Qbic Firmware User Manual

Revision 1.1

14th January 2020

support.QbicTECHNOLOGY.com

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Revision history

REVISION	DATE	DESCRIPTION	EDITED BY
1.0	2019/10/16	• First Release	Arthise Chen
1.1	2020/1/14	• Revised based on firmware ver 1.1.x and 2.0.x	Arthise Chen & Richard Jiang

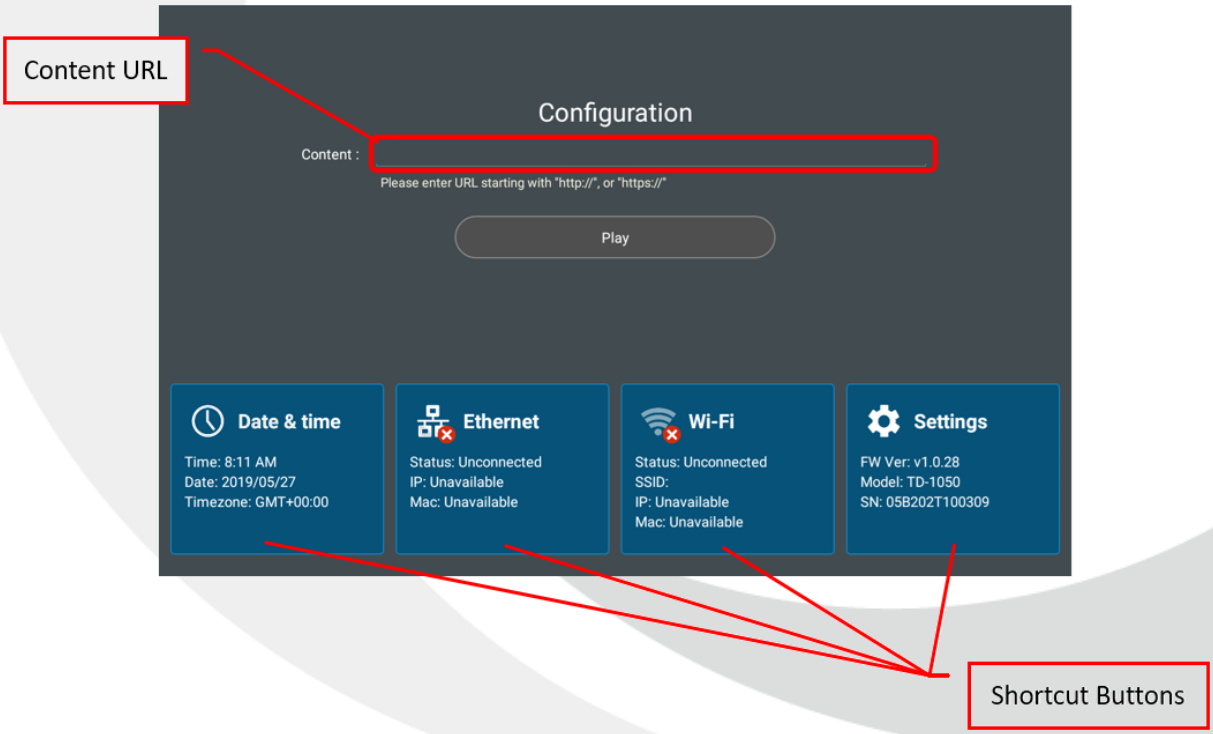
Introduction

In this user guide, user will learn how to configure the Qbic products and apply the features in the field site. The UI might be slightly different at screenshots based on different Android versions (5.1/ 7.1/ 8.1).

Main Page

After booting the system, there is default screen shown as below. This is Qbic feature page that includes system date/time, the information of connection through wired or wireless Ethernet. In the center of page, it is named as “content URL”, users can put specific website URL or apk. System will automatically launch the website or apk that assigned in the content URL.

Configuration Screen



Note: There are only three shortcut buttons (Date & Time, Wi-Fi, and Settings) on TD-0350

Content URL

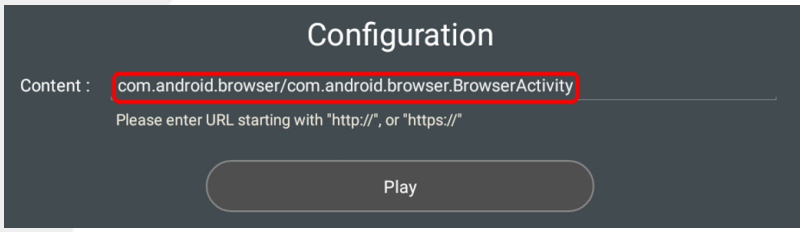
Content URL is a unique feature in Qbic devices. The media content (SMIL, HTML5) or app assigned here will be automatically launched when system boots. There are three types of information inside this column to let the device proceed it automatically after the countdown.

- The link of a media content (SMIL, HTML5)
- The website URL
- The path of an application (APK)

  Note: To launch the application automatically, the URL need to be assigned as **PackageName/Launch.Activity.**

  For the below example, the launcher will launch WebView browser.

  com.android.browser/com.android.browser.BrowserActivity

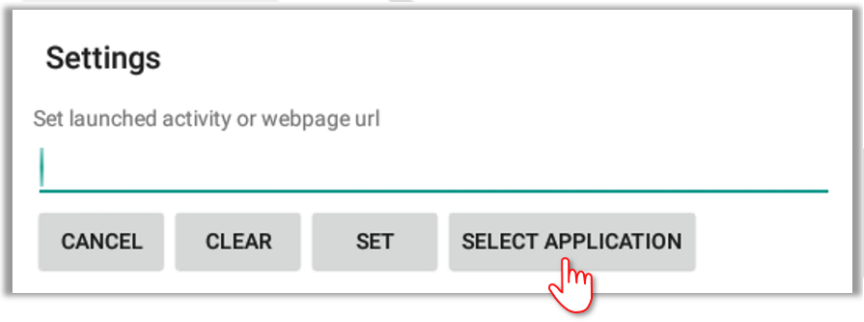


- It can ONLY put the webpage with pre-fix: http:// or https://, not with rtsp://

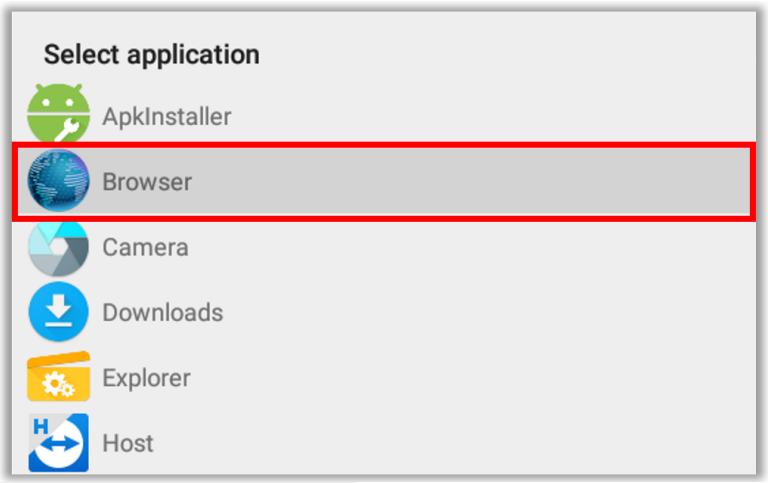
Tips: How to find the PackageName/LaunchActivity information on device?

You can ask for the APP developer to provide related information or follow below steps to find it.

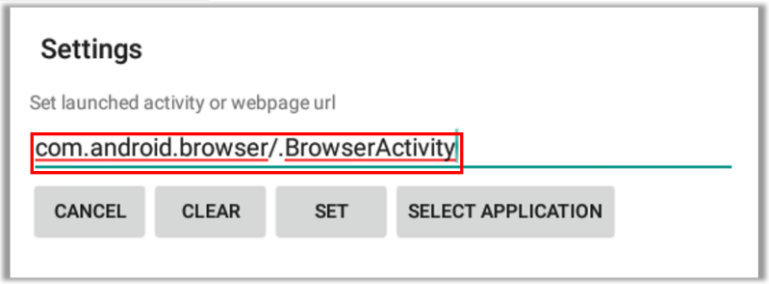
1. Android version 5.1/7.1/8.1: Settings => Player settings => KIOSK mode => Launched activity or webpage url
2. Click on “SELECT APPLICATION”



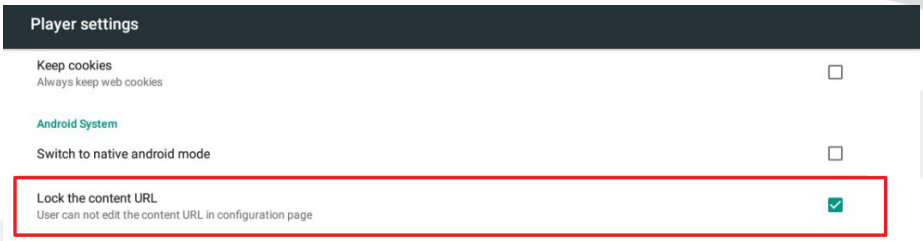
3. Select the APP you need in the Application list. For the below example, Browser is selected.



4. The information you need will appear in the column marked as below picture, you can copy it and put it in the Content URL column on main page to let the device launch the APP automatically after each reboot.

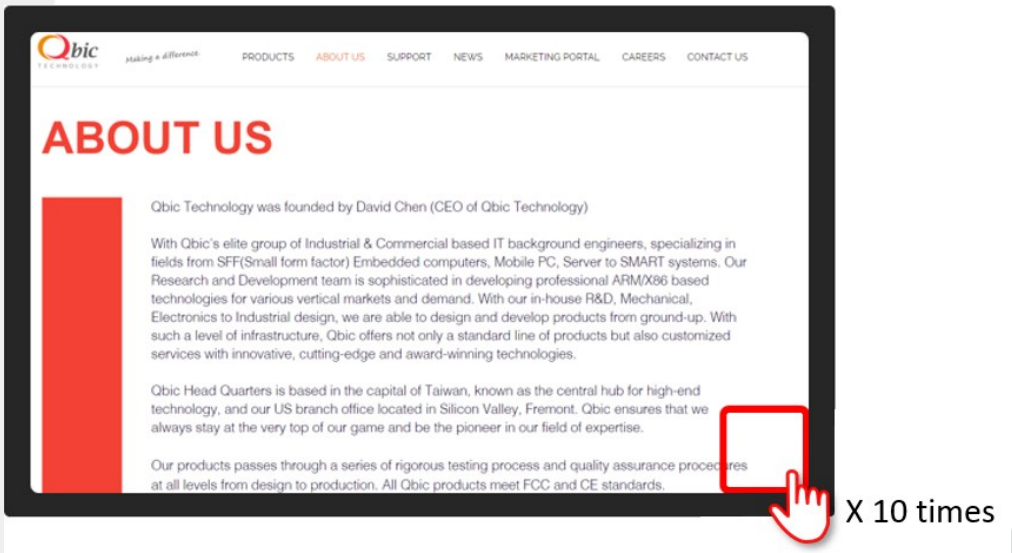


- To avoid changing of content URL unexpectedly, you may lock the URL or APK assigned in content URL. Hence, administrator can enable the function in the Player settings> Android System> Lock the content URL.

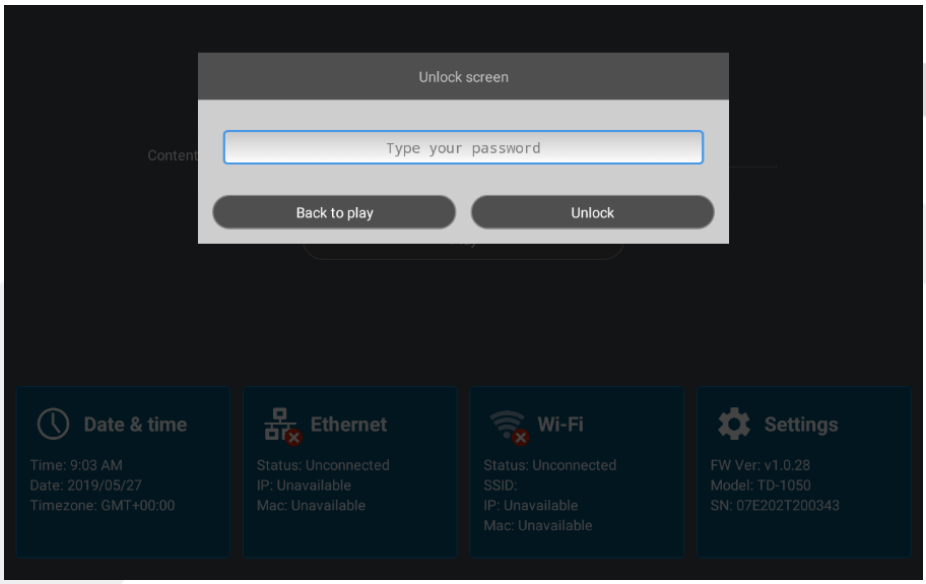


- How to quit playing content
  - When contents are being played, click on the bottom-right corner of the screen 10 times to quit playback and return to the launcher.

    Note: You are only able to quit the playback of content played by the Qbic Smart player. Once you use content URL to launch an APP, you should follow



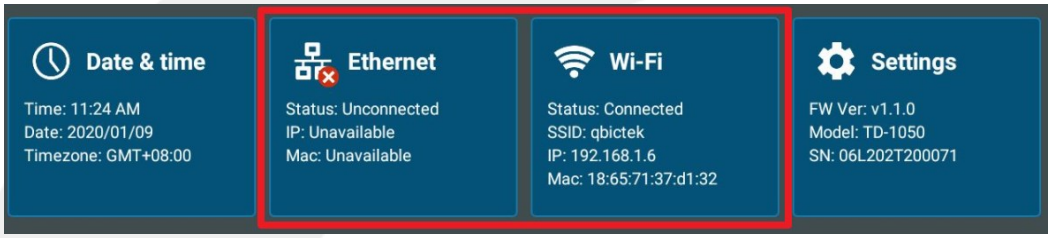
- If security password is enabled, the system will be locked with protected password. Users need to unlock the screen by the security password before modifying any settings on device.



