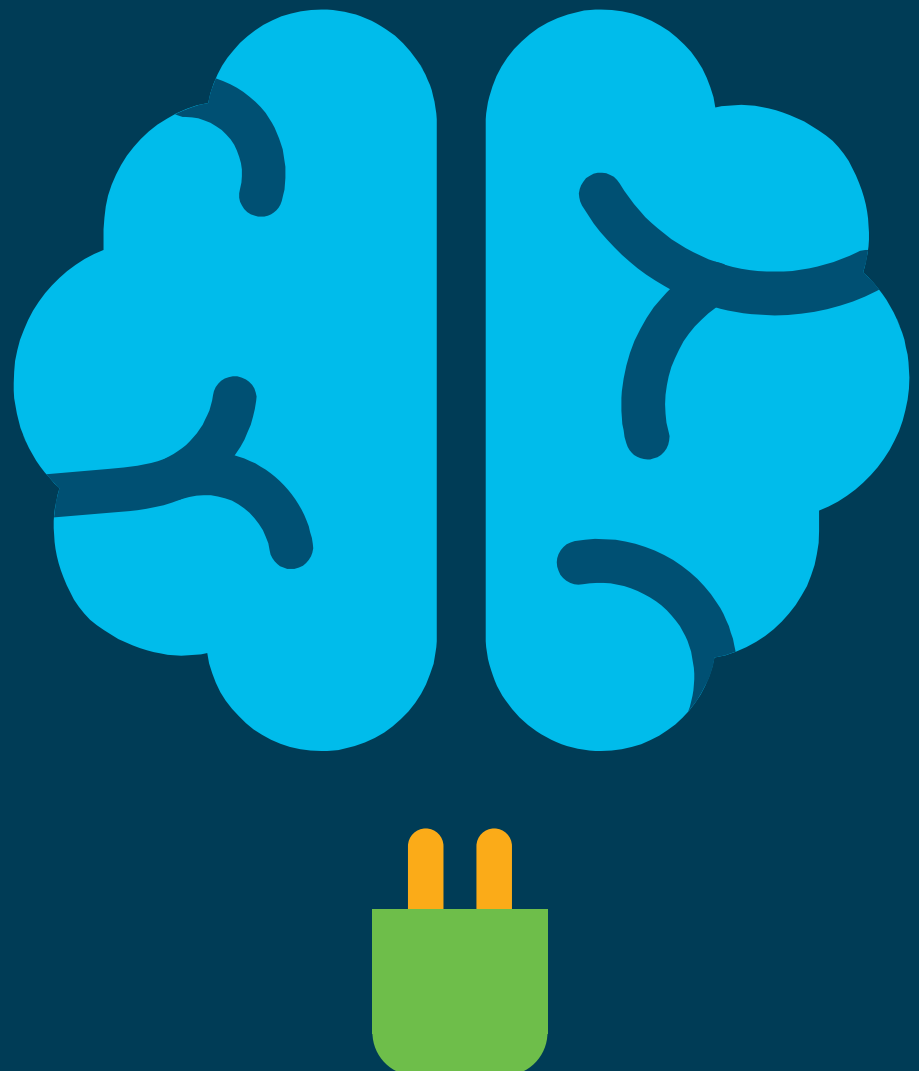
IT Essentials Updates



CompTIA A+ exams domains variation

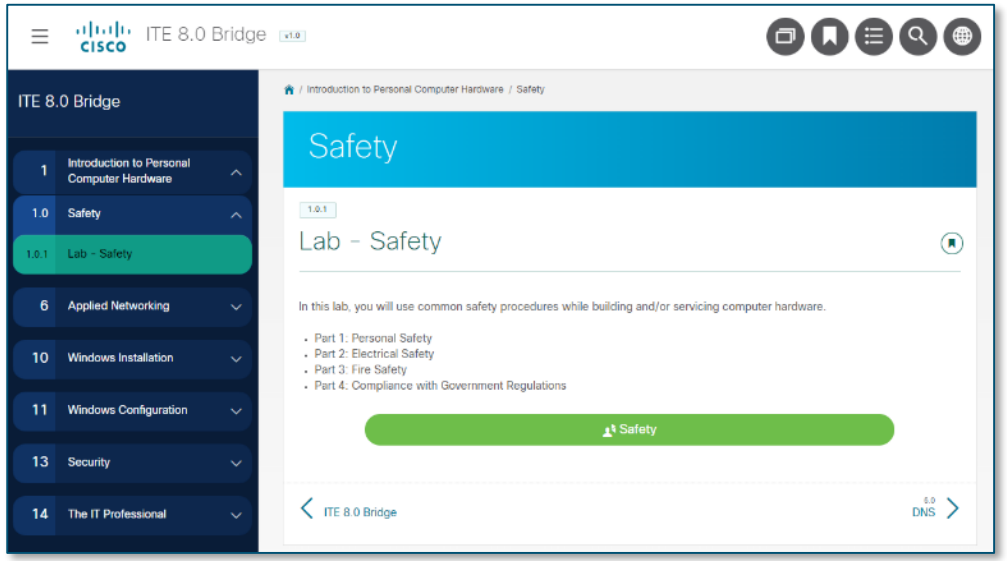
CORE 1		Old* (220-1001)	New (220-1101)	
1.0	Mobile Devices	14%	15%	▲ 1%
2.0	Networking	20%	20%	↔
3.0	Hardware	27%	25%	▼ 2%
4.0	Virtualization and Cloud Computing	12%	11%	▼ 1%
5.0	Hardware and Network Troubleshooting	27%	29%	▲ 2%

CORE 2		Old* (220-1002)	New (220-1102)	
1.0	Operating Systems	27%	31%	▲ 4%
2.0	Security	24%	25%	▲ 1%
3.0	Software Troubleshooting	26%	22%	▼ 4%
4.0	Operational Procedures	23%	22%	▼ 1%

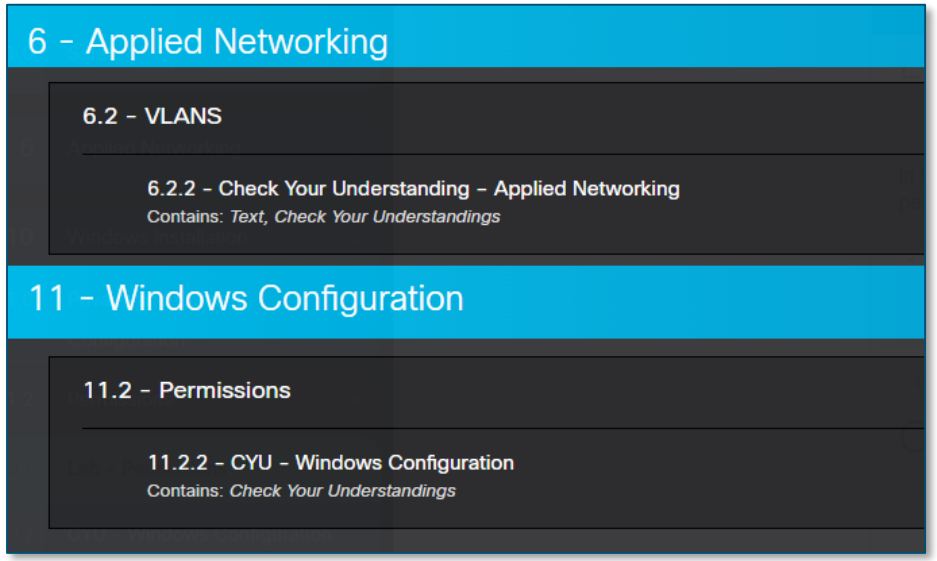
*Old (220-1001 & 220-1002) Retired on October 20, 2022

