

Skillsforall.com

Toepassingen voor Informatica op het VO

lenl Docenten dag 9/11/2023

Willem-Jan Derks CSR Manager Netherlands, inlea@cisco



Networking

Networking

Networking Essentials

- **Networking Basics** L
- Networking Devices and Initial Configuration
- Network Addressing and Basic Troubleshooting
- Network Support and Security

CCNA: Introduction to Networks

CCNA: Switching, Routing, and Wireless Essentials

CCNA: Enterprise Networking, Security, & Automation

CCNP Enterprise: Core Networking

CCNP Enterprise: Advanced Routing

Automation

DevNet Associate

Workshop: Model-Driven Programmability

Cybersecurity

Introduction to Cybersecurity NL

Cybersecurity Essentials

- **Endpoint Security** S
- Network Defense
- Cyber Threat Management

CyberOps Associate

Network Security

Ethical Hacker S

Data Science

Introduction to Data Science

Data Analytics Essentials C

Operating Systems & IT

Computer Hardware Basics

Operating System Basics

IT Essentials NL

Linux Unhatched

Linux Essentials

Linux I

Linux II

C - Informatie
D - Programmeren
L - Netwerken

S - Security
M - Physical Computing

Programming

PCAP: Programming Essentials in Python

- **Python Essentials 1** D
- Python Essentials 2

JavaScript Essentials 1

CLA: Programming Essentials in C

CPA: Programming Essentials in C++

CLP: Advanced Programming in C

CPP: Advanced Programming in C++

Workshop: Experimenting with REST APIs

Digital Literacy

Get Connected

Introduction to IoT and Digital Transformation NL

M

Professional Skills

English for IT

English for IT 1
English for IT 2

Core Skills

Engaging Stakeholders for Success

Entrepreneurship

Discovering Entrepreneurship

Practice

Cisco Packet Tracer

Getting Started with Cisco Packet Tracer S

Exploring Networking with Cisco Packet Tracer L

Exploring IoT with Cisco Packet Tracer M

Additional Tools

Virtual labs
Remote accessible labs
Gamification
Physical equipment
Assessments

Networking



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 Technology

- ✓ 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.

© 2023 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

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-led or Self-paced

Learning Component Highlights:

- ✓ 17 modules and 13 practice labs
- ✓ Interactive activities and quizzes
- ✓ 1 final test

Course Recognitions: Digital Badge

Certification Alignment: This course is part of the Junior Cybersecurity Analyst Career Path and Network Technician Career Path which align to the CCST Cybersecurity and CCST Networking Certifications.

Recommended Next Course:
Networking Devices and Initial Configuration

skillsforall.com



Requirements

- ASC Alignment: Recommended
- Instructor Training: Optional
- Basic Equipment: Computer/Mobile Device and Internet
- Additional Equipment Required: No