General Settings

Network

In settings, there are different types of network connection can be configured. While wired Ethernet, wireless Ethernet and cellular networks are all available in the system, the interface connection priority will be wired Ethernet, then wireless network and then cellular network.



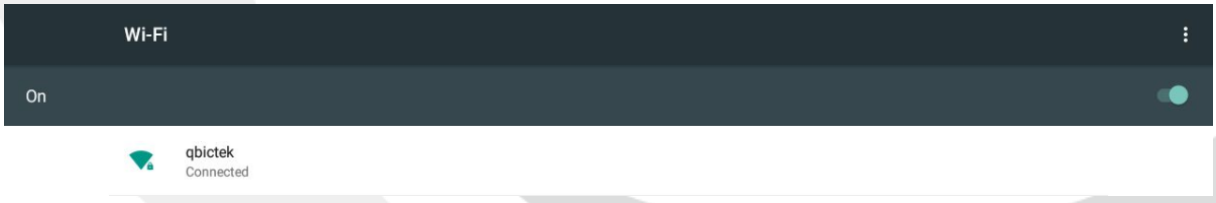
- Connect to a Wifi AP

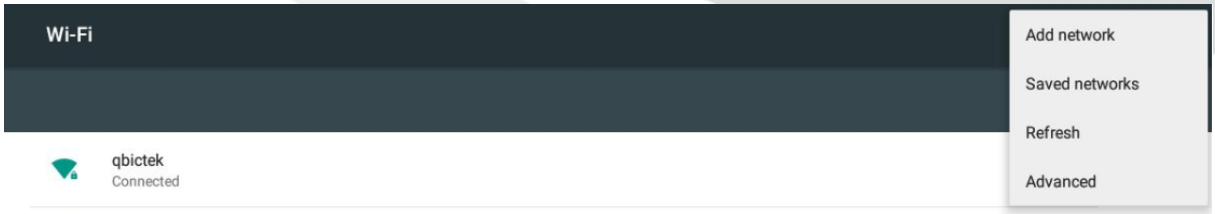
User can enable the “on” button to view the WiFi SSID available in their filed site. Tap on the SSID you need directly and input related information then click on the “CONNECT” button to connect to the Wifi.

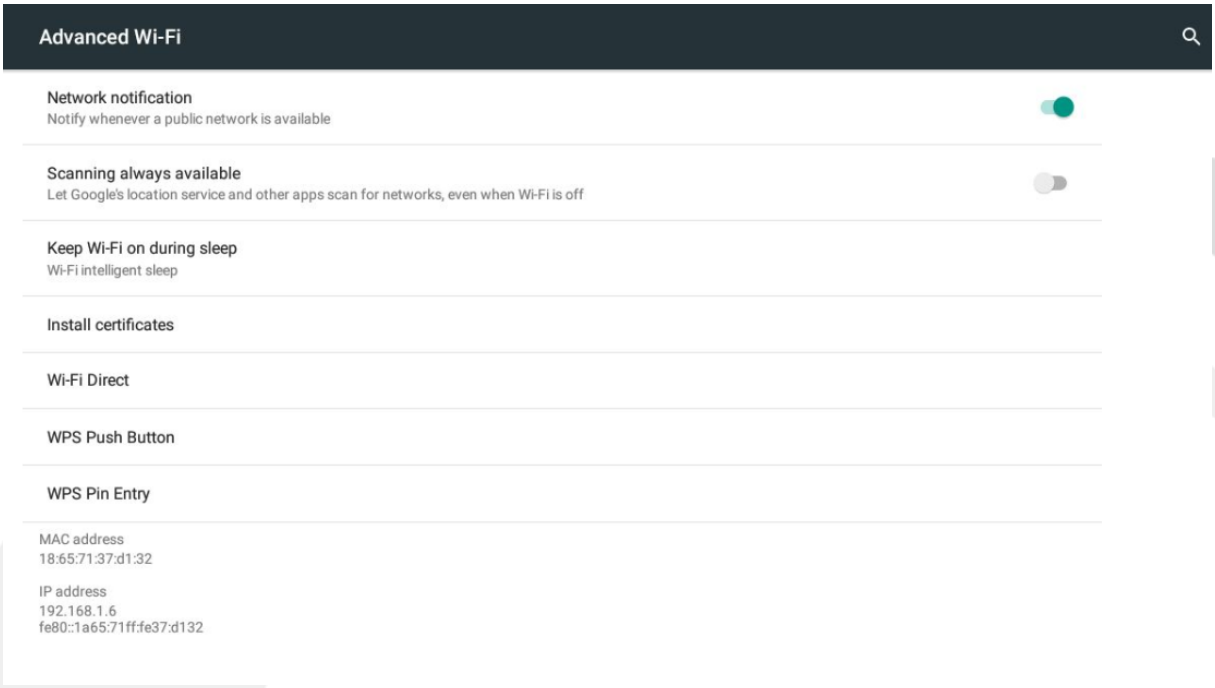
In addition, user can pre-define the known SSID in the device by adding the network in the WiFi settings.

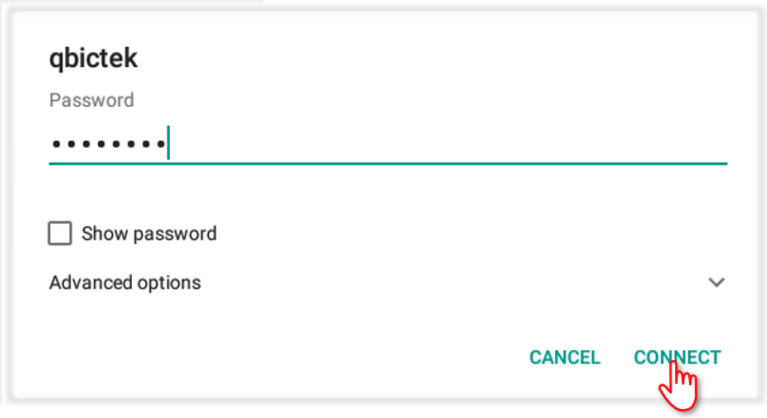
Android version 5.1/7.1: Settings => Wifi

Android version 8.1: Settings => Network & Internet => Wi-Fi







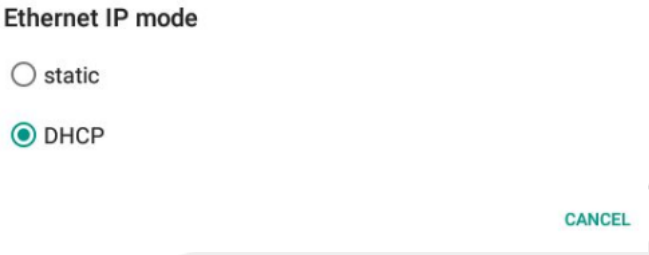


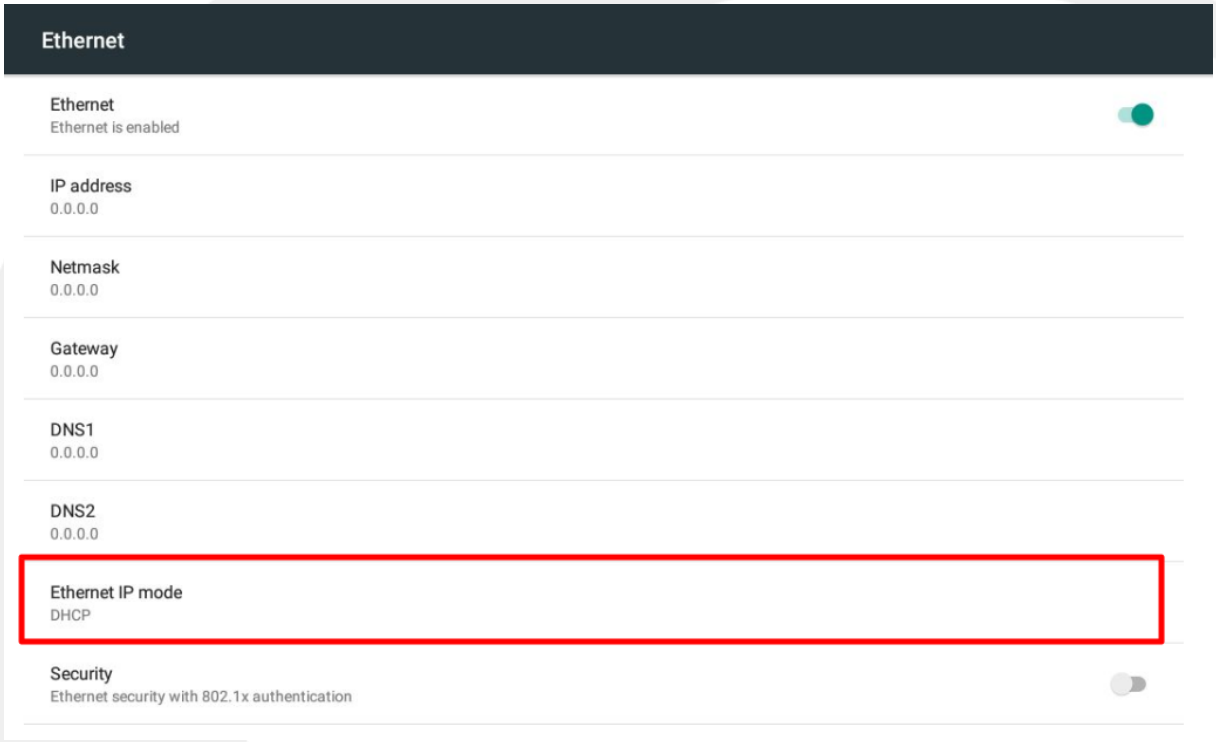
- Connection through wired network

DHCP (Dynamic Host Configuration Protocol)

For the settings of wired Ethernet connection, there is two ways to configure it. One is DHCP (Dynamic Host Configuration Protocol) and the other is static IP address. By applying DHCP, the system IP address will automatically be assigned by DHCP server when network cable is plugged into system, the device will negotiate with DHCP server.

To set as DHCP mode in the system, administrator can find it in Settings> Wireless & networks> Ethernet> Ethernet IP mode> DHCP





To manually input the static IP address for the system, administrator can find it in Settings> Wireless & networks> Ethernet> Ethernet IP mode> static

Then, input the IP address for the system, Gateway, subnet mask and DNS server. Please check these information with your local IT administrator.

- ## Static IP setup

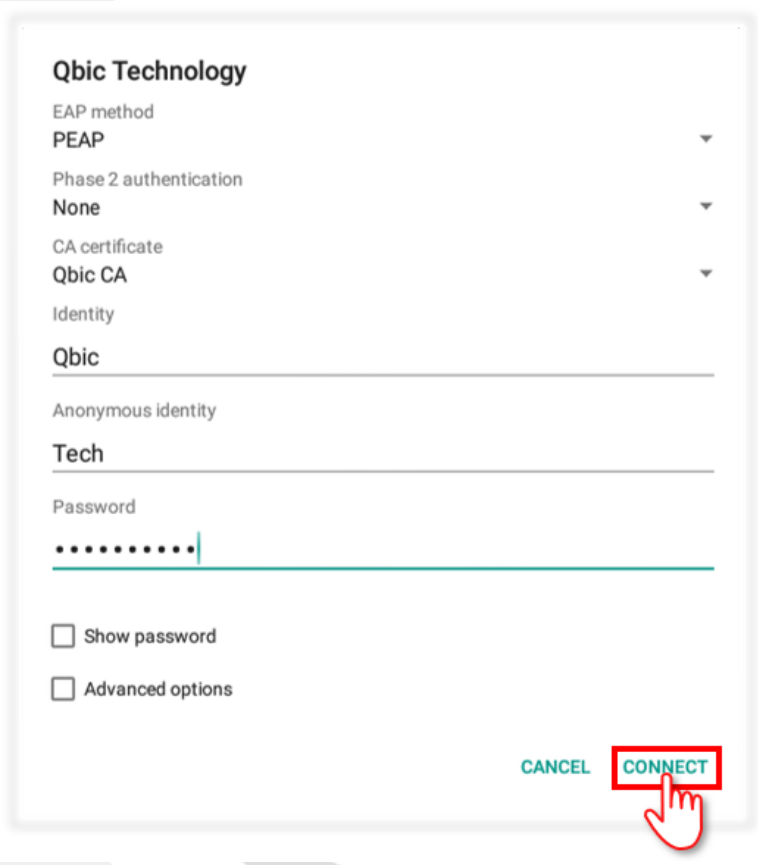
The default IP mode on device for both Ethernet and Wi-fi is “DHCP” (**D**ynamic **H**ost **C**onfiguration **P**rotocol) to allow DHCP server assigns an IP on device. User can still follow below steps to setup the static IP if needed.

a. Wifi

Android version 5.1/7.1: Settings => Wi-Fi

Android version 8.1: Settings => Network & Internet => Wi-Fi

1. Turn on the Wi-Fi.
2. Select the Wi-Fi SSID you want to connect.
3. Enable (Click on) the “Advanced” option and input the related information then click on “Connect” button to connect.

