



TAIBAH UNIVERSITY



وزارة التعليم
Ministry of Education

College of Computer Science and Engineering

Computer Engineering Department

COE332
Computer Networks
Student's Lab Manual
V7

Prepared by:

Dr. Mohamed ZAYED Dr. Ahmed ABDELMONEM
Dr. Abdullah AL BINALI

Lab07

Student Name: Norah Fahad Aloufi

Student ID: 4050772

Section: CSC Group: _____

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Lab 7: Introduction to Cisco Packet Tracer

Objectives

- To know what is Cisco Networking Academy?
- To register to Cisco Networking Academy and have your own account.
- To know what is Cisco Packet Tracer (a networking simulation software)?

Requirements

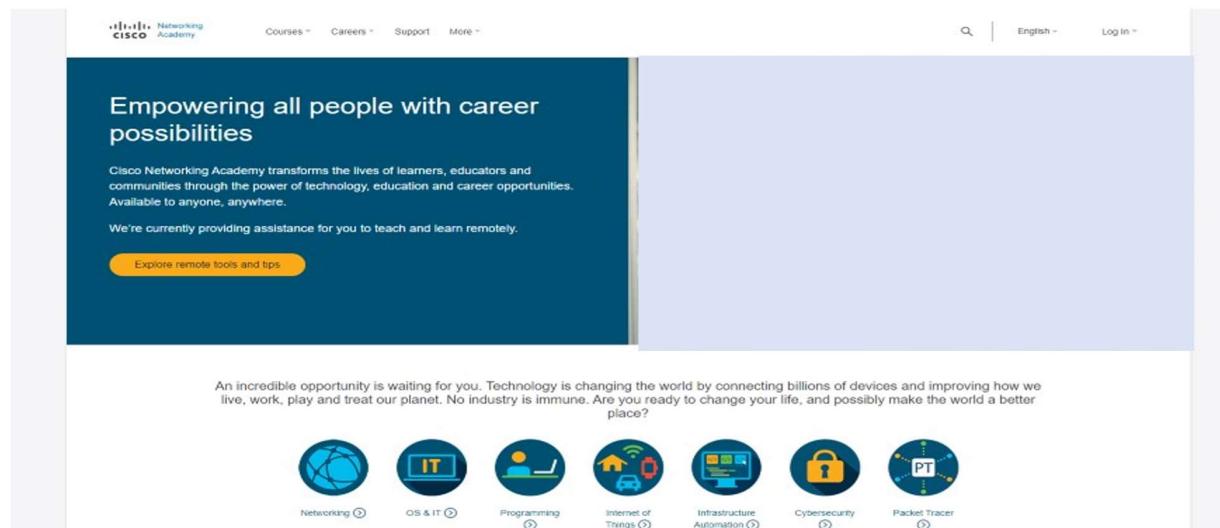
- PCs connected to Internet
- Registration to Cisco Networking Academy
- Packet Tracer Software. If not installed, it is needed to be downloaded and installed using admin user account.
- Headphones. Every student brings his/her headphone.

Note: These labs are not aimed in anyhow to be a sort of commercial advertisement for Cisco or its products. It is used for the sake of education only.

Introduction

1 Cisco Networking Academy

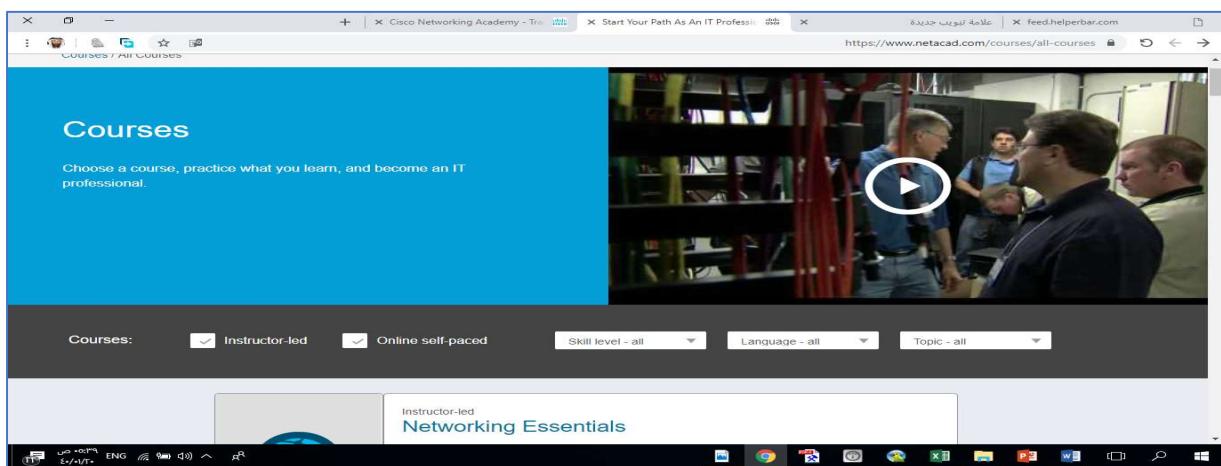
Cisco is a well-known company in networking (<https://www.cisco.com/>). Cisco Networking Academy is an IT skills and career building program for learning institutions and individuals worldwide. Self-paced courses are designed to take at your own pace, at any point in your career journey. More than 6 million people have joined the Networking Academy and become a force for change in the global economy since 1997 (1).



