송민석 : 앱 개발 담당

개발IDE ❯ 안드로이드 스튜디오

Android Studio

사용언어 ❯ 자바

Android turn On/Off WiFi HotSpot programmatically

Use the class below to change/check the Wifi hotspot setting:

▪ 개발 이슈1 :
AP모드를 ON,OFF할 수 있는
기능의 구현

**해당 기능에 대한 오픈소스가 많이 있음.
→ 해당 기능은 무리없이 구현 가능 예상**

```java
import android.content.*;
import android.net.wifi.*;
import java.lang.reflect.*;

public class ApManager {

//check whether wifi hotspot on or off
public static boolean isApOn(Context context) {
    WifiManager wifimanager = (WifiManager) context.getSystemService(context.WIFI_SERVI
    try {
        Method method = wifimanager.getClass().getDeclaredMethod("isWifiApEnabled");
        method.setAccessible(true);
        return (Boolean) method.invoke(wifimanager);
    }
    catch (Throwable ignored) {}
    return false;
}

// toggle wifi hotspot on or off
public static boolean configApState(Context context) {
    WifiManager wifimanager = (WifiManager) context.getSystemService(context.WIFI_SERVI
    WifiConfiguration wificonfiguration = null;
    try {
        // if WiFi is on, turn it off
        if(isApOn(context)) {
```

Stackoverflow 사이트의 예제코드 중 하나▶

■ 개발 이슈2 :
작은 서버들 간의 연결
– AP모드를 킨 기기에서 WiFi를 통해 다른 기기에 연결 할 수 있을까?

Turn on Wifi and WifiHotspot together in Android Smartphone

안된다

Your device has radio transmitters/receivers built in that provide you different types of signals such as wifi, Bluetooth, etc. When you turn on your hotspot, the radios that handle wifi change from a state that allows you to access another wifi radio to a mode that make YOU the provider of wifi. The wifi radios can't do both at the same time.

..Hotspot모드를 키면
다른 신호에 액세스할 수 있는
상태에서 wifi 제공자가 되는데,
동시에 같이 할 수 없다...

At a time, a wireless card can either work as a host(access point) or client. Since our current generation phones only have one WiFi adapter, its not practically possible as of now.

An alternative suggestion would be to tether your WiFi using bluetooth.

..Wireless card는 host가 되거나
Client가 되거나 둘 중 하나만 동시에 가능하다..
.. 현재 세대 휴대폰은 Wifi adpater가 하나이기 때문에,
실제적으로 거의 불가능하다... **블루투스 테더링**
기능을 사용해보라.

1. Uses the same antenna.
2. Currently most software doesn't allow to be in client and AP mode at the same time.
3. Wireless is a half-duplex protocol, except for some really new bleeding edge stuff. The radio can only transmit or receive at one time, it cannot do both at the same time.

Going with point 3, if any software was developed to allow both client and AP mode simultaneously the radio would first need to communicate like a client and then pass the data along as an AP. The latency would be undesirable, and the most likely cause that no one has made software to run both client and AP mode at the same time.

Wireless는 half-duplex protocol
(양쪽 방향으로 송수신 가능한 양방향 통신이지만,
한 번에 하나의 전송만 이루어지도록 설정된 통신)**이라서,**
신기술같은 것이 없다면 불가능하다. 만약, client와
AP모드를 동시에 가능하게 하면, client 역할을
한 후 AP모드에서 데이터를 순차적으로 전달하는
방식이라 지연이 생겨서 바람직하지 않을 것이다..

https://stackoverflow.com/questions/35424071/turn-on-wifi-and-wifihotspot-together-in-android-smartphone

However if you had a second radio (WIFI card) you could do this no problem. – Tim Jul 25 '13 at 17:37

..두번째 wifi card가 있으면 가능할 것이다...

된다
(될 수도 있다)

it is very possible to use hotspot and browse the internet with the same wifi card at the same time (simultaneously).i have been using it for sometime now.ideapad 100s 141br with card intel dualband 3160,ubuntu.

the most simplest way i found was to use an app called **create_ap** in github. it works perfectly.

first you need these installed; `util-linux` , `bash` , `procps or procps-ng` , `hostapd` , `iproute2` , `iw` , `iwconfig` , `haveged` , `dnsmasq` , `iptables` .

install them with:

    sudo apt install hostapd iproute2 iw haveged dnsmasq iptables procps bash util-linux

..Ideapad 노트북에서는 같은 wifi card로 Hotspot과 인터넷을 동시에 사용하는 것이 가능하다...

