Automated Testing for Continuous Integration

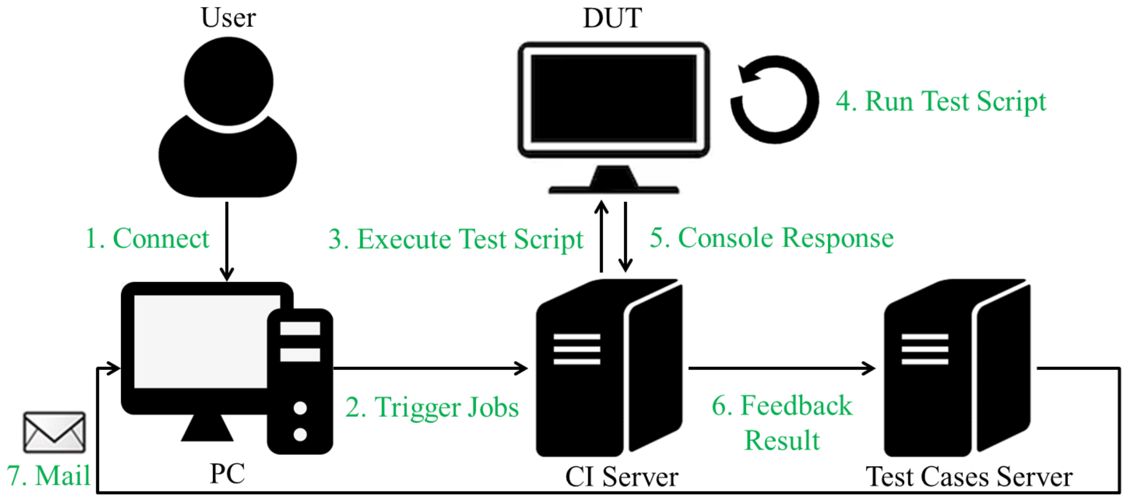
Version 1.0

Version History

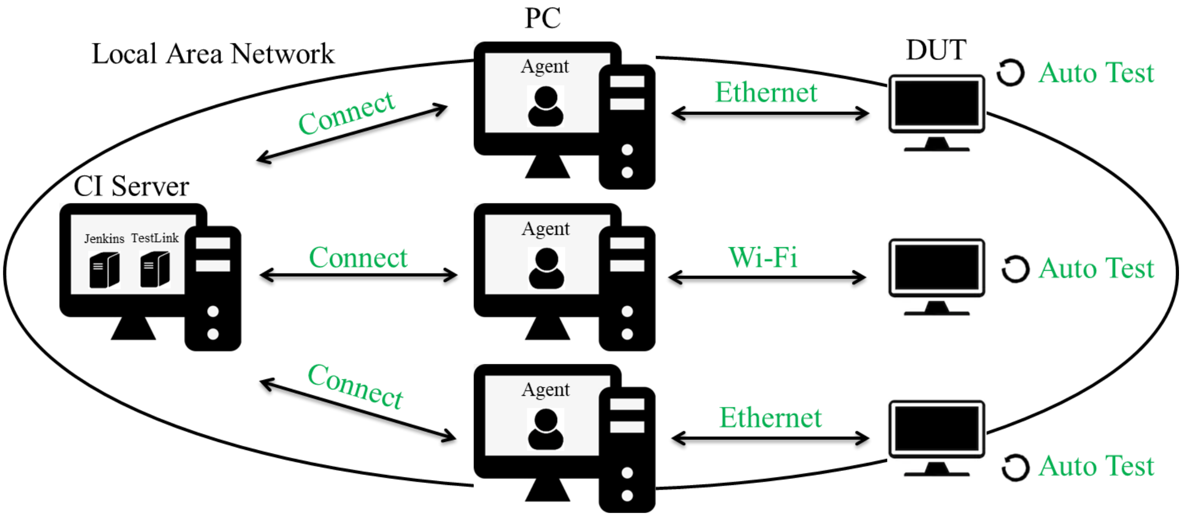
Version	Date	Handled by	Comments
V1.0	05-June-2019	ZL Chen	Add the software structure.
V1.1	09-June-2019	Yuming Lin	Add the project config to Github.
V1.1.1	11-June-2019	Yuming Lin	Add the test jobs to Jenkins.
V1.2	11-June-2019	ZL Chen	Add the jobs script launch by Jenkins.
V1.2.1	12-June-2019	ZL Chen	Add the test report display.

System Structure:

Structure:


User
DUT
4. Run Test Script
1. Connect
3. Execute Test Script
5. Console Response
2. Trigger Jobs
6. Feedback Result
7. Mail
PC
CI Server
Test Cases Server

Ongoing:


PC
Local Area Network
DUT
Auto Test
Agent
Connect
Ethernet
CI Server
Jenkins
TestLink
Connect
Agent
Wi-Fi
Auto Test
Connect
Agent
Ethernet
Auto Test

Precondition Setting:

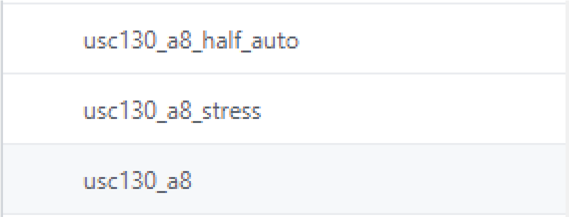
Please make sure the DUT is connected to the internet.

Please follow the implement as below.

Step 1:

Add the project config to Github.

- Please git clone https://github.com/advantech-zl-yuming/ini.git
- Please create the three test branch for xxxxxx branch
  - ✓ git checkout -b usc130_a8 origin/usc130_a8
  - ✓ git checkout xxxxxx
  - ✓ git checkout -b usc130_a8_stress origin/usc130_a8_stress
  - ✓ git checkout xxxxxx_stress
  - ✓ git checkout -b usc130_a8_half_auto origin/usc130_a8_half_auto
  - ✓ git checkout xxxxxx_half_auto