Course Outline

Resources

Search course outline | Q

Module 3: Wireless and Mobile Networks ✓
42%

Module 4: Build a Home Network ✓
30%

Checkpoint Exam: Build a Small Network ✓
0%

Module 5: Communication Principles ✓
0%

Module 6: Network Media ✓

Module 7: The Access Layer ✓

Checkpoint Exam: Network Access ✓

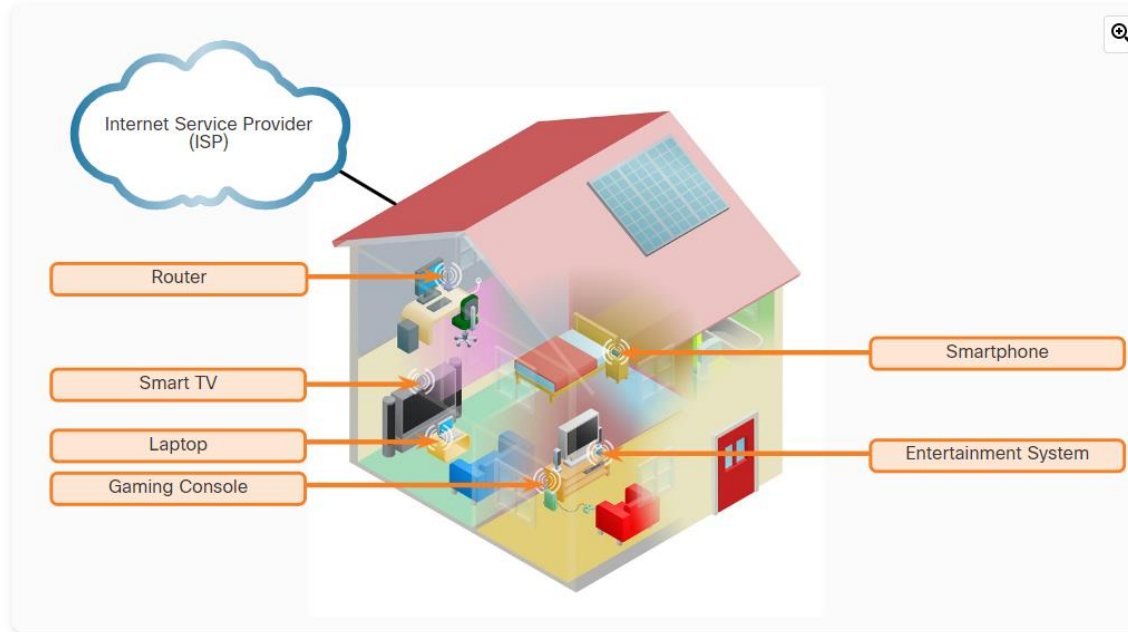
Module 8: The Internet Protocol ✓

Module 9: IPv4 and Network Segmentation ✓



control.

Home Wireless Local Area Network (WLAN)



Course Overview

Networking Essentials provides learners with a broad foundational understanding of networking. It is suitable for anyone interested in a career in IT, or a related career. This course provides an engaging, self-paced learning experience using Packet Tracer simulation, interactive activities, and learning everyday devices found at home.

Benefits

Learners develop a foundational understanding of the high-level network architecture and how a network operates.

Prepare for Careers

- ✓ Gain the skills needed for entry-level job, internship, and apprenticeship roles, such as Network Support Technician, Entry-level Help Desk Technician, and IT Support Specialist

Course Details

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

Estimated Time to Completion: 65 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 39 modules
- ✓ 48 practice labs
- ✓ 160+ interactive activities, videos, & quizzes
- ✓ 15 module exams
- ✓ 1 final exam

Course Recognitions: Digital Badge

Certification Aligned: Cisco Certified Support Technician (CCST) Networking

Recommended next certification: Cisco Certified Network Associate (CCNA) or CyberOps Associate



Requirements

- ASC Alignment: Required
- Instructor Training: Recommended
- Basic Equipment: Computer/Mobile Device and Internet
- Additional Equipment Required: No

Module 11: Dynamic Addressing with DHCP

Edit details

DUE DATE
31 August 2025, 11:59 PM

AVAILABLE FROM
31 August 2023, 12:00 AM

INSTRUCTIONS

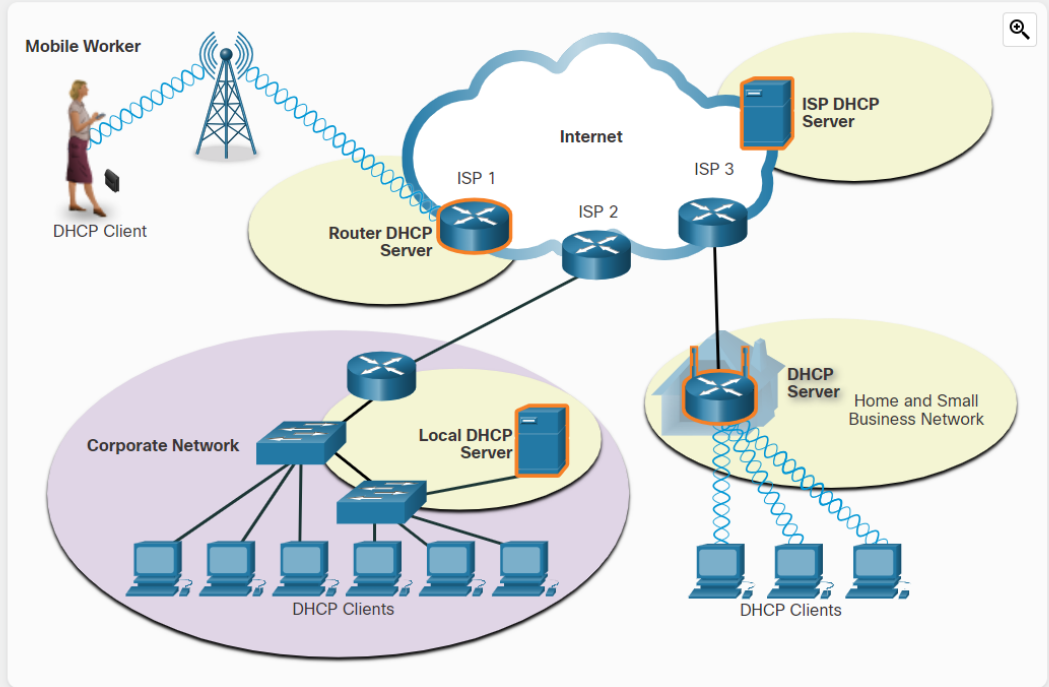
Module 11: Dynamic Addressing with DHCP

Module 11: Dynamic Addressing with DHCP

38%

- 11.0. Introduction 2 / 2
- 11.1. Static and Dynamic Addressing 3 / 4
 - 11.1.1 Static IPv4 Address Assignment
 - 11.1.2 Dynamic IPv4 Address Assignment
 - 11.1.3 DHCP Servers
 - 11.1.4 Check Your Understanding - Static and Dynamic Addressing
- 11.2. DHCPv4 Configuration 0 / 3
- 11.3. Dynamic Addressing with DHCP Summary 0 / 3

with home networks, the DHCP server may be located at the ISP and a host on the home network receives its IPv4 configuration directly from the ISP, as shown in the figure.



