Important links:

[1] Download Raspbian for Raspberry Pi
[2] Setting up a Raspberry Pi as a Wireless Access Point
[3] Forum - Host offline wireless AP with DNS
[4] Dnsmasq For Easy LAN Name Services
[5] Deploying create-react-app with Nginx and Ubuntu
[6] Create a custom Raspbian OS image for production
[7] Building your custom Raspbian image - Sam Decrock

SO: Raspbian Buster Lite (CLI)

On the microSD root create empty *ssh* file.

Initial settings: After boot and ssh access the Raspberry:

```
passwd
```

- new password: `covid19`

```
sudo raspi-config
```

- Localisation Options > Change Wi-fi Country > BR

```
sudo apt update
sudo apt full-upgrade
sudo apt-get update
sudo reboot
```

Setting up Wireless Access Point + DNS host names

```
sudo apt install dnsmasq hostapd
sudo systemctl stop dnsmasq
sudo systemctl stop hostapd

sudo nano /etc/dhcpcd.conf
```

Add at the end of the file:

```
interface wlan0
    static ip_address=192.168.0.1/24
    nohook wpa_supplicant
```

```
sudo service dhcpcd restart

sudo mv /etc/dnsmasq.conf /etc/dnsmasq.conf.orig
sudo nano /etc/dnsmasq.conf
```

Add the following:

```
#/etc/dnsmasq.conf
domain-needed
bogus-priv

domain=dashboard.ufrj.br
expand-hosts
local=/dashboard.ufrj.br/

interface=wlan0      #use the require wireless interface - usually wlan0
dhcp-range=192.168.0.2,192.168.0.50,255.255.255.0,24h

#set default gateway
dhcp-option=wlan0,3,192.168.0.1
#set DNS server
dhcp-option=wlan0,6,192.168.0.1

listen-address=127.0.0.1
listen-address=192.168.0.1
```

```
sudo systemctl start dnsmasq

sudo nano /etc/hostapd/hostapd.conf
```

Add the following:

```
interface=wlan0
driver=nl80211
hw_mode=g
channel=7
wmm_enabled=1
ieee80211n=1
macaddr_acl=0
auth_algs=1
ignore_broadcast_ssid=0
wpa=2
wpa_key_mgmt=WPA-PSK
wpa_pairwise=TKIP
rsn_pairwise=CCMP
ssid=RaspNetwork
wpa_passphrase=helpingHU
```

```
sudo nano /etc/default/hostapd
```

Find the line with `#DAEMON_CONF`, and replace it with:

```
DAEMON_CONF="/etc/hostapd/hostapd.conf"
```

```
sudo systemctl unmask hostapd
sudo systemctl enable hostapd
sudo systemctl start hostapd
```

Optional to check status:

```
      sudo systemctl status hostapd
      sudo systemctl status dnsmasq
```

```
sudo nano /etc/sysctl.conf
```

Uncomment this line: `net.ipv4.ip_forward=1`

```
sudo iptables -t nat -A  POSTROUTING -o eth0 -j MASQUERADE
```

```
sudo sh -c "iptables-save > /etc/iptables.ipv4.nat"
```

```
sudo nano /etc/rc.local
```

Add this just above "`exit 0`":

```
iptables-restore < /etc/iptables.ipv4.nat
```

```
sudo nano /etc/hosts
```

Add at the end of the file:

```
192.168.0.1             dashboard.com.br
192.168.0.1             www.dashboard.com.br
192.168.0.1             dashboard.ufrj.br
192.168.0.1             www.dashboard.ufrj.br
```

```
sudo reboot
```

## Setting up git

On Raspberry:

```
mkdir .ssh
```

On host machine:

```
scp id_rsa pi@192.168.1.188:~/.ssh/
```

On Raspberry:

```
ssh-agent $BASH
ssh-add ~/.ssh/id_rsa

sudo apt install git

sudo mkdir /www
sudo mkdir /www/dashboard

sudo gpasswd -a "$USER" www-data
sudo chown -R "$USER":www-data /www
find /www -type f -exec chmod 0660 {} \;
sudo find /www -type d -exec chmod 2770 {} \;

cd /www/dashboard
git clone git@github.com:qwertyDamasceno/monitor-covid-build.git

sudo apt-get install nginx

cd /etc/nginx/sites-available/
sudo mv default default.orig

sudo nano default
```

Add the following:

```
server {
   listen 80 default_server;
   root /www/dashboard/monitor-covid-build;
   server_name dashboard.ufrj.br;
   index index.html index.htm;
   location / {
   }
}
```

```
sudo service nginx start
```

If you changed up the repository or made any changes, you can restart Nginx with:

```
sudo service nginx restart
```

To automatically start nginx on boot:

```
sudo update-rc.d -f nginx defaults
```