

CUSTOMANDROIDAPI

USER MANUAL FOR
ANDROID LIBRARY CustomAndroidAPI

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Document Overview

This document details about CUSTOM android API for printers. And also explains how to use this API for android application development for CUSTOM printers.

About CUSTOM Android API

This API provides functions to access the CUSTOM printers via Bluetooth (using serial port profile - SPP), Ethernet / Wifi and USB.

It includes below functions to access the printer

- *Get the printer class for printer*
- *Connect to printer*
- *Close connection*
- *Set timeout for read/write*
- *Write / Read bytes to/from printer*
- *Print text with various text attributes*
- *Print image with image scaling options*
- *Cut, eject / retract and present the ticket*
- *Get picture, card and barcode from scanner*

Android Platform Compatibility

Android 2.2 or latest (For Ethernet and Bluetooth)

Android 3.1 or latest (For USB)

API reference guide

Attached separately (HTML files format)

Prerequisite

- *You must be familiar with Android development environment using Eclipse IDE*
- *Android Platform version 3.1 or above (for USB) and 2.2 or above (for Ethernet and Bluetooth)*
- *API Jar file: customandroidapi.jar*
- *Bluetooth or Ethernet / Wifi or USB support on Android device*
- *Bluetooth or Ethernet / Wifi or USB Permission for Android project*



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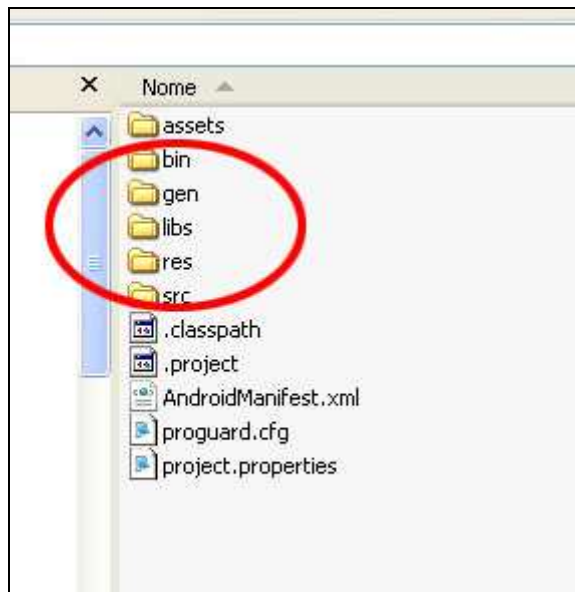
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How to use API

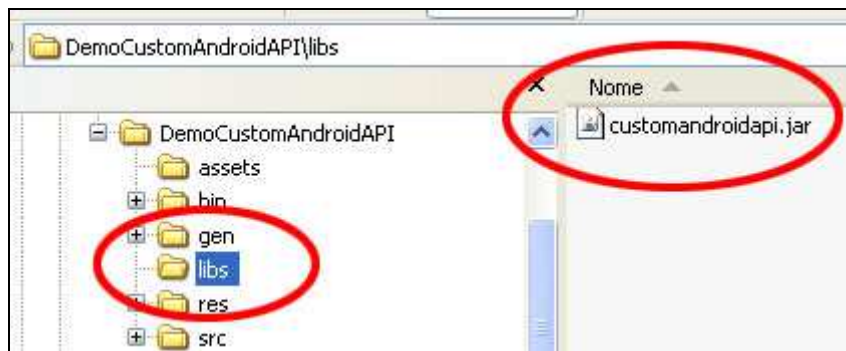
Developer needs to add the API in Android project library and then developer can access the various API functions.

Add the API to android project

Create, if it doesn't exist, the folder "libs", into the project



Copy into this folder, the API file "customandroidapi.jar"



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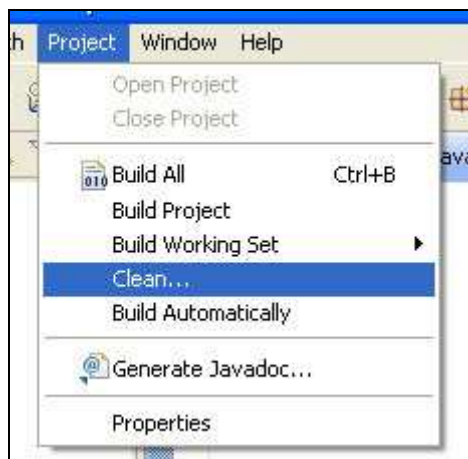
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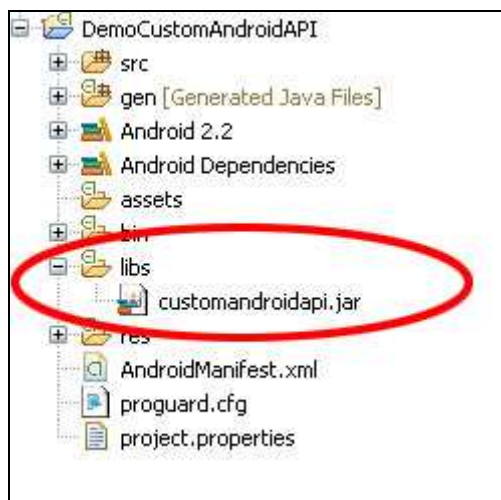
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Load Project into Eclipse and Click “Clean...” into “Project” menu



Now you will see the library into your Eclipse project



Android API is correctly added in project library. Now you can use this API.



