Switch between AP and client mode

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I am working on a RPi radio project, and I'd like to be able to switch between a "setup mode" where the RPi acts as a Wi-Fi access point, allowing the user to send his/her home Wi-Fi credentials via a dedicated mobile app then write them into the `wpa_supplicant` file, and a "normal mode" where the board becomes a Wi-Fi client and connects to the Wi-Fi network the user specified while using the setup mode.

Is it possible?

wifi setup

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edited Mar 16 '16 at 13:53

Greenonline

2,141 4 12 28

asked Mar 16 '16 at 9:44

Zbam

38 1 1 5

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It is possible, I suggest you to use a lighttpd with a webservice for your app. After that - just switch between hostapd(AP mode) and wpa_supplicant(client mode). It is as simple as stop one service and start another wia shell command.

UPDATE: Some tips. What is the simplest way is to use a systemd as a triggerhappy switcheroo, and let it be done like this :

- use wpa_supplicant as a service
- a hostapd is already a service in ubuntu/debian, so you don't have to do anything about it.

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1 Switching between AP and client mode (other answers haven't helped)

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Next, configure ISC-DHCPD and hostapd for your AP mode, check them to be working as AP, i.e. you can join a network and obtain an IP address, DNS from your DHCP is pingable from a device and working. After that use this cheatsheet on SystemD to make dhcpd and hostapd not start automatically on boot :

```
#systemctl disable hostapd.service
#systemctl disable isc-dhcp-server.service
```

and stop thoose SoB's ;) just like that :

```
#systemctl stop hostapd.service
#systemctl stop isc-dhcp-server.service
```

after that by a link I've pointed upstrings make wpa_supplicant (install it like that : `apt-get install wpasupplicant`) a service too, and set it up to be working as you wish, i.e. your RPi associates with AP you're about to use, receives IP+DNS, can ping/wget, e.t.c. After that - disable and stop the service *just like we did it upstrings* :

```
#systemctl stop wpa_supplicant.service
#systemctl disable wpa_supplicant.service
```

After that here goes the magic :) to switch from mode to another just stop the services from a previous mode and start the needed ones(i.e. stop `wpa_supplicant` and start `hostapd` and `isc-dhcp-server`) like this:

```
#systemctl stop wpa_supplicant.service && systemctl start hostapd.service && systemctl start isc-dhcp-service.service
```

Yes, in one single string. The secret here is in "&&" construction - it's a type of queue when the next element will be executed only if the previous one haven't failed. So wherever from you'll make a call for this pipe, check for exitcode 0. It will guarantee you that everything was OK switching the modes. That's it, feel free to ask questions if you need more help!

share improve this answer

edited Mar 16 '16 at 20:19

answered Mar 16 '16 at 12:05

Alexey Vesnin
808 7 12

Thanks for your answer. That's what I was thinking of, but I am not that good with shell scripting. I'll try to find some examples, because I think I'll have to fiddle with dhcpd.conf, /etc/default/isc-dhcp-server and /etc/network/interfaces as suggested in this article link – Zbam Mar 16 '16 at 13:28

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@Zbam need more info to help you out? – Alexey Vesnin Mar 16 '16 at 14:10

some insight on the way I could switch from one mode to the other would be great, because from what I've seen it involves many files – Zbam Mar 16 '16 at 17:23

@Zbam take a look at my edit, I've updated my answer – Alexey Vesnin Mar 16 '16 at 20:20

This has been very useful for my own "turtles" project... but I am still unclear on one detail: I ideally want to "try" to connect to a known wifi connection, and if it fails, then default to AP mode. Is there an easy way to do this with SystemD, or should I be writing a shell script that will attempt the connection, and then do the above? Any guidance would be helpful! (Or let me know if you would prefer this as a separate question) – Aerophilic Nov 20 '16 at 20:11

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