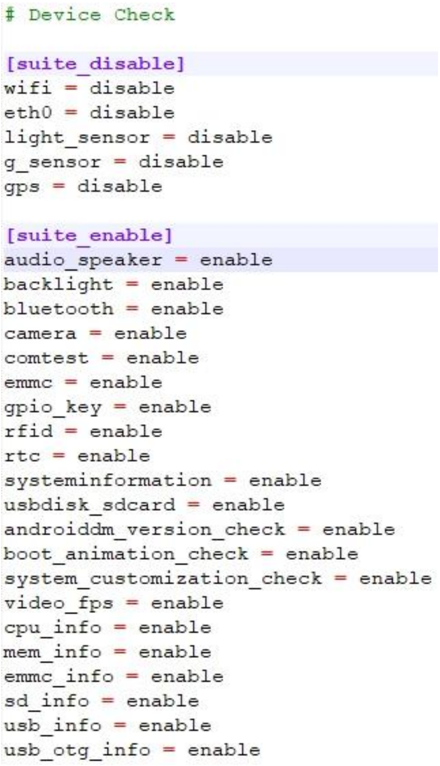


usc130_a8_half_auto

usc130_a8_stress

usc130_a8

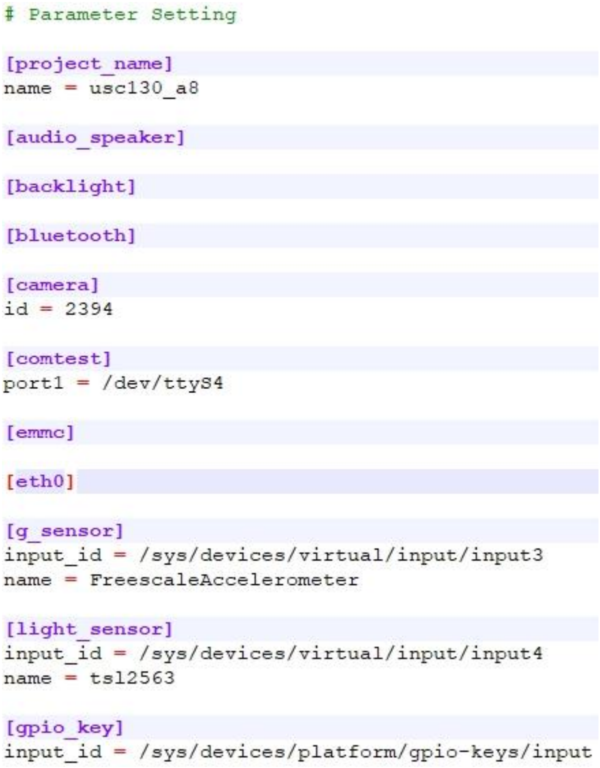
- Please check project components and set components' parameters on 3 test branches (xxxxxx, xxxxxx_stress, xxxxxx_half_auto)
  - ✓ Please enable/disable the test module on device_check.ini, and set the components' parameters on parameter_setting.ini



```
# Device Check

[suite_disable]
wifi = disable
eth0 = disable
light_sensor = disable
g_sensor = disable
gps = disable

[suite_enable]
audio_speaker = enable
backlight = enable
bluetooth = enable
camera = enable
comtest = enable
emmc = enable
gpio_key = enable
rfid = enable
rtc = enable
systeminformation = enable
usbdisk_sdcard = enable
androiddm_version_check = enable
boot_animation_check = enable
system_customization_check = enable
video_fps = enable
cpu_info = enable
mem_info = enable
emmc_info = enable
sd_info = enable
usb_info = enable
usb_otg_info = enable
```



```
# Parameter Setting

[project_name]
name = usc130_a8

[audio_speaker]

[backlight]

[bluetooth]

[camera]
id = 2394

[comtest]
port1 = /dev/ttyS4

[emmc]

[eth0]

[g_sensor]
input_id = /sys/devices/virtual/input/input3
name = FreescaleAccelerometer

[light_sensor]
input_id = /sys/devices/virtual/input/input4
name = tsl2563

[gpio_key]
input_id = /sys/devices/platform/gpio-keys/input
```

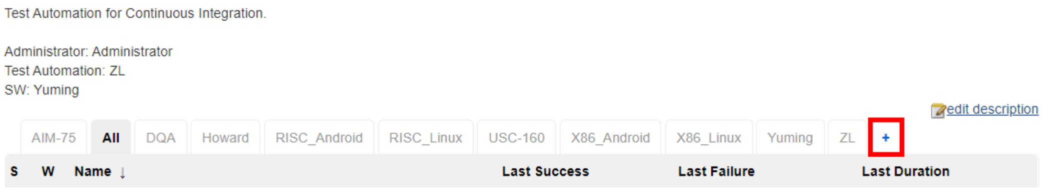
- ➢ Please push the three branch to github for test.
  - ✓ git push origin xxxxxx: xxxxxx
  - ✓ git push origin xxxxxx_stress: xxxxxx_stress
  - ✓ git push origin xxxxxx_half_auto: xxxxxx_half_auto

Step 2:

Add the test jobs to Jenkins.

- ➢ Login the Jenkins system :
  - ✓ http://172.22.20.208:8080/

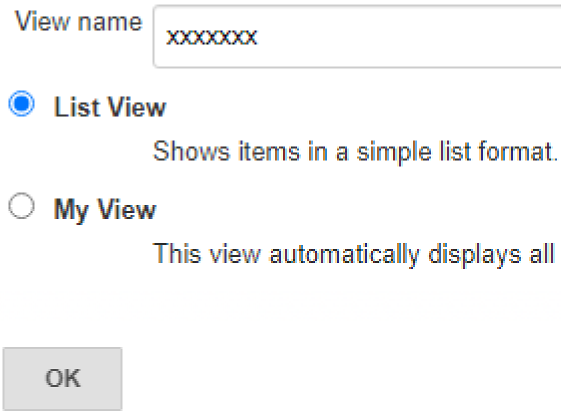
    (Username and password is default the same.)
- ➢ Create new project view
  - ✓ Add new xxxxxx project jobs to xxxxxx view



Test Automation for Continuous Integration.

Administrator: Administrator
Test Automation: ZL
SW: Yuming

edit description
AIM-75
All
DQA
Howard
RISC_Android
RISC_Linux
USC-160
X86_Android
X86_Linux
Yuming
ZL
+
S
W
Name ↓
Last Success
Last Failure
Last Duration



View name: xxxxxxx

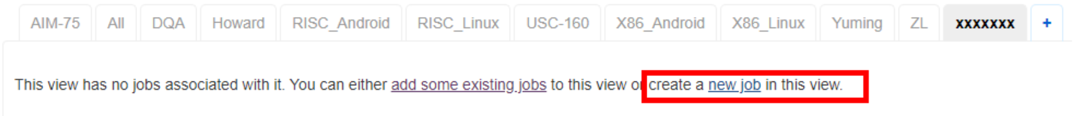
● List View

Shows items in a simple list format.

○ My View

This view automatically displays all

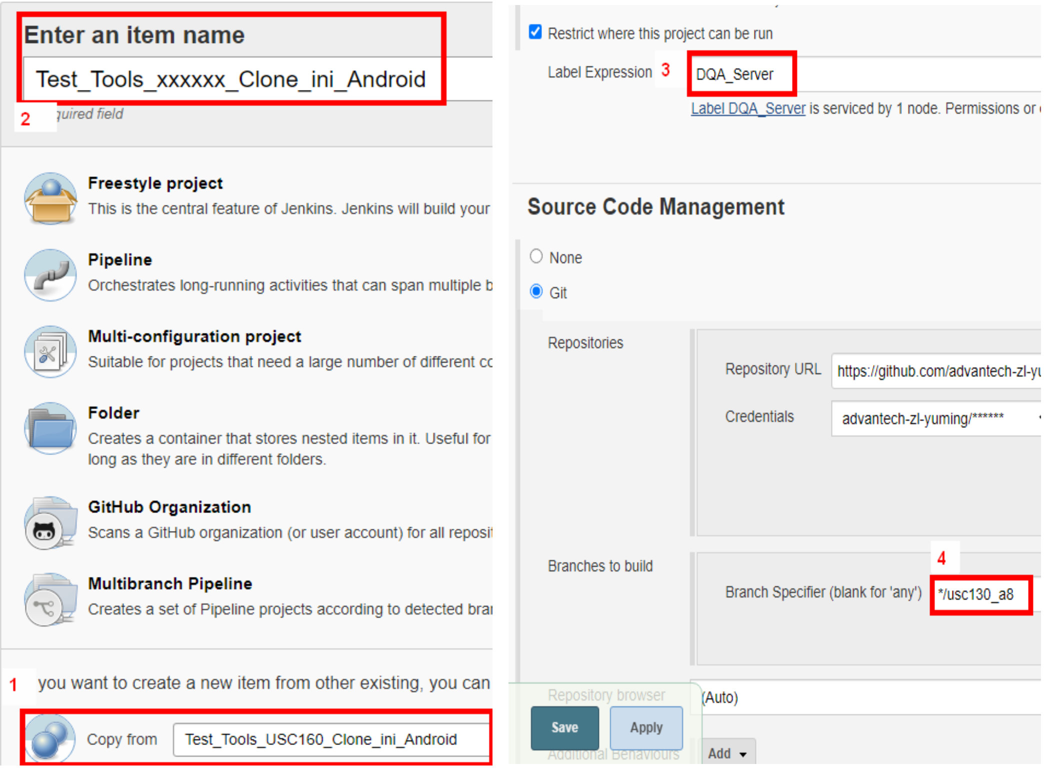
- ➢ Add 5 test jobs to new project to run test
  - ✓ Add auto test jobs to xxxxxx view



AIM-75
All
DQA
Howard
RISC_Android
RISC_Linux
USC-160
X86_Android
X86_Linux
Yuming
ZL
xxxxxxx
+

This view has no jobs associated with it. You can either add some existing jobs to this view o create a new job in this view.

