8 CHANNEL RELAY BOARD – WIFI

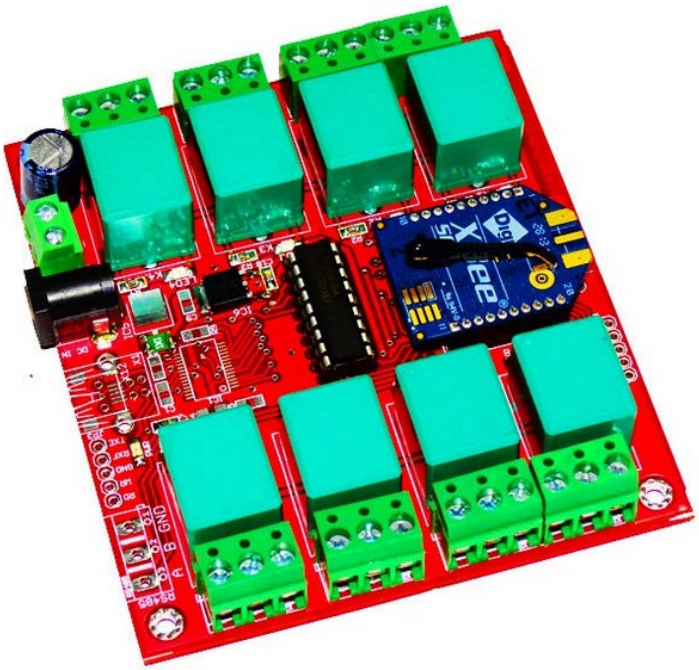


Table of Contents

OVERVIEW 3
FEATURES 3
BLOCK DIAGRAM 4
Xbee S6B 5
SPECIFICATION 6
RDL WI-FI SWITCH APP 7
RDL WIFI RELAY CONTROL SOFTWARE (windows) 8
RDL WIFI RELAY CONTROL SOFTWARE (Ubuntu) 10

OVERVIEW

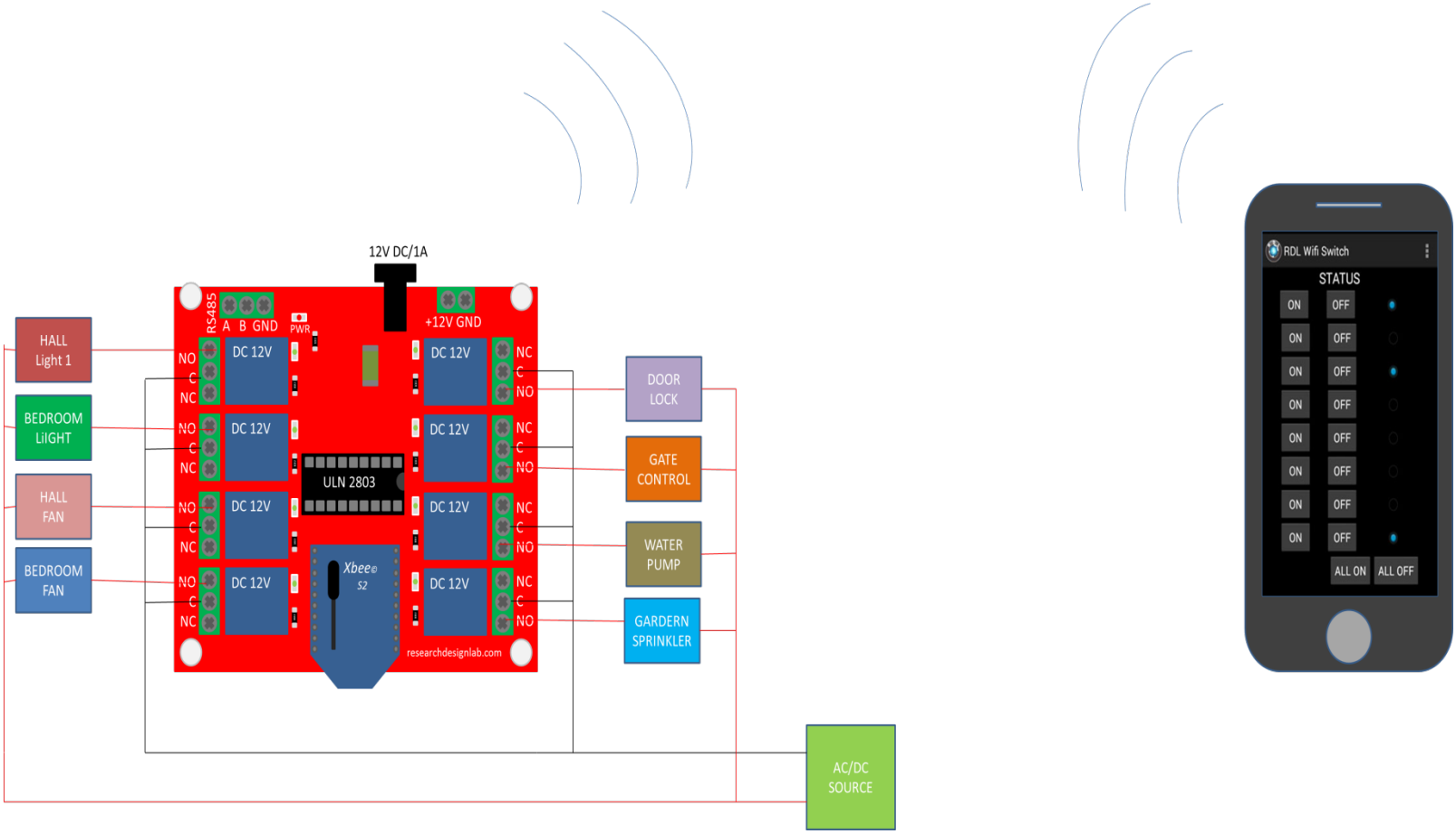
This is Eight Channel relay board controlled through WiFi. The WiFi relay board is with 8 SPDT relays rated up to 7A each. You can control devices 230V / 120V (up to 8) directly with one such relay unit. Suitable for home automation applications, hobby projects, industrial automation.