IT Essentials New Content

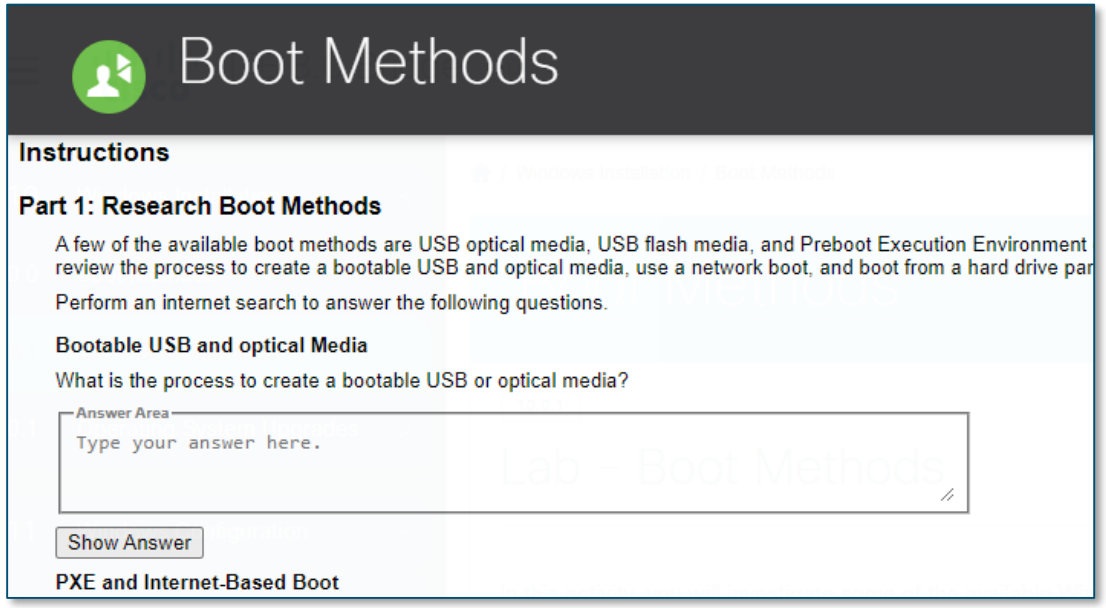
6.0.1	DNS Records	- A - AAAA - Mail exchanger (MX) - Text (TXT)
6.0.2	Spam Management	- DomainKeys Identified Mail (DKIM) - Sender Policy Framework (SPF) - Domain-based Message Authentication, Reporting, and Conformance (DMARC)
6.1.1	DHCP Operation	- Leases - Reservations - Scope
6.2.1	Virtual Lan (VLAN)	Virtual Lan (VLAN)
11.1.1	Graphics Considerations	Dedicated graphics card vs. integrated Video random-access memory (VRAM) requirements
11.1.2	External Hardware Tokens	External hardware tokens
11.1.3	ISO Mountable	ISO mountable
11.1.4	Other Considerations	• Other considerations for new applications - Impact to operation - Impact to business
14.0.1	Asset Databases	- Database system - Asset tags and IDs
14.0.2	Asset Procurement	- Procurement life cycle - Warranty and licensing - Assigned users
14.1.1	Reports and Procedures	• Types of documents - Splash screens - Incident reports - Standard operating procedures - Procedures for custom installation of software package
14.1.2	User Checklists	• Types of documents - New-user setup checklist - End-user termination checklist
14.1.3	Knowledge Base and Articles	• Knowledge base/articles



Uses latest curriculum GUI

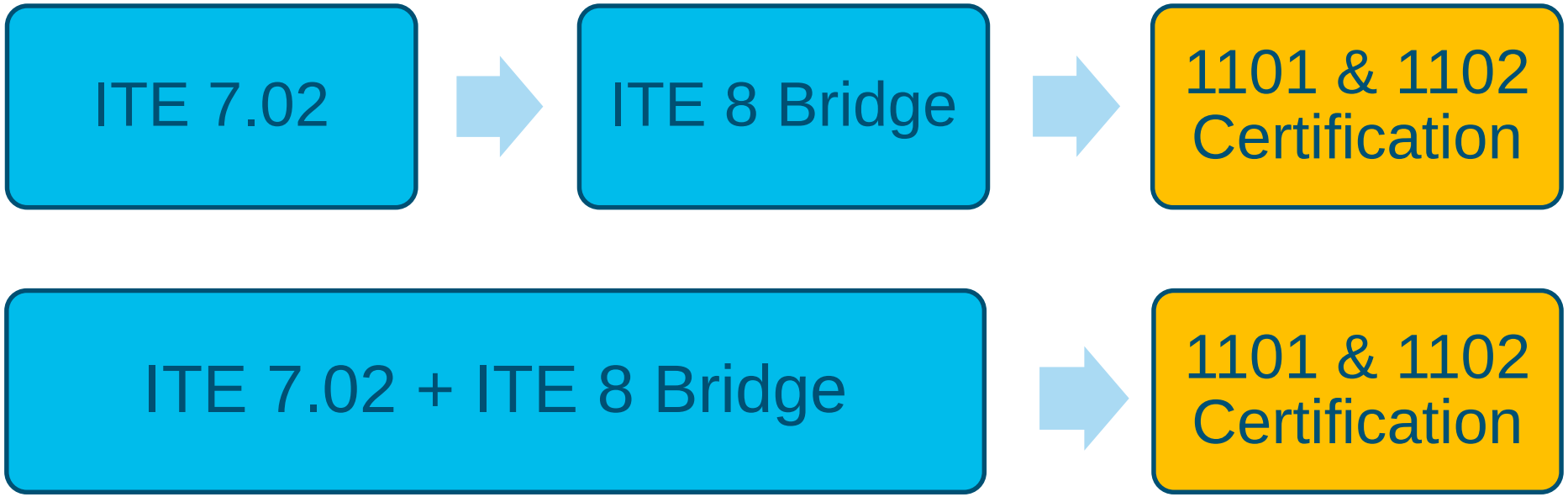


Two Check for Understanding Activities



Seven form fillable Labs

IT Essentials 8 Bridge Teaching Options



IT Essentials Updates

ITE IT Essentials 7.01 in German

- Available

IT Essentials 7.02 in English

- Available

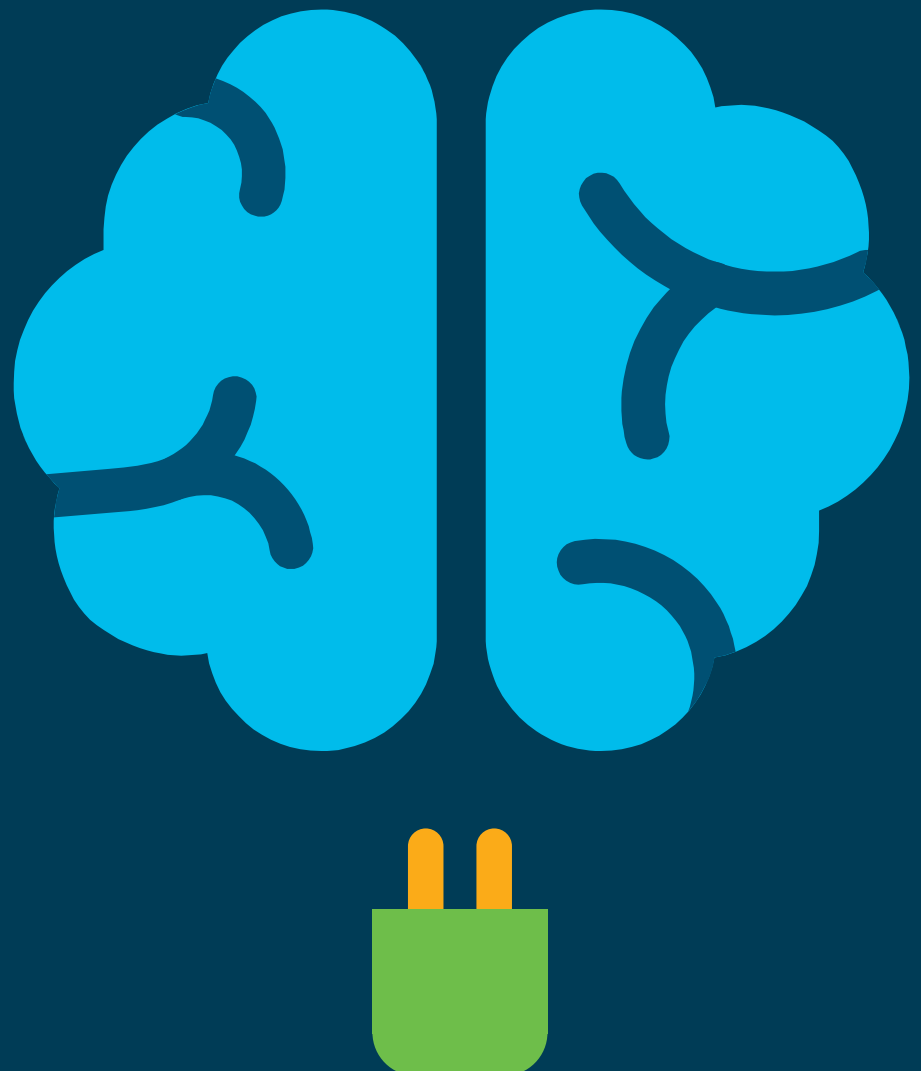
IT Essentials 7.02 + IT Essentials 8 Bridge