Two great ways to take a course: a) Online learning and b) In-person learning; Online courses are self-paced and use the same curriculum taught in Networking Academy classrooms around the world.

The majority of the academy students take courses in-person at an education institution in their local community. This is the ultimate way to get hands-on experience as you gain career ready skills. Start your journey today by searching for the location nearest you and reaching out to them directly.

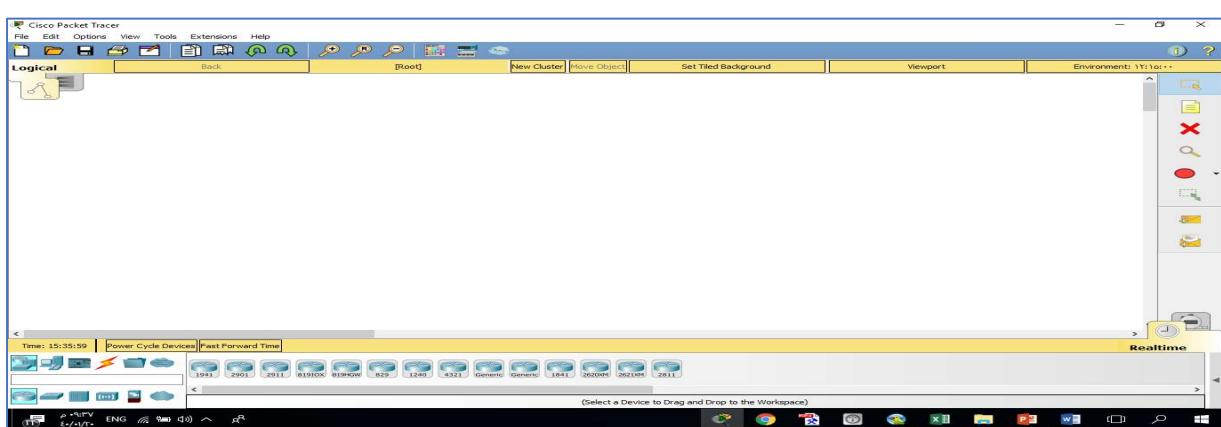
In the academy students can select courses they like based on deferent criteria: Instructed-led, Online Self-based, Level (Beginner, Intermediate, advanced), Language, and Topic (Networking, Security, IOT, ... and Packet Tracer)