XBee Wi-Fi embedded RF modules provide simple serial to IEEE 802.11 connectivity. By bridging the low-power/low-cost requirements of wireless device networking with the proven infrastructure of 802.11, the XBee Wi-Fi creates new wireless opportunities for energy management, process and factory automation, wireless sensor networks, intelligent asset management and more.

FEATURES

- **8 SPDT Relay channels (7A 250V,12A 120V,10A 125VAC, 10A 28VDC).**
- Power supply:12VDC 1AMP
- Native Device Cloud integration for data acquisition and device management
- Hardware and software complete module easily joins existing 802.11 b/g/n (Wi-Fi) infrastructures
- Common XBee footprint allows OEMs to support a variety of wireless protocols
- Available in Surface Mount and Through-Hole form factors
- Support for low-power sleeping applications with <6 µA power-down current
- Over-the-air data rates up to 72 Mbps
- Simple provisioning methods including Soft AP and Wi-Fi Protected Setup (WPS)
- Current consumption: 1A.
- LED indication for relay & power supply.
- Design based on highly proven IC ULN2803 as driver.
- High quality PCB FR4 Grade with FPT Certified.

BLOCK DIAGRAM



- once you ON 8 channel relay Wifi than RDL Wifi will be created to use this relay First you need to get connected to RDL Wifi and use RDL Wi-Fi Switch app to control.
- Using RDL WI-FI Switch app you can control any Home Appliances that are connect to 8 Channel relay using WI-FI.
- Using IP address of Your Network and Port NO Your can Wirelessly Control the Appliances from sitting in Home & Office itself.