Many home networks and small businesses use a wireless router and modem. In this case, the wireless router is both a DHCP client and

Cybersecurity



Endpoint Security

Course Overview

This course covers how to assess the network, operating systems, and endpoints for vulnerabilities, and how to secure the network. It also covers skills to maintain the integrity, confidentiality, and availability in the network and data.

Benefits

The demand for security professionals continues to grow. Teach the foundational knowledge used in the workplace as a Cybersecurity Technician.

Prepare for Careers

- ✓ Develop a cybersecurity foundation
- ✓ Offer the next step in exploring the many career possibilities in cybersecurity
- ✓ Build skills securing a network all the way to the edge, including hardware, software, and media

Course Details

Target Audience: Secondary and 2-year college vocational students; Reskilling to find a job in cyber

Estimated Time to Completion: 27 hours

Recommended Preparation: Introduction to Cybersecurity

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:

- ✓ 10 modules
- ✓ 31 Labs and Cisco Packet Tracer activities
- ✓ 40+ interactive activities & quizzes
- ✓ 1 final exam

Course Recognitions: Digital Badge

Certification Alignment: This course is part of the Junior Cybersecurity Analyst Career path which aligns to the CCST Cybersecurity Certification

Recommended Next Course: Network Defense

skillsforall.com



Requirements

- ASC Alignment: Recommended
- Instructor Training: Optional
- Basic Equipment: Computer / Mobile Device and Internet
- Additional Equipment Required: No

Course Outline

Resources

Search course outline | Q

Module 6: Network Security Infrastructure 25%

Checkpoint Exam: Network Security

Module 7: The Windows Operating System 8%

7.0. Introduction 1 / 2

7.1. Windows History 0 / 4

7.2. Windows Architecture and Operations 0 / 12

7.3. Windows Configuration and Monitoring 0 / 13

7.4. Windows Security 0 / 7

- 7.4.1 The netstat Command
- 7.4.2 Event Viewer
- 7.4.3 Windows Update Management
- 7.4.4 Local Security Policy
- 7.4.5 Windows Defender
- 7.4.6 Windows Defender Firewall
- 7.4.7 Check Your Understanding - Identify the Windows Tool



EN



Cybersecurity Essentials

Course Overview

A course designed for learners interested in pursuing a career in cybersecurity. It prepares for a Junior Cybersecurity Analyst role by equipping learners with job skills across three domains: Endpoint Security, Network Defense, and Cyber Threat Management.

Benefits

Cybersecurity skills are heavily sought in the job market. Students can apply for entry-level junior cybersecurity analyst roles or continue learning toward associate and professional positions.

Prepare for Careers

- ✓ Gain the skills needed for entry-level job, internship, and apprenticeship roles, such as Junior Cybersecurity Analyst, Cybersecurity Technician, Cybersecurity Specialist, and Tier 1 Help Desk Support.

Course Details

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

Estimated Time to Completion: 70 hours

Prerequisites: Foundational understanding of networking and network device configuration

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 27 modules and 75 practice activities
- ✓ Interactive activities and quizzes
- ✓ 1 final exam

Course Recognitions: Digital Badge

Certification Alignment: This course aligns with the CCST Cybersecurity certification.

Recommended Next Course: CyberOps Associate



Requirements

- ASC Alignment: Recommended
- Instructor Training: Recommended
- Basic Equipment: Computer and Internet
- Additional Equipment Required: No

← Module 4: Attacking What We Do

Edit details

31 August 2025, 11:59 PM

31 August 2023, 12:00 AM

INSTRUCTIONS

Module 4: Attacking What We Do

Module 4: Attacking What We Do

20%

✔ 4.0. Introduction 2 / 2

○ 4.1. IP Services 0 / 7

○ 4.1.1 ARP Vulnerabilities

○ 4.1.2 ARP Cache Poisoning

○ 4.1.3 DNS Attacks

○ 4.1.4 DNS Tunneling

○ 4.1.5 DHCP

○ 4.1.6 DHCP Attacks

○ 4.1.7 Lab - Exploring DNS Traffic

➤ 4.2. Enterprise Services 0 / 10

➤ 4.3. Mitigating Common Network Attacks 0 / 7

➤ 4.4. Attacking What We Do Summary 0 / 2

4.1.3 DNS Attacks

The Domain Name Service (DNS) protocol defines an automated service that matches resource names, such as `www.cisco.com`, with the required numeric network address, such as the IPv4 or IPv6 address. It includes the format for queries, responses, and data and uses resource records (RR) to identify the type of DNS response.