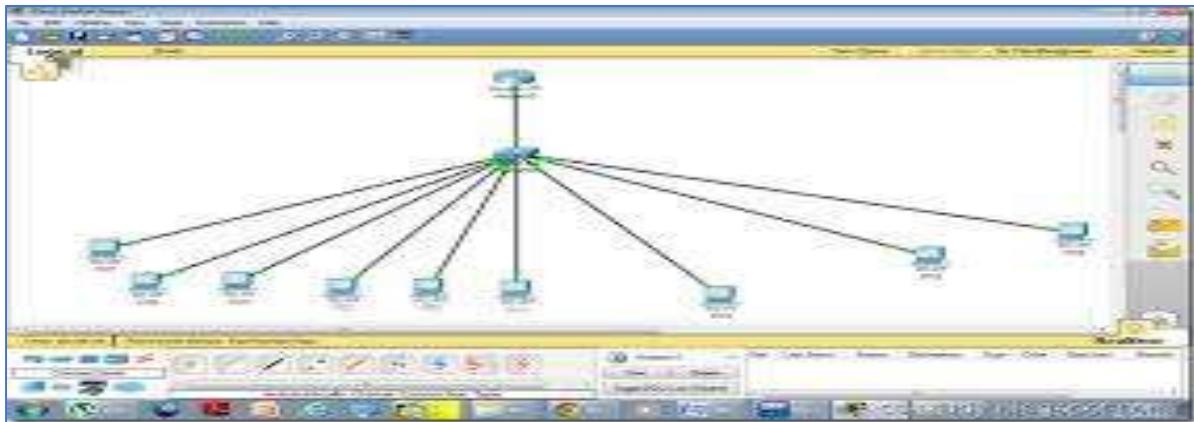


More information can be found on <https://www.netacad.com/courses/all-courses>

2 Cisco Packet Tracer

Cisco Packet Tracer is a networking simulation tool designed by Cisco. Cisco developed Packet Tracer to help Networking Academy students achieve the most optimal learning experience while gaining practical networking technology skills. Packet Tracer is a powerful network simulation platform inspiring students to experiment with network behavior and ask 'what if' questions. It supplements physical equipment in the classroom by allowing students to create a network with an almost unlimited number of devices, encouraging practice, discovery and troubleshooting.





"Introduction to Cisco Packet Tracer" course consists of the following sub-courses:

1. "Getting Started with Cisco Packet Tracer",
2. "Exploring Networking with Cisco Packet Tracer", and
3. "Exploring IoT with Cisco Packet Tracer".

If you pass the exams available, you will be eligible to earn the "Introduction to Packet Tracer" **badge**.

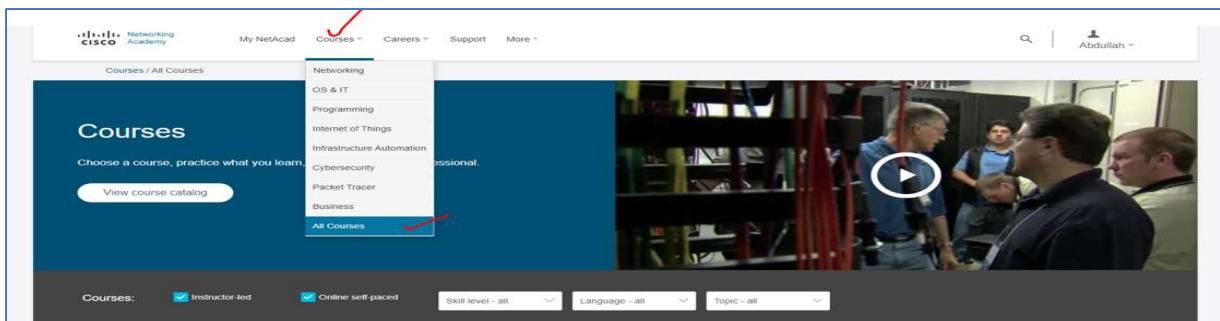
More information about Packet Tracer can be found on "<https://www.netacad.com/ar/courses/packet-tracer>".

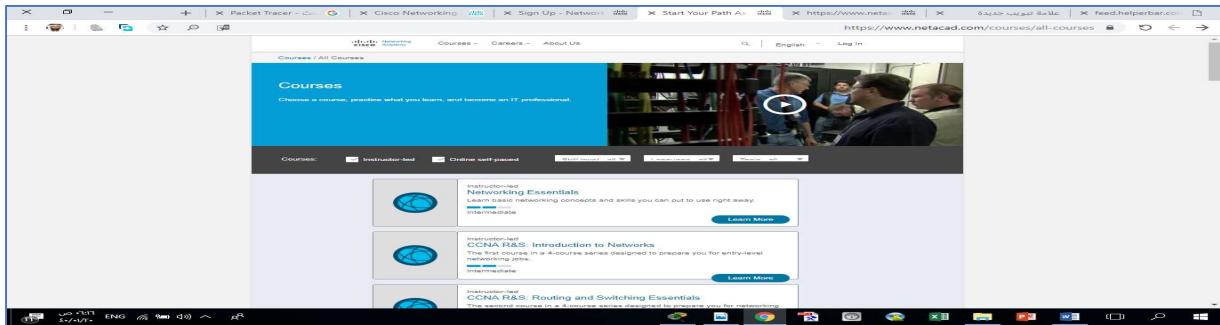
Lab Tasks

Section-A: Registration to Cisco Networking Academy

Task1:

Open the following link <https://www.netacad.com/> then select "courses/ All Courses". You will see the following screens:





Task2:

From the Search engine above, select: Online Self-based. Beginners, English. Then select the course " Intro to Packet Tracer" then "Sign up Today/ English".