- Available

IT Essentials 8 Full Course incl. all materials

- **Available since 15th of December 2022**

Python Updates - Skills for All



Python Essentials 2

Course Overview

This course is designed for learners who are already familiar with the essentials of Python, universal computer programming concepts like data types, containers, functions, conditions and loops, and the basics of procedural, structural, and functional programming.

Benefits

Used by startups and tech giants like Google, Facebook, Netflix, and more, Python with user-friendly, easy-to-read code offers endless possibilities for creating small and large-scale software projects.

Prepare for Careers

- ✓ Explore the world of programming
- ✓ Design, develop, and improve multi-module computer applications coded in Python
- ✓ Analyze and model real-life problems in Object-Oriented Programming categories
- ✓ Create and develop a programming portfolio

Course Details

Target Audience: Secondary and 2-Year college students, general audience

Estimated Time to Completion: 40 hours

Prerequisites: Python Essentials 1, PCEP certification, or equivalent

Course Delivery: Instructor-guided or Self-paced

Learning Component Highlights:
- ✓ 4 modules and 21 practice labs
- ✓ Interactive activities & quizzes
- ✓ 1 final exam
- ✓ PCAP certification voucher discount

Course Recognitions: Digital Badge

Certification Aligned: PCAP - Certified Associate in Python Programming certification

Recommended Next Course: DevNet Associate

Requirements

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

Developed in collaboration with

PYTHON INSTITUTE
OPEN EDUCATION & DEVELOPMENT GROUP

Python Essentials 2 – Course Outline

Module Title	Description
Module 1 Modules, Packages and PIP	• What is a module and why do we need it? • Importing and using modules • Review of some useful Python modules • What is a package and how does it differ from a module? • Constructing and using packages • PIP-the Swiss army knife for package maintenance.
Module 2 Characters, Strings, and Advanced Exceptions	• Characters, strings and coding standards • Strings vs. lists - similarities and differences • List methods • String methods • Python's way of handling runtime errors • Controlling the flow of errors using try and except Hierarchy of exceptions
Module 3 Object-Oriented Programming in Python	• Basic concepts of object programming • From procedural to object approach - motivations and profits • Classes, objects, properties, and methods • Inheritance and polymorphism Exception as an object.
Module 4 Working with Files and Utilities	• Generators, iterators, and closures • Working with filesystem, directory trees and files Selected Python Standard Library modules (os, date, datetime, calendar)

PCAP vs PE1 and PE2

netacad.com

PCAP: Programming Essentials in Python (v2.0)

- Part1
  - PE1: Module 1
  - PE1: Module 2
  - PE1: Module 3
  - PE1: Module 4
- Part2
  - PE2: Module 1
  - PE2: Module 2
  - PE2: Module 3
  - PE2: Module 4

Part 1 prepares you for PCEP – Certified Entry-Level Python Programmer Certification.
Part 2 prepares you for PCAP – Certified Associate in Python Programming Certification.
Only one voucher, one certificate, no digital badge

skillsforall.com

Python Essentials 1

- PE1
  - PE1: Module 1
  - PE1: Module 2
  - PE1: Module 3
  - PE1: Module 4

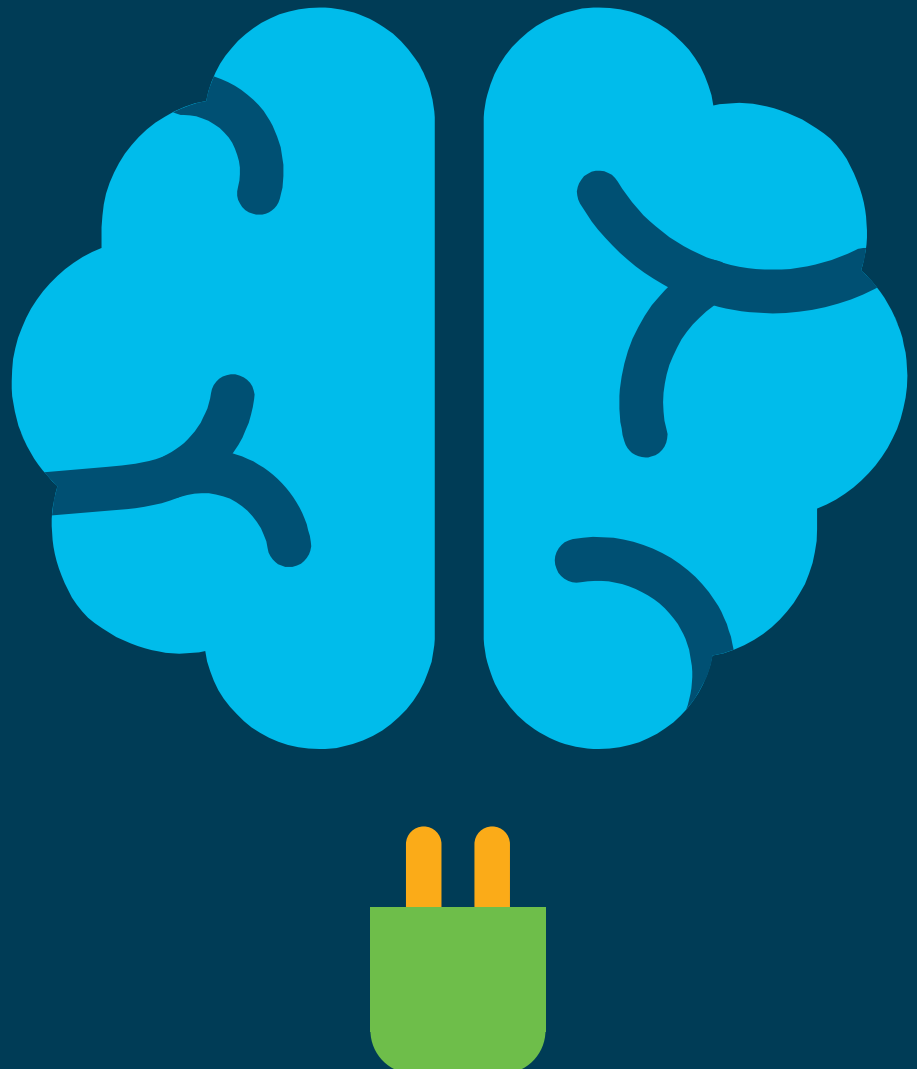
Prepares you for PCEP – Certified Entry-Level Python Programmer Certification.
- Voucher*
- Digital badge

Python Essentials 2

- PE2
  - PE2: Module 1
  - PE2: Module 2
  - PE2: Module 3
  - PE2: Module 4

Prepares you for PCAP – Certified Associate in Python Programming Certification
- Voucher*
- Digital badge

Cisco Packet Tracer 8.2



Cisco Packet Tracer 8.2.0
Provide a Better Learning Experience

Released on
July 28th 2022

YOUR VOICE MATTERS.

