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## how to use wpa supplicant

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## What is WPA/WPA2?

Wi-Fi Protected Access (WPA) and Wi-Fi Protected Access II (WPA2) are 802.11 wireless authentication and encryption standards, the successors to the simpler [Wired Equivalent Privacy \(WEP\)](#). Most "closed" or "locked" 802.11 wireless networks use WPA/WPA2 authentication. On NetBSD, the [wpa\\_supplicant\(8\)](#) daemon handles WPA/WPA2.

To configure WPA/WPA2, you must create the file `/etc/wpa_supplicant.conf`. You can find examples for `/etc/wpa_supplicant.conf` in `/usr/share/examples/wpa_supplicant/wpa_supplicant.conf`. The simplest case is a network, say my favourite network, with a fixed passphrase, say hunter2. For this case, fill your `/etc/wpa_supplicant.conf` file with:

```
ctrl_interface=/var/run/wpa_supplicant
ctrl_interface_group=wheel
network={
    ssid="my favourite network"
    psk="hunter2"
}
```

Then enable `wpa_supplicant` on your network interface device, say `iwn0`, by editing `/etc/rc.conf` to add

```
wpa_supplicant=YES
wpa_supplicant_flags="-i iwn0 -c /etc/wpa_supplicant.conf"
```

If your LAN is configured with DHCP, you will likely also want `dhcpcd=YES` in `/etc/rc.conf` to run `dhcpcd`. Then start `wpa_supplicant` with the shell command:

```
# /etc/rc.d/wpa_supplicant start
```

or reboot for the change to take effect.

You can query the current status of WPA/WPA2 with the shell command:

```
# wpa_cli status
```

If you want to configure more 802.11 networks, add more `network` stanzas to `/etc/wpa_supplicant.conf`, and notify `wpa_supplicant` of them:

```
# /etc/rc.d/wpa_supplicant reload
```

## Do not wait for lease; useful if no network is within reach, so boot will not hang

For a typical laptop, you will usually want to use DHCP to get an IP address on any network you're on, but you won't always be on the network. In that case, when you're booting up, you don't want to have to wait until you can associate with the network and get a DHCP lease. You can pass the `-b` flag to `dhcpcd` to make it immediately go into the background, by setting `dhcpcd_flags` in `/etc/rc.conf`:

```
dhcpcd_flags="{dhcpcd_flags} -b"
```

## Other Network Configurations

wpa\_supplicant can also connect to other wireless network configurations. These networks can be given different priorities using the `priority` field, with a higher number indicating a higher priority.

### Hidden Networks

If the network is hidden, so that the access point does not broadcast its presence, you must specify the `scan_ssid=1` option:

```
network={
    ssid="my network"
    scan_ssid=1
    psk="sekret"
}
```

### Open Networks

```
network={
    ssid="MYUNPROTECTEDWLAN"
    key_mgmt=NONE
    priority=100
}
```

### WEP encryption

WEP is the weakest of current 802.11 encryption solutions. It is known to be completely broken: breaking WEP can be done in mere seconds. However, sometimes there is a need to use WEP in legacy networks. Here is a configuration if you want to do it with wpa\_supplicant:

```
network={
    ssid="MYWEAKLYENCRYPTEDWLAN"
    key_mgmt=NONE
    wep_key0="12345" # or 13 characters, or a hexkey starting with 0x
    wep_tx_keyidx=0
}
```

Note that you don't have to use wpa\_supplicant to configure WEP -- you can also simply use [ifconfig\(8\)](#):

```
ifconfig ath0 ssid MYWEAKLYENCRYPTEDWLAN nwkey 12345
```

### Password-Authenticated MSCHAPv2

This seems to be a common configuration for password-authenticated networks:

```
network={
    ssid="WLANSSID"
    key_mgmt=IEEE8021X
    eap=PEAP
    phase2="auth=MSCHAPV2"
    identity="login"
    password="password"
}
```

## See also

- [wpa\\_supplicant\(8\)](#)
- [wpa\\_supplicant.conf\(5\)](#)
- [Official wpa\\_supplicant site](#)

#### comment 1

Determine first what interfaces are available:

```
ifconfig -l
```

Add to /etc/rc.conf:

```
dhclient=YES
# Do not wait for lease; useful if no network is within reach, so boot will not hang
dhclient_flags="-nw"
wpa_supplicant=YES
# select the appropriate interface (-i) for your wifi card. (i.e. -i wpi0)
wpa_supplicant_flags="-B -i wpi0 -c /etc/wpa_supplicant.conf"
```

Comment by **Frank** — 2 years and 5 months ago

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