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Reflection on my Packet Tracer Learning

Report
CENTRIA UNIVERSITY OF APPLIED SCIENCES
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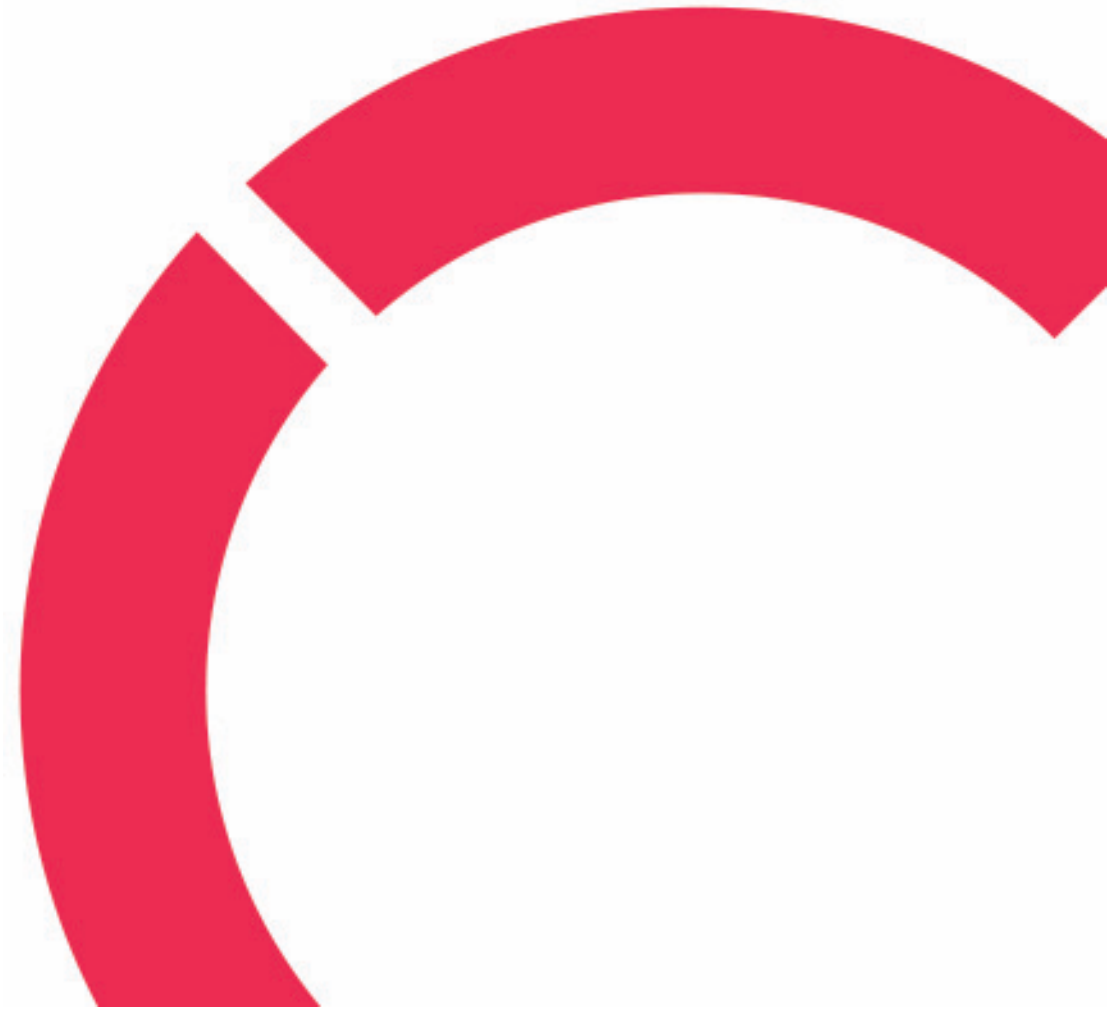

ABSTRACT

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In this report, learning goal was set as understanding what we actually and physically do when building network through Cisco Packet Tracer.

The first course taught about IP address. Assuming IP address as our home address, IP address can be divided two parts which is street address and plot No. The subnet mask tells us where the street address is and where the plot No. is.

In the second course, we tried to build "small office" network. We learned that we need not only cables but also patch panels and wall mounts for connecting between PCs and switches. In addition, we found that network devices such as the switches and routers must be configured by some commands when added to a network.

Through these two courses, we just learned usage of Cisco Packet Tracer and basics of creating network. To achieve the learning goal, we should learn more courses and practice building network more.