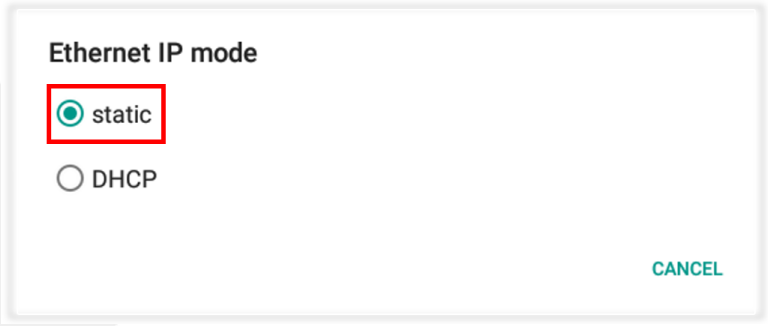


b. Ethernet

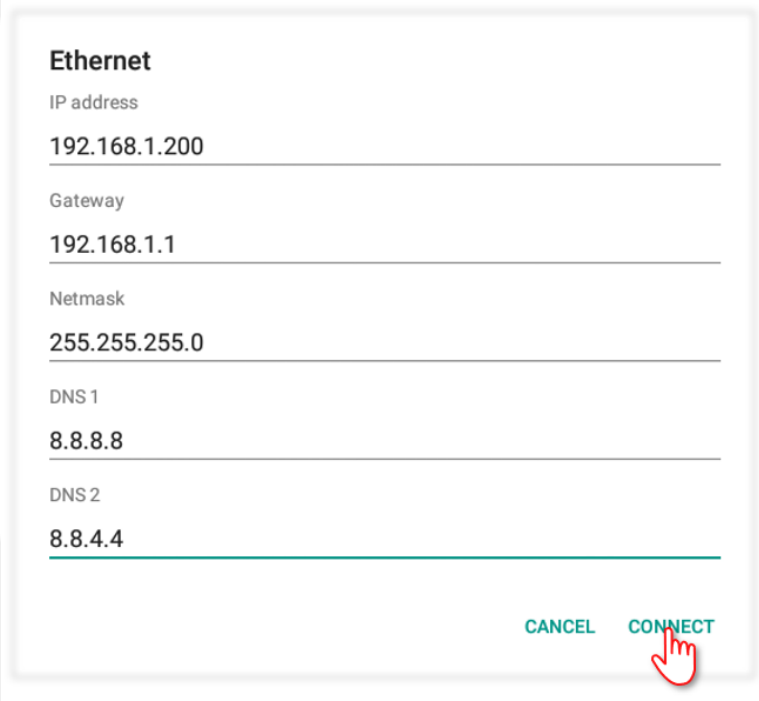
Android version 5.1/7.1: Settings => Ethernet => Ethernet Ip mode

Android version 8.1: Settings => Network & Internet => Ethernet => Ethernet IP mode

1. Select “static” to enter into the setup page.

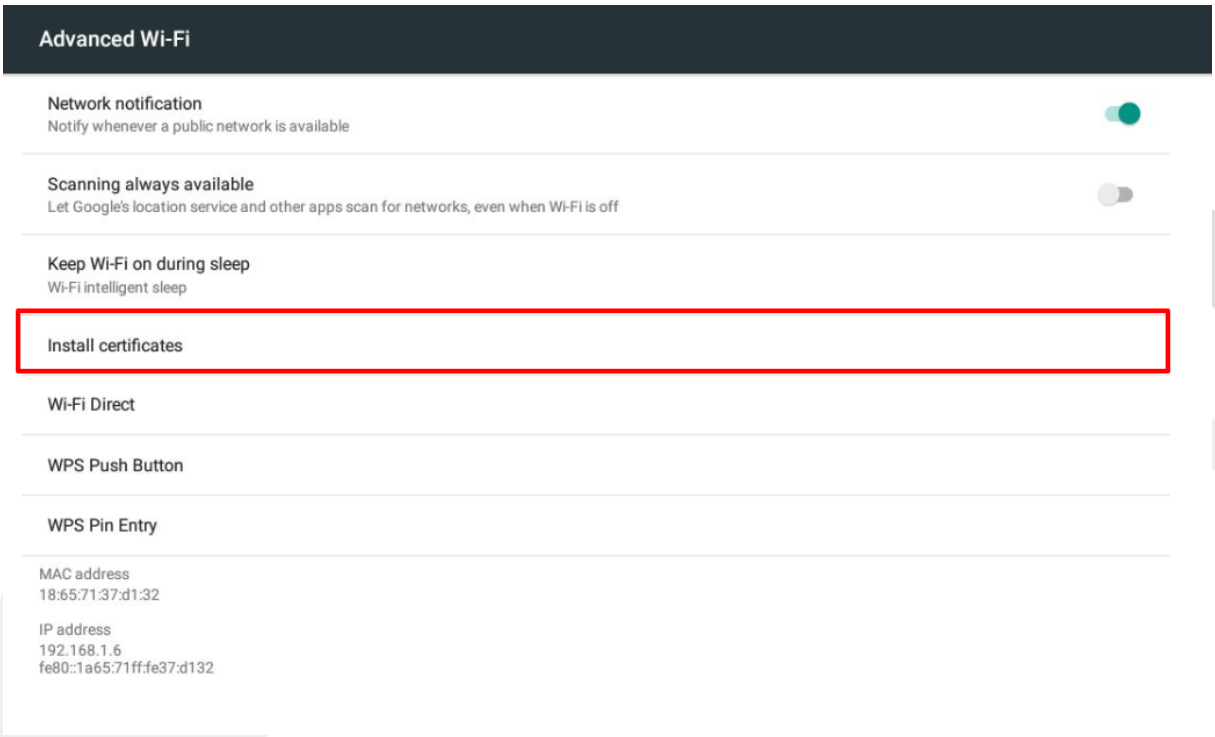


2. Input related information then click on “CONNECT” button to complete the setup.



- ## Import WiFi certificate

Some of WiFi networks may require the installation of certificates. Hence, you can import the WiFi certificate by selecting the Advanced WiFi> Install certificates, then choose the certificate file location.



- Connection through Cellular networks

In some of scenarios, administrators may choose cellular network as their internet connection. You may check with Qbic support to see which cellular module is verified with Qbic system.

The current 3G/4G module verified in TD-1050 series and BXP-202/300/301, BXP-352, is listed as below,

- Huawei E3372h
- Huawei MS2131i-8

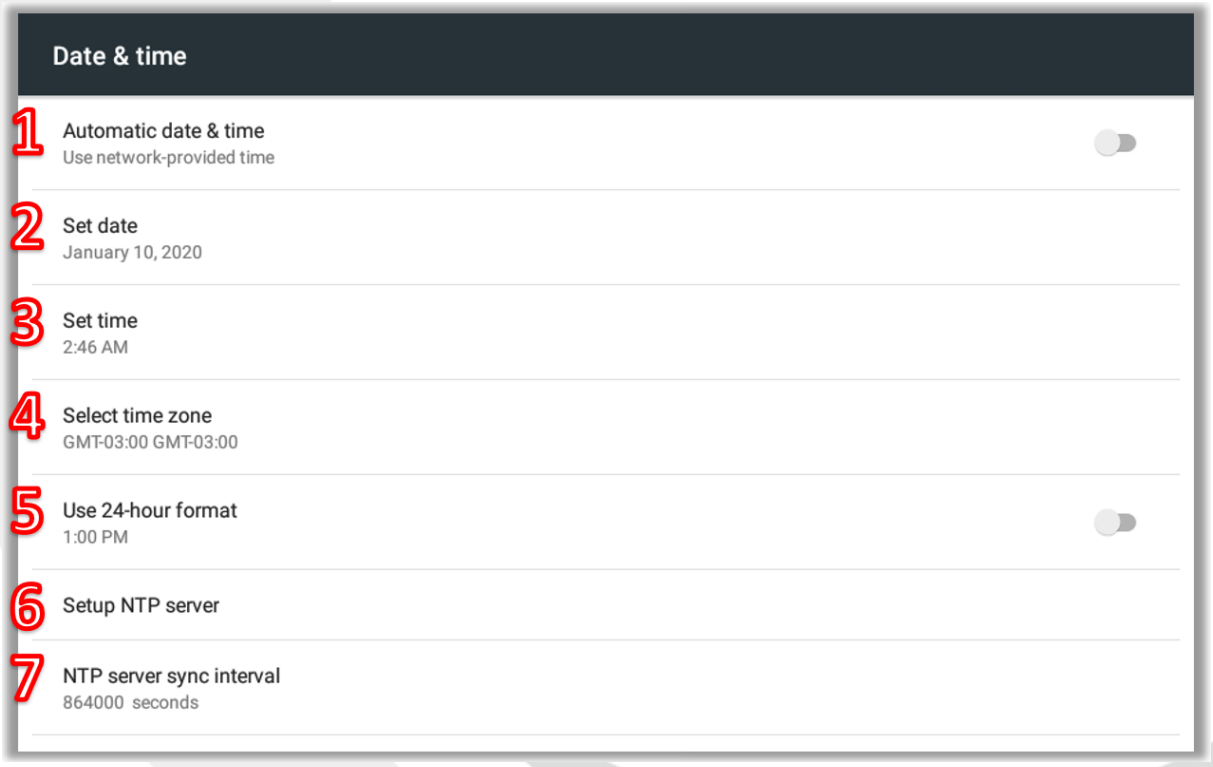
The current 3G/4G M.2 module verified in BXP-320/321 is listed as below,

b. Quectel EM06, LTE-A Cat 6 M.2 Module

Date and Time

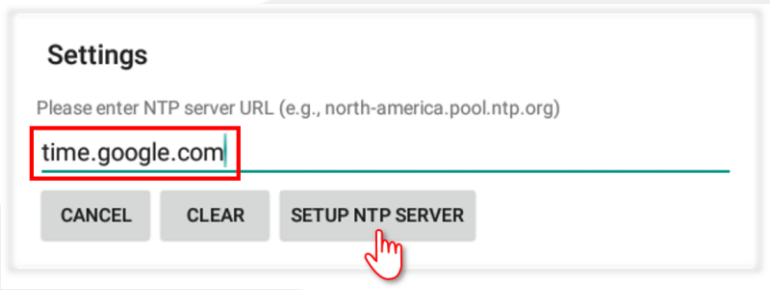
User can modify the date and time related information include Date, Time, Time Zone, Time format and NTP server in the settings.

Android version 5.1/ 7.1/ 8.1: Settings => Date & Time



1. **Automatic date & time:** Enable this option to let device sync the time from network NTP server. (It is enabled in standard Firmware as default)
2. **Set date:** Manually setup the date information. User must disable the “Automatic date & time” option first before try to modify it.
3. **Set time:** Manually setup the time information. User must disable the “Automatic date & time” option first before try to modify it.

4. **Select time zone:** Setup the Time Zone of device.
5. **Use 24-hour format:** Enable this option to let the device display time information with 24-hour format.
6. **Setup NTP server:**
   Input the NTP server URL then click on the “SEUP NTP SERVER” button to complete the setup.



7. **NTP server sync interval:** Select the time interval between each synchronization with NTP server.

Display

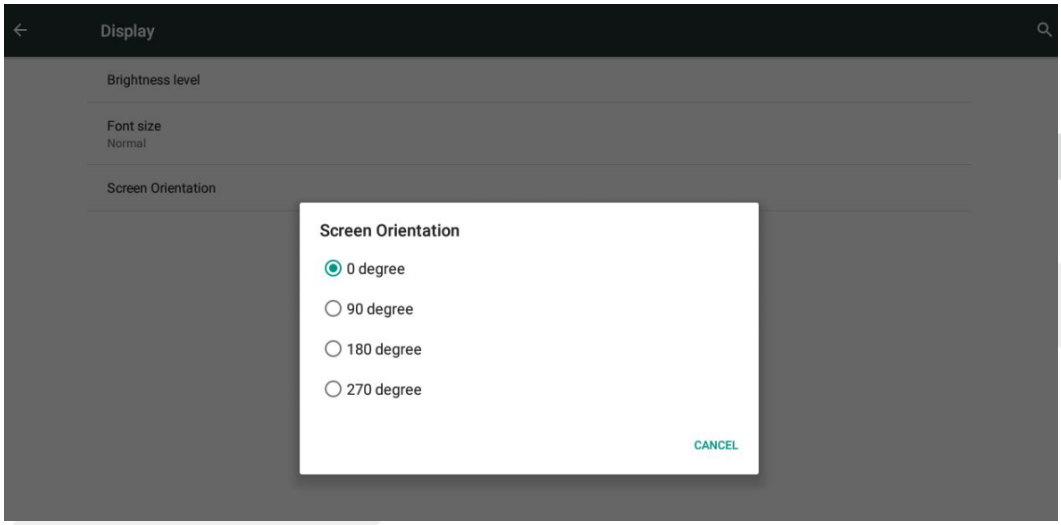
Qbic has implemented some feature to allow use adjust the display effect easily. You can refer to the detail steps on below:

- Screen Orientation

Use can change the screen orientation according to the application scenario.

Android version 5.1/7.1/8.1: Settings => Display/HDMI (Display for Panel and HDMI for box PCs) => Screen Orientation

Select the orientation you need to setup it.



LED

Only applied in the Panel PC series.

- Configure LED

Android version 5.1/ 7.1/ 8.1: Settings => LED

Administrator can decide LED color for front LED and side LED in TD series product

HDMI

For box PCs only

- HDMI resolution (For box PCs only)

User can adjust the HDMI resolution according to their request.