Xbee S6B

- 3.3V @ 309mA
- 72Mbps Max data rate
- Antenna Type: Integrated Wire
- Fully FCC certified
- 4 12-bit ADC input pins
- 10 digital IO pins
- 13 Channels
- AT or API command set
- Build cloud-connected Wi-Fi prototypes in under an hour
- Popular XBee Through-Hole and Surface-Mount footprints
- Ideal for Industrial Applications that require fast time to market
- Easily connect to a smartphone or tablet for configuration or data transfer
- 802.11b/g/n provides up to 72 Mbps data rate

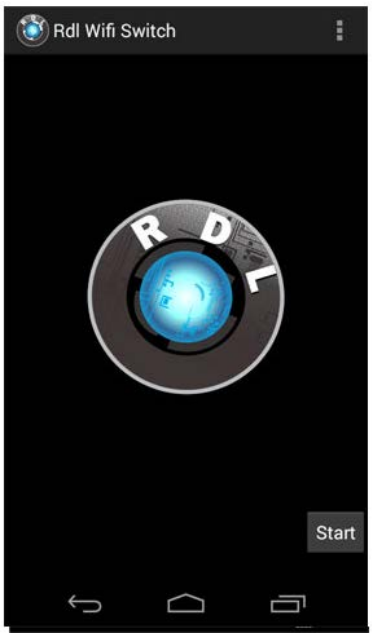
SPECIFICATION

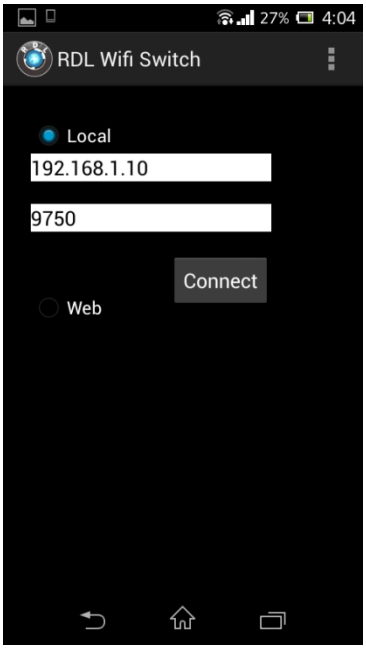
Features	
Serial Data Interface	UART up to 1 Mbps, SPI up to 6 Mbps
Configuration Method	API or AT commands
Frequency Band	ISM 2.4 GHz
ADC Inputs	4 (12-bit)
Digital I/O	10
Form Factor	Through-Hole, Surface-Mount
Antenna Options	Through-Hole: PCB (Embedded), U.FL, RPSMA, Integrated Wire SMT: PCB (Embedded), U.FL, RF Pad
Operating Temperature	-30° C to +85° C
Dimensions (L x W)	Through-Hole: 0.960 in x 1.297 in (2.438 cm x 3.294 cm) SMT: 0.87 in x 1.33 in x 0.12 in (2.20 cm x 3.40 cm x 0.30 cm)
Networking & Security	
Security	WPA-PSK, WPA2-PSK and WEP
Channels	13 channels
Wireless LAN	
Standard	802.11b/g/n
Data Rates	1 Mbps to 72 Mbps
Modulation	802.11b: CCK, DSSS 802.11g/n: OFDM with BPSK, QPSK, 16-QAM, 64-QAM
Transmit Power	Up to +16 dBm
Receiver Sensitivity	-93 to -71 dBm
Power Requirements	
Supply Voltage	3.14 - 3.46 VDC
Transmit Current	Up to 309 mA
Receive Current	100 mA

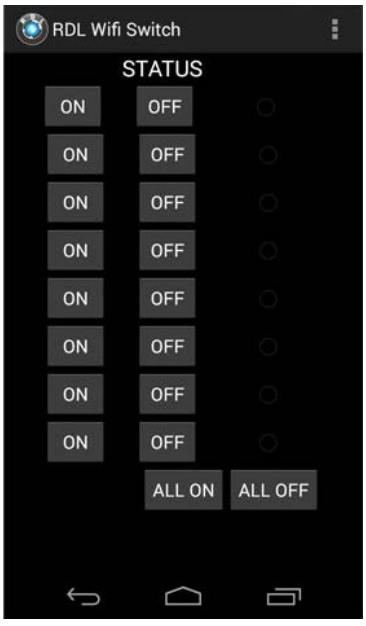
RDL WI-FI SWITCH APP

https://play.google.com/store/apps/details?id=rdl.rdlwifiswitch

- First connect your mobile to **RDL WIFI**
- open RDL Wifi Switch app and connect using the given ip address and port no in the image.