1. Add the auto test config job (Copy from Test_Tools_USC160_Clone_ini_Android)
2. Enter an item name. ex: Test_Tools_ xxxxxx_Clone_ini_Android
3. Set the agent base on the connection.
4. Enter the project config branch name (ex: */xxxxxx)


Enter an item name
2
quired field
Freestyle project
This is the central feature of Jenkins. Jenkins will build your
Pipeline
Orchestrates long-running activities that can span multiple b
Multi-configuration project
Suitable for projects that need a large number of different co
Folder
Creates a container that stores nested items in it. Useful for
long as they are in different folders.
GitHub Organization
Scans a GitHub organization (or user account) for all reposi
Multibranch Pipeline
Creates a set of Pipeline projects according to detected bra
1
you want to create a new item from other existing, you can
Copy from
Restrict where this project can be run
Label Expression
3
Label DQA_Server is serviced by 1 node. Permissions or
Source Code Management
None
Git
Repositories
Repository URL
Credentials
Branches to build
4
Branch Specifier (blank for 'any')
Repository browser
(Auto)
Additional Behaviours
Save
Apply
Add

Enter an item name: Test_Tools_xxxxxx_Clone_ini_Android

Copy from: Test_Tools_USC160_Clone_ini_Android

☑ Restrict where this project can be run

Label Expression: DQA_Server

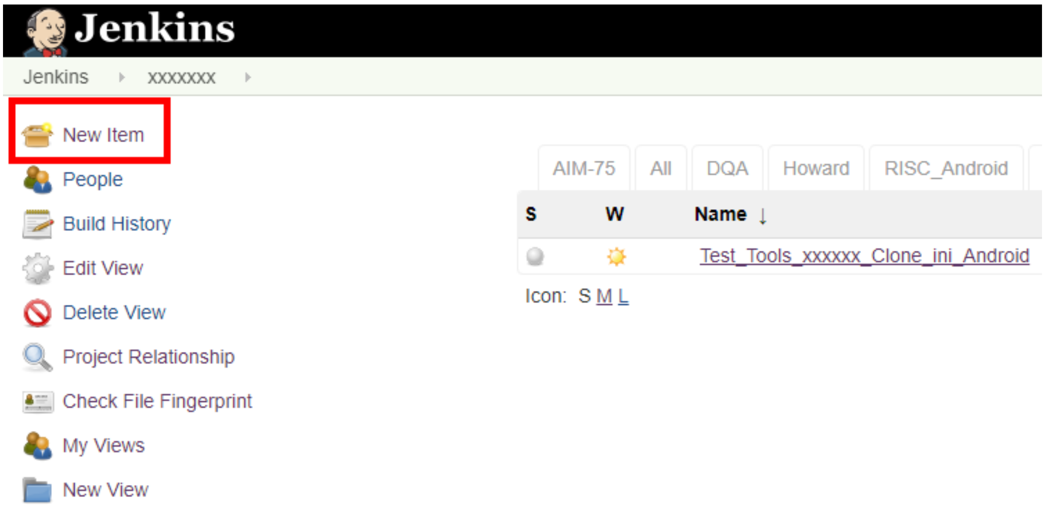
● Git

Repository URL: https://github.com/advantech-zl-yu

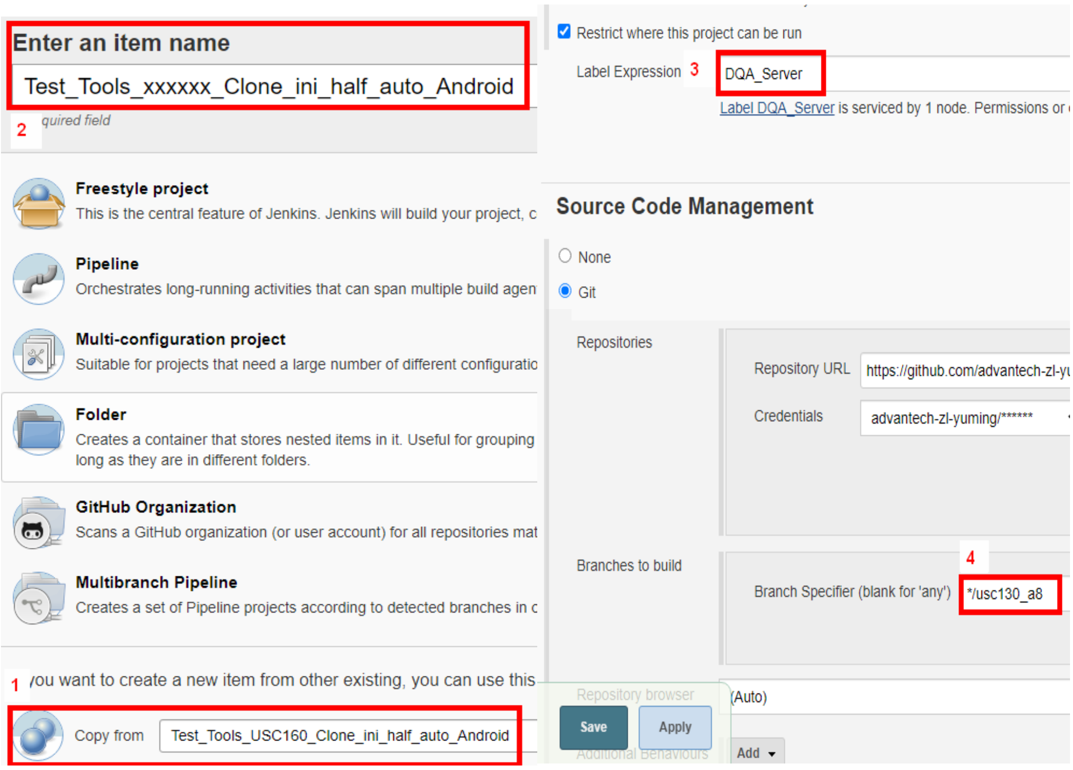
Credentials: advantech-zl-yuming/******

Branch Specifier (blank for 'any'): */usc130_a8

- ➢ Add 5 test jobs to new project to run test
  - ✓ Add half-auto test jobs to xxxxxx view


Jenkins
Jenkins
xxxxxxx
New Item
People
Build History
Edit View
Delete View
Project Relationship
Check File Fingerprint
My Views
New View
AIM-75
All
DQA
Howard
RISC_Android
S
W
Name ↓
Test_Tools_xxxxxx_Clone_ini_Android
Icon: S M L

1. Add the half_auto test config job (Copy from Test_Tools_USC160_Clone_ini_half_auto_Android)
2. Enter an item name. ex: Test_Tools_xxxxxx_Clone_ini_half_auto_Android
3. Set the agent base on the connection.
4. Enter the project config branch name (ex: */xxxxxx)



2
3
4
1
Save
Apply
Add

Enter an item name

Test_Tools_xxxxxx_Clone_ini_half_auto_Android

quired field

Freestyle project
This is the central feature of Jenkins. Jenkins will build your project, c

Pipeline
Orchestrates long-running activities that can span multiple build agen

Multi-configuration project
Suitable for projects that need a large number of different configuratio

Folder
Creates a container that stores nested items in it. Useful for grouping long as they are in different folders.

GitHub Organization
Scans a GitHub organization (or user account) for all repositories mat

Multibranch Pipeline
Creates a set of Pipeline projects according to detected branches in c

ou want to create a new item from other existing, you can use this

Copy from Test_Tools_USC160_Clone_ini_half_auto_Android

☑ Restrict where this project can be run

Label Expression: DQA_Server

Label DQA_Server is serviced by 1 node. Permissions or

Source Code Management

○ None

● Git

Repositories

Repository URL: https://github.com/advantech-zl-yu

Credentials: advantech-zl-yuming/******

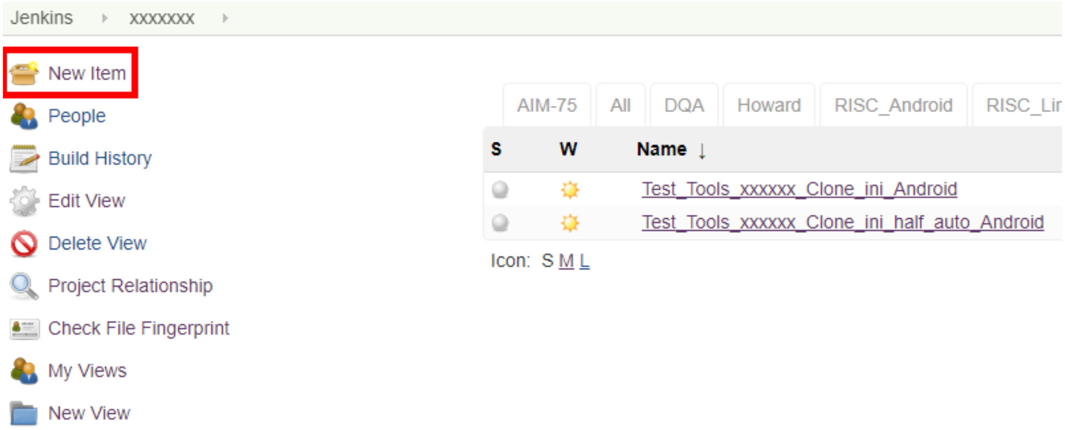
Branches to build

Branch Specifier (blank for 'any'): */usc130_a8

Repository browser: (Auto)

