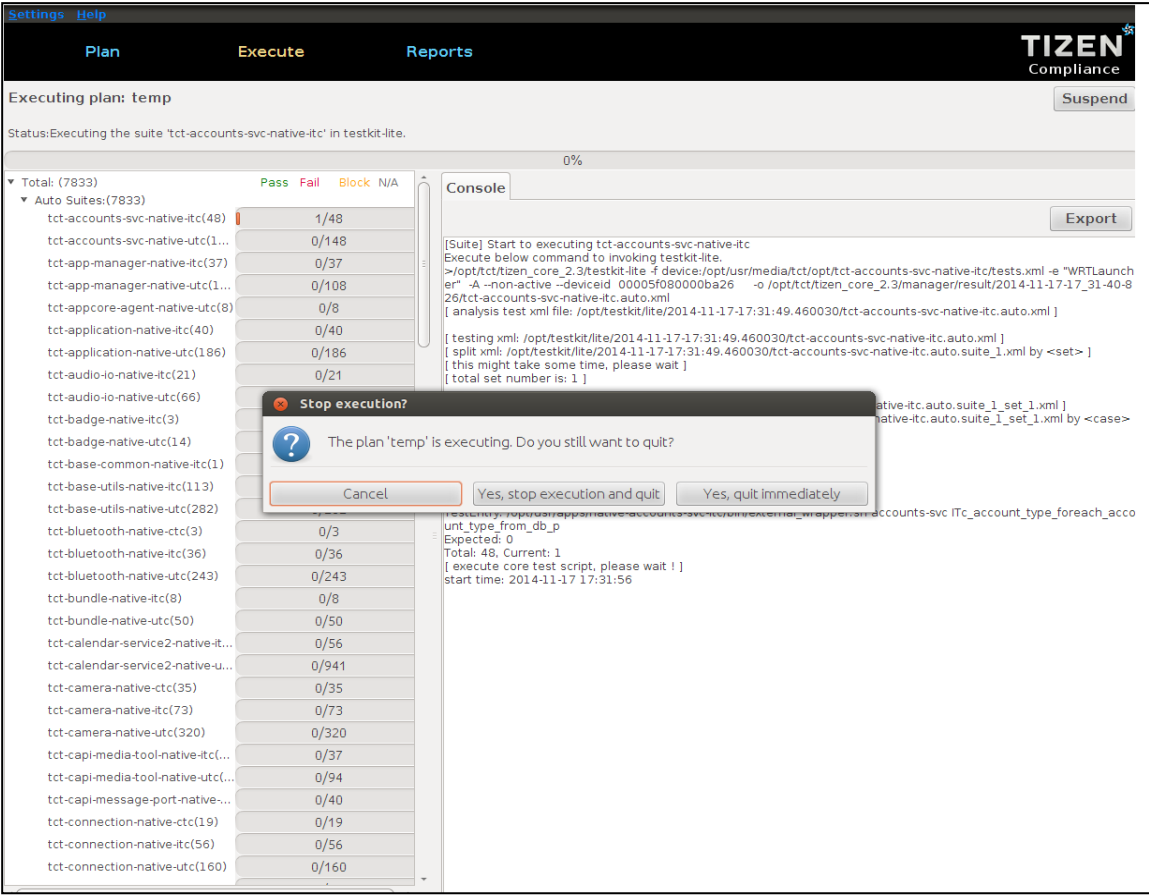

Figure 20. Stop the test-suite execution while execution is running in TCT-Manager

3.14. Rerun Failed Test Cases:

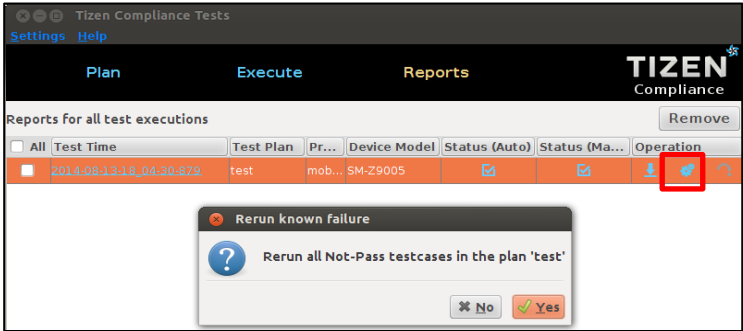If you want to re-run for non-pass test cases, click rerun button (Figure 21).

Figure 21. Rerun Failed TCs

4. 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 files and push module for sending and receiving push notifications.

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