QUALITY Improvements

With Over 200 defects fixed (*mainly reported by you*) we improved the performance and usability of the software for a **better experience** of Packet Tracer customers.

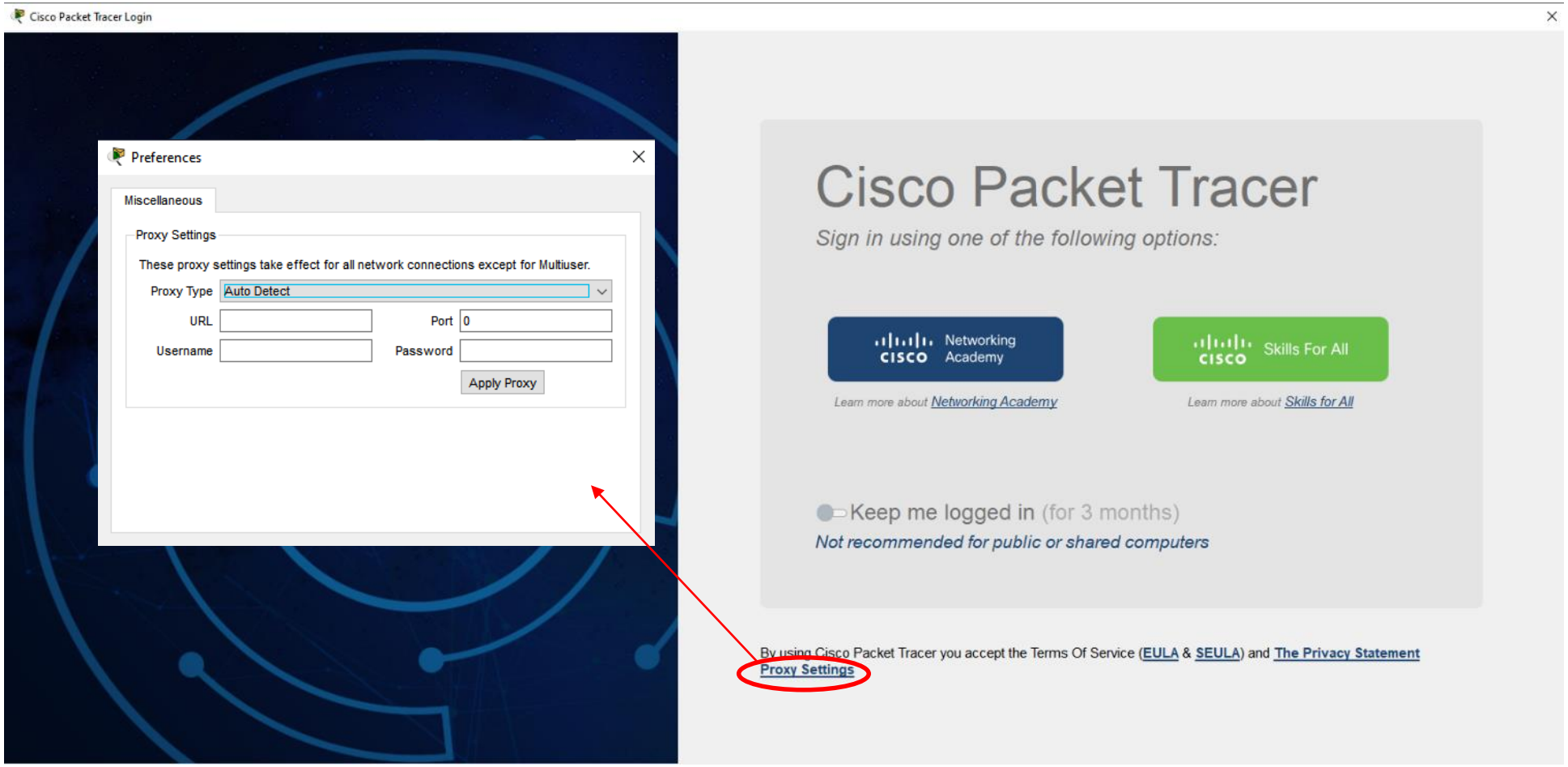
ACCESSIBILITY Improvements

Improving high contrast support, focus indicators, screen reader and keyboard navigation features we **enable more people**, including those with visual disabilities, to better use Packet Tracer.

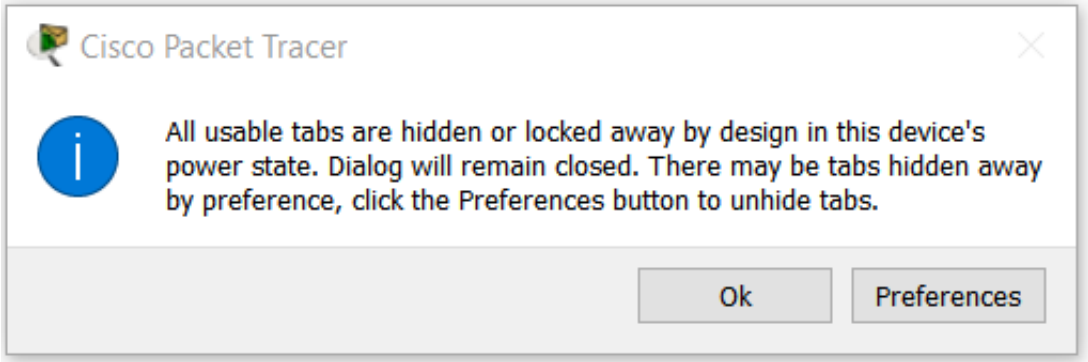
SECURITY Improvements

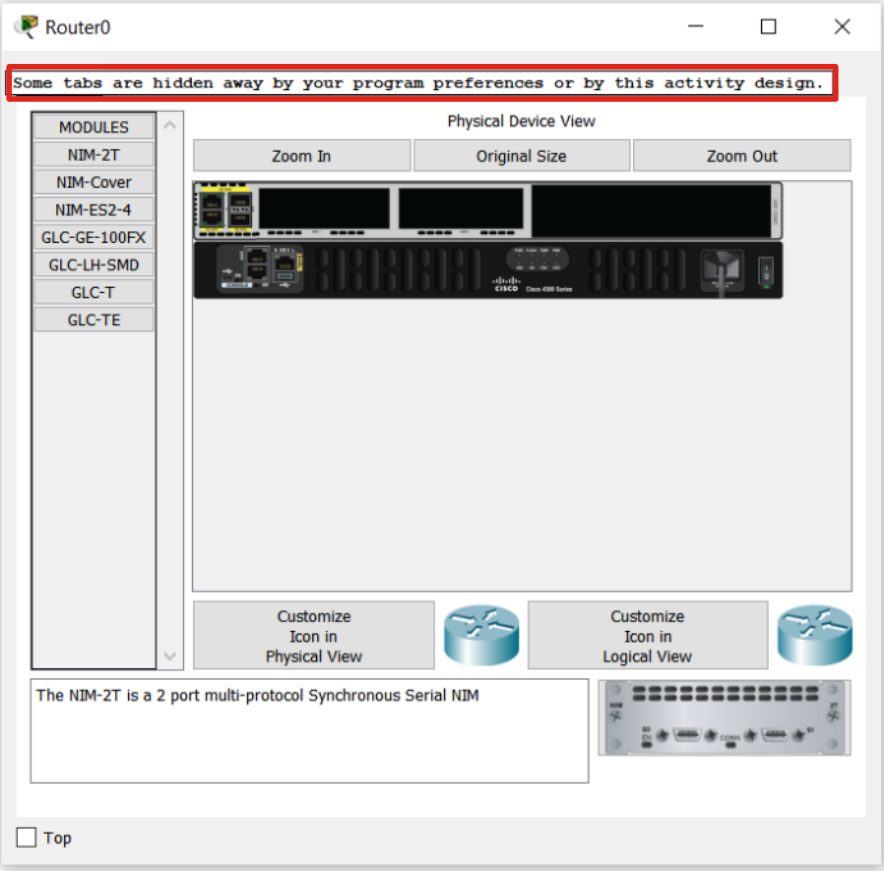
Packet Tracer development adhere to the Cisco Secure Development Lifecycle to provide **increased resilience and security** to our learners, instructors and partners, with each new release of the software.