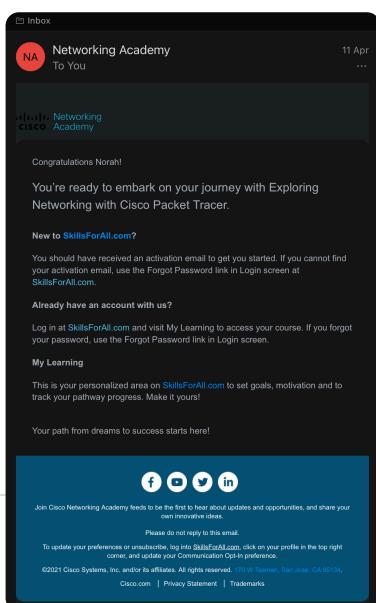
Task3:

Fill the online form and then click on "Create Account". ***Use your official name, first and family, at least.*** You will receive an email to confirm your registration.

Remember your Username and Password.

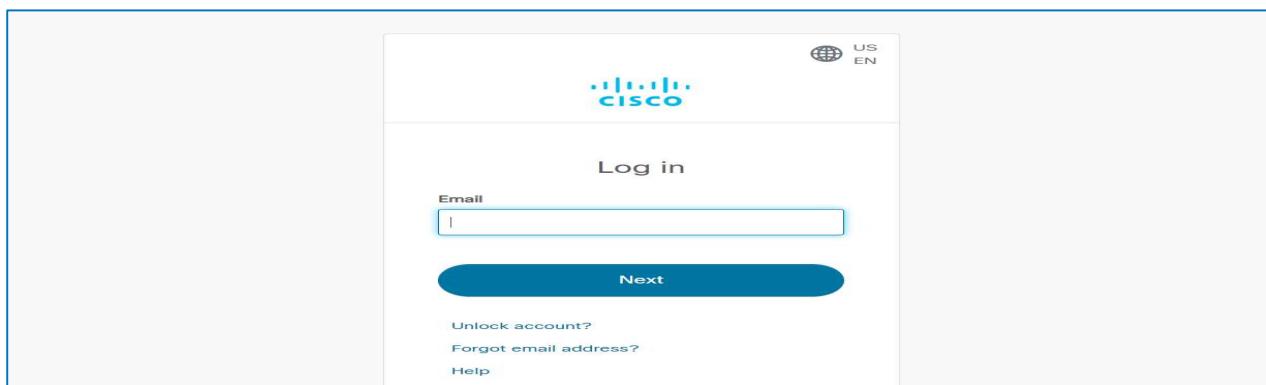
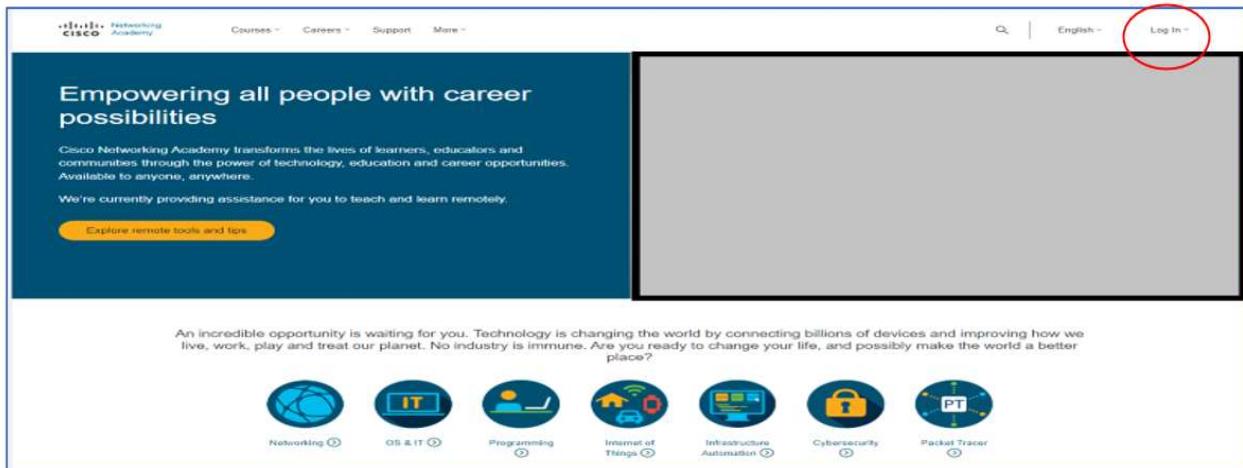
1. Print-screen your account confirmation screen in the following space.

