

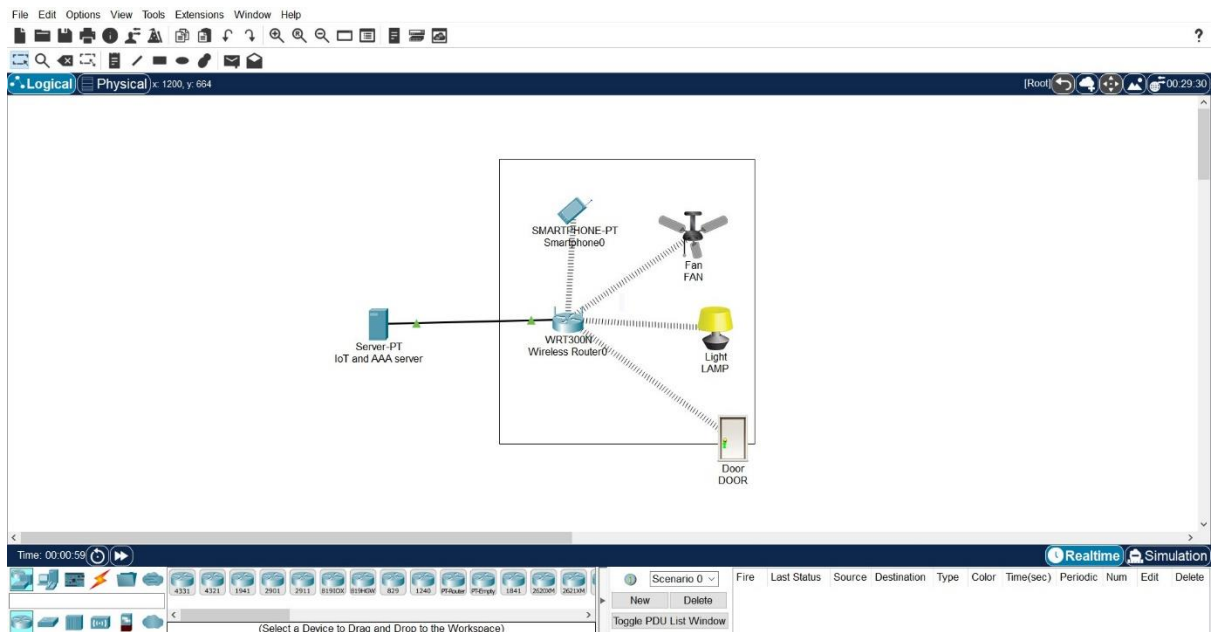
Room Automation using cisco packet tracer

The main aim of this project is to make a simple room automation system using cisco packet tracer.

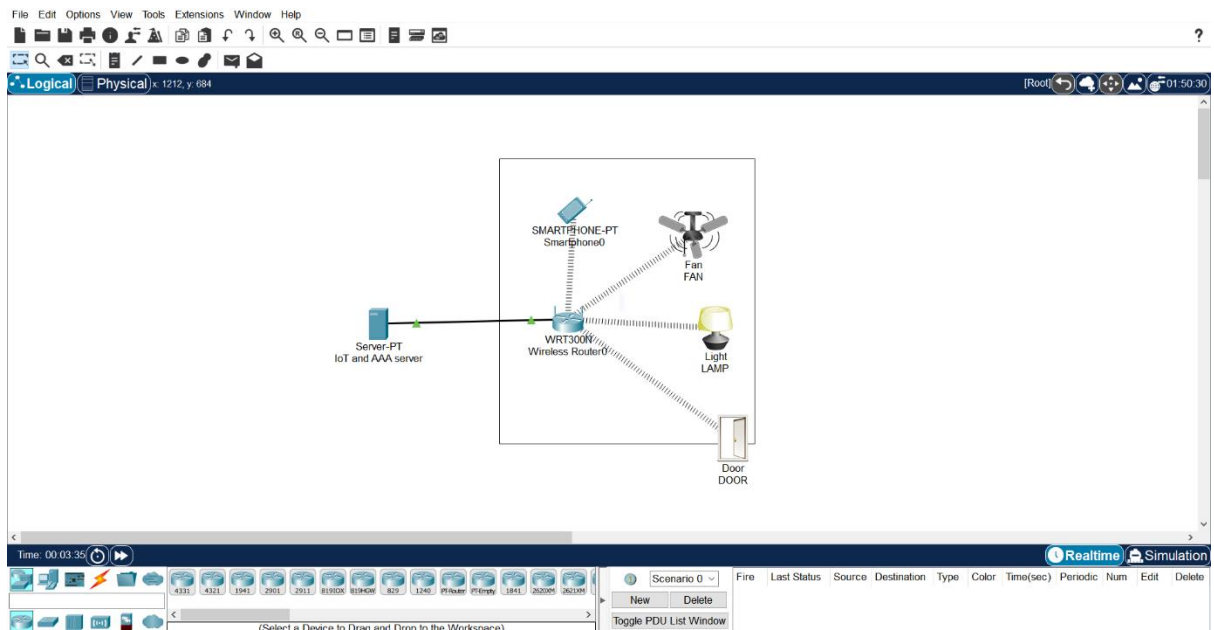
The system contains a fan, lamp and a door all controllable from the phone. The fan and lamp will switch on when the door is opened and will switch off when the door is closed.