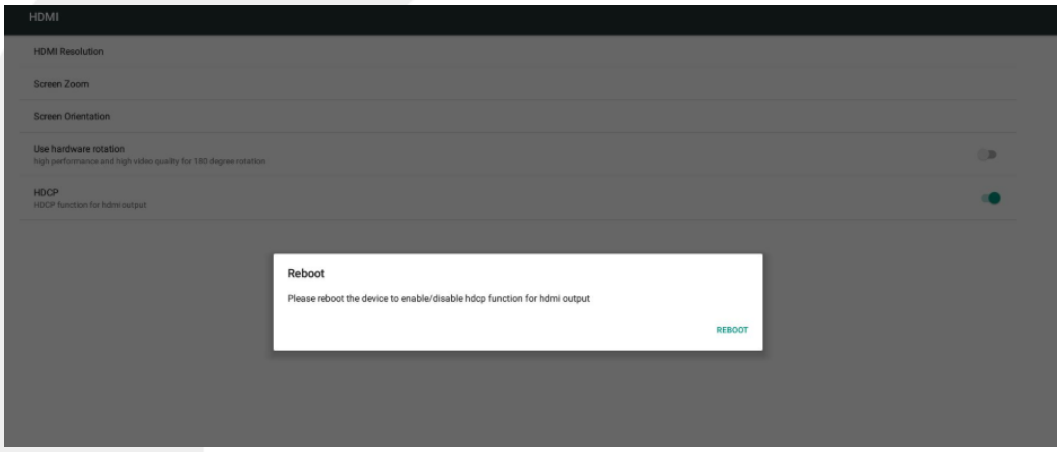
Android version 5.1/7.1: Settings => HDMI => HDMI Resolution

Android version 8.1: Settings => Display => HDMI => HDMI Resolution

Select the HDMI resolution you need to setup it. The default setting on device is “auto”, the device will set the resolution to the highest supported resolution according to the sync result of EDID table.

HDCP

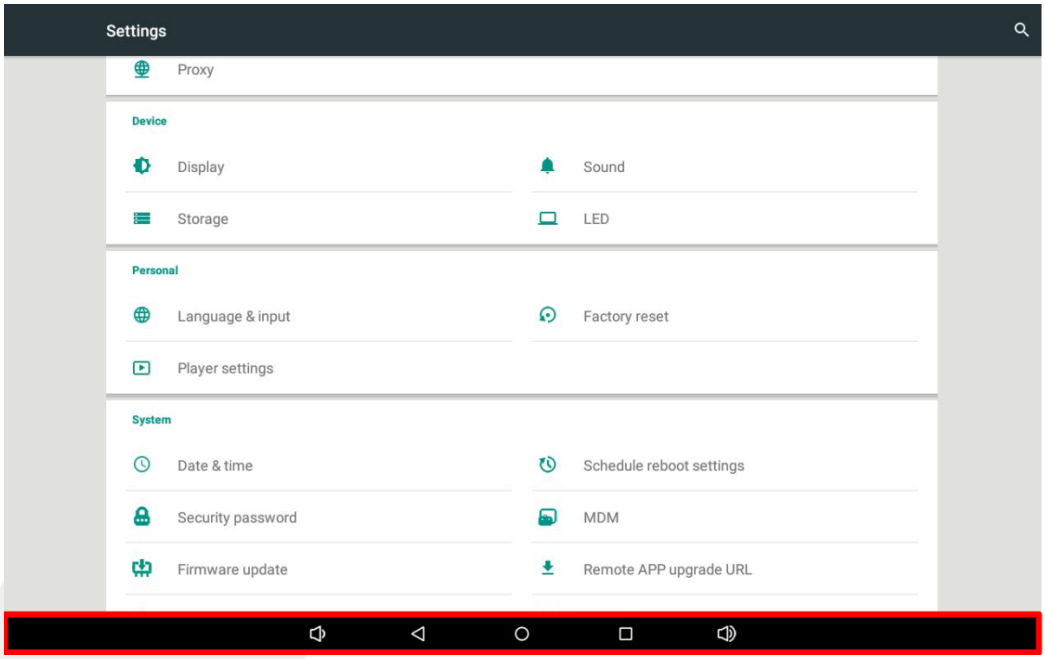
Once Applied HDCP, system will shows it will reboot to apply the HDCP setting.

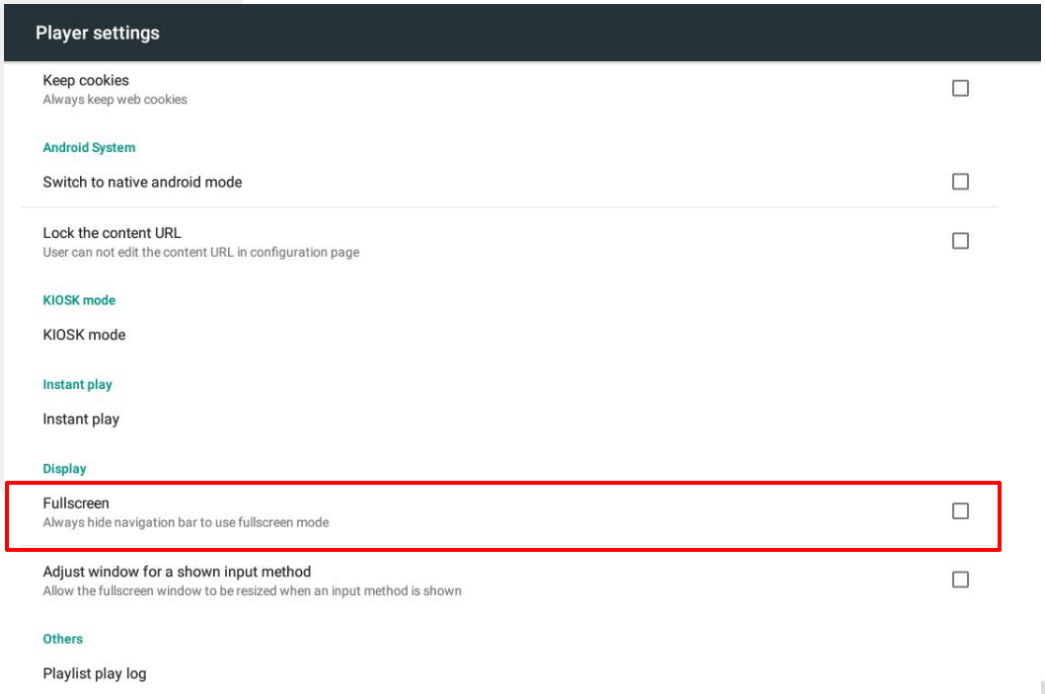


- ## Hide navigation bar (Fullscreen mode)

User can let the device always hide the navigation when running any APP in full screen mode.

Android version 5.1/7.1/8.1: Settings => Player settings => Enable “Fullscreen” mode


Settings
Proxy
Device
Display
Sound
Storage
LED
Personal
Language & input
Factory reset
Player settings
System
Date & time
Schedule reboot settings
Security password
MDM
Firmware update
Remote APP upgrade URL

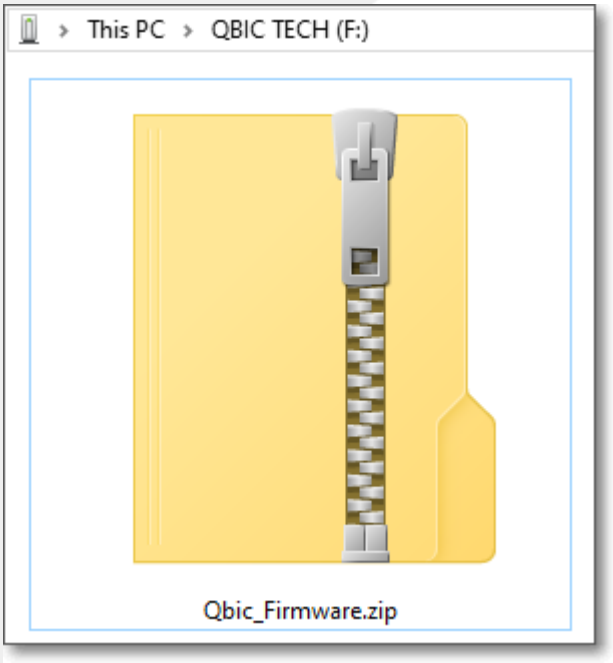

Player settings
Keep cookies
Always keep web cookies
Android System
Switch to native android mode
Lock the content URL
User can not edit the content URL in configuration page
KIOSK mode
KIOSK mode
Instant play
Instant play
Display
Fullscreen
Always hide navigation bar to use fullscreen mode
Adjust window for a shown input method
Allow the fullscreen window to be resized when an input method is shown
Others
Playlist play log

FIRMWARE

• How to Update Firmware

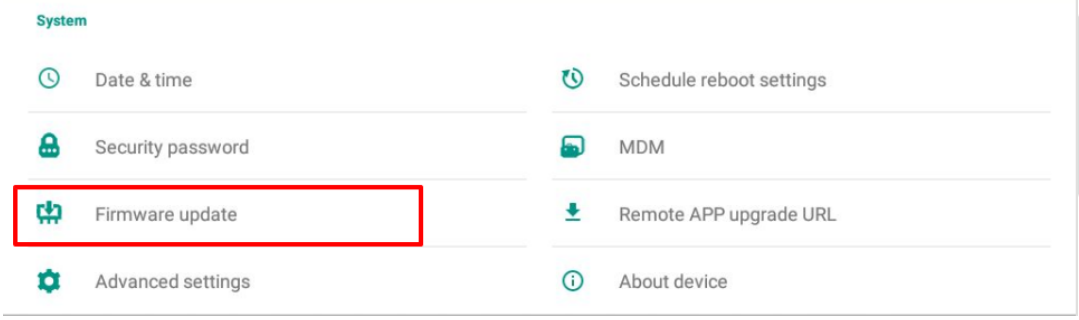
Qbic has the ability to build customized Firmware for each partner. Since there is a lot of customized Firmware versions among worldwide, if you have request of updating the Firmware, we would suggest you to find the device provider to get the related support. Once you receive the Firmware file you need for update, please follow below steps to update the Firmware on device.

1. Prepare a USB drive with **FAT or FAT32** format.
2. Put the Firmware file in the root directly of USB drive.



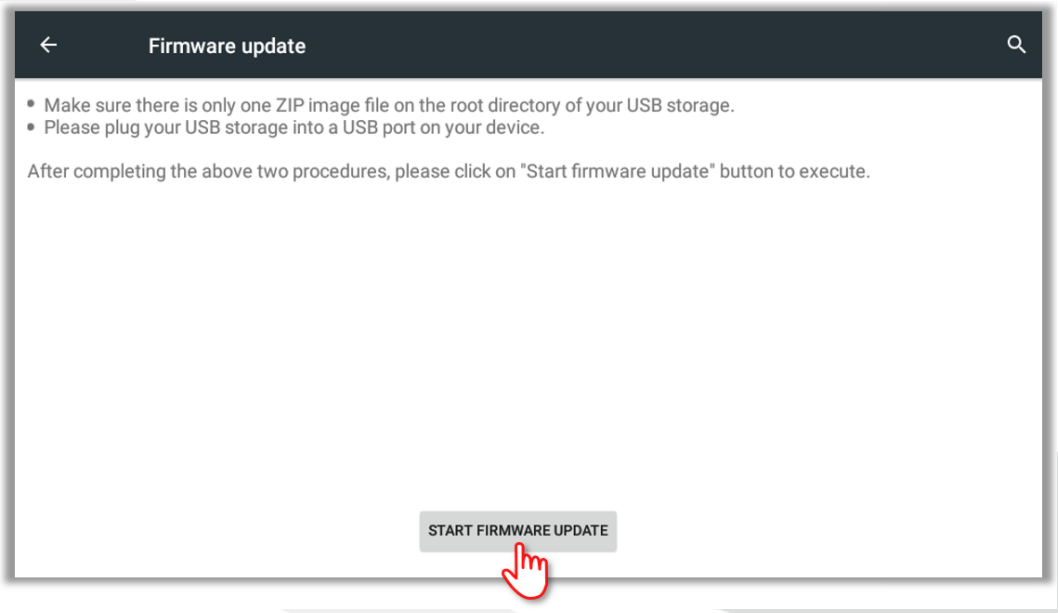
3. Connect the USB drive to device.
4. Update the Firmware.

Android version 5.1/7.1/8.1: Settings =>Firmware update => Firmware update (Update firmware image from USB storage) => START FIRMWARE UPDATE



In the function of firmware update, there are two options to perform upgrade procedure. One is upgraded by remote firmware upgrade URL and the other is upgrade by USB flash drive.

a. Firmware update: By selecting this option, administrator must have the firmware file first and should be as zip file format (.zip). Second, copy the zip file into USB flash drive and keep this zip file in the root folder of USB flash drive.
   Please note that the format of USB flash drive must be FAT/FAT32.
   Then, press the button of “Start firmware update” to run the process.



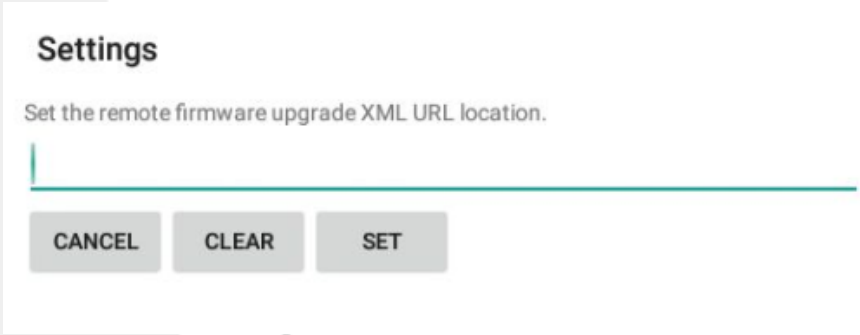
Notice:

*Do not remove the Power supply or try to power off, reboot the device manually during the update, otherwise the device might be damaged and cannot boot up anymore.

**Please note that the main ROM can be upgraded ONLY and can NOT be rollback to earlier version anymore. Please contact with your service provider before upgrading the system.

b. Remote XML URL: Administrator can remotely upgrade the firmware by applying the XML file located in the remote server. This method benefits saving efforts to deploy multiple devices at the same time.

In the following figure, it shows that administrator can type in



Qbic Features

Schedule reboot

Schedule reboot is designed for power saving and also able to extend the product life cycle and stability.

- Daily reboot

Daily reboot let the device reboot automatically at the setup time every day.