2. Print-screen the confirmation email sent to you in the following space.

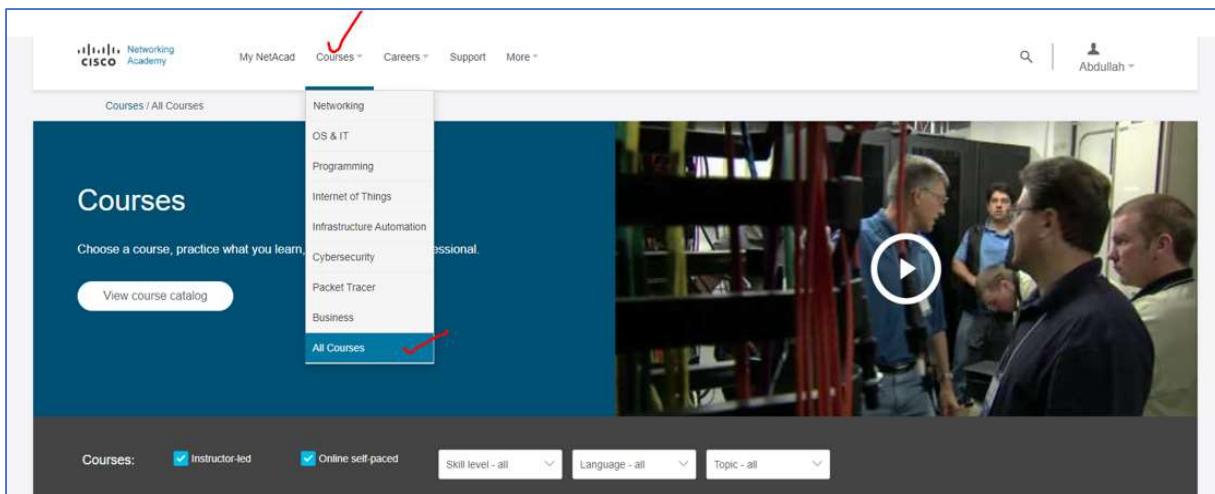


Task4

1. Login to your account: <https://www.netacad.com/>.



2. From the main horizontal tabs, select Courses/All Courses. As shown in the following figures.



Courses / All Courses

Courses

Choose a course, practice what you learn, and become an IT professional.

[View course catalog](#)

Courses: Instructor-led Online self-paced Skill level - all Language - all Topic - all

Task 5

Have a look to the academy content and courses then answer the following Questions:

1. List 3 Courses (or Print-Screen): **Online self-paced/Beginners/ English.**

التعلم الإلكتروني عبر الإنترنت
Intro to Packet Tracer
قم بالتسجيل لتنزيل صيغة مجانية من أداة Packet Tracer وتعلم المهارات الأساسية باستخدام الأداة
[معرفة المزيد](#)

التعلم الإلكتروني عبر الإنترنت
NDG Linux Unhatched
دوره التدريسي لتعلم Linux "من الصفر". مقدمة موجزة حول نظام التشغيل المفتوح
[معرفة المزيد](#)

2. List 3 Courses: **Instructor-led/ Advanced/English.**

تحت إشراف المعلم
CCNA: Enterprise Networking, Security, and Automation
المكونة من 20 دورات تدريبية الثالثة ضمن سلسلة CCNA هذه هي الدورة التدريبية الثالثة ضمن سلسلة CCNA المكونة من 20 دورات تدريبية على المستوى المهني
[معرفة المزيد](#)

تحت إشراف المعلم
CCNP Enterprise: Advanced Routing
تُشكل الدورة التدريبية الخامسة في سلسلة CCNP المكونة من 20 دورات تدريبية على المستوى المهني
[معرفة المزيد](#)

تحت إشراف المعلم
CCNP Enterprise: Core Networking
تُشكل الدورة التدريبية الأولى في سلسلة من 20 دورات تدريبية على المستوى المهني
[معرفة المزيد](#)

Section-B: Getting Started with Cisco Packet Tracer

1. Based on the previous steps, from the search engine select: ***Online self-paced/Beginners/ English***
2. Select the course "***Intro to Packet Tracer***".

