While working on "Building an affordable live streaming camera using a Raspberry Pi" project, I found that the Raspberry Pi is not able to connect to University's secure wireless network. I found that the cause of the problem is WPA2 Enterprise which is used by most of the institutions like universities and big companies. I hope this blog post would help you if you are facing with the same problem.

1. First edit wpa_supplicant.conf file located in /etc/wpa_supplicant/ folder.
   Open a terminal and type the command below:

   ```
   sudo nano /etc/wpa_supplicant/wpa_supplicant.conf
   ```

   Use your wireless network ssid, username and password for the red colored parameters.

   ```
   network={
       ssid="ssid"
       scan_ssid=1
       key_mgmt=WPA-EAP
       group=CCMP TKIP
       eap=PEAP
       identity="username"
       password="password"
       phase1="peapver=0"
       phase2="MSCHAPV2"
   }
   ```

   Save and exit file (ctrl+x, yes)

2. Edit network interfaces.

   ```
   sudo nano /etc/network/interfaces
   auto lo

   iface lo inet loopback
   iface eth0 inet dhcp

   allow-hotplug wlan0

   iface wlan0 inet dhcp
       pre-up wpa_supplicant -B -Dwext -i wlan0 -c
   /etc/wpa_supplicant/wpa_supplicant
       post-down killall -q wpa_supplicant
   ```

3. Reboot the Raspberry Pi
4. Check the wpa_cli status

   ```
   sudo wpa_cli status
   ```

wpa_state parameter must be equal to “COMPLETED”.
The output for me is:

```
Selected interface 'wlan0'

bssid=28:8a:1c:fa:5d:42

freq=0

ssid=UofM Secure

id=0

mode=station

pairwise_cipher=CCMP

group_cipher=CCMP

key_mgmt=WPA2/IEEE 802.1X/EAP

wpa_state=COMPLETED

ip_address=10.104.164.239

address=b8:27:eb:d1:bc:0d

Supplicant PAE state=AUTHENTICATED

suppPortStatus=Authorized

EAP state=SUCCESS

selectedMethod=25 (EAP-PEAP)

EAP TLS cipher=AES256-SHA

EAP-PEAPv0 Phase2 method=MSCHAPV2

uuid=c7492b97-0cc5-5df3-bff7-bbb00be7bbff
```

5. Now, the Raspberry Pi must be automatically connecting to secure network which you have defined in the wpa supplicant configuration.