Cisco Packet Tracer 8.2.0
Proxy settings can now be set from the login window

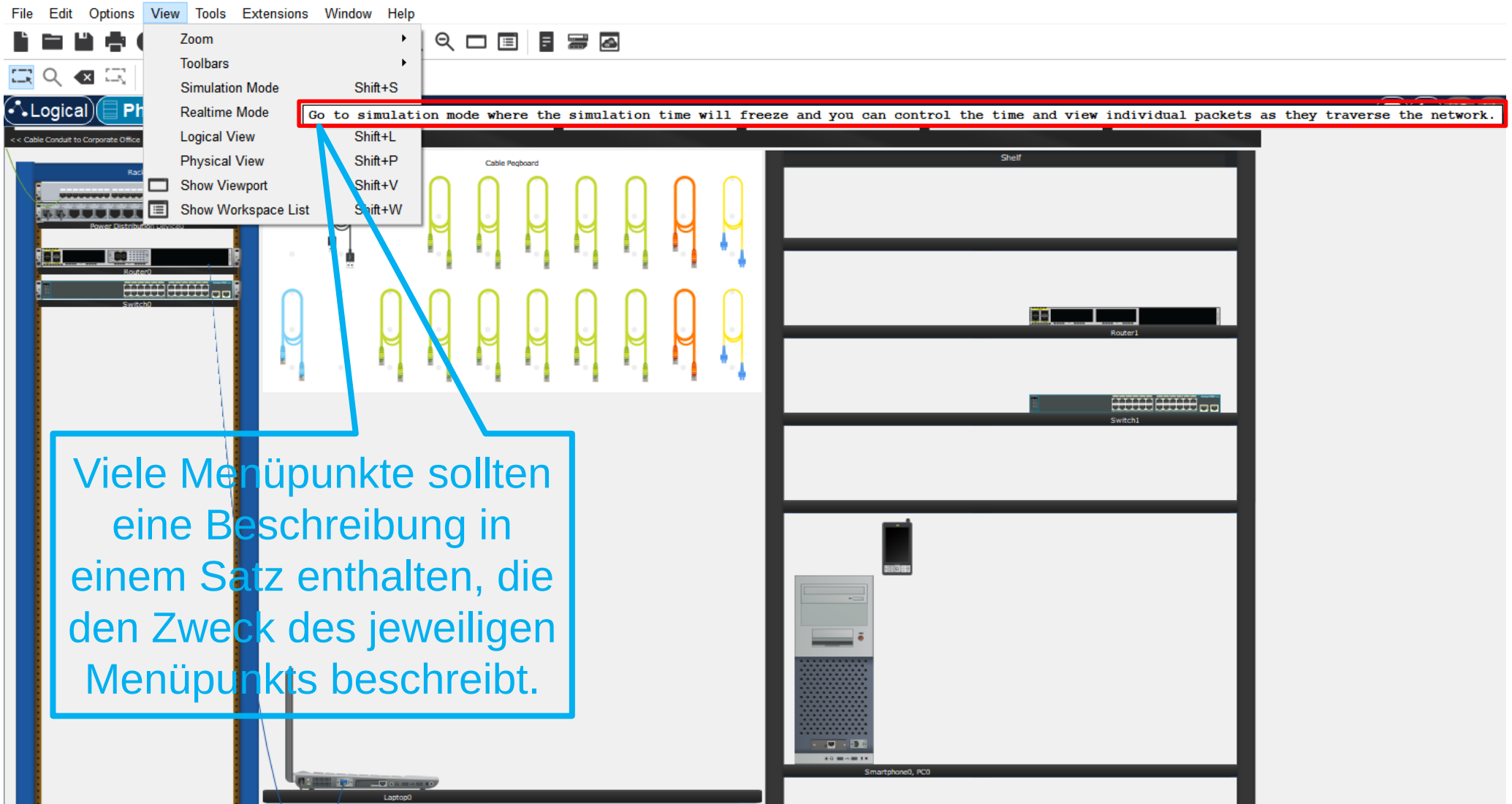


Cisco Packet Tracer 8.2.0
Many message boxes have been reworded for better clarity





Cisco Packet Tracer 8.2.0
Added Description to many menu items



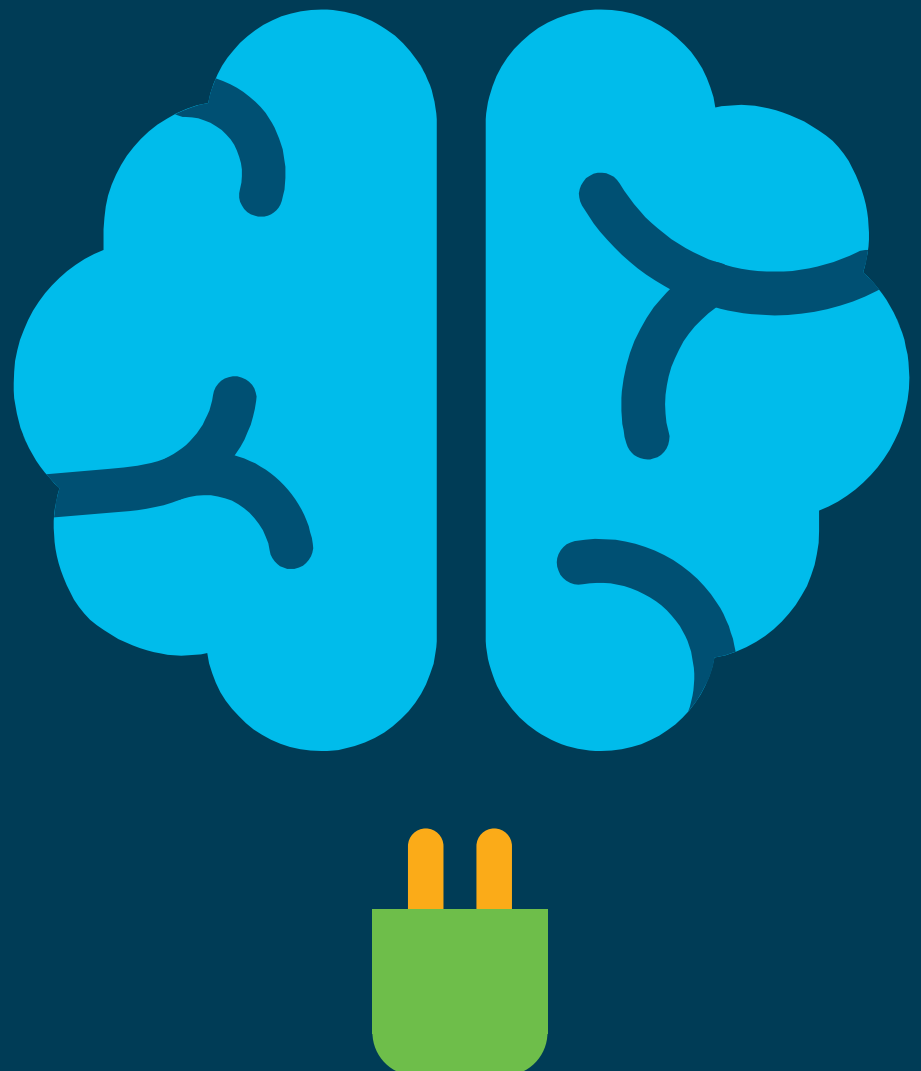
Viele Menüpunkte sollten eine Beschreibung in einem Satz enthalten, die den Zweck des jeweiligen Menüpunkts beschreibt.