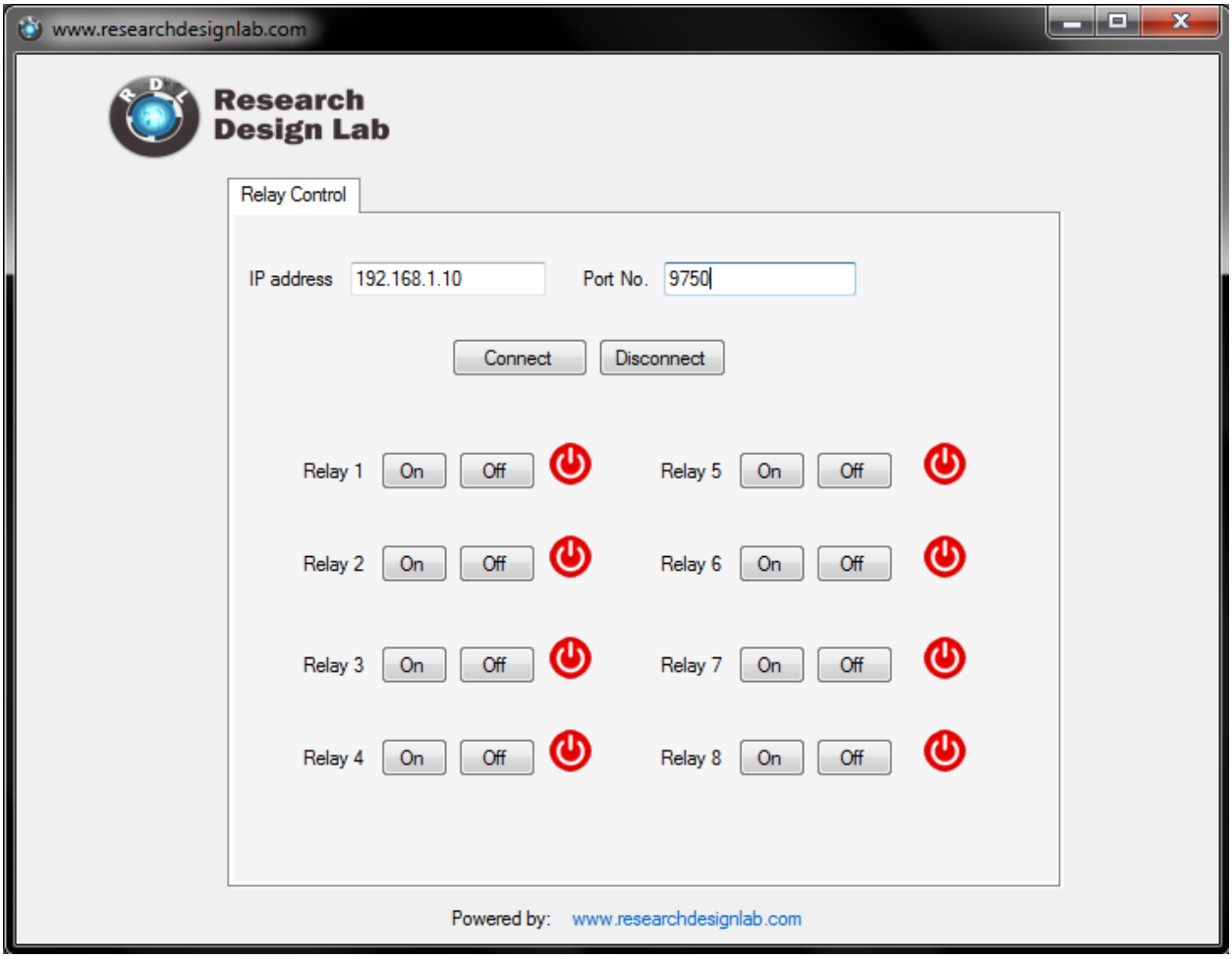


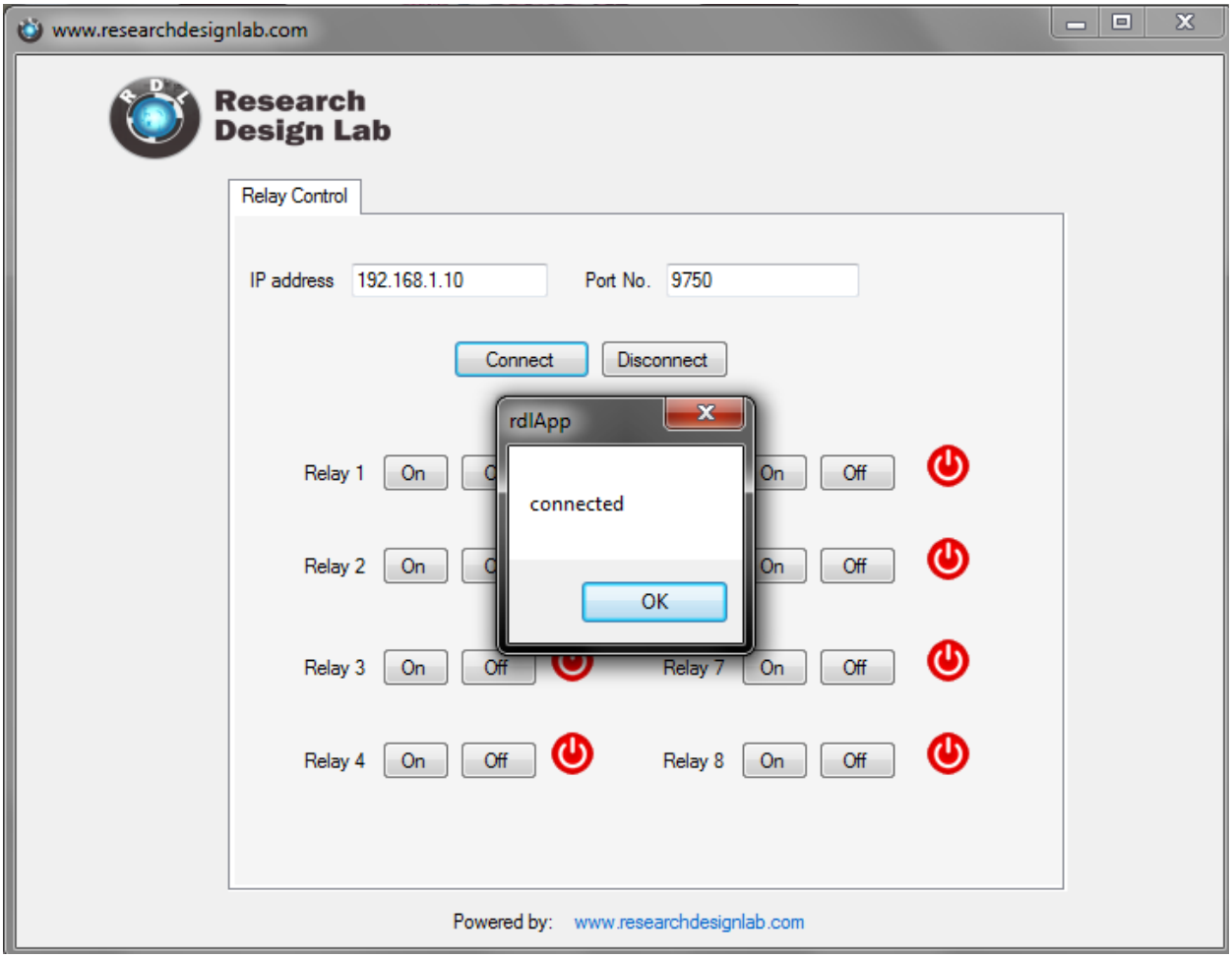


RDL WIFI RELAY CONTROL SOFTWARE (windows)