Key words
Network, IP address, Cisco Packet Tracer, Network communication

ABSTRACT
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1 INTRODUCTION

What is necessary for understanding “network”? Not only deep knowledge, but it is also important to actually build network and try to communicate. However, building network needs many equipment such as routers, switches, PCs, cables, servers and so on. Cisco Packet Tracer allows us to build network and observe how they communicate each other without any physical devices. Therefore, “Cisco Packet Tracer” is used to learn network in this report.

In this report, we aim to understand what we actually and physically do when building network through Cisco Packet Tracer.

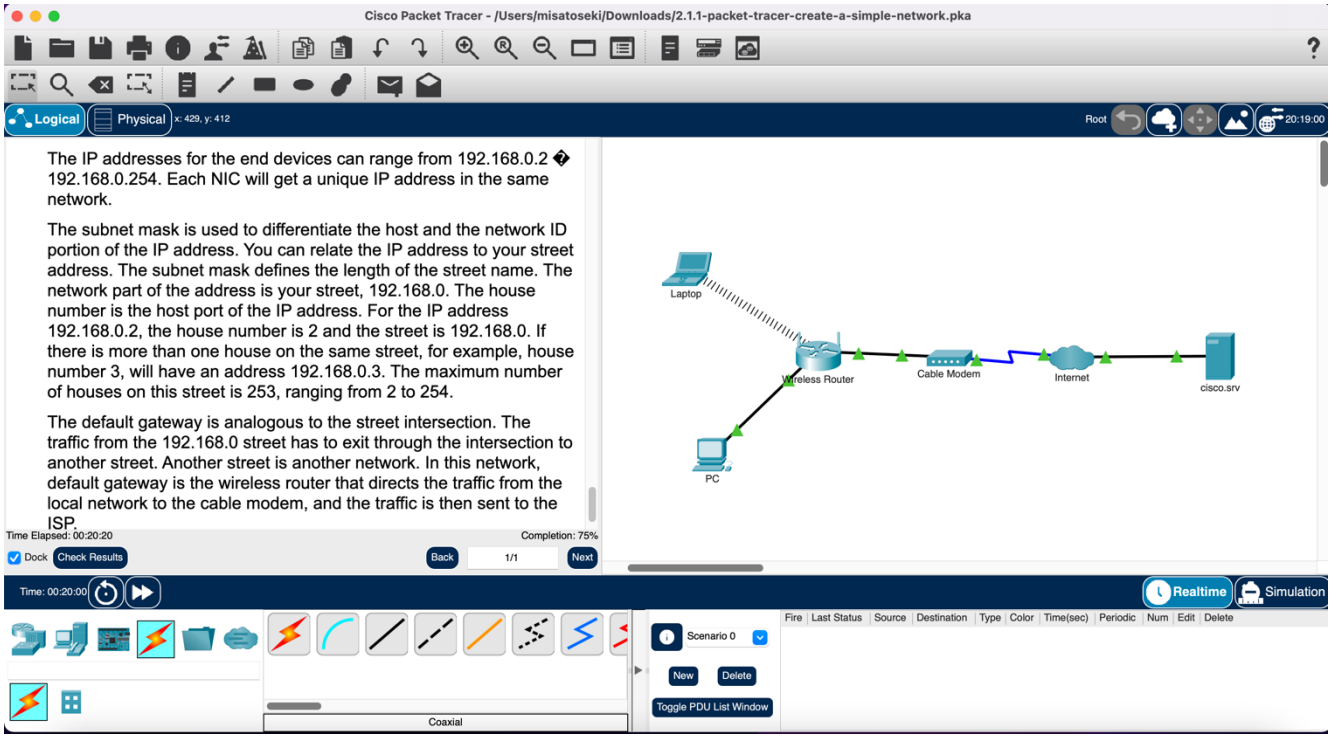
2 COURSE 1 - GETTING STARTED WITH CISCO PACKET TRACER

2.1 Learning Process

In first module, learners learn what “Cisco Packet Tracer” is through watching some videos. After that, this course introduces basic usages like followings.

- how to change the font of the screen
- how to settle the devices on a network and connect them by cable or wireless
- how to use “tabs” for device configuration
- introduction of PTTA (Packet Tracer Tutored Activity)
- explanation of physical mode and logical mode

In second module, learners try to build “home” network by using Cisco Packet Tracer and learn what IP address is (PICTURE 1).