All the components are connected to the wireless router which is further connected to an IoT registration server and a AAA Radius authentication server. The IoT registration server controls the IoT management and the AAA security server manages the passwords for the equipment for security aspects.

Output Screenshot:



Door Closed



Door Open

IoT and AAA server

Physical Config **Services** Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.0.10

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.0.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::2D0:FFFF:FED6:82B

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

Windows taskbar: Type here to search, 2009, 06-06-2021

IoT and AAA Server IP Configuration

IoT and AAA server

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA**
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

AAA

Service: ☒ On ☐ Off Radius Port: 1645

Network Configuration

Client Name: Client IP: ServerType: Radius

Secret:

	Client Name	Client IP	Server Type	Key	
1	home	192.168.0.1	Radius	home1234	Add
					Save
					Remove

User Setup

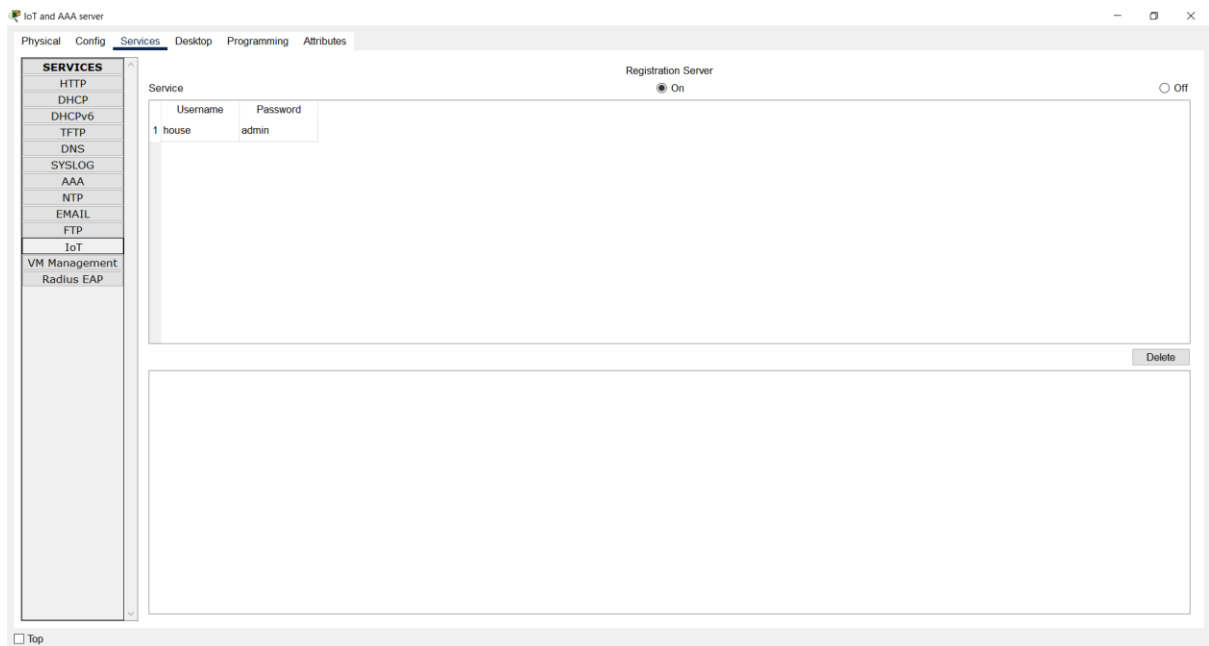
Username: Password:

	Username	Password	
1	Fan	fan1	Add
2	door	door1	Save
3	lamp	lamp1	
4	user	phone	
			Remove

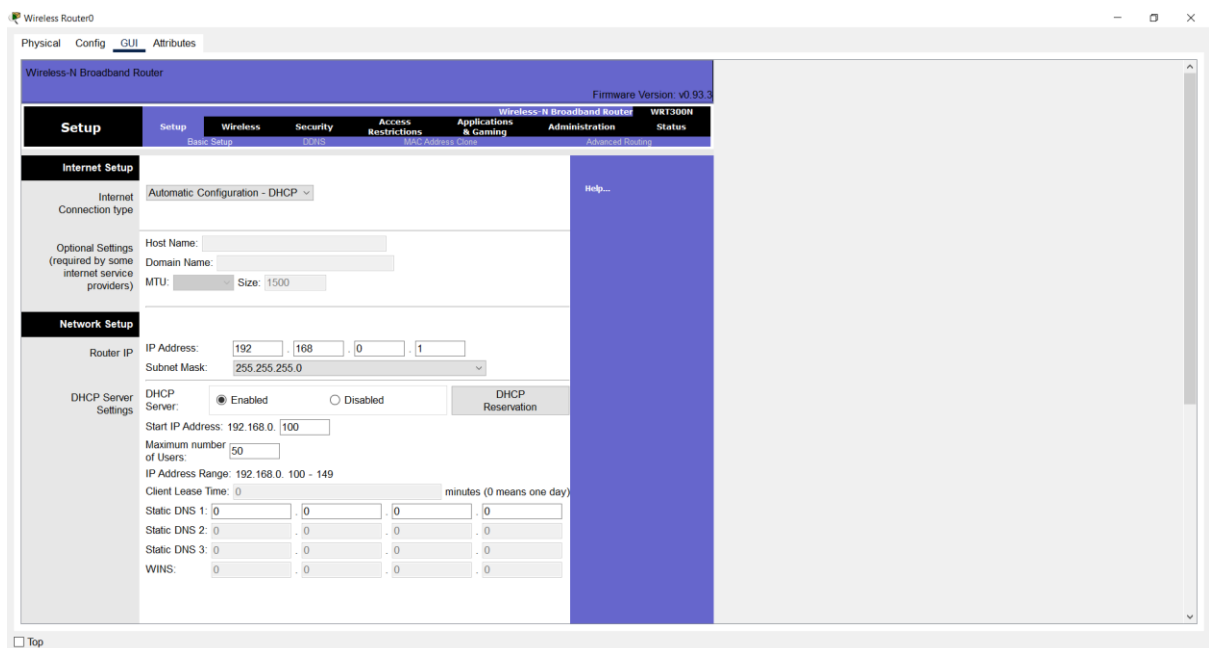
☐ Top

Windows taskbar: Type here to search, 2011, 06-06-2021

AAA Server Configuration



IoT Registration Server



Wireless Router IP Configuration

Wireless Router0

PhysicalConfigGUIAttributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Internet

LAN

Wireless

Wireless Settings

SSID

home

2.4 GHz Channel

2 - 2.417GHz

Coverage Range (meters)

250.00

Authentication

☐ Disabled
☐ WEP
☐ WPA-PSK
☐ WPA
☒ WPA2

WEP Key

PSK Pass Phrase

RADIUS Server Settings

IP Address

192.168.0.10

Shared Secret

home1234

Encryption Type

AES

Top

Wireless Router Security Configuration

Smartphone0

PhysicalConfigDesktopProgrammingAttributes

Web Browser

<>URLhttp://192.168.0.10/home.html

GoStop

IoT Server - Devices

Home | Conditions | Editor | Log Out

FAN (PTT0810741C-)

Cooling Fan

Status

OffLowHigh

LAMP (PTT0810238N-)

Light

Status

OffDimHigh

DOOR (PTT08101R32-)

Door

Open

Lock

Unlock

Top

Smartphone IoT Monitor

Smartphone0

Physical Config Desktop Programming Attributes

IoT Monitor

IoT Server - Device Conditions

Home | Conditions | Editor | Log Out

Actions		Enabled	Name	Condition	Actions
Edit	Remove	Yes	open	DOOR Open is true	Set FAN Status to High Set LAMP Status to On
Edit	Remove	Yes	close	DOOR Open is false	Set FAN Status to Off Set LAMP Status to Off

Add

Top

IoT Device Condition