CODE

This project doesn’t require code we have to install the Motion software and configure it according to the requirement

1. INSTALL THE MOTION

Motion monitors an incoming camera stream and detects 'motion' by finding the pixel values that have changed from frame to frame.

If a threshold (i.e. total pixels changed) is exceeded then Motion triggers a "motion detected" event and optionally creates a snapshot of the video Stream.

Motion includes an inbuilt webserver offering both a video stream and online configuration on the fly

Commands

1. If you are using Raspbian Stretch then use the [pi\_stretch\_motion\_4.0.1-\_armhf.deb](https://github.com/Motion-Project/motion/releases/download/release-4.0.1/pi_stretch_motion_4.0.1-1_armhf.deb) file .
2. If you are using Raspbian Jessie then use the [pi\_jessie\_motion\_4.0.1-1\_armhf.deb](https://github.com/Motion-Project/motion/releases/download/release-4.0.1/pi_jessie_motion_4.0.1-1_armhf.deb) file.

wget [pi\_stretch\_motion\_4.0.1-\_armhf.deb](https://github.com/Motion-Project/motion/releases/download/release-4.0.1/pi_stretch_motion_4.0.1-1_armhf.deb)

2.install the [gdebi](https://launchpad.net/gdebi) tool as follows:

sudo apt-get install gdebi-core

3.Install Motion using the gdebi tool (allow it to also install the minimal web server):

sudo gdebi pi\_strech\_motion\_4.0.1-1\_armhf.deb

4.Create a hidden folder in your home directory:

mkdir ~/.motion

1. Copy the original Motion config file to your new. motion directory.  This ensures that the original config file doesn't get ruined (and can be used to return Motion to its 'factory settings').

cp /etc/motion/motion.conf ~/.motion/motion.conf

**Configuring Motion**

Uncomment the *mmalcam\_name vc. ril. camera*parameter.

Uncomment*target\_dir* and change its associated value to’/home/pi/Documents/motion’

Ensure that *ffmpeg\_output\_movies* are set to 'off'

Set *stream\_localhost* to ‘off’

Set *webcontrol\_localhost* to 'off’

Set *width* to ‘640’ and *height* to ‘480’

Set *locate\_motion\_mode*to ‘preview’

Set *locate\_motion\_style* to ‘redbox’

Set *event\_gap* to '10'

Set *output\_pictures* to 'center'

Set *quality* to '80'

Set *text\_changes* to 'on’

Set streammaxrate=100

**Running Motion for the First Time**

motion -c ~/.motion/motion.conf

**Streaming motion on web(browser)**

http://[IPaddress]: [stream\_port]

**Adding Email Alerts**

Install the tools you'll be using to send emails:

sudo apt-get install ssmtp  
sudo apt-get install mailutils  
sudo apt-get install mpack

Next, run:

sudo nano /etc/ssmtp/ssmtp.conf

and ensure that file contains the following configuration parameters, making sure that your Gmail account credentials are in place:

root=postmaster  
mailhub=[smtp.gmail.com:587](http://smtp.gmail.com:587/)  
hostname=raspberrypi  
[AuthUser=yourgmailusername@gmail.com](mailto:AuthUser=yourgmailusername@gmail.com)  
AuthPass=yourgmailpassword  
FromLineOverride=YES  
UseSTARTTLS=YES

Finally send a test email with an attachment from the *target\_dir*directory:

mpack -s "Test Email" [target\_dir/filename] [recipientEmailAddress]

If this mail arrives you are good to go to the next step.

**Configuring Motion to send Email**

Here you'll need to make a small change to your Motion configuration file.

sudo nano ~/.motion/motion.conf

You'll be updating the *on\_picture\_save* parameter. Uncomment it and change it's value as follows (updating the recipientEmailAddress to the email at which you want to receive alerts):

mpack -s "Your Security Camera has detected Motion!" %f [recipientEmailAddress]

What happens here is that Motion will call this command each time a new image snapshot is saved to the *target\_dir*directory. The %f variable contains the full path to the file.

Save the configuration file, restart Motion and voila! You should now be receiving email notifications each time Motion detects a motion event.

Ensuring Motion start-ups up on Reboot

The easiest way to ensure Motion starts up on reboot is to add it to the  chrontab This is a simple as adding the following command – as

1.Chrontab -e

2.\* \* \* \* \*motion -c ~/.motion/motion.conf