Additional Behaviours

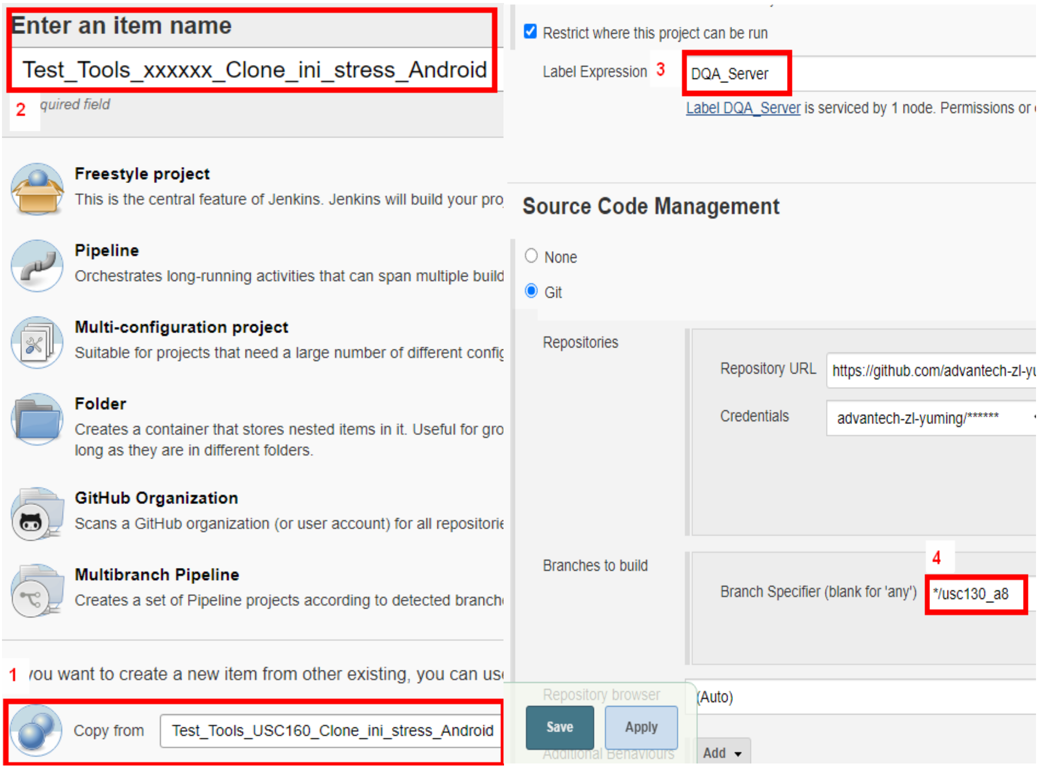
✓ Add the stress test jobs to xxxxxx view



Jenkins
xxxxxxx
New Item
People
Build History
Edit View
Delete View
Project Relationship
Check File Fingerprint
My Views
New View
AIM-75
All
DQA
Howard
RISC_Android
RISC_Lir
Icon: S M L

S	W	Name ↓
●	☀	Test_Tools_xxxxxx_Clone_ini_Android
●	☀	Test_Tools_xxxxxx_Clone_ini_half_auto_Android

1. Add the stress test config job (Copy from Test_Tools_USC160_Clone_ini_stress_Android)
2. Enter an item name. ex: Test_Tools_xxxxxx_Clone_ini_stress_Android
3. Set the agent base on the connection.
4. Enter the project config branch name (ex: */xxxxxx)



Enter an item name

Test_Tools_xxxxxx_Clone_ini_stress_Android

2 quired field

Freestyle project
This is the central feature of Jenkins. Jenkins will build your pro
Pipeline
Orchestrates long-running activities that can span multiple build
Multi-configuration project
Suitable for projects that need a large number of different confi
Folder
Creates a container that stores nested items in it. Useful for gro long as they are in different folders.
GitHub Organization
Scans a GitHub organization (or user account) for all repositori
Multibranch Pipeline
Creates a set of Pipeline projects according to detected branch

1 /ou want to create a new item from other existing, you can us

Copy from: Test_Tools_USC160_Clone_ini_stress_Android

☑ Restrict where this project can be run

Label Expression 3: DQA_Server

Label DQA_Server is serviced by 1 node. Permissions or

Source Code Management

○ None

● Git

Repositories

Repository URL: https://github.com/advantech-zl-yu

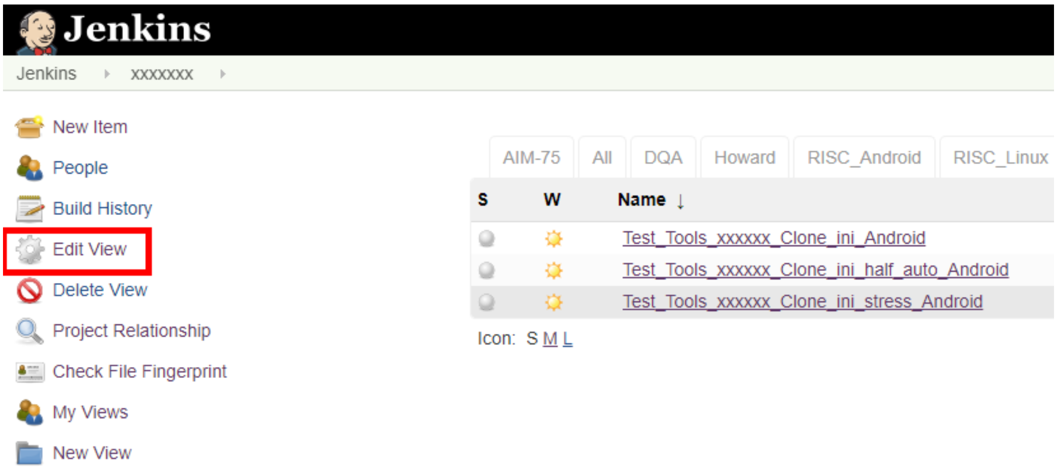
Credentials: advantech-zl-yuming/******

Branches to build

4 Branch Specifier (blank for 'any'): */usc130_a8

Repository browser
(Auto)
Save
Apply
Additional Behaviours
Add

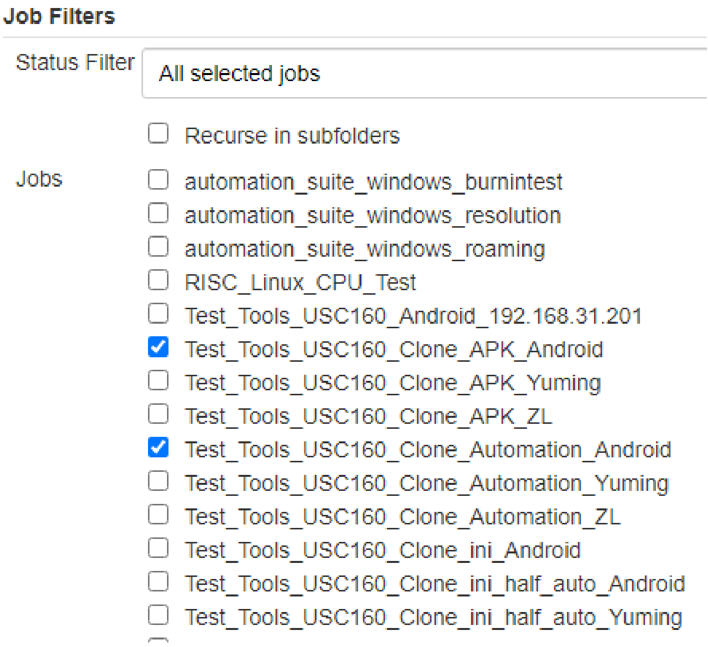
- ✓ Add the download auto tools job and download test APK job to xxxxxx view



Jenkins
Jenkins
xxxxxxx
New Item
People
Build History
Edit View
Delete View
Project Relationship
Check File Fingerprint
My Views
New View
AIM-75
All
DQA
Howard
RISC_Android
RISC_Linux
Icon: S M L

S	W	Name ↓
●	☼	Test_Tools_xxxxxx_Clone_ini_Android
●	☼	Test_Tools_xxxxxx_Clone_ini_half_auto_Android
●	☼	Test_Tools_xxxxxx_Clone_ini_stress_Android

Choose the “Test_Tools_USC160_Clone_Automation_Android” and “Test_Tools_USC160_Clone_APK_Android” jobs to the project view to finish 5 test jobs.