Cisco Packet Tracer 8.2.0
Other Improvements

- Added new commands
- Edge scrolling while dragging new devices has now returned
- Selecting the CLI tab will now auto focus onto the command line itself when not using any assistive technology (AT) tools
- For easier translations of the interface, the lupdate and lconvert tools are now part of the package

- Deutsche Übersetzung ist verfügbar auf www.it-bildungsnetz.de

Join the Cisco Packet Tracer Beta Testing



Cisco Packet Tracer Pre-Release (NetAcad) Testing

Regression

6200+ automated Test cases containing:

- 1000+ curriculum PT course files
- 4000+ Previously fixed defects included
- 1000+ Developer test cases

Static Analysis

- Automated analysis of code

Developer Testing

- Verification of features against real devices
- Developer verification of feature during development

Manual

- Multiuser manual testing
- Network Controller manual testing
- Package verification of help files, version, signatures

PTSA

- Automated and Manual test all live PTSA for compatibility and grading correctness

Cisco Packet Tracer Beta Testing Initiative Goals

Make Cisco Packet Tracer even better!

- Test the new release in a real environment before the General Availability
- Collect issues that only appear under conditions that would be difficult to simulate

Test PT using your personal computer environments

Cisco Packet Tracer Beta Testing Initiative
What we ask of Beta Testers

1

Download and Install the Beta Version of Cisco Packet Tracer on a supported Device

2

Use the Packet Tracer Beta Version regularly during your teaching activities

3

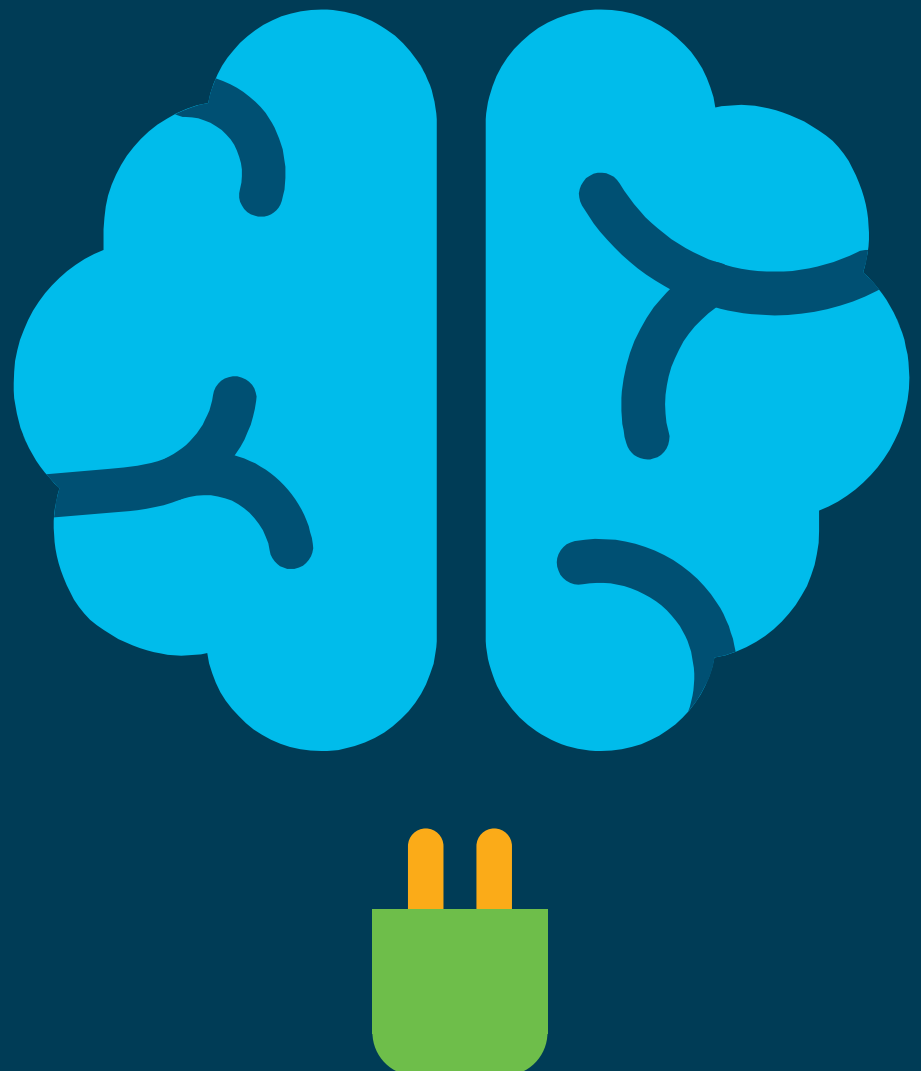
Report bugs or issues encountered following the instructions that will be provided

3 weeks,
about 2 months before release

Cisco Packet Tracer Beta Testing Community How to Join

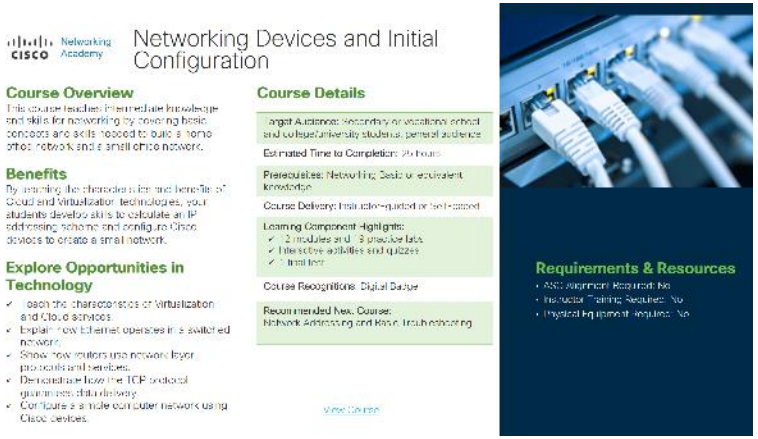
- Try new Cisco Packet Tracer features before they will be released
- Your feedback will help us identify and fix issues and make Cisco Packet Tracer even better.
- Join the Cisco Packet Tracer Beta Testing Community by filling out the form http://cs.co/ptbeta
- Thank you for actively contributing to the improvement of Cisco Packet Tracer!

Network Pathway - Skills for All



Networking Offerings in Skills for All

Foundation of networking and network devices, media, and protocols.



Basic concepts and skills needed to build a home office network and a small office networks.

Physical layer in depth, Data Link layer topologies, and basic routing. Static and dynamic IPv4 and IPv6 addressing and basic network troubleshooting

Network Pathway won‘t replace Networking Essentials

Networking Basics

Course Overview

This course covers the foundation of networking and network devices, media, and protocols. The learner will observe data flowing through a network and basic device configuration to connect to networks.

Benefits

Teaching your students basic networking concepts is essential for developing IT skills and prepares them for a wide variety of IT career paths.

Explore Opportunities in

- ✓ Configure a wireless router and wireless host to connect to the internet
- ✓ Teach how protocols, devices, and media enable communication on Ethernet networks
- ✓ Demonstrate how IP addresses enable network communication
- ✓ Create a simple LAN
- ✓ Use application layer services to accomplish real-world tasks.

Course Details

Target Audience: Secondary or vocational school and college/university students, general audience

Estimated Time to Completion: 25 hours

Prerequisites: None

Course Delivery: Instructor-guided or Self-paced

Learning Component Highlights:
- ✓ 17 modules and 13 practice labs
- ✓ Interactive activities and quizzes
- ✓ 1 final test

Course Recognitions: Digital Badge

Recommended Next Course:
TBD

Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

Cisco Networking Academy

Networking Devices and Initial Configuration

Course Overview

This course teaches intermediate knowledge and skills for networking by covering basic concepts and skills needed to build a home office network and a small Cisco office network.

Benefits

By teaching the characteristics and benefits of Cloud and Virtualization technologies, your students develop skills to calculate an IP addressing scheme and configure Cisco devices to create a small network.

Explore Opportunities in Technology

- ✓ Teach the characteristics of Virtualization and Cloud services.
- ✓ Explain how Ethernet operates in a switched network.
- ✓ Show how routers use network layer protocols and services.
- ✓ Demonstrate how the TCP protocol guarantees data delivery.
- ✓ Configure a simple computer network using Cisco devices.