Kelly Kinkade, Amateur radio licensee AB9RF since 2008
Answered Feb 28, 2015 · Author has **7.5k** answers and **35.9m** answer views
Originally Answered: Why can't WiFi and hotspot work together on a device? Is there a workaround to get both working simultaneously?

In theory this is possible with Wi-Fi radios that support simultaneous operation on multiple SSIDs. The hotspot operates as an AP on one SSID and a client on another SSID. However, not all Wi-Fi radios support this mode of operation, nor do all operating systems support it even if the radio itself does.

모든 Wifi radio가 지원하지는 않지만...
이론상 Wifi radio가 여러 개의
SSID(와이파이 식별명)을
가지는 것은 가능하다..

connection on one radio band and the local "behind the router" LAN on the other. Routers are not magic. Nearly all consumer grade routers share the same, or nearly same, embedded Linux kernel and support tools. Root and go deep enough for this must be possible. Maybe not easy to reverse engineer but possible.

..... 쉽지는 않겠지만 아마 가능은 할 것이다...

Can I use wifi and wifi hotspot at the same time with rooted device?

4 Answers

Hitesh Sisara
Answered Jul 31, 2017

Yes, you can use WiFi and Hotspot at a same time if your device contain dual channel WiFi modem (It is hardware)

Majority of new generation laptops are comes with dual channel WiFi but samrtphones still not have this facility .

As I mentioned above you need dual channel WiFi hardware and smartphone not have that so you can not use WiFi and Hotspot at same time no matter your phone is rooted or not.

I hope , We may see dual channel WiFi enabled samrtphones in upcoming years.

VS

Now Simply you can do it with a app name netshare but you need configure VPN proxy settings for that and you also need cracked apk for that
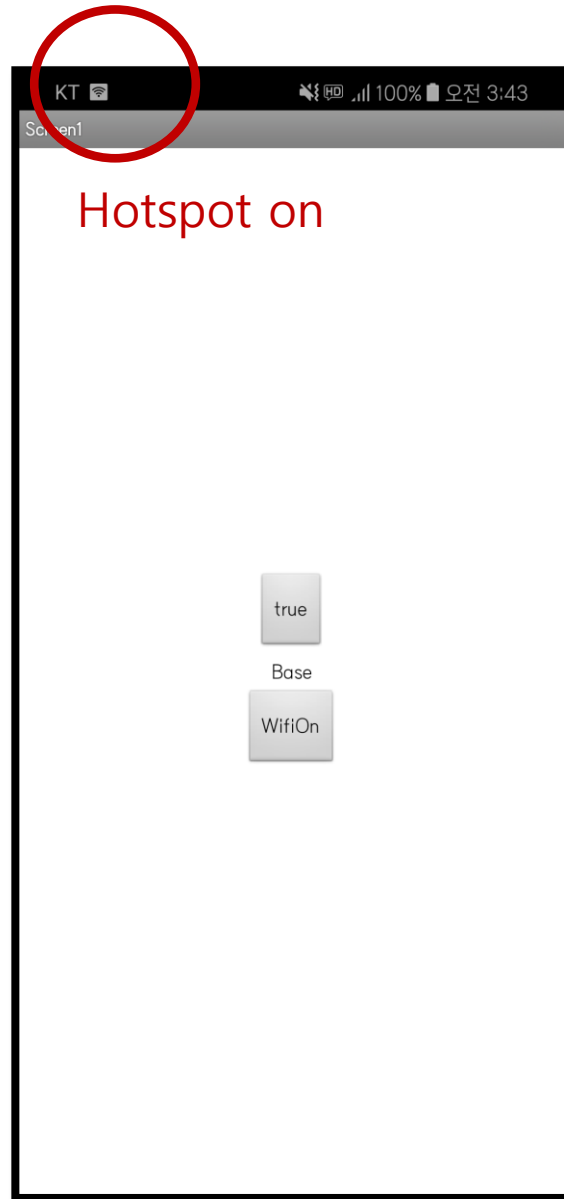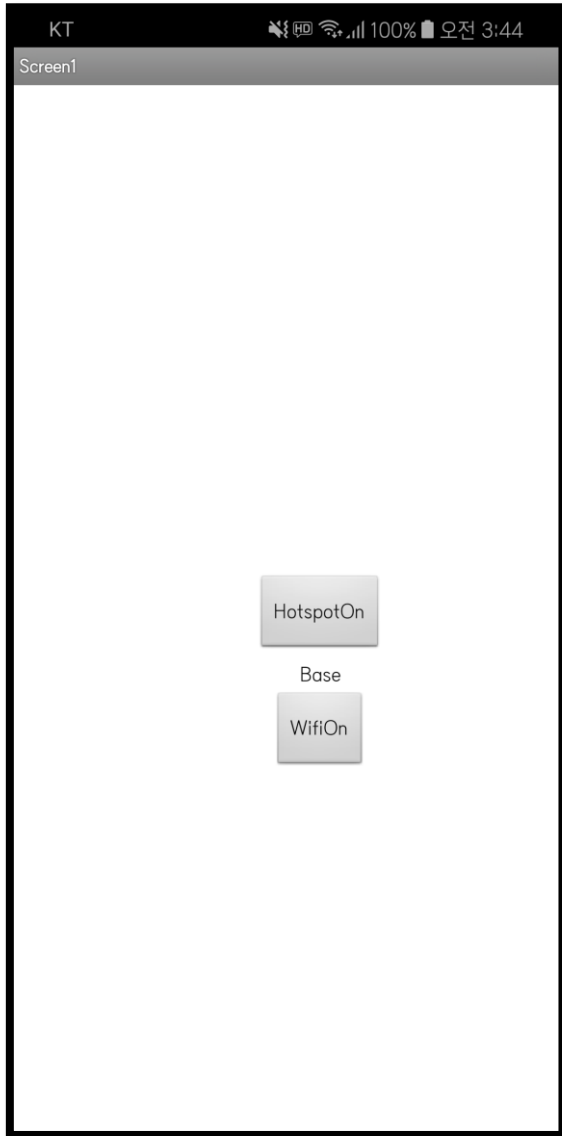
blog tutorial:Create a WiFi hotspot from Android which is already connected to WiFi

