## **QT** Tablet Configuration : Virtual Environment

- 1. Set up the environment through Android Studio <a href="https://developer.android.com/studio">https://developer.android.com/studio</a>
- 2. Install the SDK packages through the installer
- 3. In Tools>SDK Manager, make sure that for QT development you install:
  - The SDK Platforms for the target Android versions
  - The Android SDK Tools
  - The Android SDK Platform-tools
  - The Android SDK Build-tools

- Languages & Frameworks → Android SDK

   Manager for the Android SDK and Tools used by the IDE

   Android SDK Location:
   C:\Android\AndroidStudioSDK

   SDK Platforms
   SDK Tools
   SDK Update Sites
- 4. Within SDK Manager>SDK Tools tab, check the boxes for NDK and CMake, and complete installation.
- 5. Set up your virtual device through the Device Tab on the main screen, and click "Create Virtual Device"
- 6. Choose the device you'd like to simulate, and download the system image to configure correct version
- 7. After AVD configuration, press the green start button, so that when your emulator is running, it should appear in the list of available Android devices in QT
- 8. Inside QT Creator, load your project, and go to Projects>Manage Kits>Devices>Android
- 9. Specify the paths to the previous JDK, SDK, and NDK installations
- 10.Confirm the kit in your run settings, and once the emulator is selected as the target, clicking the "Run" button in Qt Creator will build your application, install it on the emulator, and start it



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Create Virtual Device

## **QT** Tablet Configuration : Physical Device

X Add... -

Remove

Set As Default

Set up Wi-Fi Refresh

Another way to run your programs is by using a physical device, like a tablet.

- 1. In your open QT project, go to Projects>Manage Kits>Devices>Android
- 2. Click, Set Up SDK to install the packages required through QT, and specify the paths for their locations
- 3. Install a JDK through https://adoptium.net/, and make sure that you are using the correct JDK, compatible with your device and program versions.
- 4. With the device plugged in, the device and kit should be automatically detected, and you will be able to run the connected device

Devices

General

Name:

Type:

Type Specific

Device name:

Device type:

OS version:

Authorized:

Serial number:

Devices Android WebAssembly QNX SSH

ZB30

Current state: 

Ready to use

Android

**ZB30** 

Physical device

ZB304642023120B18 CPU architecture: arm64-v8a, armeabi-v7a, armeab

Android 13.0 (Tiramisu) (SDK 33)

Auto-detected: Yes (id is "Android Device:ZB304642023120B18")

- 5. It is important to make sure you have developer mode activated on your device
- https://www.samsung.com/uk/support/mobile-devices/how-do-i-turn-on-the-developer-optic 03 Qt Creator 6. Your .pro file should then have something Available device types Android Device like this: Remote Linux Device ONX Device WebAssembly Runtime





Devices	Android	Correct C		.gura		
Android S	ettings					
JDK loca	ation:	C:\Android\AndroidStudio\jbr		Browse	]	•
Android	SDK location:	C:\Android\AndroidStudioSDK		Browse	Set Up SDK	
					SDK Manager	
Android	NDK list:	C:\Android\AndroidStudioSD	(\ndk\25.1.89	37393	Add	
					Remove	
					Make Default	
🗸 And	droid settings a	re OK. (SDK Version: 13.0, NDK Ver	sion: 25.1.893	7393)	Details	; 🔺
-	JDK path exis	ts and is writable.				
	Android SDK	path exists and is writable.				
	Android SDK	Command-line Tools installed.				
	Android SDK	Command-line Tools run.				
	Android SDK	Platform-Tools installed.				
~	Android Platf	orm SDK (version) installed.				
~	Android SDK	Build-Tools installed.				
	All essential r	ackages installed for all installed O	t versions.			



Set Up SDK SDK Manager

## **QT** Tablet Configuration : Kit Error Fix 5/1/24

If an error occurs where QT does not recognize the architecture of the device<sup>1</sup>, even though it is confirmed<sup>2</sup> and the proper packages are installed<sup>3</sup>, then the fix is to hit the button: "Set up Wi-Fi", instead of using the cable as connection between the host and device.

Devices		○ C:\Users\sasha≥adb_shell_getprop_ro_product.cpu.abi	- ·		
Devices Android WebAssembly QNX SSH		arm64-v8a	Devices		
evice:  Total (default for Android)  Add  General  Name: Total  Add  Remove  Remove  Sat As Default		3 ✓ Android 12.0 ("S") 31 ✓ SDK Platform 31 ✓ ARM 64 v8a System Image 31	Devices Android WebAssembly QNX SSH Device: T618 (WiFi) (default for Android) General		
Type Specific Device name: T618 Device type: Physical device			Auto-detected: Yes (id is "Android Device:192.168.0.238:5555") Current state: Ready to use		
Serial number: T618YC23104601 CPU architecture: OS version: Unknown Android version. API Level: -1 (SDK -1 Erro			Type Specific Device name: T618 (WiFi)		
Authorized: Yes		For more information on this bug, visit the <u>QT bug reports on failed Android deployment</u> : https://bugreports.qt.io/browse/QTCREATORBUG-27103	Device type: Physical device Serial number: 192.168.0.238:5555 CPU architecture: arm64-v8a. armeabi-v7a. armeabi		
03:36:47: The deployment device "T618" doe	s not suppor	t the architectures used by the kit.	OS version: Android 12.0 ("S") (SDK 31)		

The kit supports "arm64-v8a", but the device uses "". Error while building/deploying project Charge (kit: Android Qt 6.5.2 Clang arm64-v8a)

When executing step "Deploy to Android device"



Authorized:

Yes

## **Example programs run on tablet**



QT Example Widget: RobotArm





Facility for Rare Isotope Beams U.S. Department of Energy Office of Science Michigan State University

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