Android version 5.1: Settings => Schedule reboot settings

Android version 7.1/8.1: Settings => Schedule Reboot

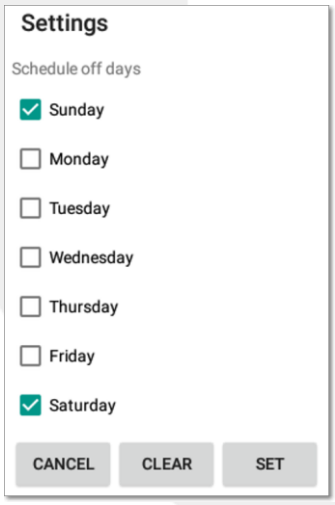
1. **Schedule options:** Daily reboot
2. **Set the daily reboot time:** Setup the time you want the device to reboot automatically every day.
3. **Optimize Server Performance:** Enable this function to let the device produce a random parameter to reboot devices randomly in 30 minutes period. That means if user setup the daily reboot time as AM 4:00, the device may reboot in the time period AM 4:00~4:30. It is able to prevent all the devices reboot at the same time to cause Server traffic overloaded.

- ## Schedule On/Off

Schedule On/Off function able to setup the device be awake and also keep off in the setup time.

1. **Schedule options:** Schedule on/off.
2. **Set the schedule turn-off time:** Device will turn off automatically at the setup time.
3. **Set the schedule turn-off time:** Device will turn on automatically at the setup time.
4. **Schedule off days:** Device will keep turned off on the setup days.

For the below example, the device will keep turned off on every Sunday and Saturday.



5. **Turn off LED lights:** Enable this option to keep the LED light turned off during device off period.
6. **Optimize Server Performance:** Enable "Optimize Server Performance" can prevent all the device reboot at the same time. The device will produce a random parameter to reboot devices randomly in 30 minutes period after scheduled turn-on time. That means the device may turn-on after 0~30 minutes after scheduled turn-on time.

Update Over The Air (OTA)

User can put the XML file and Firmware (APK) under the same folder on the server to allow the device update Firmware (APP) over the air.

- How to update Firmware over the AIR

1. Follow the below sample code to create XML file for Firmware OTA update:

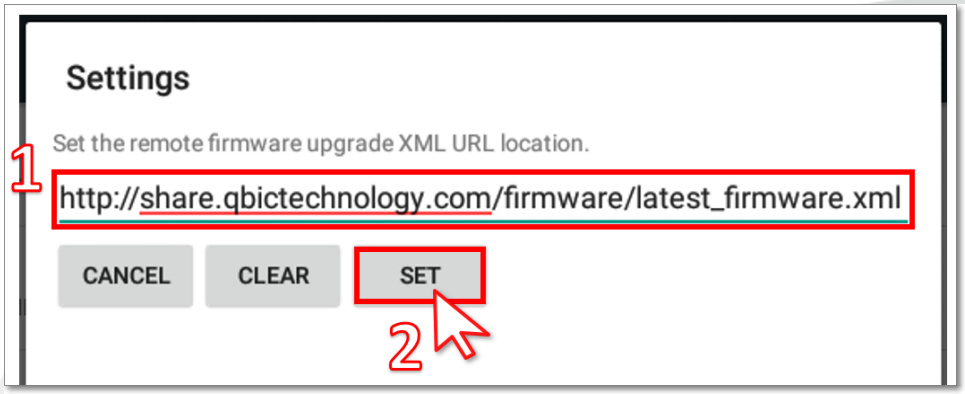
```
<taskSchedule xmlns="http://schemas.open-smil.org/smartapi-1.0">
    <timedTaskList>
        <firmware trigger="immediately">
        <!-- trigger can be set as immediately or alignDailyReboot -->
            <source>Fimware.zip</source>
                <!— Firmware file name -->
            <version>v2.0.0</version>
                <!— Firmware version -->
            <model>blackwidow</model>
                <!— blackwindow: TD-1050/D-1050/TD-1050 Lite -->
                <!— blackwindow2: TD-1050 pro -->
                <!— Ironman: FHD-100 -->
                <!— Ironman2: BXP-202/BXP-300/BXP-301 -->
                <!— Ironman3: BXP-320/BXP-321 -->
                <!— Crystal: TD-0350 -->
            <buildtime>1563470447</buildtime>
            <contentType>x-firmware-update/x-zip</contentType>
            <contentLength>319829430</contentLength>
                <!— Firmware file size (unit: bytes) -->

            <checksum>7e688c4fe692797895f9369e9df24c55</checksum>
                <!— Firmware file MD5 checksum -->

            <checksumMethod>MD5</checksumMethod>
        </firmware>
    </timedTaskList>
</taskSchedule>
```

2. Put the XML file and the Firmware file under the same folder on Server.
3. Input the link direct to the XML file then click on “SET” button.

Android version 5.1/7.1/8.1: Settings => Firmware update => Remote firmware upgrade URL

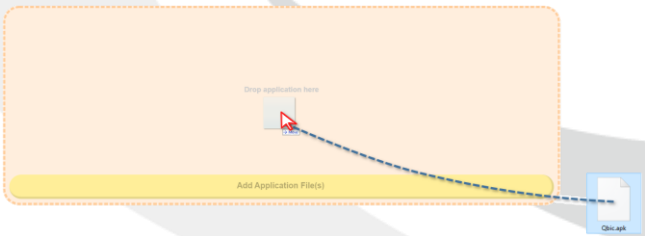


4. The device will start to check the Firmware version and related information then download the Firmware file if the check result is device need to be updated.
5. Once the Firmware file download completed, the device will update the Firmware according to the condition setup inside XML file (immediately or alignDailyReboot) automatically.

- ## How to update APP over the AIR

1. Qbic has built a tool to create XML file for Firmware update, please visit below website then follow the instruction to create XML for APP.
   http://share.qbictechnology.com/external_share/qrc/raux_tool/html/index.html

   a. Drag the APK file inside the central Column. (Or click “Add Application File(s)” button to select APK file)
      Note: You can setup more than one APK file inside an XML file.



   b. Input additional information then click on “Export” button to export the .xml file.
      - Background process: Enable this function to allow APP updated in background.

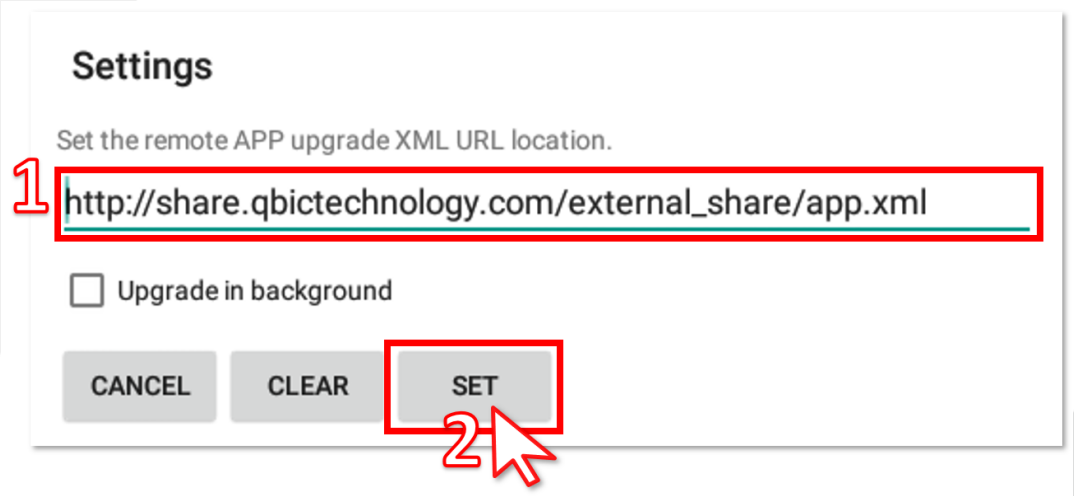
- Launch URL: Input the content URL want be updated on device. You can find the URL need for launch the APP in the “Entry” column after you selected the APK file.

c. Unzip the “remote_app_update.zip” file.

d. Find the XML file and the APK file in the unzipped folder then put these files under the same folder on Server.

2. Input the link direct (url) to the XML file then click on “SET” button.

Android version 5.1/7.1/8.1: Settings => Remote APP upgrade URL



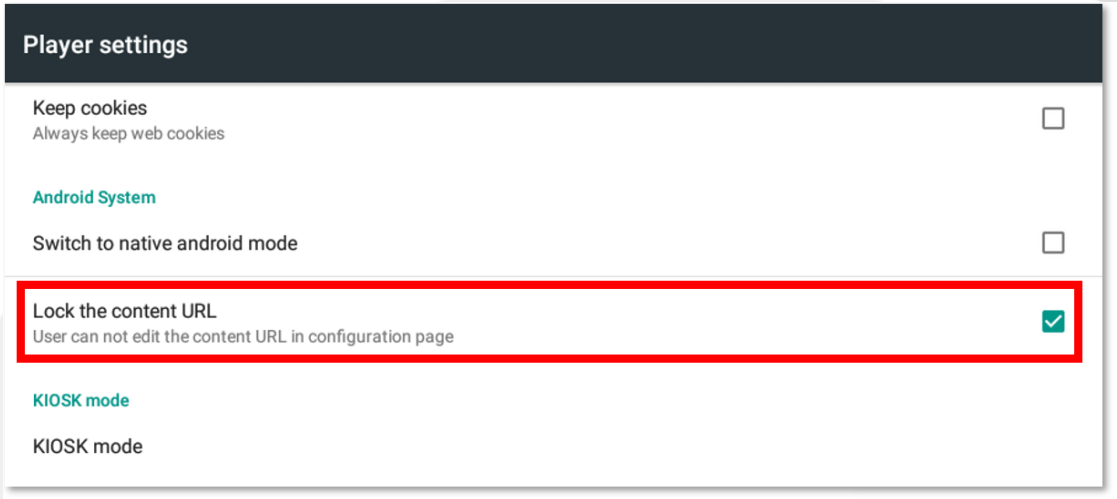
Note: You can enable the “Upgrade in background” function to allow the APP upgrade in background.

Protect device from unauthorized modification

- Lock content URL

  User can lock the content URL to prevent it been modified by accident.

  Android version 5.1/7.1/8.1: Settings => Player settings => Enable “Lock the content URL”

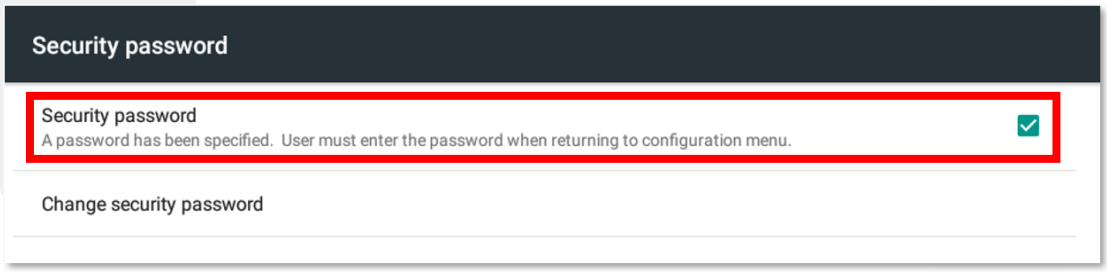


- Protect device by password (Security Password)

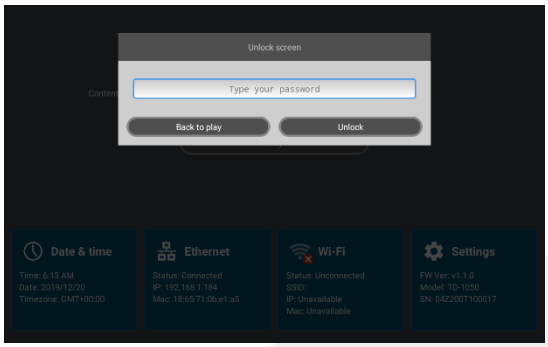
  User can lock the device to prevent any configuration items been modified by accidently.

  Android version 5.1/7.1/8.1: Settings => Security password => Enable “Security password”

  Once you enabled it, please follow the guide on the screen to setup the password.



  The device will be protected (locked) by the Security password and only allow user to access device settings by input the Security password.



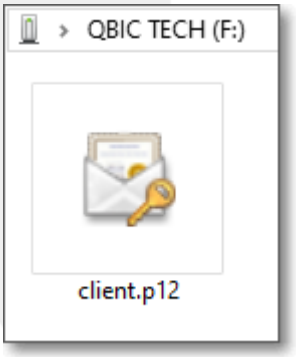
802.1X over Wifi/Ethernet

- Import certificate

1. Qbic device support specific certificate, please make sure you have already converted the certificate to the support formats. You can refer to the below table of supported certificate formats.

Certificate Type	802.1X
Support Format	.pem & .pfx & .p12

2. Prepare one USB drive with FAT or FAT32 format.
3. Put the certificate file into the USB drive.



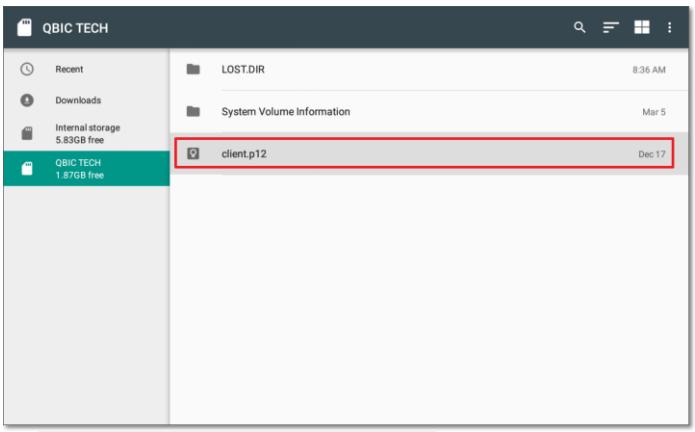
4. Plug in the USB drive to the device.
5. Install the certificate from storage.