https://drive.google.com/file/d/0BzrGD4zr88GnWDl6aWNWczhHTGc/view?usp=sharing

- connect to RDL Wifi than open this software

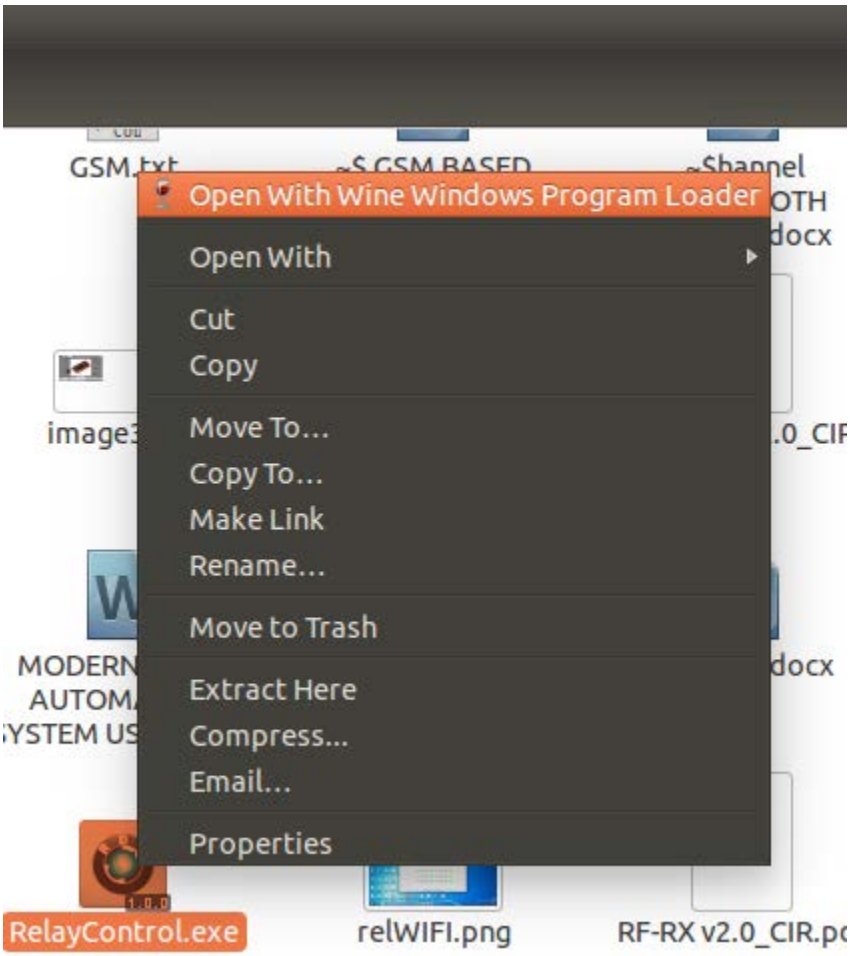


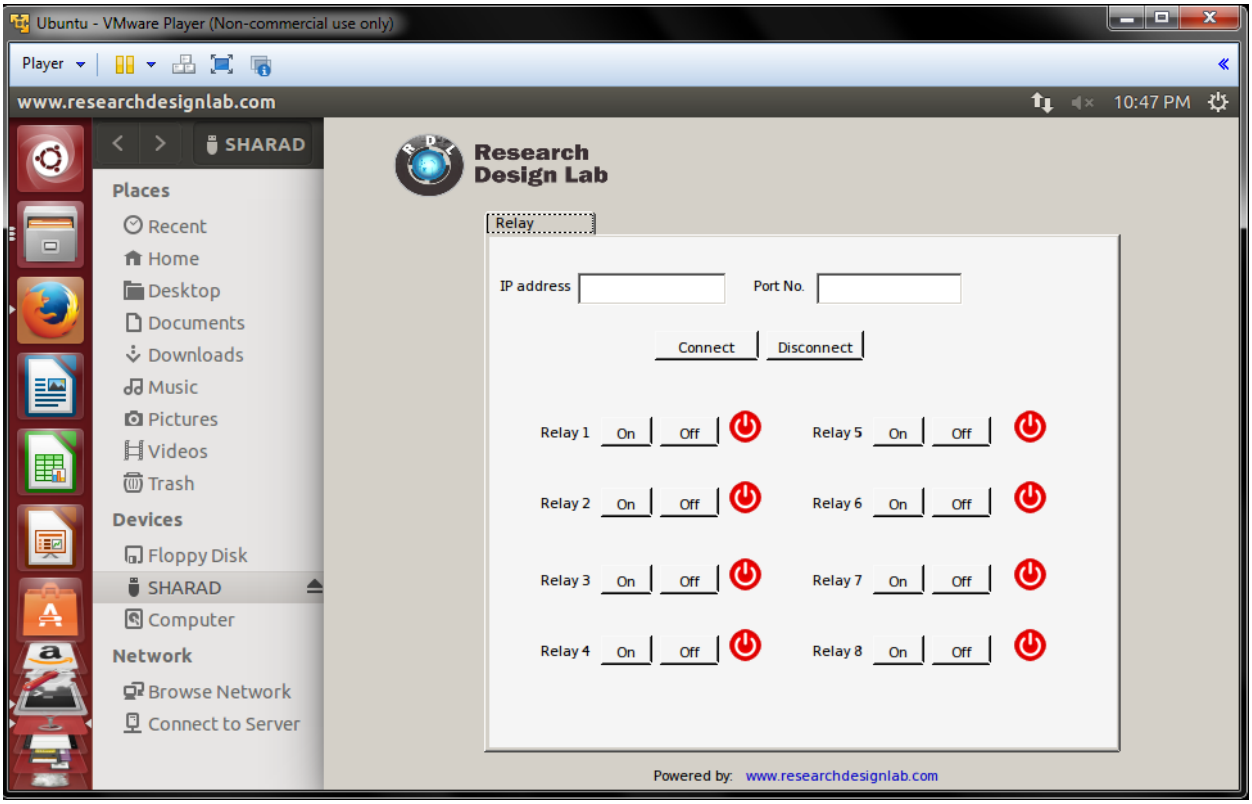

www.researchdesignlab.com
Research Design Lab
Relay Control
IP address
192.168.1.10
Port No.
9750
Connect
Disconnect
rdlApp
connected
OK
Relay 1
On
Off
Relay 2
On
Off
Relay 3
On
Off
Relay 7
On
Off
Relay 4
On
Off
Relay 8
On
Off
Powered by:
www.researchdesignlab.com

RDL WIFI RELAY CONTROL SOFTWARE (Ubuntu)

