Electromagnetic Door lock Controlled by Raspi Using Intranet & RFID

Hey guys!
This is a guide to make an electromagnetic door lock controlled by a RasberryPi using RFIDs and the intranet.
This system allows you to capture the attendance of the employee by checking the first "IN" time and the last "OUT" time.
It maintains a database of employees in mysql db over phpMyAdmin and automatically mails reports to a person at a set time by using smtp mail.

Step 1- Gather Necessary Hardware:
- Raspberry Pi 3 Complete Starter Kit (Raspbian
- Raspberry Pi touchscreen (4inch RPi LCD)(Not Mandatory)
- USB RFID Reader
- 5V Single Channel Relay Switch
- Electromagnetic Door Lock (12V)
- Power Supply (for 5V & 12V supply)
- Jumper Cables (Male to Male, Male to Female, Female to Female)
- GPIO Expansion Board

Step 2- Download the required software/packages on the Pi:
- Run codes on *File 1*

Step 3- Create the required database:
- Run the *Door Lock DB.sql* file in MySQL on phpMyAdmin
- Fill in the details of the employees with their unique RFID numbers or respective usernames and passwords by creating this column in the *access_list* database

Step 4- Starting the intranet server page:
- Store the files of the *localhost unlock folder* in the *htdocs directory* of Apache
- Check the code files in the folder and change the *db_name* to your database name, *db_username* to your database username, *db_pwd* to your database password, setup smpt mail and change smpt mail details to your preferences

Step 5- Run the main Python file:
- Make sure you download the *lock.py* file and store it in the home directory of your pi

Step 6- Make the connections as follows:
- Connect the 5V power supply to the raspi using a microusb cable
- Connect the GPIO Expansion board to the pins on the Raspi (Only Required if using LCD Display)
- Connect +ve of relay to 5V, -ve to of relay to ground and signal pin of relay to GPIO 13
- Connect RFID Reader to the Raspi
- Connect any one cable of the electromagnetic lock to the normally open port of the relay and connect the second port of relay to ground
- Connect the other cable of the electromagnetic lock to the 12V power supply
  (NOTE: The polarity of the electromagnetic lock doesn't matter so don't worry about which cable to connect where)

Step 7- TEST and READY TO GO!

THANK YOU!

HOPE THIS WORKS!