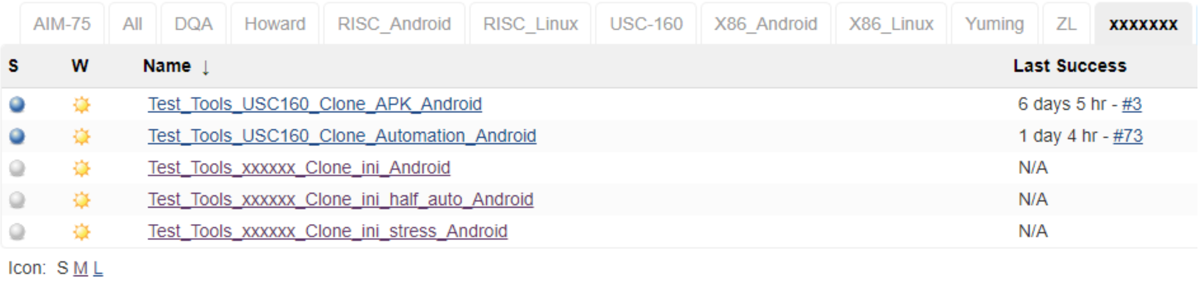
Job Filters

Status Filter: All selected jobs

☐ Recurse in subfolders

Jobs

☐ automation_suite_windows_burnintest
☐ automation_suite_windows_resolution
☐ automation_suite_windows_roaming
☐ RISC_Linux_CPU_Test
☐ Test_Tools_USC160_Android_192.168.31.201
☑ Test_Tools_USC160_Clone_APK_Android
☐ Test_Tools_USC160_Clone_APK_Yuming
☐ Test_Tools_USC160_Clone_APK_ZL
☑ Test_Tools_USC160_Clone_Automation_Android
☐ Test_Tools_USC160_Clone_Automation_Yuming
☐ Test_Tools_USC160_Clone_Automation_ZL
☐ Test_Tools_USC160_Clone_ini_Android
☐ Test_Tools_USC160_Clone_ini_half_auto_Android
☐ Test_Tools_USC160_Clone_ini_half_auto_Yuming



S	W	Name ↓	Last Success
●	☀	Test_Tools_USC160_Clone_APK_Android	6 days 5 hr - #3
●	☀	Test_Tools_USC160_Clone_Automation_Android	1 day 4 hr - #73
○	☀	Test_Tools_xxxxxx_Clone_ini_Android	N/A
○	☀	Test_Tools_xxxxxx_Clone_ini_half_auto_Android	N/A
○	☀	Test_Tools_xxxxxx_Clone_ini_stress_Android	N/A

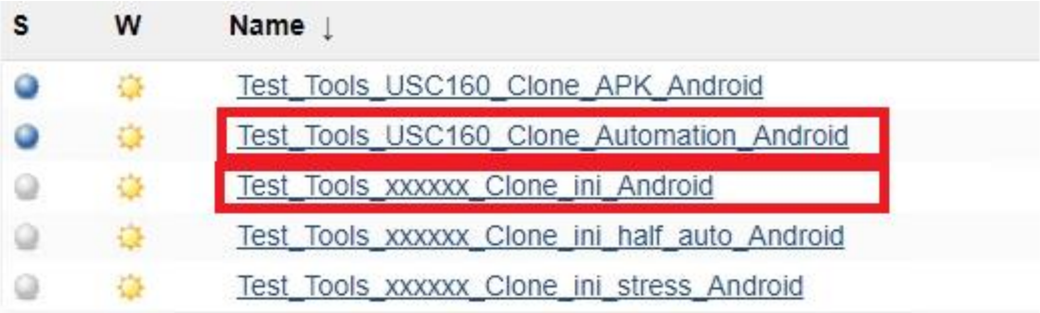
Icon: S M L

Step 3:

Run the jobs script by Jenkins.

The first one:

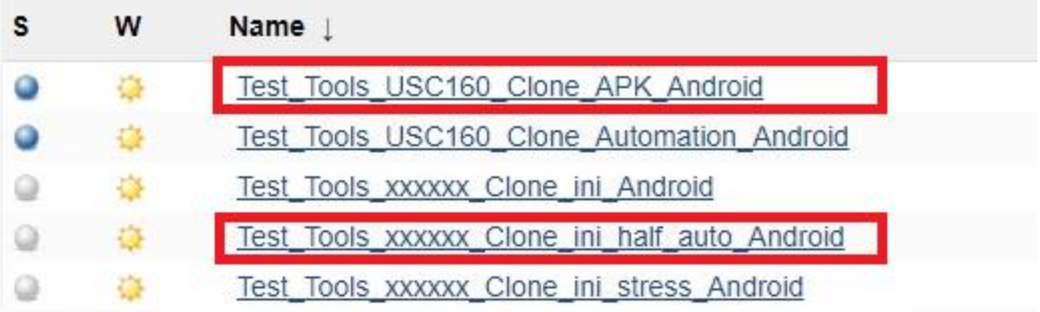
- Please clone the automation folder. (Click the Test_Tools_USC160_Clone_Automation_Android), it will trigger the “Test_Tools_xxxxx_Clone_ini_Android” jobs.



S	W	Name ↓
●	☀	Test_Tools_USC160_Clone_APK_Android
●	☀	Test_Tools_USC160_Clone_Automation_Android
○	☀	Test_Tools_xxxxxx_Clone_ini_Android
○	☀	Test_Tools_xxxxxx_Clone_ini_half_auto_Android
○	☀	Test_Tools_xxxxxx_Clone_ini_stress_Android

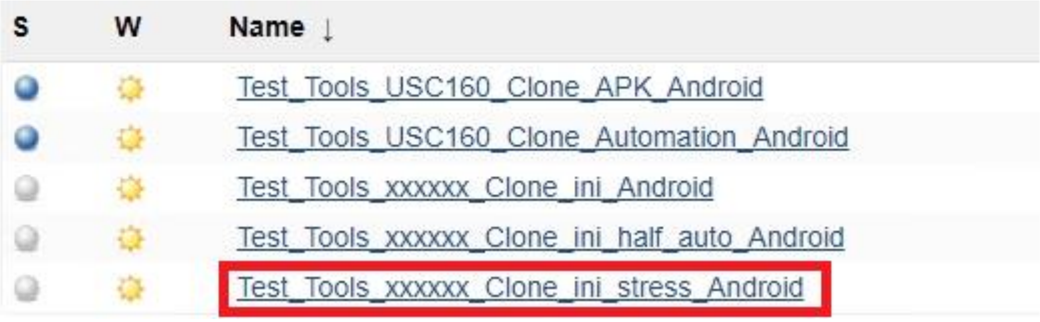
The second:

- If you want to use the APK of the test cases, please click the “Test_Tools_USC160_Clone_APK_Android”, it will trigger the “Test_Tools_xxxxx_ini_half_auto_Android” jobs.



S	W	Name ↓
●	☀	Test_Tools_USC160_Clone_APK_Android
●	☀	Test_Tools_USC160_Clone_Automation_Android
○	☀	Test_Tools_xxxxxx_Clone_ini_Android
○	☀	Test_Tools_xxxxxx_Clone_ini_half_auto_Android
○	☀	Test_Tools_xxxxxx_Clone_ini_stress_Android

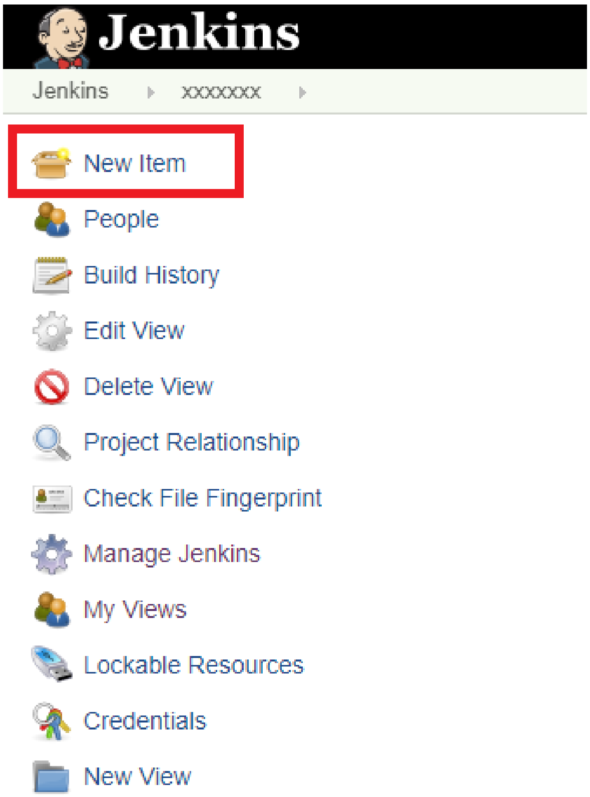
- Then, if you want to run the semiautomatic, please click the “Test_Tools_xxxxx_ini_stress_Android” jobs.