The screenshot shows the Cisco Networking Academy's 'Courses' section. At the top, there's a video thumbnail of two men in a lab setting. Below it, a search bar and filters for 'Instructor-led' and 'Online self-paced' are visible. The results show several courses, with one titled 'Intro to Packet Tracer' highlighted by a red arrow. The course description indicates it's a comprehensive overview of Cisco Packet Tracer, including IoT topics.

3. Select the course "***View Courses*** then "***Skills for All***".

This screenshot shows the main landing page for Cisco Packet Tracer. It features a large graphic of a network diagram with a central circle labeled 'Cisco Packet Tracer'. Below the graphic, there are sections for 'Introduction', 'Who uses Packet Tracer?', 'Use it to', 'Download for Free', and 'Community'. A prominent red arrow points to the 'View courses' button at the bottom left.

This screenshot shows the same landing page as the previous one, but with a different visual style. It features a large image of a smiling person's face with hands framing it. Below this, the text 'Skills for All with Cisco' is displayed. A red arrow points to the 'Skills For All' link in the text.

You will see a screen like this:

The screenshot shows the Cisco Networking Academy Catalog page for the Cisco Packet Tracer course. The course title is "Cisco Packet Tracer". Below the title, there is a brief description: "Gain real skills with our powerful simulation and visualization tool, Cisco Packet Tracer. Practice networking, IoT, cybersecurity, and more. Enroll to download and get started today." To the right of the text is a photograph of two students working on laptops in a classroom setting. At the bottom of the page, there is a section titled "All Content" which lists several sub-courses with their respective thumbnails, names, descriptions, and difficulty levels.

4. What are the titles of the three sub-courses under the main course "**Cisco Packet Tracer**"? Use screenshot and annotation to show your answer in the following space.

The screenshot shows the "All Content" section of the Cisco Networking Academy Catalog for the Cisco Packet Tracer course. It displays four sub-courses: "Getting Started with Cisco Packet Tracer", "Exploring Networking with Cisco Packet Tracer", "Exploring Internet of Things with Cisco Packet Tracer", and "Introduction to Cisco Packet Tracer Exam". Each sub-course has a thumbnail image, a brief description, and its duration and difficulty level.

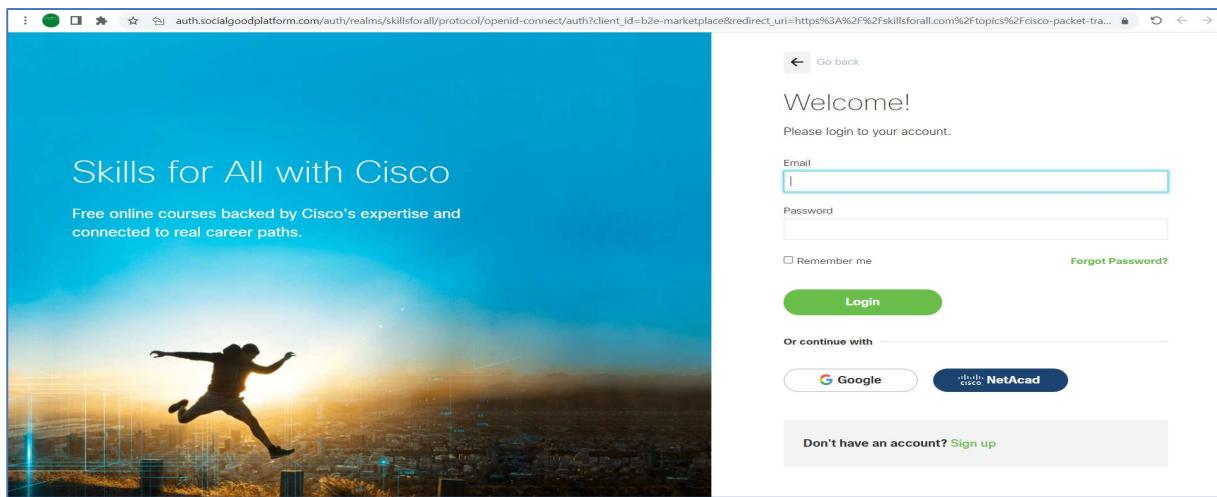
1- Getting Started with Cisco Packet Tracer.
2- Exploring Networking with Cisco Packet Tracer.
3- Exploring IoT with Cisco Packet Tracer.
4- Introduction to packet tracer Exam