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Sample Code

Enable Bluetooth Permissions

Modify the “*AndroidManifest.xml*” and add

```
<!-- BLUETOOTH PERMISSIONS -->
<uses-permission android:name="android.permission.BLUETOOTH" />
<uses-permission android:name="android.permission.BLUETOOTH_ADMIN" />
```

to enable the permissions to use Bluetooth.

Enable Ethernet/Wifi Permissions

Modify the “*AndroidManifest.xml*” and add

```
<!-- WIFI / ETHERNET PERMISSIONS -->
<uses-permission android:name="android.permission.CHANGE_WIFI_MULTICAST_STATE" />
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
```

to enable the permissions to use Ethernet / Wifi.

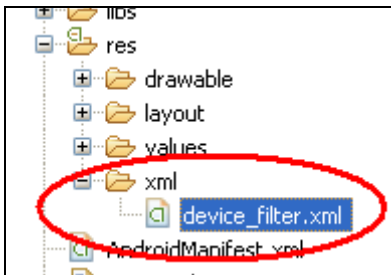
Enable USB Support

Modify the “*AndroidManifest.xml*” and add

```
<!-- USB -->
<intent-filter>
    <action android:name="android.hardware.usb.action.USB_DEVICE_ATTACHED" />
</intent-filter>

<meta-data android:name="android.hardware.usb.action.USB_DEVICE_ATTACHED"
    android:resource="@xml/device_filter" />
<!-- USB END -->
```

Create a Folder “*xml*” into “*res*” folder



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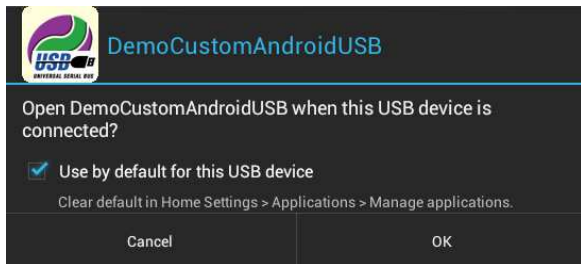


and create a file “*device_filter.xml*” with the code

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
  <usb-device vendor-id="3540"/>
</resources>
```

to enable the support of CUSTOM printer with USB port. If you don't create this file, the O.S. asks to you the permission to use this device every time.

The first time you plug the USB printer, and the application is already installed, you will see this message:



Is important to set the checkbox and press “OK” button to enable the application to use this USB device; Otherwise the USB communication fails.

Connect to Printer (Bluetooth)

```
//Open it
prnDevice = new CustomAndroidAPI().getPrinterDriver(btDevice);
```

where “*btDevice*” is a BluetoothDevice object.

Connect to Printer (Ethernet / Wifi)

```
//Open it
prnDevice = new CustomAndroidAPI().getPrinterDriver(strDeviceIP, 9100);
```

where “*strDeviceIP*” is a String with the printer IP (example “192.168.0.1”) and “9100” is the default IP port for Raw print.

Connect to Printer (USB)

```
//Open it
prnDevice = new CustomAndroidAPI().getPrinterDriver(usbDevice, this);
```

where “*usbDevice*” is a UsbDevice object.



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Connect to Printer (COM/RS232)

```
//Open it
prnDevice = new CustomAndroidAPI().getPrinterDriverCOM(strDevPort);
```

where “*strDevPort*” is a string with the hardware device serial port (example “/dev/ttys0”).

NOTE(1): the function `getPrinterDriverCOM`, opens the device port in R/W mode and with the current serial configuration, so must be set these parameters before to open it.

Example: how to set the device serial port to R/W

```
//Init COM port running linux commands (set the port in R/W mode)
try
{
    Runtime.getRuntime().exec("chmod 666 " + strDevPort);
}
catch (Exception e) {}
```

NOTE(2): if the device to connect is a “CUSTOM Fusion” the port must be “/dev/ttymxc4” and the port must be set with the object “SerialPort”.

Example: how to set the serial parameters with “SerialPort”

```
SerialPort sp = null;
//Open and set the configuration object
try
{
    //Open the port "/dev/ttymxc4" with 115200,n,8,1,HW parameters
    sp = new SerialPort(new File("/dev/ttymxc4"), 115200, SerialPort.NON_BLOCKING);
    sp.setParameters(SerialPort.DATABITS_8, SerialPort.PARITY_NONE, SerialPort.STOPBITS_1,
        SerialPort.FLOWCONTROL_RTSCTS);
}
catch (Exception ex )
{
    sp = null;
}
//Close the configuration port object
if (sp != null)
{
    sp.Close();
}
```

Print text

```
PrinterFont font = new PrinterFont(); //create font object and required
font.setEmphasized(true);           //Set required attributes
```



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```
font.setJustification(PrinterFont.FONT_JUSTIFICATION_CENTER);  
String text = "Hello World !!!";  
printer.printText(text, 104,510, font);    //104 is left margin in pixel and 510 is text width in pixel
```

Print image

```
Bitmap image = BitmapFactory.decodeResource(getResources(), R.drawable.sample3);  
//Bitmap can be also created from image file as mentioned below  
//Bitmap image = BitmapFactory.decodeFile(String pathName);  
  
api.printImage(image, 100, CustomPrinter.IMAGE_SCALE_TO_WIDTH, 376);  
//100 is left margin in pixel and 376 is image width in pixel to print  
//Above method will scale the image to 376 pixel width and then prints the image with left margin of 100  
//pixel
```



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