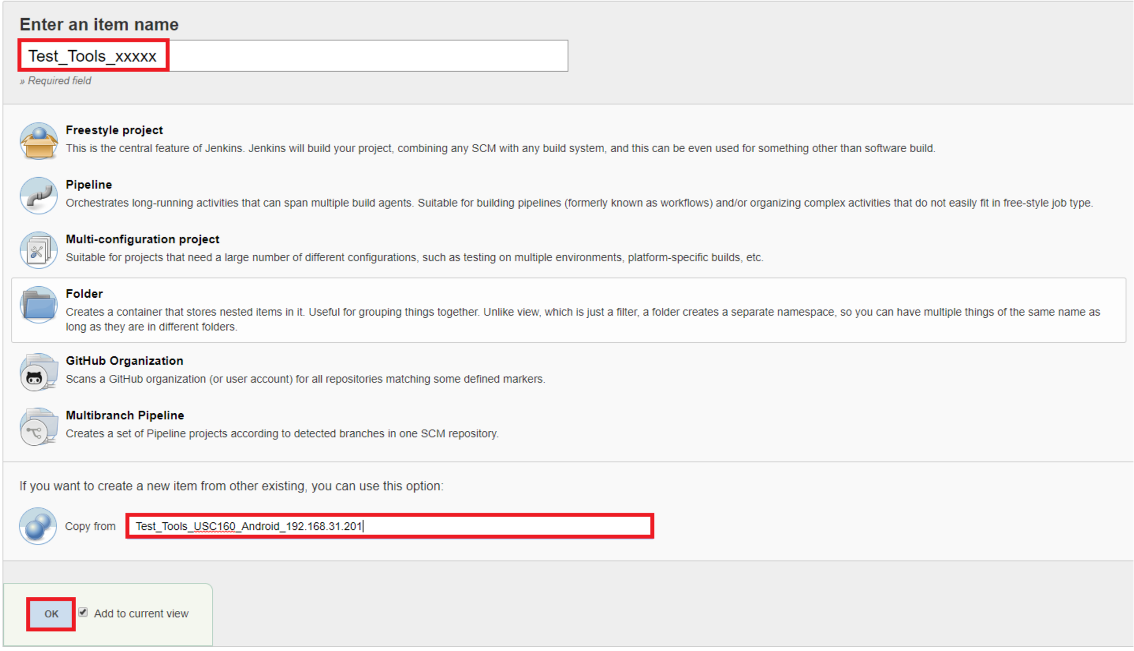


S	W	Name ↓
●	☀	Test_Tools_USC160_Clone_APK_Android
●	☀	Test_Tools_USC160_Clone_Automation_Android
○	☀	Test_Tools_xxxxxx_Clone_ini_Android
○	☀	Test_Tools_xxxxxx_Clone_ini_half_auto_Android
○	☀	Test_Tools_xxxxxx_Clone_ini_stress_Android

The third,

- ➢ Join the main project job. (Ex: Test_Tools_xxxxx)


Jenkins
Jenkins
xxxxxxx
New Item
People
Build History
Edit View
Delete View
Project Relationship
Check File Fingerprint
Manage Jenkins
My Views
Lockable Resources
Credentials
New View



Enter an item name

Test_Tools_xxxxx

» Required field

Freestyle project
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Multi-configuration project
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Folder
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

GitHub Organization
Scans a GitHub organization (or user account) for all repositories matching some defined markers.

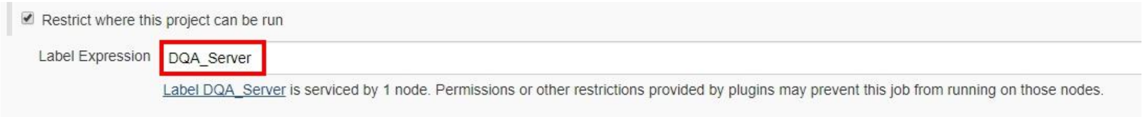
Multibranch Pipeline
Creates a set of Pipeline projects according to detected branches in one SCM repository.

If you want to create a new item from other existing, you can use this option:

Copy from Test_Tools_USC160_Android_192.168.31.201

OK
☑ Add to current view

- Modify the configuration setting:
    - ✓ Agent

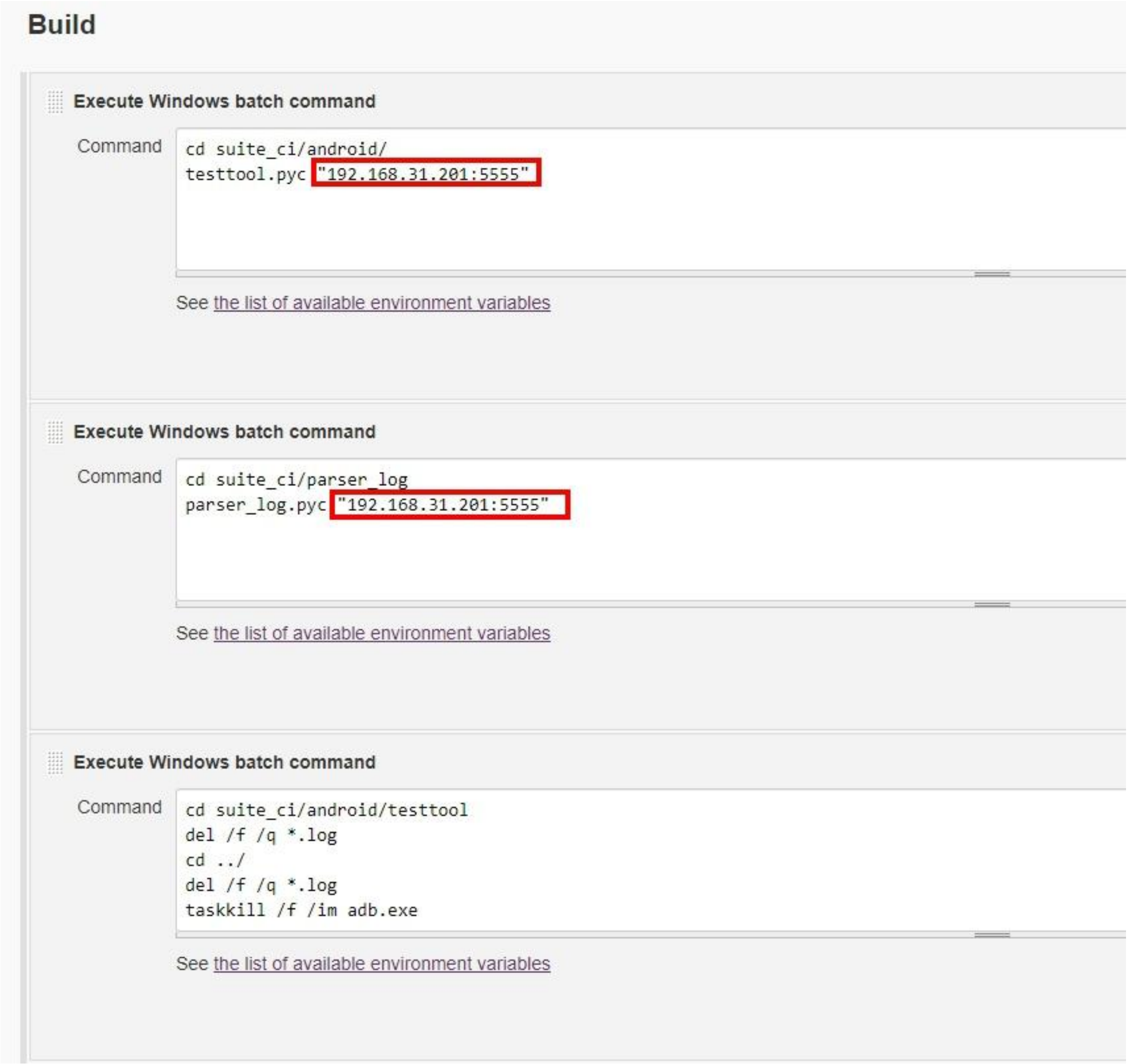


☑ Restrict where this project can be run

Label Expression: DQA_Server

Label DQA_Server is serviced by 1 node. Permissions or other restrictions provided by plugins may prevent this job from running on those nodes.