5. Select the icon "**Getting Started with Cisco Packet Tracer**" then "**Get Started**" as shown in the following figures. You may need to login again. If so, select: **NetAcad**.

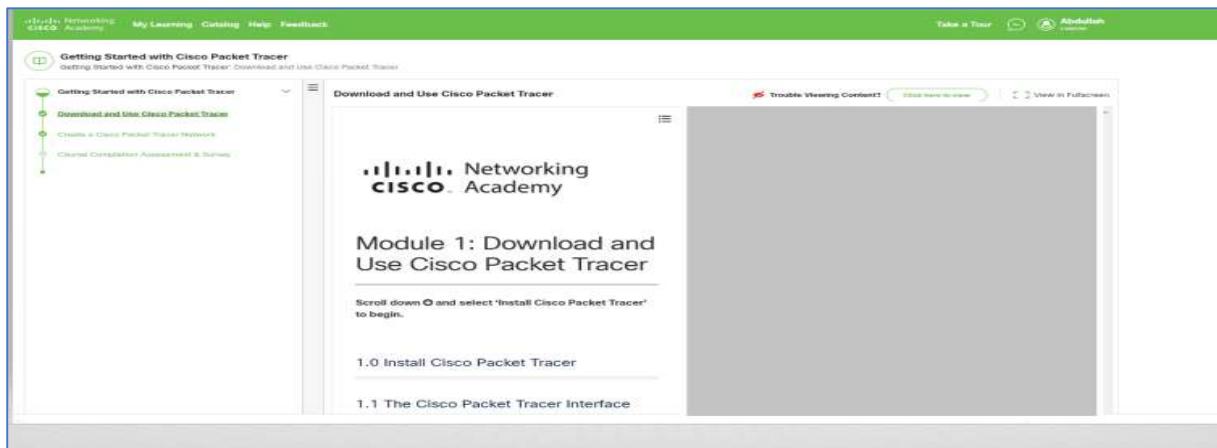
The screenshot shows the "Getting Started with Cisco Packet Tracer" sub-course page. The course title is "Getting Started with Cisco Packet Tracer". Below the title, it says "This course is part of the Cisco Packet Tracer". There is a "Get Started" button. The page also includes a brief description and a photograph of a person working on a laptop.

The screenshot shows the detailed view of the "Getting Started with Cisco Packet Tracer" sub-course. It includes the course title, a brief description, a "Get Started" button, and a photograph of a person working on a laptop. On the right side, there is a sidebar with course details: "Free", "Estimated time to complete - but finish it in your time.", "Beginner", "Level of the course.", and "English".

6. You may need to login again. If so, select: *NetAcad*.



7. Select "*Get Started*". Note: You may be requested to login again. You will see a screen like this.



8. Select the first topic from the left bar (i.e. "***Download and Use Cisco Packet Tracer***")
 9. What are the subtopics under Module 1? Use Screenshot and annotation to show your answer in the following space.

Module 1: Download and Use Cisco Packet Tracer

1.0 Install Cisco packet tracer
1.1 The Cisco packet tracer Interface

Scroll down ⏪ and select 'Install Cisco Packet Tracer' to begin.

1.0 Install Cisco Packet Tracer

Welcome to Getting Started with Cisco Packet Tracer

1.1 The Cisco Packet Tracer Interface

10. Select the second topic from the left bar (i.e. "**Create a Cisco Packet Tracer Network**")
 11. What are the subtopics under Module 2? Use Screenshot and annotation to show your answer in the following space.

Module 2: Create a Cisco Packet Tracer Network

2.0 Packet Tracer File Types

2.1 Build a home network

2.2 Summary of Course

Scroll down and select 'Packet Tracer File Types' to begin.