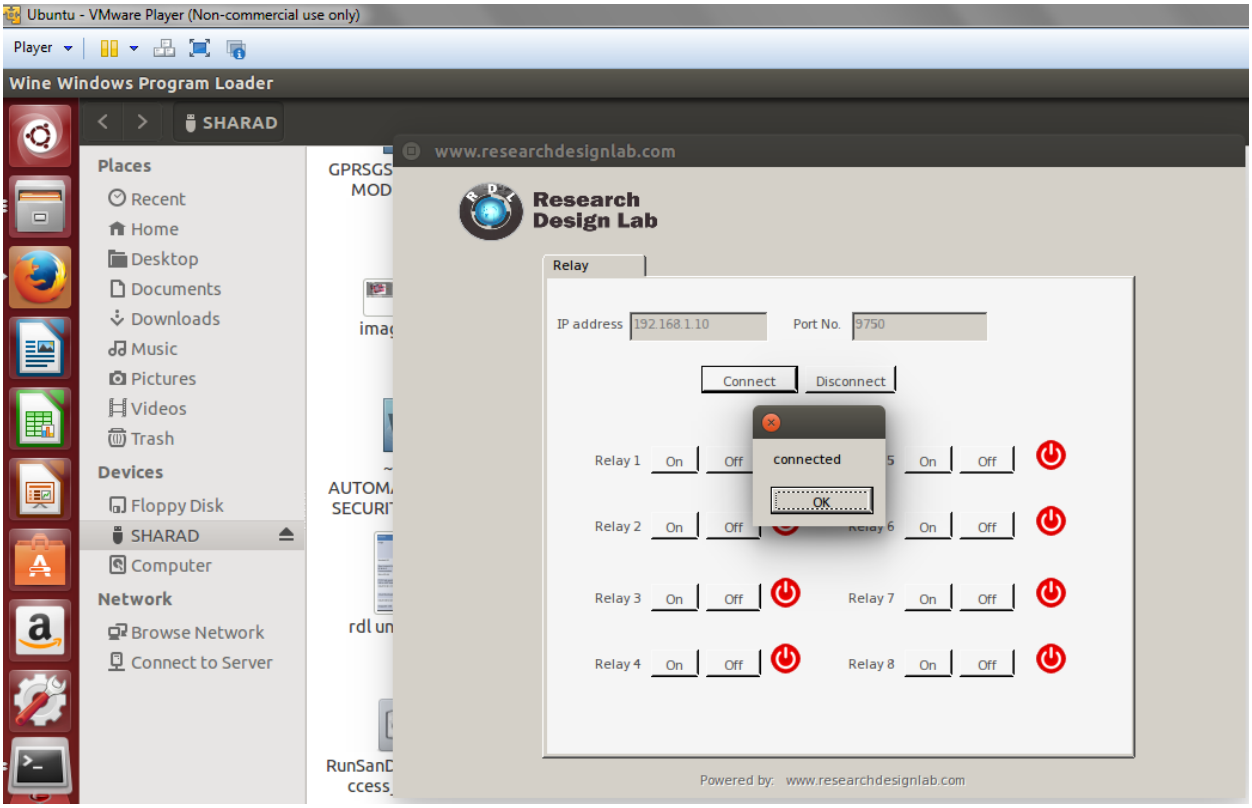
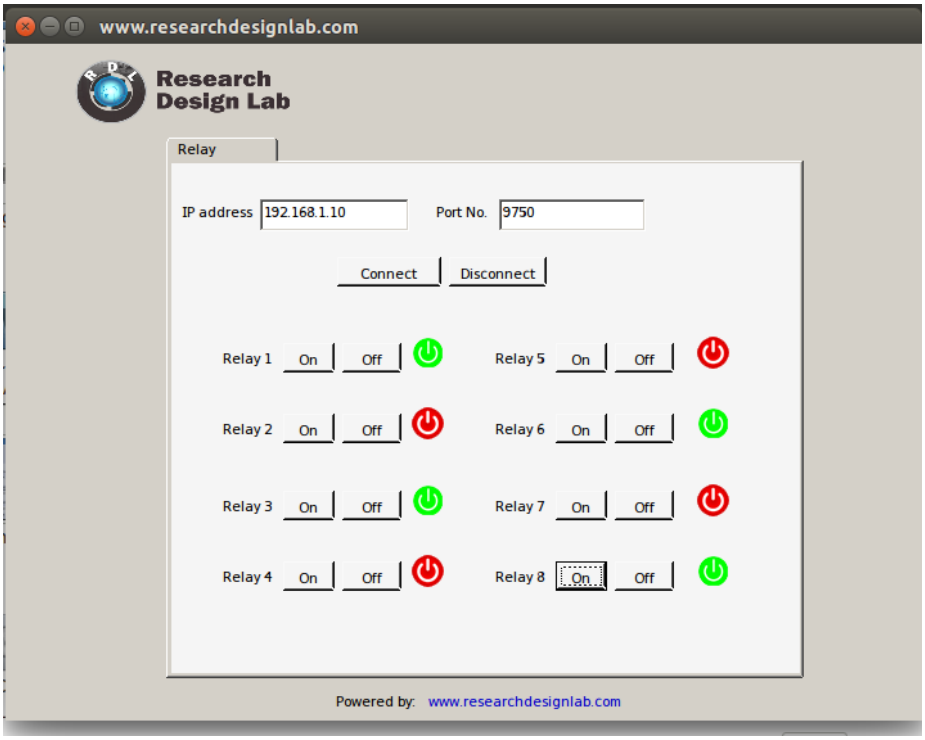
(connect to RDL Wifi in windows if you are using VMware player to use Ubuntu)

- To install windows software in Ubuntu you need to install Wine software so that windows software become compatible with the Ubuntu
- For that open your terminal in Ubuntu and type
  sudo apt-get install wine *(make sure you have connected to internet)*
- Wait till all the installation setup finishes
- download the required file "**RelayControl.exe**" ,right click on it and select **open with wine windows program loader .**





- Add the IP address and port no in this case ip address is **192.168.1.10** and port no is **9750**



- once you get connect you can ON and OFF corresponding relay