Configuring the WiFi driver to roam is difficult. But, roaming will allow us to switch access points when connection is poor, rather than waiting for complete loss of connection to switch access points.

1. Make sure a roaming enabled WiFi card (and driver) is installed. We use Intel AC9260.
2. Disable NetworkManager for your WiFi interface (in our case wlan0) by editing /etc/NetworkManager/NetworkManager.conf:

[main]

plugins=ifupdown,keyfile

[ifupdown]

managed=false

[device]

wifi.scan-rand-mac-address=no

[keyfile]

unmanaged-devices=mac:<WiFi Card MAC Address>

Restart NetworkManager: sudo systemctl restart NetworkManager

[Optional] View journal: journalctl -u NetworkManager

1. Set your wpa\_supplicant configuration file at /etc/wpa\_supplicant/wpa\_supplicant.conf:

ctrl\_interface=DIR=/var/run/wpa\_supplicant GROUP=netdev

update\_config=1

country=US

bgscan="simple:30:-60:600"

network={

ssid="<Your WiFi SSID> "

psk="<Your WiFi Password>"

key\_mgmt=WPA-PSK

}

Restart wpa\_supplicant: sudo systemctl restart wpa\_supplicant

Note: in bgscan, -60 = -60 dBm to trigger a scan, 30 = scan every 30 seconds while below -60 dBM, 600 = scan every 600 seconds no matter what.

1. Create a shell script for connecting to the WiFi network at /usr/local/bin/custom\_wifi.sh:

#!/bin/bash

INTERFACE="wlan0"

SSID="eig"

sudo ifconfig $INTERFACE down

sudo iwconfig $INTERFACE essid $SSID

sudo ifconfig $INTERFACE up

sudo wpa\_supplicant -B -i $INTERFACE -c /etc/wpa\_supplicant/wpa\_supplicant.conf

sudo dhclient $INTERFACE

Make the script executable: sudo chmod +x /usr/local/bin/custom\_wifi.sh

1. Run the shell script automatically upon start up.
   1. Create a systemmd service: sudo nano /etc/systemd/system/custom\_wifi.service

[Unit]

Description=Custom WiFi Setup

After=network.target

[Service]

ExecStart=/usr/local/bin/custom\_wifi.sh

RemainAfterExit=yes

[Install]

WantedBy=multi-user.target

* 1. Reload: sudo systemctl daemon-reload
  2. Enable: sudo systemctl enable custom\_wifi.service
  3. [Optional] Test: sudo systemctl start custom\_wifi.service