Android version 5.1/7.1: Settings => Advanced settings => Security => Install from storage

Android version 8.1: Settings => Advanced settings => Security & location => Encryption & credentials => Install from storage

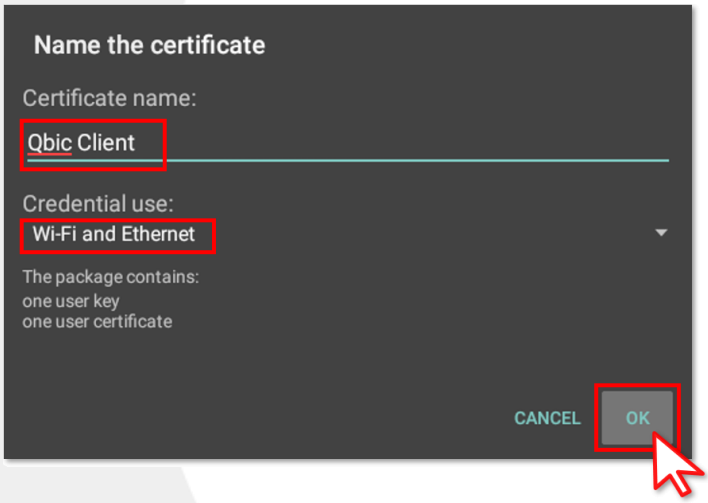
6. Find the certificate file then tab on it to import the certificate.

   Note: You might need to input the password to extract the certificate.

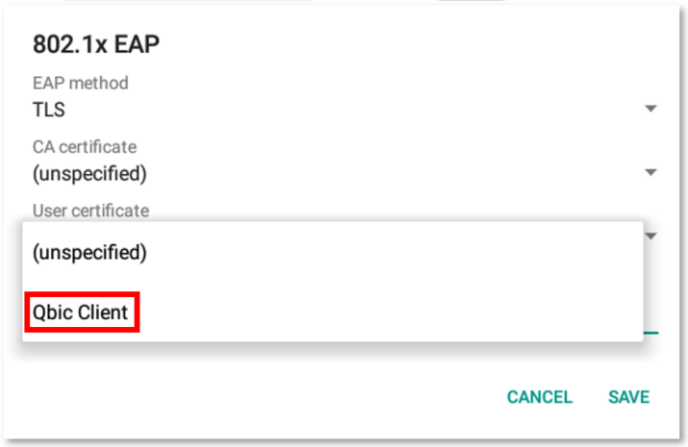


7. Input the Certificate name and select the correct Credential use then click “OK” button to import the certificate. Please be noticed, if the certificate is for 802.1X, make sure you have selected the “Credential use” as “Wi-Fi and Ethernet” when importing the certificate.

   Note: You will need to setup a lock screen method to import the certificate.



8. You will able to find it in certificate list when you trying to setup the certificate for 802.1x.



- 802.1X setup

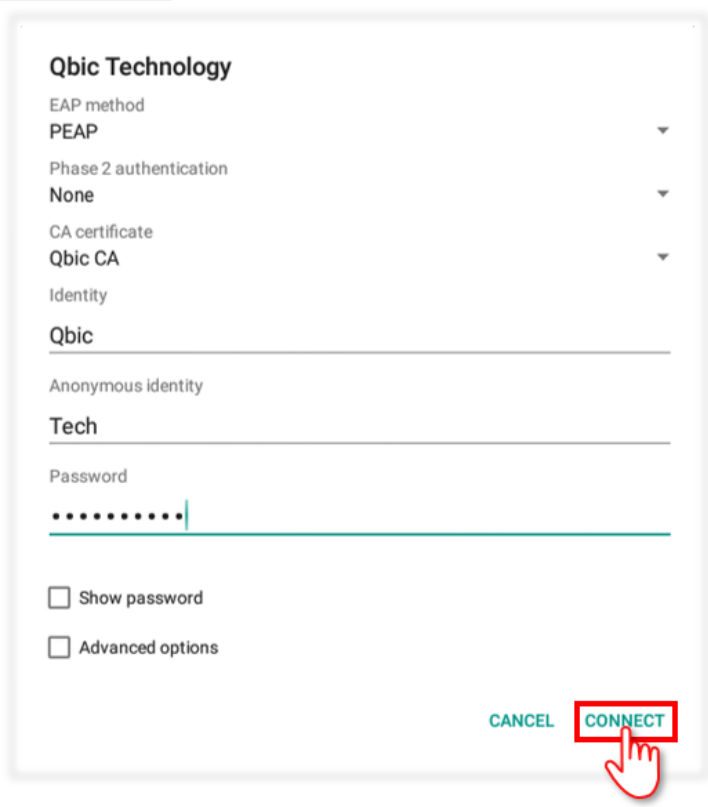
1. Before start to setup the 802.1X, please make sure you have already imported all the necessary certificates for 802.1X.

   c. Wifi

   Android version 5.1/7.1/: Settings => Wi-Fi

   Android version 8.1: Settings => Network & Internet => Wi-Fi

   1. Turn on the Wi-Fi.
   2. Select the Wi-Fi SSID you want to connect.
   3. Select the EAP method you need and input related information then click on “Connect” button to connect.



   d. Ethernet

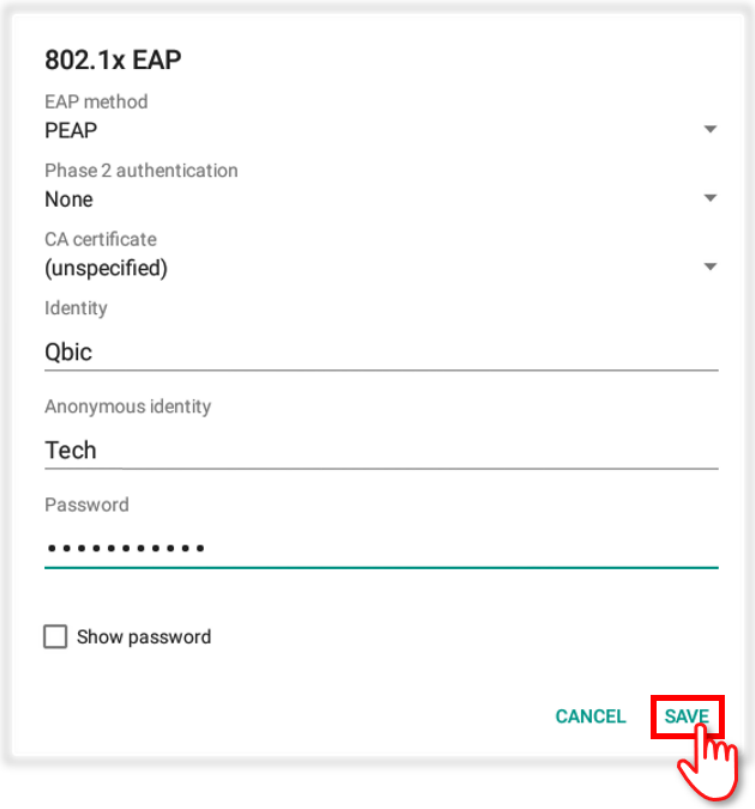
   Android version 5.1/7.1/: Settings => Ethernet

   Android version 8.1: Settings => Network & Internet => Ethernet

   1. Turn off the Ethernet.
   2. Enable Security.

   3. Selcet “802.1x settings”.

4. Select the EAP method you need and input related information then click on “Save” button to save the configuration.



5. Turn on the Ethernet, then the device will start to authenticate.

System certificate

- ### Condition to access System certificate

The APP must grant the below permission:

<uses-permission android:name="android.permission.ACCESS_JARVIS" />

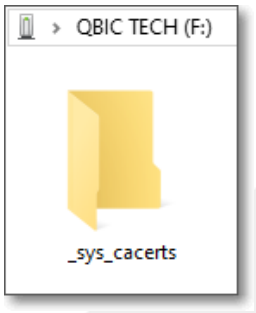
Condition to grant this permission:

Option1: APK needs to sign qbic platform key.

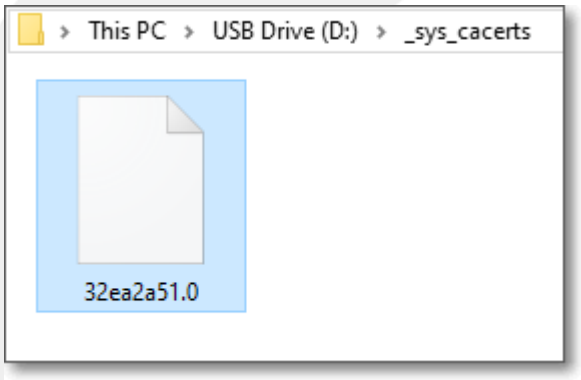
Option2: APK is system priv-app. (Need be built in the customized Firmware)

- ## How to import system certificate

1. Prepare one USB drive with FAT or FAT32 format.
2. Create a folder named “_sys_cacerts” under the root directory of USB drive.

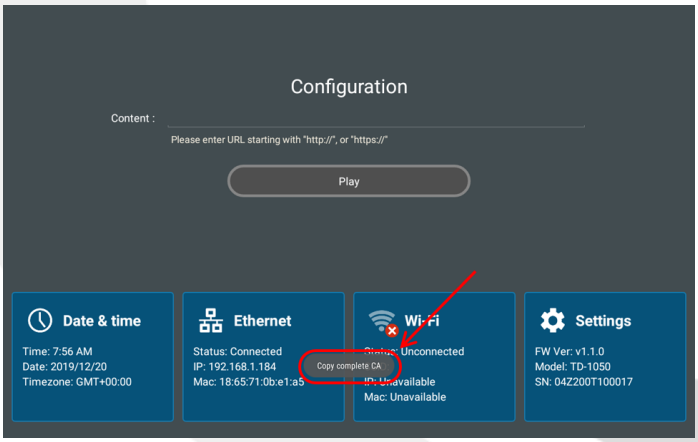


3. Put the certificate file into the folder “_sys_cacerts”.



4. Plug in the USB drive to the device, then device will import the certificate automatically.

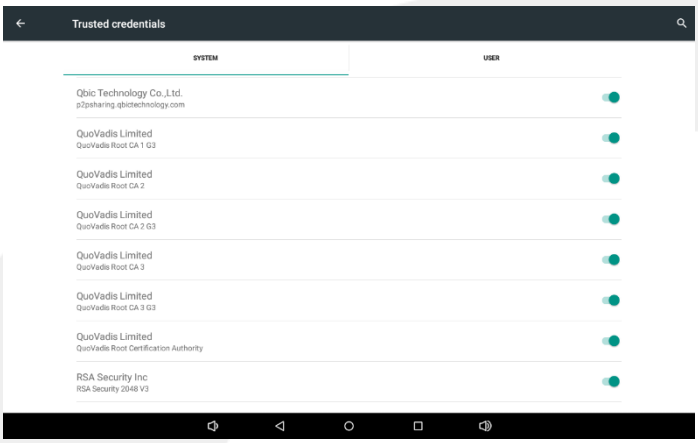
   There will be a pop out window once the import is completed.



5. You will able to find the certificate in the Trusted credentials.

   Android version 5.1/7.1: Settings => Advanced settings => Security => Trusted credentials

   Android version 8.1: Settings => Advanced settings => Security & location => Encryption & credentials => Trusted credentials



Troubleshooting

- ## Reset device to default settings (Factory reset)

If you have verified any issue, you can always try to proceed factory reset to fix it.

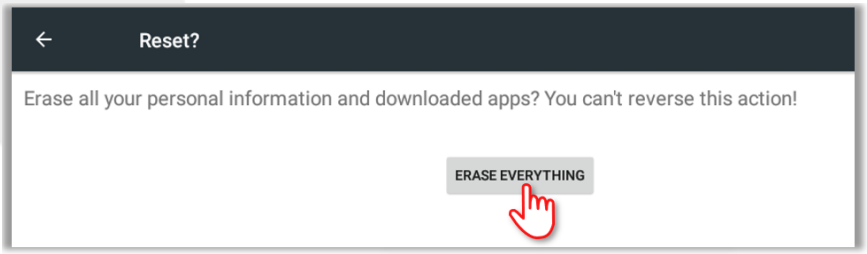
a. Through UI

   Android version 5.1: Settings => Factory reset => Factory data reset => RESET DEVICE

   Android version 7.1: Settings => Backup & reset => Factory data reset => RESET TABLET

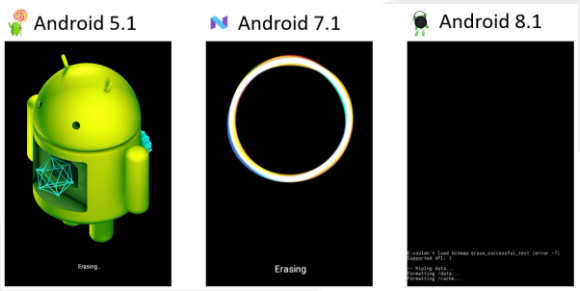
   Android version 8.1: Settings => Reset options => Erase all data => RESET TABLET

   Click the “ERASE EVERYTHING” button to proceed factory reset.



b. Reset button

1. Apply power on device
2. Use a needle like object (e.g., a paperclip) to press and hold the "RESET" button.
3. It takes about 26 seconds for LED to start blinking (Erasing Animation show on the screen), you can release the button once it appears.



Note: The device will reboot automatically after about 10 seconds keep pressing and the android robot will show on the screen with about additional 16 seconds since the device rebooted.