PICTURE 1. Building home network

2.2 What I Learned

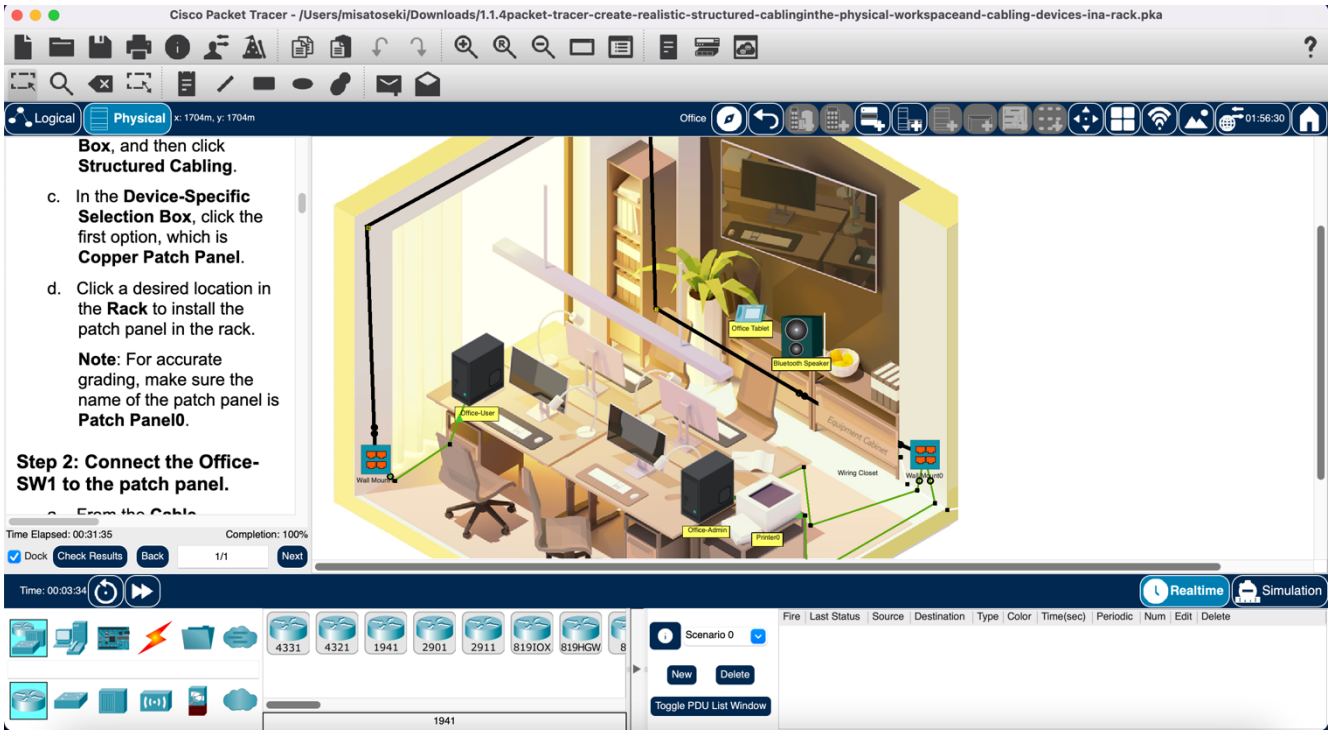
“Cisco Packet Tracer” is a tool for simulating network without any physical devices. Therefor, beginners can practice network configuration and troubleshooting skills.

In this course, learners also can learn about “IP address”. For example, we have IPv4 address such as 192.168.0.x. and subnet mask such as 255.255.255.0. Then, IP address can be replaced your address and subnet mask shows the length of your street address. In other words, the network part of IP address such as 192.168.0 is your street address. The host part of IP address such as (192.168.0.)2. means that your house is located plot number 2. In this street such as 192.168.0, 253 houses can be placed because the range of housing plot is from 2 to 254.