video tutorial:

▲(컴퓨터는 될지라도)
스마트폰에서는 현재로서는 듀얼채널 Wifi가 안된다.
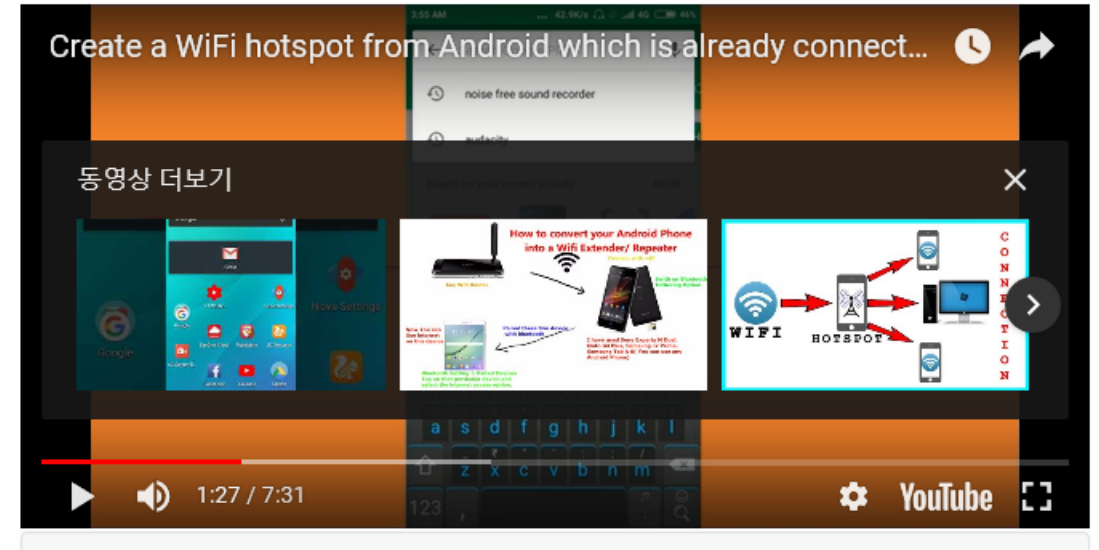
▲ 방법은 있다.? (이미 Wifi연결된 안드로이드에 핫스팟을 연결하는 방법을 소개한 동영상)

■ 어떻게 할 것인가??
❯❯ 생각해보아야 할 것
❯ 서버끼리의 연결 과제; 어떤 것을 택해야 할까
∶ 핫스팟+블루투스는 가능 → 대안이 될 수 있는지
∶ 핫스팟+Wifi는 기본적으로 불가능 → 구체적으로 연결을 가능케 할 확실한 방안이 있는지

■ 이번 주 할 일 : 강의 듣고 간단하게 AP모드를 ON,OFF할 수 있는 원시적 형태의 APP만들기

Hotspot on

▶App inventor라는
블록코딩 사이트에서
만들어본 간단한 Hotspot OnOff앱

첫번째 개발 목표:

사진과 같은 형태를
Android Studio로
자바코드로 짜서 다시 구현하기.