- ## Collect Log file for failure analysis

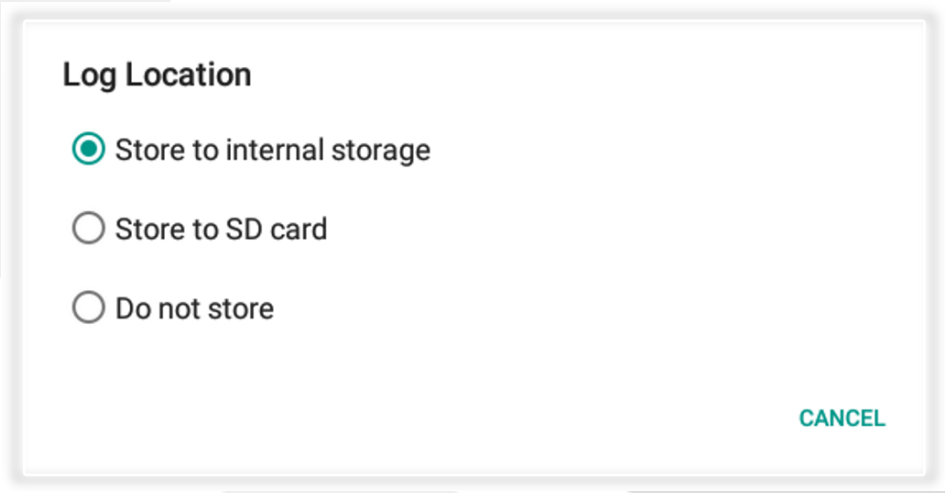
If you have found any issue, please follow below steps to collect the log file for analysis.

1. Enable the Store Log function.

   Android version 5.1: Settings => Advanced settings => Log => Log Location

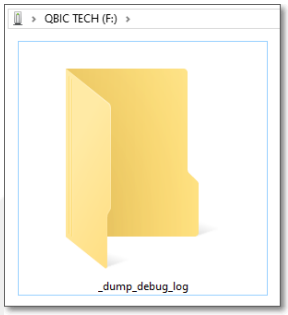
   Android version 7.1/8.1: Settings => Log => Log Location

2. Select the way you want to store the log file.

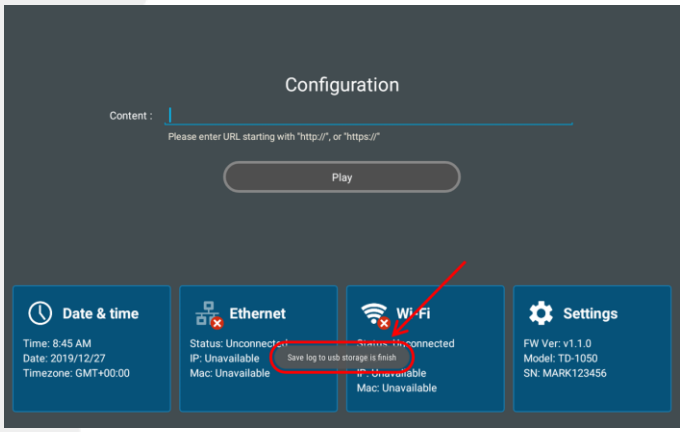


3. Try to reproduce the failure symptom for several times.

4. The log file will inside “Internal Memory/_internal_debug_log” if you selected to store to internal storage. You can follow below method to pull out the Log file.
    a. Prepare USB drive with FAT or FAT32 format.
    b. Create a folder under the root directory in the USB drive named "_dump_debug_log".



    c. Plug in the USB drive to the device, the device will store the log file to USB drive automatically then show a pop out message “Save log to USB storage is finish” once it is finished.

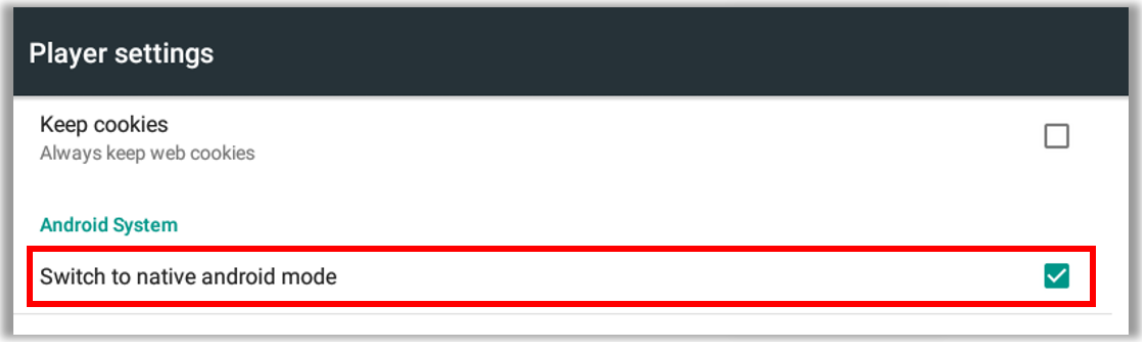


Switch to native android mode

You can switch to the Native Android mode to use the Native Android Launcher instead of Qbic launcher. The device will chage the UI to a user familiar native Android mode.

Android version 5.1/7.1/8.1: Settings => Player settings

Enable “Switch to native android mode”

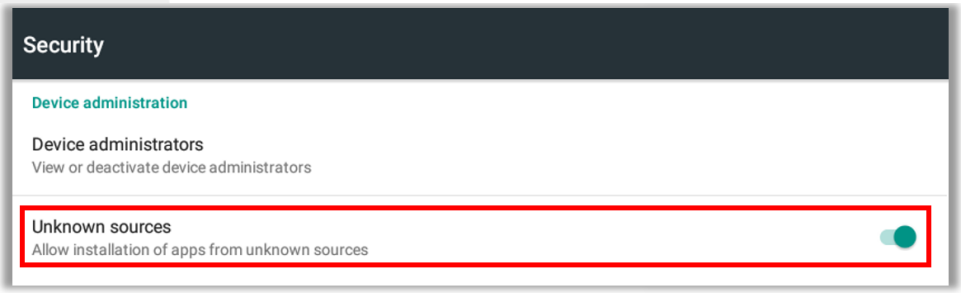


How to Install APP

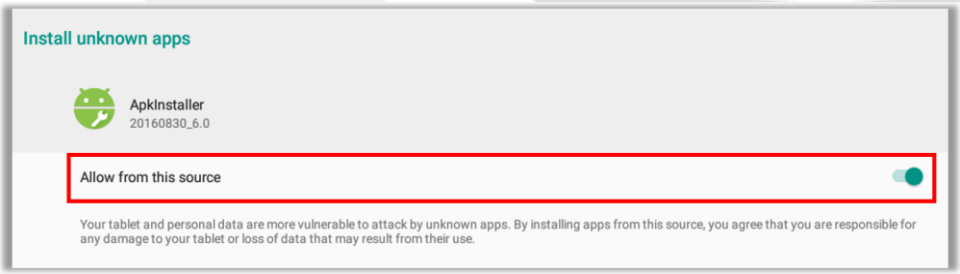
User can try to install the 3rd Party APP or their own developed APP on device. Please follow the below steps to install the APP.

1. Enable APK installer to install APP from unknown resources.

   Android version 5.1/7.1: Setings => Advanced settings => Security => Enable “Unknown sources”



   Android version 8.1: Settings => Advanced settings => Apps & notifications => Apkinstaller => Install unknown apps => Enable "Allow from this source"

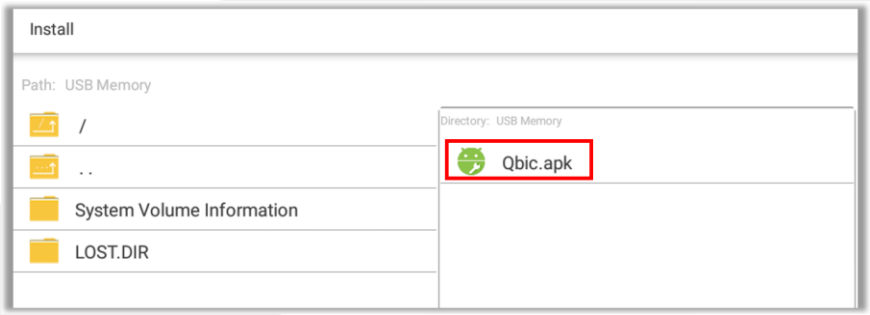


2. Prepare external storage (USB drive or Micro SD card) with FAT or FAT32 format.

3. Put the APK file inside the inside the External storage.
4. Launch the APP installer.

   You can try to “Switch to native android mode” then find the APP installer in the APP list or use below steps to get into Android Native launcher:

   Settings => About device => Tab on “Model number” continusely 7 times.
5. Click on “Install” button then find the APK inside inside the External storage and clcik on it directly to install the APP.



Create playlist (Instant play)

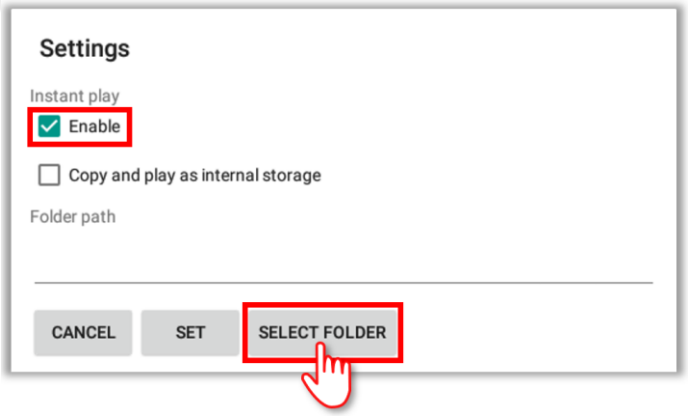
- How to import Instant play content

Instant play is a user-friendly feature allow user to create their own playlist without any extra software works. Please follow below guide to use the instant play function.

1. Prepare external storage (USB drive or Micro SD card) with FAT or FAT32 format.
2. Put the Media content you need inside the External storage.
3. Plug in the external storage to device.
4. Enable Instant play.

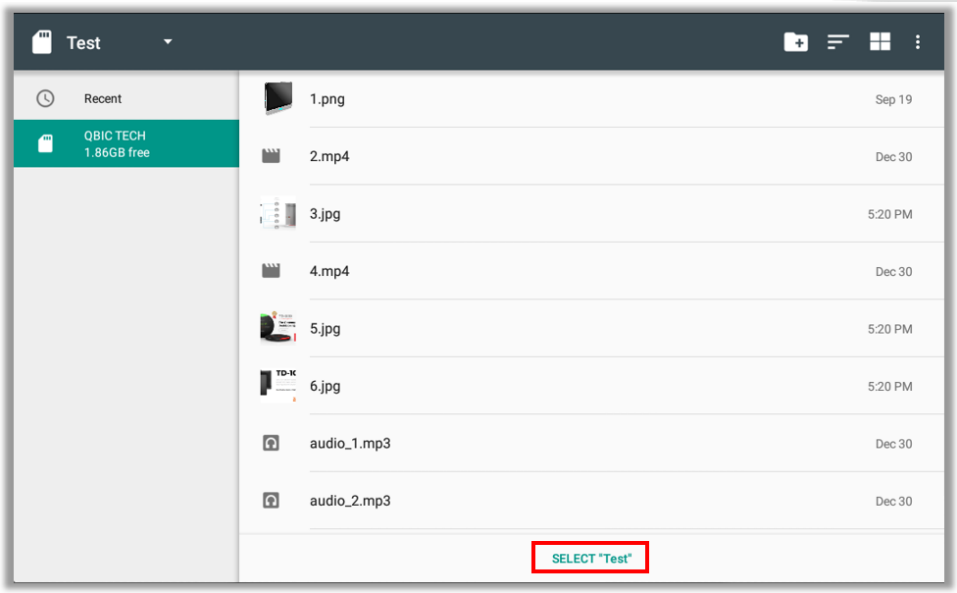
   Android version 5.1/7.1/8.1: Settings => Player settings => Instant play= > Instant play

   Enable the Instant play, then click on “SELECT FOLDER” button to select folder with media contents.

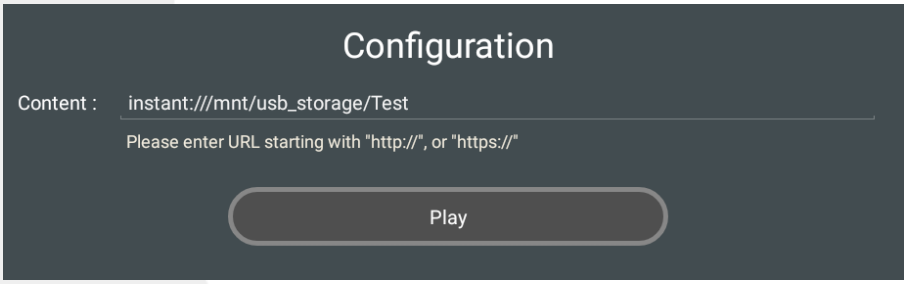


Note: You can enable “Copy and play as internal storage” option to let the deivce copy.

5. all the contents and move them into device. After that, you can remove the external storage.Direct to the Folder with media contents, then click on the bottom button to select it.