3 COURSE 2 - EXPLORING NETWORKING WITH CISCO PACKET TRACER

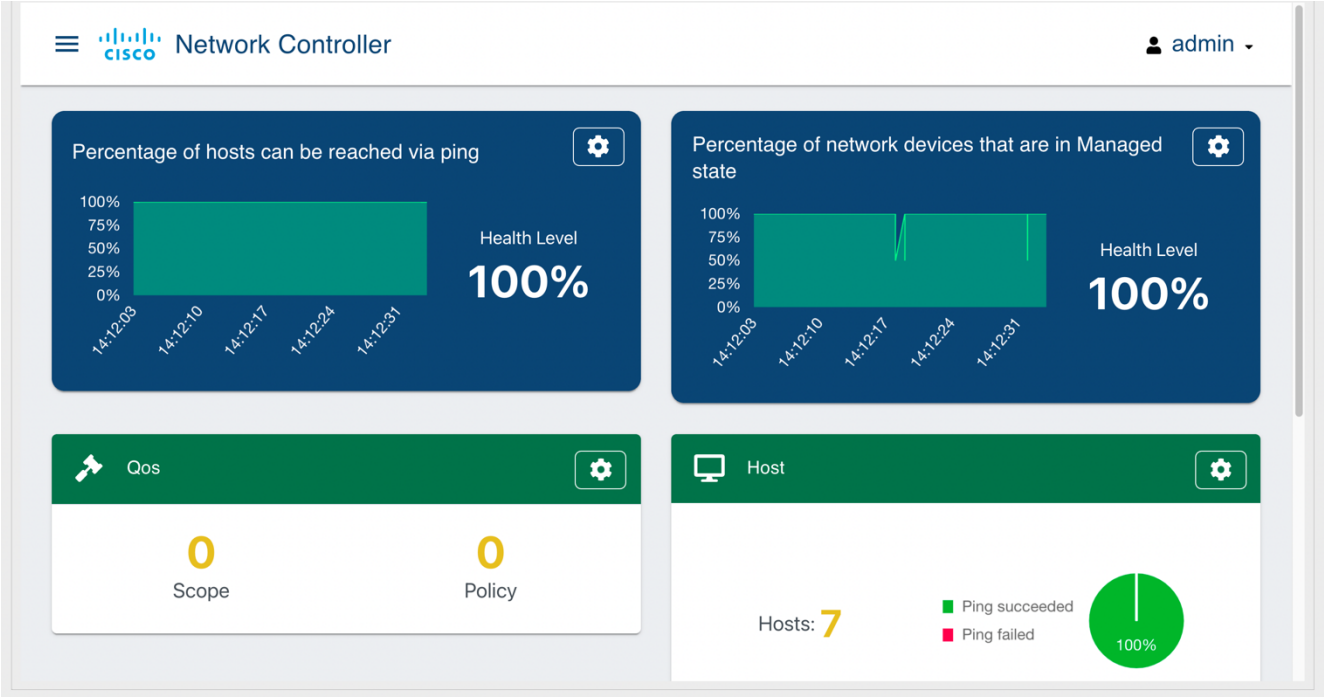
3.1 Learning Process

In the first module, learners try to set up the “small office” network (PICTURE 2). First task is connecting office-PCs and a printer to a switch by using patch panel and wall mount. Second task is connecting laptop to the office WLAN and connecting devices with Bluetooth technology or by using cellular network via smart phone. Third task is configuring a newly added switch using CLI.



PICTURE 2. Small Office Network

In the second module, learners learn how to manage and monitor network. First task is observing PDU motion in simulation mode. Second task is monitoring the network using a Network Controller (PICTURE 3). Third task is managing and configuring the network using Network Controller.



PICTURE 3. Network Controller

3.2 What I Learned

In “Fundamentals of Data Communications” class, students connected laptops to a switch only by cables. However, in the real life, we use patch panels and wall mounts for connecting devices and switches.

Networks are usually modified after designed. In this course, we tried to add a new network device to the office network. The networking devices such as switches and routers need to be configured and tested before placing it into network. Because they may not have enough information to be able to access Ethernet or wireless connection. After connecting between a new switch and an existing one, we need to use following commands (PICTURE 4).

```
enable
configure terminal
hostname Office-SW2
interface vlan 20
 ip address 192.168.20.7 255.255.255.128
 no shut
enable secret Cisco123
username student privilege 1 password StudentPass
line vty 0 4
 login local
interface range g0/1-2
 switchport mode trunk
 switchport trunk native vlan 20
interface range f0/1-24
 switchport mode access
 switchport access vlan 2
vlan 2
 name UserNetwork
vlan 20
 name Management
end
copy run start
```

PICTURE 4. Commands for Adding a New Network

4 CONCULUSION

In this report, learning goal was set as understanding what we actually and physically do when building network through Cisco Packet Tracer.

The first course taught about IP address. Assuming IP address as our home address, IP address can be divided two parts which is street address and plot No. The subnet mask tells us where the street address is and where the plot No. is.

In the second course, we tried to build “small office” network. We learned that we need not only cables but also patch panels and wall mounts for connecting between PCs and switches. In addition, we found that network devices such as the switches and routers must be configured by some commands when added to a network.

These two courses also focused on how to use “Cisco Packet Tracer”. In other words, we just learned usage of Cisco Packet Tracer and basics of creating network through these two courses. To achieve the learning goal, we should learn more courses and practice building network more.

REFERENCES

Cisco Packet Tracer
https://www.netacad.com/courses/packet-tracer