-
    - ✓ IP address:port (Device IP Address)



Build

Execute Windows batch command

Command

```
cd suite_ci/android/
testtool.pyc "192.168.31.201:5555"
```

See the list of available environment variables

Execute Windows batch command

Command

```
cd suite_ci/parser_log
parser_log.pyc "192.168.31.201:5555"
```

See the list of available environment variables

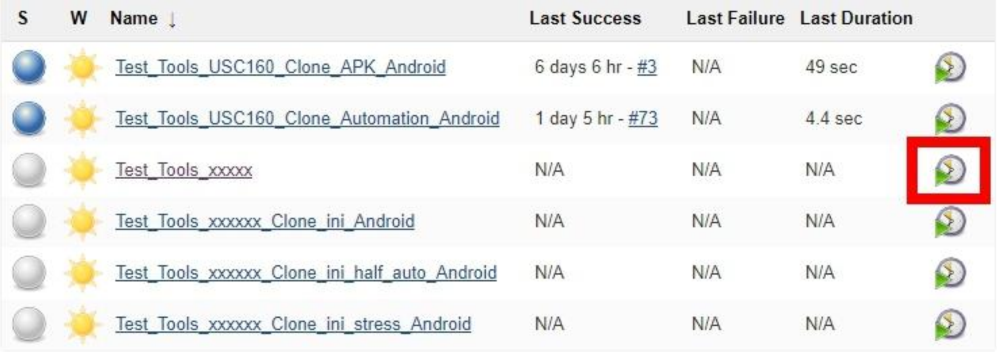
Execute Windows batch command

Command

```
cd suite_ci/android/testtool
del /f /q *.log
cd ../
del /f /q *.log
taskkill /f /im adb.exe
```

See the list of available environment variables

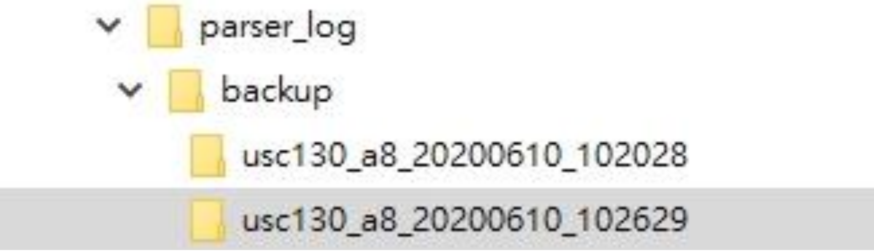
- Finally, starting the auto test script.
    - ✓ Please click the "Test_Tools_xxxxx".



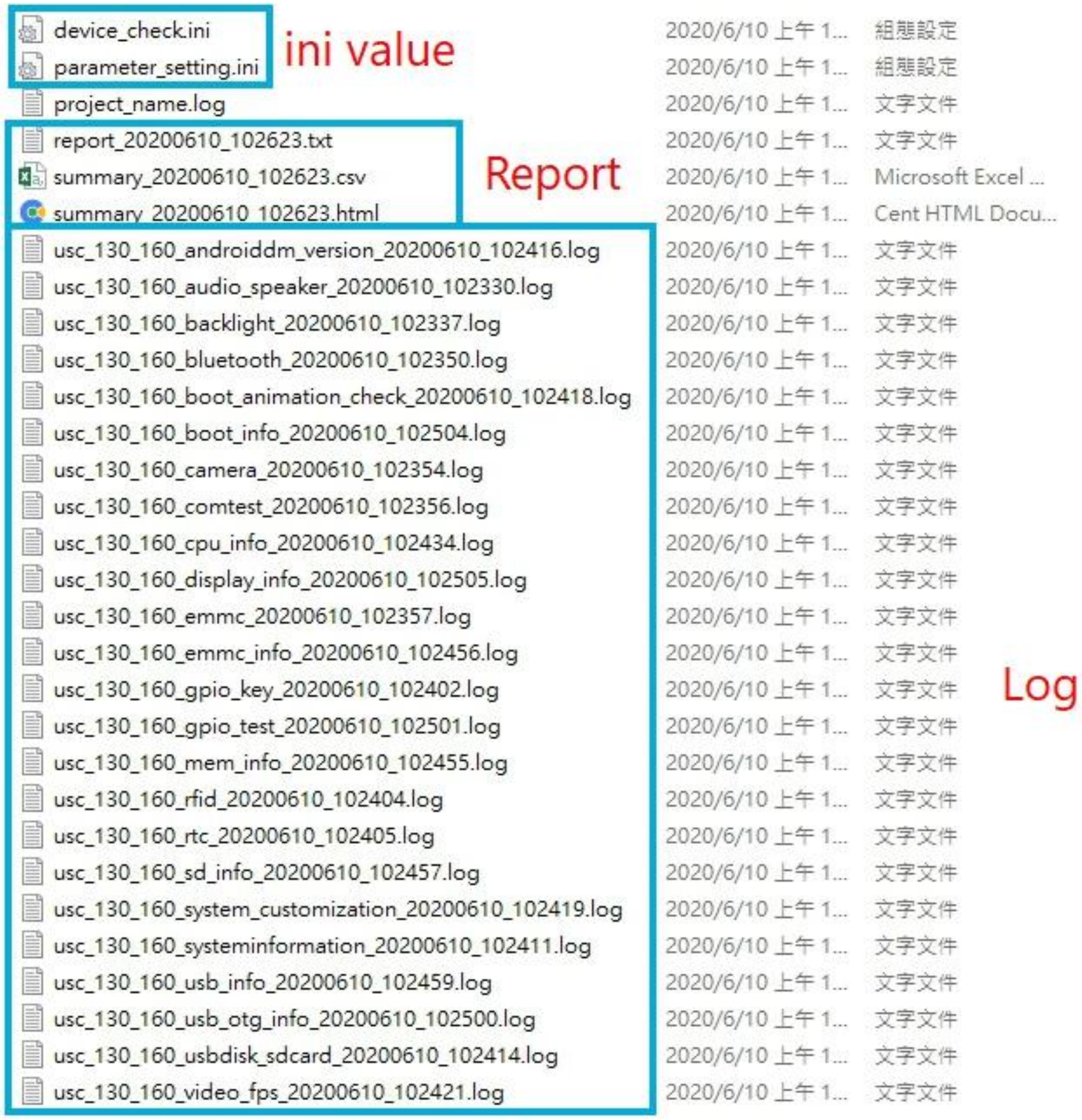
S	W	Name ↓	Last Success	Last Failure	Last Duration	
●	☀	Test_Tools_USC160_Clone_APK_Android	6 days 6 hr - #3	N/A	49 sec	
●	☀	Test_Tools_USC160_Clone_Automation_Android	1 day 5 hr - #73	N/A	4.4 sec	
○	☀	Test_Tools_xxxxx	N/A	N/A	N/A	
○	☀	Test_Tools_xxxxxx_Clone_ini_Android	N/A	N/A	N/A	
○	☀	Test_Tools_xxxxxx_Clone_ini_half_auto_Android	N/A	N/A	N/A	
○	☀	Test_Tools_xxxxxx_Clone_ini_stress_Android	N/A	N/A	N/A	

Step 4:

- Basically, the location is under the C:\code\automation\parser_log\backup\



parser_log
backup
usc130_a8_20200610_102028
usc130_a8_20200610_102629



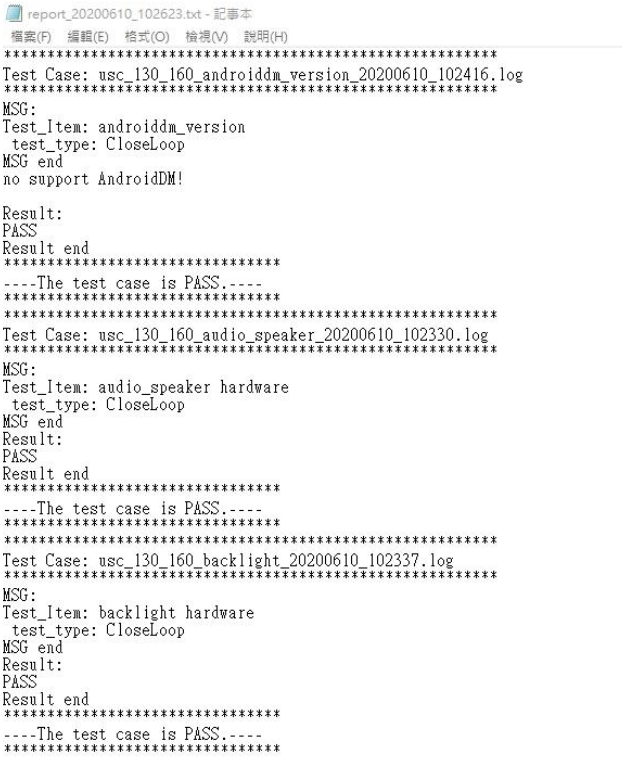
ini value

Report

Log

device_check.ini	2020/6/10 上午 1...	組態設定
parameter_setting.ini	2020/6/10 上午 1...	組態設定
project_name.log	2020/6/10 上午 1...	文字文件
report_20200610_102623.txt	2020/6/10 上午 1...	文字文件
summary_20200610_102623.csv	2020/6/10 上午 1...	Microsoft Excel ...
summary_20200610_102623.html	2020/6/10 上午 1...	Cent HTML Docu...
usc_130_160_androiddm_version_20200610_102416.log	2020/6/10 上午 1...	文字文件
usc_130_160_audio_speaker_20200610_102330.log	2020/6/10 上午 1...	文字文件
usc_130_160_backlight_20200610_102337.log	2020/6/10 上午 1...	文字文件
usc_130_160_bluetooth_20200610_102350.log	2020/6/10 上午 1...	文字文件
usc_130_160_boot_animation_check_20200610_102418.log	2020/6/10 上午 1...	文字文件
usc_130_160_boot_info_20200610_102504.log	2020/6/10 上午 1...	文字文件
usc_130_160_camera_20200610_102354.log	2020/6/10 上午 1...	文字文件
usc_130_160_comtest_20200610_102356.log	2020/6/10 上午 1...	文字文件
usc_130_160_cpu_info_20200610_102434.log	2020/6/10 上午 1...	文字文件
usc_130_160_display_info_20200610_102505.log	2020/6/10 上午 1...	文字文件
usc_130_160_emmc_20200610_102357.log	2020/6/10 上午 1...	文字文件
usc_130_160_emmc_info_20200610_102456.log	2020/6/10 上午 1...	文字文件
usc_130_160_gpio_key_20200610_102402.log	2020/6/10 上午 1...	文字文件
usc_130_160_gpio_test_20200610_102501.log	2020/6/10 上午 1...	文字文件
usc_130_160_mem_info_20200610_102455.log	2020/6/10 上午 1...	文字文件
usc_130_160_rfid_20200610_102404.log	2020/6/10 上午 1...	文字文件
usc_130_160_rtc_20200610_102405.log	2020/6/10 上午 1...	文字文件
usc_130_160_sd_info_20200610_102457.log	2020/6/10 上午 1...	文字文件
usc_130_160_system_customization_20200610_102419.log	2020/6/10 上午 1...	文字文件
usc_130_160_systeminformation_20200610_102411.log	2020/6/10 上午 1...	文字文件
usc_130_160_usb_info_20200610_102459.log	2020/6/10 上午 1...	文字文件
usc_130_160_usb_otg_info_20200610_102500.log	2020/6/10 上午 1...	文字文件
usc_130_160_usbdisk_sdcard_20200610_102414.log	2020/6/10 上午 1...	文字文件
usc_130_160_video_fps_20200610_102421.log	2020/6/10 上午 1...	文字文件

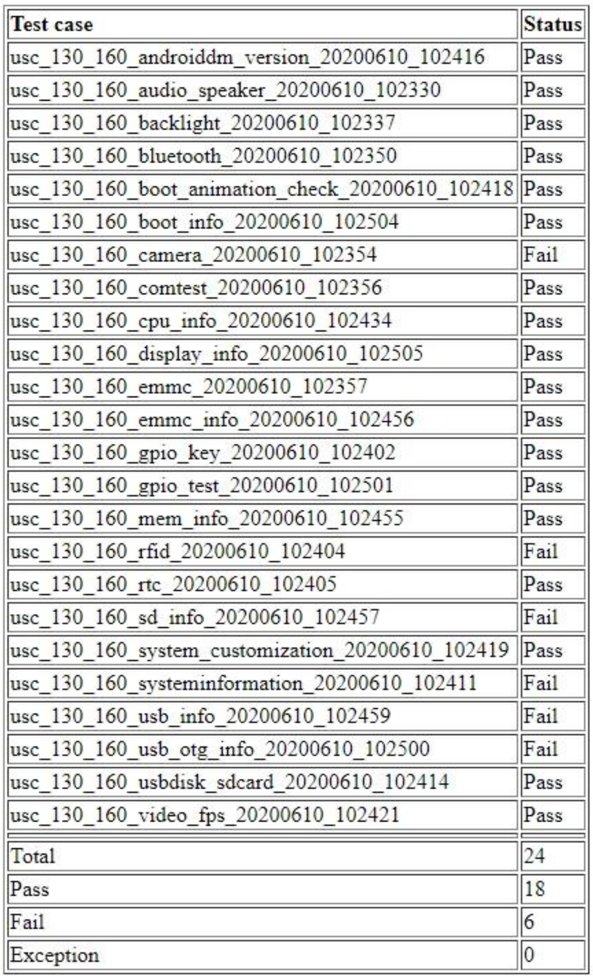
- report_20200610_102623.txt



```
*********************************************************
Test Case: usc_130_160_androiddm_version_20200610_102416.log
*********************************************************
MSG:
Test_Item: androiddm_version
 test_type: CloseLoop
MSG end
no support AndroidDM!

Result:
PASS
Result end
********************************
----The test case is PASS.----
********************************
*********************************************************
Test Case: usc_130_160_audio_speaker_20200610_102330.log
*********************************************************
MSG:
Test_Item: audio_speaker hardware
 test_type: CloseLoop
MSG end
Result:
PASS
Result end
********************************
----The test case is PASS.----
********************************
*********************************************************
Test Case: usc_130_160_backlight_20200610_102337.log
*********************************************************
MSG:
Test_Item: backlight hardware
 test_type: CloseLoop
MSG end
Result:
PASS
Result end
********************************
----The test case is PASS.----
********************************
```

- summary_20200610_102623.html



Test case	Status
usc_130_160_androiddm_version_20200610_102416	Pass
usc_130_160_audio_speaker_20200610_102330	Pass
usc_130_160_backlight_20200610_102337	Pass
usc_130_160_bluetooth_20200610_102350	Pass
usc_130_160_boot_animation_check_20200610_102418	Pass
usc_130_160_boot_info_20200610_102504	Pass
usc_130_160_camera_20200610_102354	Fail
usc_130_160_comtest_20200610_102356	Pass
usc_130_160_cpu_info_20200610_102434	Pass
usc_130_160_display_info_20200610_102505	Pass
usc_130_160_emmc_20200610_102357	Pass
usc_130_160_emmc_info_20200610_102456	Pass
usc_130_160_gpio_key_20200610_102402	Pass
usc_130_160_gpio_test_20200610_102501	Pass
usc_130_160_mem_info_20200610_102455	Pass
usc_130_160_rfid_20200610_102404	Fail
usc_130_160_rtc_20200610_102405	Pass
usc_130_160_sd_info_20200610_102457	Fail
usc_130_160_system_customization_20200610_102419	Pass
usc_130_160_systeminformation_20200610_102411	Fail
usc_130_160_usb_info_20200610_102459	Fail
usc_130_160_usb_otg_info_20200610_102500	Fail
usc_130_160_usbdisk_sdcard_20200610_102414	Pass
usc_130_160_video_fps_20200610_102421	Pass
Total	24
Pass	18
Fail	6
Exception	0