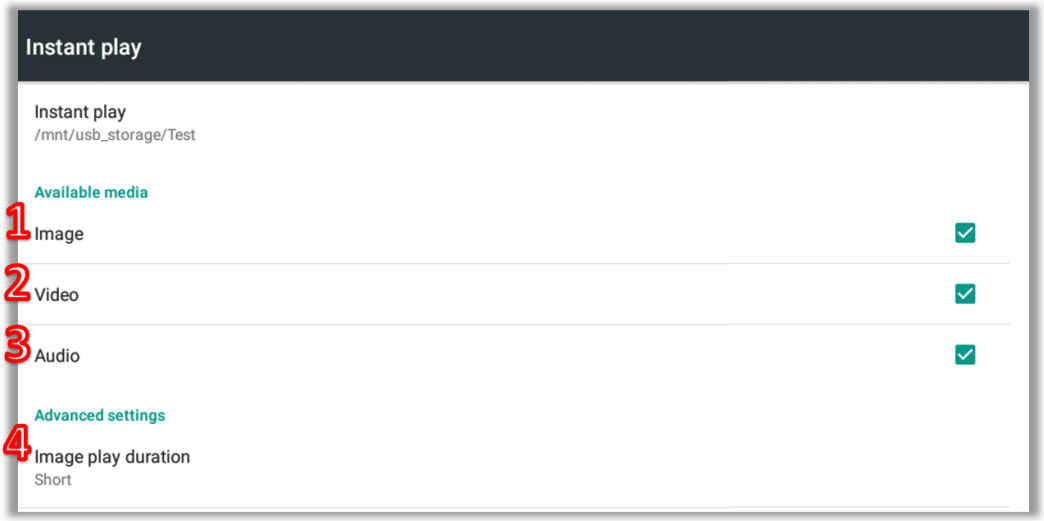


6. Once the setup is done, the content URL will change automatically to direct to the instant play contents.



Note: The Video and Image file contents playing sequence will follow the sort order of the first letter for each file. The audio file will also follow the sequence as the sort order and play with the Video and Image files simultaneously. If there is an audio conflict between Video and Audio file, the audio file will be muted during the video is playing. If the device is playing a video file without audio track, the audio file will keep playing instead of being muted.

- More options about Instant Play



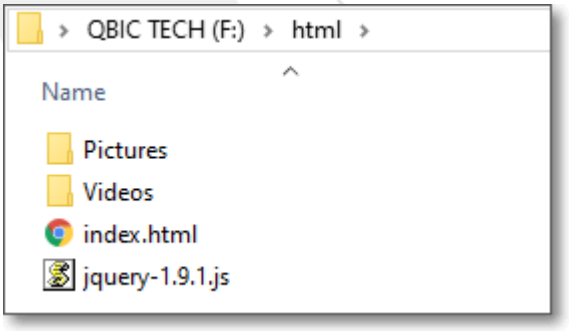
1. **Image:** Enable this function to import image contents into instant play playlist.
2. **Video:** Enable this function to import video contents into instant play playlist.
3. **Audio:** Enable this function to import audio contents into instant play playlist.
4. **Image play duration:** You can set the display time of each image file as “Short”, “Medium” or “Long” according to your request.

Import content by USB drive

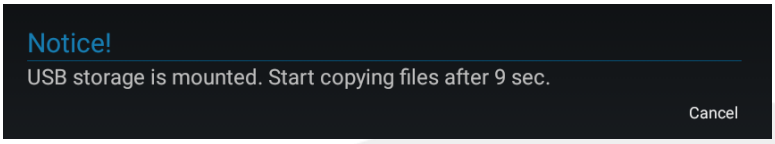
User can easily import content by USB drive. The support contents included HTML and SMIL file.

- How to import HTML content

1. Prepare a USB drive with FAT or FAT32 format.
2. Create a folder named “html” under the root directly of USB drive.
3. Copy all html related contents inside the html folder.

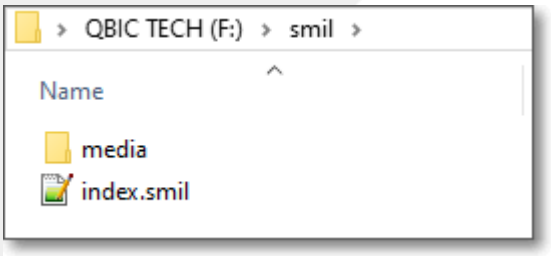


4. Plug in the USB drive to device. There will be a pop out message, the device will copy the file into device and change the content URL direct to the html file automatically after the countdown.

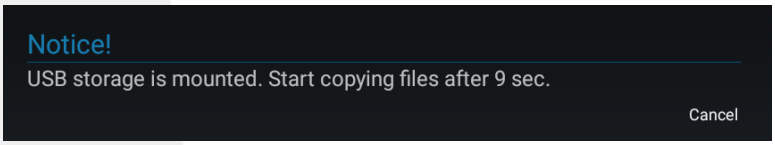


- How to import SMIL content

1. Prepare a USB drive with FAT or FAT32 format
2. Create a folder named “smil” under the root directly of USB drive
3. Copy all smil related contents inside the smil folder



4. Plug in the USB drive to device. There will be a pop out message, the device will copy the file into device and change the content URL direct to the smil file automatically after the countdown

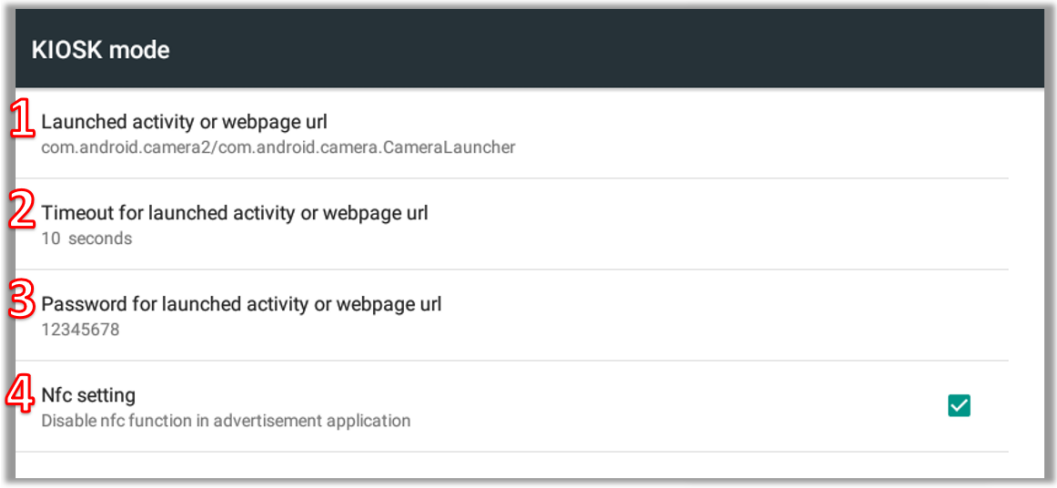


KIOSK mode

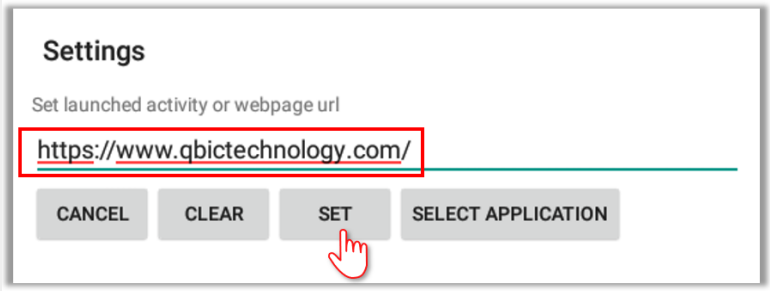
User can easily use this feature to let Qbic device play HTML or SMIL content when device is not in use, you can also combine this function with “Instant play”. If you have setup KIOSK mode and Instant play function simultaneously, the device will play the Instant play contents as advertisement, then launch the APP/Webpage you setup in KIOSK mode once you tab on the screen. You can follow below steps to setup the KIOSK mode

1. Setup the content URL to play an html (Webpage), smil file or setup Instant play function
2. Setup KIOSK mode

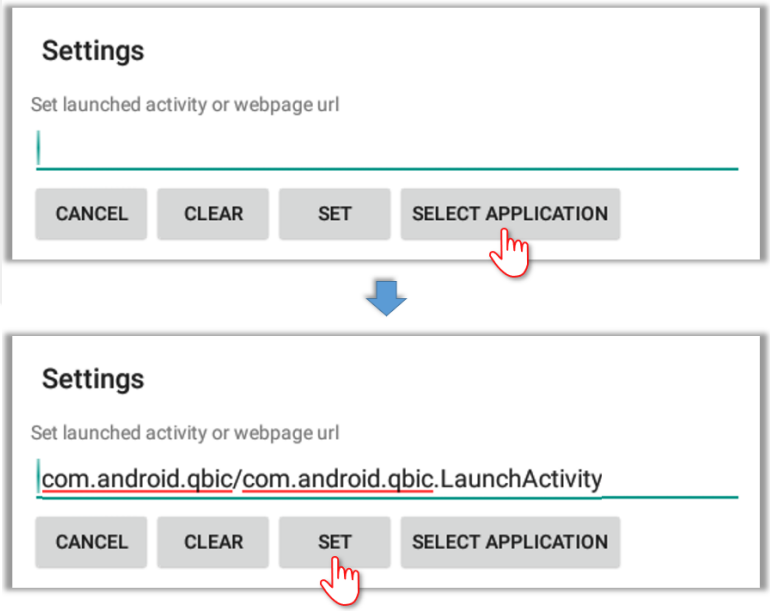
   Android version 5.1/7.1/8.1: Settings => Player settings => KIOSK mode



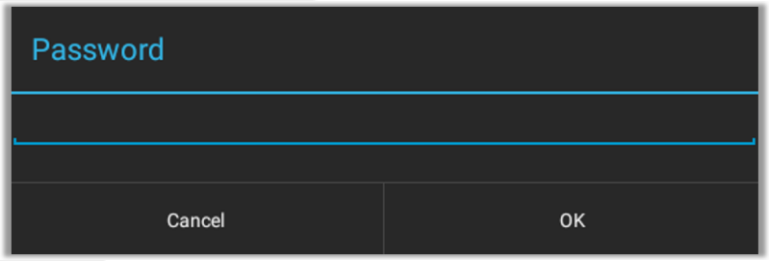
1. **Launched activity or webpage url:** You can input a url direct to the webpage you want to play in the KIOSK mode or choose to launch an APP.
   a. Webpage
      Input the url then click on “SET” button



   b. APP
      Click on the “SELECT APPLICATION” button and choose the APP you want to launch in the APP list, then click “SET” button



2. **Timeout for launched activity or webpage url:** Setup the idle time timeout for “launched activity or webpage url”. For the example setup the timeout as 10 seconds, the device will go back to play the advertisement contents after the “Launched activity or webpage url” has been idled for 10 seconds. You must setup a number on this, otherwise the KIOSK mode will not work.
3. **Password for launched activity or webpage url:** You can setup the password to control limited user to enter into the “launched activity or webpage url”. User will need to input the password to leave the advertisement content and open the “launched activity or webpage url”.



4. **NFC settings:** Enable this option to let the NFC function be disabled when playing advertisement contents.

HDMI in (For HDMI in supported models only)

- How to implement HDMI in feature

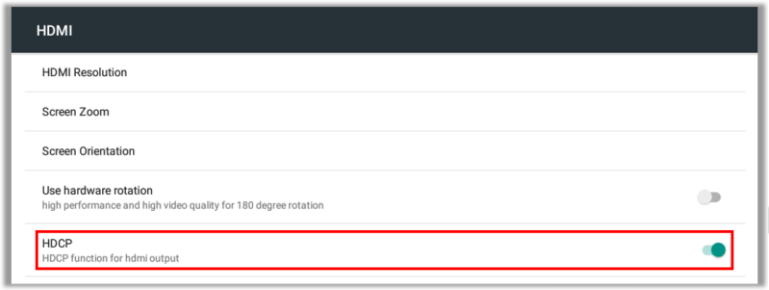
Qbic device implement the HDMI in feature as a Camera preview. Developer can follow the native Android Camera APIs to use Java or Javascript to get the streaming. If you need more information about how to implement HDMI in feature with Qbic device, please contact support@qbictechnology.com for further support.

- Playing HDCP content

User can switch the device to Repeater or Receiver (Sink) mode according to the request. Enable the HDCP option for Repeater more and disable it for Receiver (Sink) mode.

Android version 5.1: Settings => HDMI

Android version 8.1: Settings => Display => HDMI



HDCP: Enable this option to let the device run as “Repeater” mode, disable it to let the device be “Receiver” mode. (The default settings on device is disabled)

NFC reader (For NFC supported models only)

- How to adjust NFC read data

User can adjust the NFC UUID read result including Reverse byte order, data format (Hexadecimal/Decimal), convert to Upper case and Stirp leading/trailing bit. All the NFC configurations will only be enabled when playing the HTML/SMIL content on Qbic Smart player. Please refer to the below detail to adjust the data to meet your request.

Android version 5.1/7.1: Settings => Advanced settings => More

Android version 8.1: Settings => Connected devices

1. **Reverse:** Reverse the UUID order base on byte, you can refer to the below sample to understand how it works.

	Origin UUID		Reverse
Hexadecimal:	12 AB CD EF	=>	EF CD AB 12

2. **Nfc card uuid data format:** Setup the UUID format as Hexadecimal or Decimal.
3. **Converts uuid to upper case:** Enable this option to convert the UUID to upper case.
4. **Strip leading bit count:** Strip the leading bits of UUID base on Binary format, you can refer to the below sample to understand how it works.

	Origin UUID		Strip 3 leading bits
Hexadecimal:	1A2B	=>	022B
Decimal:	6699	=>	555
Binary:	1101000101011	=>	1000101011

5. **Strip trailing bit count:** Strip the trailing bits of UUID base on Binary format, you can refer to the below sample to understand how it works.

	Origin UUID		Strip 3 trailing bits
Hexadecimal:	1A2B	=>	345
Decimal:	6699	=>	837
Binary:	1101000101011	=>	1101000101

- ## How to implement NFC reader

There are two types of Qbic devices support NFC function, Standard version and H version. The NFC reader work differently between these two versions. Please refer below description for the detail.

a. **Standard Version:**

   NFC module follow native Android architecture, it supports general native Android NFC related APIs. Developer can refer to the Android APIs to implement the NFC function.

b. **H Version:**

   H version device implemented a special NFC reader able to read UUID on both 13.56 MHz and 125kHz RFID cards. The NFC reader works as a HID card reader to read the UUID and send to device as Keyboard event with “Enter” key. Developer need to listen to the Keyboard event to implement the NFC module in the application.

Note: If you still have problem about implement the NFC function in the Application, please contact support@qbictechnology.com for further support.