Cisco Networking Academy Report

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I. Introduction

This paper is written with the intent of describing the Cisco Networking Academy's Introduction to Packet Tracer course and my experiences while completing it. This paper will cover the basics of what the course is and how to participate in it, the software used for the course and how to get it, the people involved with the software, how to test for and obtain a certification in Packet Tracer, and my own personal experience having gone through the course myself.

II. Cisco Networking Academy

A. Intorduction to Packet Tracer

This course is a basic level introduction to Cisco's own software Cisco Packet Tracer. The purpose of this software is to simulate basic network topologies in a manner that is as realistic as possible. It can be used as a learning or training tool to familiarize users with the components involved in network configuration and how all of the components need to be initialized both from hardware and software perspectives.

B. Participating in the Course

This course is very simple to enroll in and is free of charge. Simply visit the Cisco Networking Academy website and navigate to Courses > Packet Tracer Courses > Intro to Packet Tracer then select "Sign up today!" Upon signing up you will be automatically redirected to the course website where you can begin your learning journey.

C. Cisco Packet Tracer

The softwre required for this course is Cisco's own Cisco Packet Tracer. This software is very simple to acquire, and is even outlined in the early stages of the course itself. In order to gain access to the packet tracer software, you must be enrolled in the Introduciton to Packet Tracer course, outlined above.

Downloading the software is very simple after enrolling. All that needs to be done is you need to navigate to your "MyNetAcad" page, which can be done by signing in from the Cisco Networking Academy home page. Once logged in, you will be able to see a "Resourses" tab at the top right of the webpage. If you select "Resources" you will see an option called "Download Packet Tracer" which will redirect you to the associated webpage where the different verions of Cisco Packet Tracer. Now simply select the version that is necessary for your device to download the installer. Once downloaded, run the installer and follow the on screen instructions to complete the installation.

D. The GUI

The GUI is set up to be very simplistic. It has the typical taskbar at the top, with icon buttons for some of the common functions that you may need. At the bottom of the screen you have another bar where you can find all of the devices and cables that can be added during a session, such as routers, laptops, smart lights and many more. The are also two off coloured bars, one at the top for logical and physical view, and one at the bottom for realtime and simulation modes. In the center of the screen is the workspace where you can create, manage, or configure your network. This software was designed with drag and drop in mind so all you have to do is select which device you wish to add to the network and drag it into the workspace. For cables you only need to select the cable type, then select the two devices you wish to connect with that cable. Cisco Packet Tracer also has additional toolbars and quick access bars that will be added to the UI as you need them, such as a simulation panel that is added to the right side when you enter simulation mode.

E. The People Behind the Product

Cisco Packet Tracer was developed by Cisco Systems Incorporated (commonly referred to as Cisco). Being that the software was created by Cisco, they handle all of the maintenance and approvals associated with the software, such as the approval of those enrolled in Introduction to Packet Trace to download the software.

F. The Functions of the Software

Cisco Packet Trace contains a wide variety of functionality in terms of designing, testing, implementing and experimenting with networks all in a virtual setting. (1) It has the ability to be displayed

in either logical or physical views, each with their own sets of applications and purposes. (2) You can also choose between real-time and simulation modes affecting how the network will behave during your packet tracing session. (3) It supports a large seleciton of protocols in the areas of application, transport, network and network access. (4) Allows for the use of containers to simulate the heirachy of networks, such as intercity, city, building and closet, each representing a different size container, one within the other. (5) On a given network you are able to access webpages through a connected device (virtually) to access items such as the IP configuration page for a network.

G. The Uses of the Software

Cisco Packet Tracer can be used for a variety of different purposes. (1) You can set up and configure a network, being able to add devices and cables, as well as being able to test each individual connection or the entire network to ensure a working configuration. (2) You can troubleshoot already created networks to discover fixes for various issues. (3) You can set up and configure Internet of Things (IoT) networks similarly to regular network set up. (4) You can trace information shared over a given network, such as tracing TCP or DNS protocols. (5) You can use it to practice or mock-up a network that you plan on implementing in reality on this virtual system where there are no consequences for making mistakes. There are many other uses for this software that I have not outlined, but this software is very comprehensive and can be used for most network related activities.

III. My Experience

A. The Course

The Introduction to Packet Trace course covered the basics of Cisco Packet Tracer and what can be done with it. The course featured eight modules covering a variety of topics. (1) It began with a breif module on what the course would cover and how to download Cisco Packet Tracer. (2) The user interface was covered next with a brief introduction to simulation mode. (3) Simulation mode is covered more fully in the following module. (4) After simulation mode, physical view is discussed in addition to the types of files that can be created and/or supported by Cisco Packet Tracer. (5) Next topic covered is the Internet of Things set up and configuration. (6) Following Internet of Things, the course discusses Smart Home Networks involving IoT devices. (7) This leads into a module on environemental controls, such as sunlight for solar panels. (8) The final topic covered is creating your own devices and the associated coding involved in doing so.

Throughout the course there are two quizzes that test your knowledge up to that specific point in the module, as well as a final evaluation which covers your entire experience with the course. Additionally, there are labs that can be done, found in most modules, that are used to supplement your learning and let you familiarize yourself with the environment and functionality of Cisco Packet Tracer.

B. Getting Certified

To become certified in Cisco Packet Tracer, you must only complete both quizzes and the final evaluation with passing grades. The lab completion/success are not factored into your grade for the course. The labs are used to supplement your learning and as study tools for the quizzes and final evaluation. After completing and passing all 3 evaluations you will receive your virtual Certificate of Completion for the course.

C. Thoughts and Opinions

I felt that this course covered an appropriate amount of information. The depth of the material was shallow, as one would expect from an introductory course, and covered enough topics to give the feeling of learning. It seems that the course assumed little knowledge of computer networks coming into the course and taught accordingly. Covering topics such as basic network set up, configuring connections and initializing devices made this apparent. Cisco Packet Tracer felt very intuitive and simplistic which made learning how to use it much easier.

The format in which the information was presented was exceptional. The frequent labs throughout the modules tested on just enough to help you understand the basics and concepts while the quizzes at the end of every few modules helped to solidify your newfound knowledge. The order was appropriate, covering basic topics before more in-depth or unrelated topics.

IV. Conclusion

The Introduction to Packet Tracer course was well written and my experiences while completing it were entirely positive.

V. References

[1] "Cisco Packet Tracer." *Cisco*, Cisco Systems Inc., 2010, www.cisco.com/c/dam/en_us/training-events/netacad/course_catalog/docs/Cisco_PacketTracer_DS.pdf.

Certificate of Completion

Presented to:

Kolby Sarson

Name

For completing the Cisco Networking Academy® Introduction to Packet Tracer course.

Harbrinder Kang
VP, Cisco Networking Academy

Oct 7, 2018

Date