2.0 Packet Tracer File Types

2.1 Build a Home Network

2.2 Summary of Course

12. Select the 3rd topic from the left bar (i.e. "**Course Completion Assessment & Survey**")
 13. How many questions in the assessment exam? And What is the percentage (%) you need to score? Use Screenshot and annotation

Welcome to the **Getting Started with Cisco Packet Tracer** Course Final Exam.

This assessment covers the core concepts and skills presented in the **Getting Starting with Cisco Packet Tracer** course.

There are 5 questions in total and you need to score at least 70% to pass and obtain your Cisco achievement.

You have unlimited attempts to pass the exam.

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5 Questions
70% to score

14. Open the following link <https://www.netacad.com/courses/packet-tracer/faq>, go through the questions then answer the following questions using screenshot and annotation:

Cisco Packet Tracer Frequently Asked Questions

What is Cisco® Packet Tracer?
 Cisco® Packet Tracer is a network technology teaching and learning tool that offers a unique combination of realistic simulation and visualization experiences, assessment, activity authoring capabilities, and multiuser collaboration and competition opportunities. Innovative features of Packet Tracer will help students and teachers collaborate, solve problems, and learn concepts in an engaging and dynamic social environment.

What are the benefits of Packet Tracer?
 • Provides a realistic simulation and visualization learning environment that supplements classroom equipment, including the ability to see internal processes in real-time that are normally hidden on real devices
 • Offers a rich set of features for dynamic learning demonstrations, quizzes, exams, and games
 • Empowers students to explore concepts, conduct experiments, and test their understanding of network building
 • Allows teachers to quickly create and share activities
 • Supports a variety of teaching and learning opportunities such as lectures, group, and individual labs, homework, games, and competitions
 • Includes feature expansion through external applications using an API to enhance Cisco Packet Tracer's functionality in areas such as curriculum and assessment delivery, games, accessibility, and interfacing with real equipment

How can I obtain Cisco Packet Tracer?
 Please ask your instructor or sign up for the free Getting Started with Cisco Packet Tracer course on Skillsoft.com to learn how to download, install, and get started!

15. "On what platforms can I install and run Packet Tracer?"

On what platforms can I install and run Packet Tracer 8.1?

Cisco Packet Tracer 8.1 is compatible with the following platforms:

- Microsoft Windows 8.1, 10, 11 (32 bit and 64bit)
- Ubuntu 20.04 LTS (64bit)
- macOS 10.14 or newer (64 bit)

16. "What protocols can be modeled using Packet Tracer?"

Layer	Cisco Packet Tracer Supported Protocols
Application	FTP , SMTP, POP3, HTTP, TFTP, Telnet, SSH, DNS, DHCP, NTP, SNMP, AAA, ISR VOIP, MQTT, SCCP config and calls ISR command support, Call Manager Express,
Transport	TCP and UDP, TCP Nagle Algorithm & IP Fragmentation, RTP
Network	BGP, IPv4, ICMP, ARP, IPv6, ICMPv6, IPSec, RIPv1/v2/ng, Multi-Area OSPF, OSPFv3, EIGRP, EIGRPv6, Static Routing, Route Redistribution, Multilayer Switching, L3 QoS, NAT, CBAC, Zone-based policy firewall, and Intrusion Protection System on the ISR, GRE VPN, IPSec VPN, HSRP, CEF, SPAN/RSPAN, L2NAT, PTP, REP, LLDP
Network Access/Interface	Ethernet (802.3), 802.11, HDLC, Frame Relay, PPP, PPPoE, STP, RSTP, VTP, DTP, CDP, 802.1q, PAgP, L2 QoS, SLARP, Simple WEP, WPA, EAP, VLANs, CSMA/CD, EtherChannel, DSL, 3/4 G network support

17. "How can I earn the “Introduction to Packet Tracer” badge?"

A. You must pass the [Introduction to Packet Tracer Exam](#) available on SkillsForAll.com. This assessment covers the core concepts and skills presented in the following three courses: "[Getting Started with Cisco Packet Tracer](#)", "[Exploring Networking with Cisco Packet Tracer](#)", and "[Exploring IoT with Cisco Packet Tracer](#)".

If you are already enrolled in the "Introduction to Packet Tracer" course on NetAcad.com, [you will be able to obtain the badge by passing the final assessment of the course.](#)

18. Logout.

Note: you are strongly recommended to download and install "Packet Tracer" on your laptop before coming to the next lab.