Course Details

Target Audience: Secondary or vocational school and college/university students, general audience

Estimated Time to Completion: 25 hours

Prerequisites: Networking Basic or equivalent knowledge

Course Delivery: Instructor-guided or Self-paced

Learning Component Highlights:
- ✓ 12 modules and 17 practice labs
- ✓ Interactive activities and quizzes
- ✓ 1 final test

Course Recognitions: Digital Badge

Recommended Next Course:
TBD

Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

Cisco Networking Academy

Network Addressing and Basic Troubleshooting

Course Overview

This course examines the Physical layer in depth, topologies at the Data Link layer, and basic routing at the Network layer. It dives deep into static and dynamic IPv4 and IPv6 addressing and address resolution.

Benefits

Teach your students the components and functionality of Cisco switches and routers, troubleshooting methodologies for some of the most common networking issues, and an overview providing customer support that prepares them for a wide variety of IT career paths.

Explore Opportunities in Technology

- ✓ Explain the features and functions of the physical, data link, and network layers.
- ✓ Develop a networking scheme for a small network based on stated requirements.
- ✓ Explain the operation of switches and routers.
- ✓ Teach basic troubleshooting for network connectivity issues.

Course Details

Target Audience: Secondary school and college/university students, general audience

Estimated Time to Completion: 20-25 hours

Prerequisites: Networking Devices and Initial Configuration or equivalent knowledge

Course Delivery: Instructor-guided or self-paced

Learning Component Highlights:
- ✓ 8 modules and 8 practice labs
- ✓ Interactive activities and quizzes
- ✓ 1 final test

Course Recognitions: Digital Badge

Recommended Next Course:
CCNA:
Switching, Routing and Wireless Essentials

Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

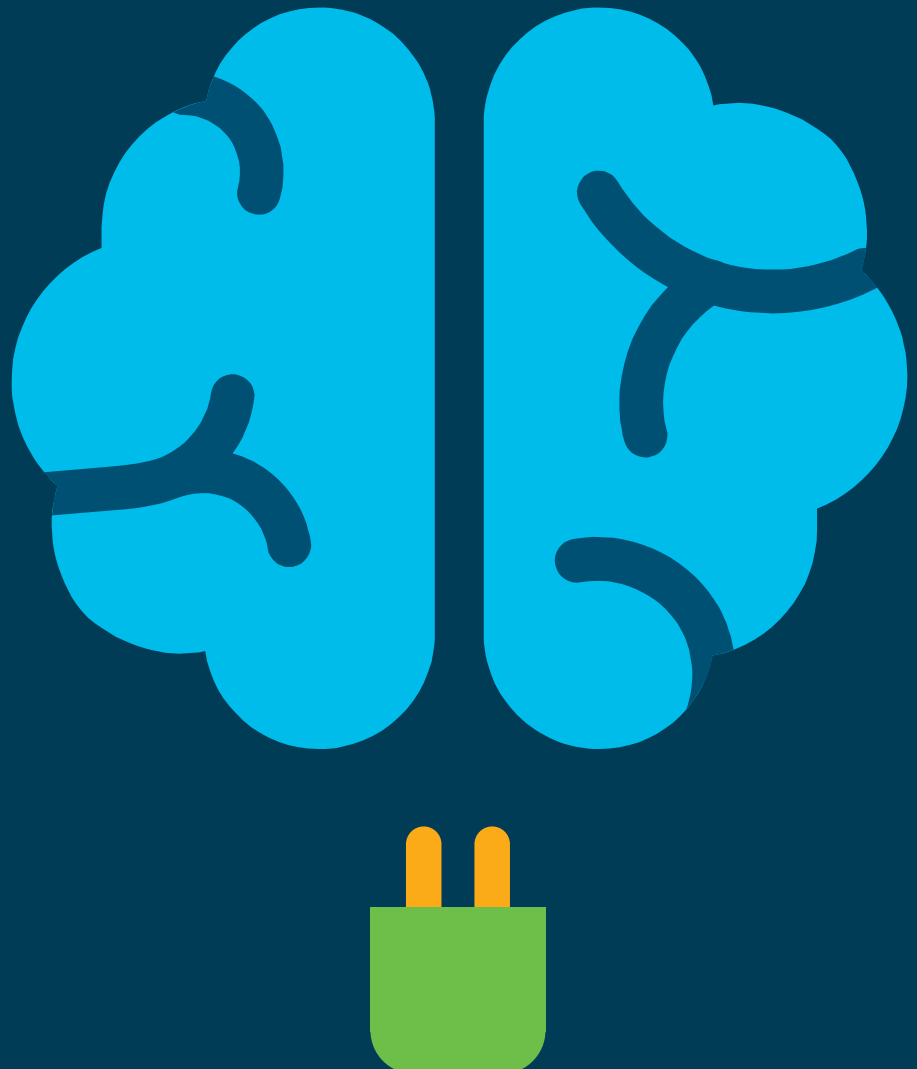
Networking Academy

Course Outline

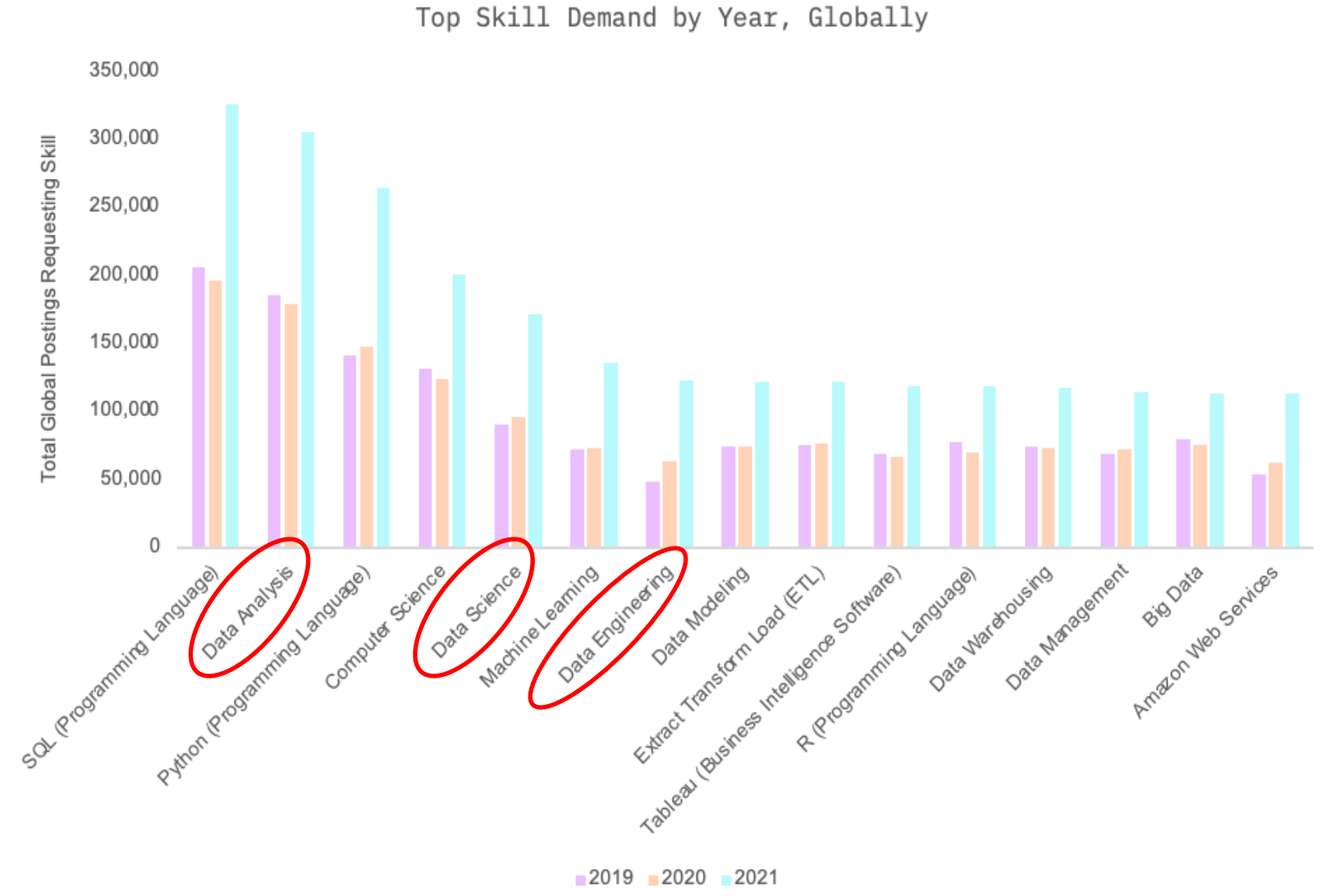
- Examines the Physical layer in depth, topologies at the Data Link layer, and basic routing at the Network layer.
- Delves deeply into static and dynamic IPv4 and IPv6 addressing and address resolution.
- Examines the components and functionality of Cisco switches and routers.
- Introduces troubleshooting methodologies and examines how to troubleshoot some of the most common networking issues.
- Finally, the course ends with an overview of how to provide customer support.

Module/Topic
Module 1. Physical Layer
Module 2. Data Link Layer
Module 4. IPv4 Addressing
Module 5. IPv6 Addressing
Module 6. IPv6 Neighbor Discovery
Module 7. Cisco Switches and Routers
Module 8. Troubleshoot Common Network Problems

Data Pathway Updates - Skills for All



Global Demand for Data Science Skills



All of the **top demanded Data Analytics skills** have experienced **positive growth rates since 2019**

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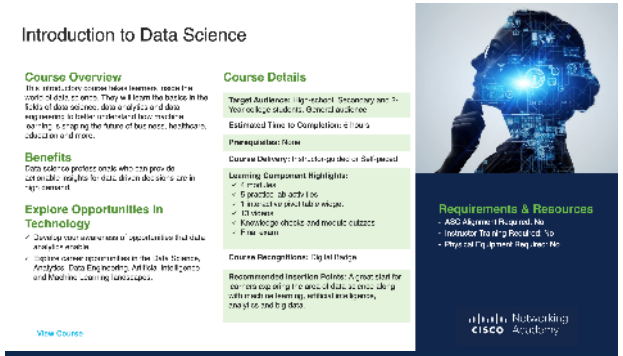
Data Analyst Career-Path

In total 110 hours learning material.

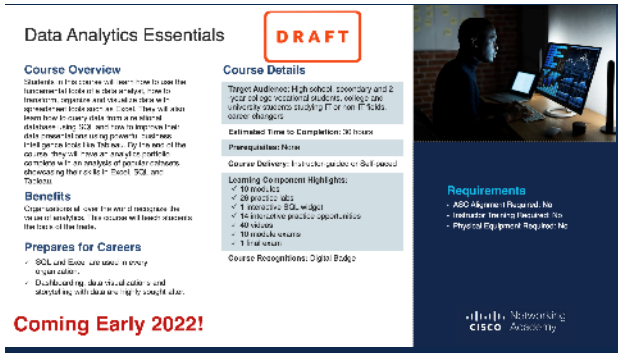


Learning Goals:

- Immersive, Gamified Experience
- Excitement About the Domain
- 360 View
- Data Analytics, Science, Engineering, AI/ML, etc.
- Understanding Job Roles and Career Pathways

Updates:

Launched on Skillsforall.com

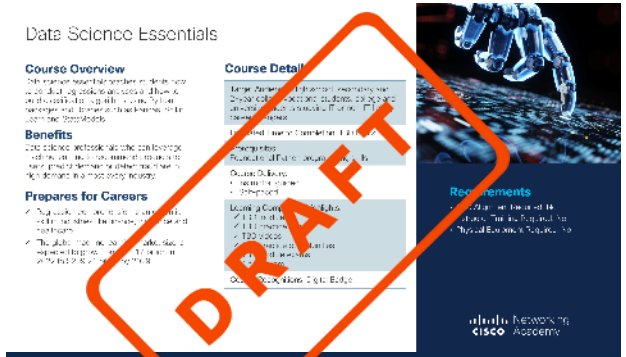


Learning Goals:

- Develop Employable Skills for "Data Analysts"
- Using Tools like Excel and SQL and Tableau to Analyze Data
- Develop Skills in Storytelling with Data

Updates:

Coming early 2023!

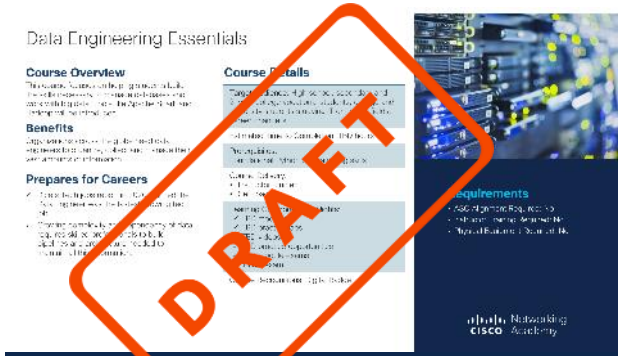


Learning Goals:

- Develop Employable Skills for "Data Scientists"
- Using Python and Data-related Modules to Collect and Analyze Data
- Exploratory Data Analytics
- Understanding Statistical Modeling
- Using Python for AI/ML applications

Updates:

Coming in spring of 2023!



Learning Goals:

- Develop Employable Skills for "Data Engineers"
- Using ETL and Data Pipeline Tools
- Experience using tools like Spark, Kafka, Hadoop, etc.
- Understanding various Cloud-based Data Solutions (AWS, GCP, Azure)

Updates:

Coming in 2023!

Introduction to Data Science

Launched!

Course Overview

This introductory course takes learners inside the world of data science. They will learn the basics in the fields of data science, data analytics and data engineering to better understand how machine learning is shaping the future of business, healthcare, education and more.

Benefits

Data science professionals who can provide actionable insights for data-driven decisions are in high demand.

Explore Opportunities in Technology

- ✓ Develop your awareness of opportunities that data analytics enable.
- ✓ Explore career opportunities in the Data Science, Analytics, Data Engineering, Artificial Intelligence and Machine Learning landscapes.

Course Details

Target Audience: High-school, Secondary and 2-Year college students, General audience

Estimated Time to Completion: 6 hours

Prerequisites: None

Course Delivery: Instructor-guided or Self-paced

Learning Component Highlights:
- ✓ 4 modules
- ✓ 5 practice lab activities
- ✓ 1 interactive pivot table widget
- ✓ 13 videos
- ✓ Knowledge checks and module quizzes
- ✓ Final exam

Course Recognitions: Digital Badge

Recommended Insertion Points: A great start for learners exploring the area of data science along with machine learning, artificial intelligence, analytics and big data.

Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

Cisco Networking Academy

Data Analytics Essentials

DRAFT

Course Overview

Students in this course will learn how to use the fundamental tools of a data analyst, how to transform, organize and visualize data with spreadsheet tools such as Excel. They will also learn how to query data from a relational database using SQL and how to improve their data presentations using powerful business intelligence tools like Tableau. By the end of the course, they will have an analytics portfolio complete with an analysis of popular datasets, showcasing their skills in Excel, SQL and Tableau.

Benefits

Organizations all over the world recognize the value of analytics. This course will teach students the tools of the trade.

Prepares for Careers

- ✓ SQL and Excel are used in every organization.
- ✓ Dashboarding, data visualizations and storytelling with data are highly sought after.

Course Details

Target Audience: High school, secondary and 2-year college vocational students, college and university students studying IT or non-IT fields, career changers

Estimated Time to Completion: 30 hours

Prerequisites: None

Course Delivery: Instructor-guided or Self-paced

Learning Component Highlights:
- ✓ 10 modules
- ✓ 26 practice labs
- ✓ 1 interactive SQL widget
- ✓ 14 interactive practice opportunities
- ✓ 40 videos
- ✓ 10 module exams
- ✓ 1 final exam

Course Recognitions: Digital Badge

Requirements

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

Cisco Networking Academy

Coming Early 2023!