Securing DNS is often overlooked. However, it is crucial to the operation of a network and should be secured accordingly.

DNS attacks include the following:

- DNS open resolver attacks
- DNS stealth attacks
- DNS domain shadowing attacks
- DNS tunneling attacks

DNS Open Resolver Attacks

Many organizations use the services of publicly open DNS servers such as GoogleDNS (8.8.8.8) to provide responses to queries. This type of DNS server is called an open resolver. A DNS open resolver answers queries from clients outside of its administrative domain. DNS open resolvers are vulnerable to multiple malicious activities described in the table.

Click each heading to see definitions for the different types of threat actors.

DNS cache poisoning attacks



DNS amplification and reflection attacks



Ethical Hacker

Course Overview

The Ethical Hacker course prepares learners with skills to proactively discover vulnerabilities before the cybercriminals do. Learners will become proficient in the art of scoping, executing, and reporting on vulnerability assessments, while recommending mitigation strategies.

Benefits

Through the gamified narrative in the course and real-world inspired hands-on practice labs, students develop essential workforce readiness skills, laying a solid foundation in offensive security.

Prepare for Careers

- ✓ Get job-ready for Offensive Security roles such as Ethical Hacker or Penetration Tester.
- ✓ Understand the mindset and tactics of cybercriminals to strengthen your defensive security skillset.
- ✓ Gain needed skills for implementing security controls and monitoring, analyzing, and responding to current security threats.

Course Details

Target Audience: College/university students or vocational school students

Estimated Time to Completion: 70 hours

Prerequisites:

- Entry-level cybersecurity knowledge: CCST Cybersecurity certification or Cybersecurity Essentials or Junior Cybersecurity Analyst Career Path, or equivalent
- Basic programming knowledge

Course Delivery: Instructor-led and Self-paced

Learning Component Highlights:

- ✓ 10 modules and 34 labs
- ✓ 86 interactive practice activities and quizzes
- ✓ 1 final exam
- ✓ 1 skills-based assessment

Course Recognitions: Digital Badge

Recommended Next Course:
CyberOps Associate, Network Security



Requirements

- ASC Alignment: Recommended
- Instructor Training: Recommended
- Basic Equipment: Computer and Internet
- Additional Equipment: No

Search course outline | Q

Module 1: Introduction to Ethical Hacking and Penetration Testing ▼

Module 2: Planning and Scoping a Penetration Testing Assessment ▼

Module 3: Information Gathering and Vulnerability Scanning ▼

Module 4: Social Engineering Attacks ▼ 0%

Module 5: Exploiting Wired and Wireless Networks ▼ 0%

Module 6: Exploiting Application-Based Vulnerabilities ▲ 7%

6.0. Introduction 2 / 2

6.0.1 Why Should I Take This Module?

6.0.2 What Will I Learn in This Module?

6.1. Overview of Web Application-Based Attacks for Security Professionals and the OWASP Top 10 0 / 8

6.2. How to Build Your Own Web Application Lab 0 / 1

6.0.1 Why Should I Take This Module?



Protego Security Solutions

Many of our clients here at Protego have developed and deployed web applications. Most organizations have customer interest forms or guestbooks on their sites. Even though this is a small thing, it is indeed a web application. Since web applications are open to the internet and often use a variety of platforms and services, they are very attractive targets for hackers.

I read in a report by Positive Technologies that the vast majority of web applications can be used to attack users, and many applications are the source of data breaches. User authentication and authorization are most commonly vulnerable. This is reflected by the position of Broken Access Control at the top of the OWASP top 10.

As penetration testers, it is important that we work hard to identify web application vulnerabilities, and sometimes exploit them if it is within the scope of our engagement with our clients. We will be scanning the Pixel Paradise website and web applications during our penetration testing engagement, and we expect that you will be involved in our efforts.

Web-based applications are everywhere. You can find them for online retail, banking, enterprise applications, mobile, and Internet of Things (IoT) applications. Thanks to advancements in modern web applications and related frameworks, the ways we create, deploy, and maintain web applications have changed such that the environment is now very complex and diverse. These advancements in web

Internet of Things



Introduction to IoT and Digital Transformation

Course Overview

The course provides learners with an engaging, exploratory view of the Internet of Things and highlights how Digital Transformation impacts organizations, businesses, governments, industries, and our daily lives.

Benefits

Learners discover how IoT, along with emerging technologies such as data analytics, artificial intelligence and cybersecurity, are digitally transforming industries and expanding career opportunities. Learners understand the importance of Intent-Based Networking using a software-driven approach and machine learning to be able to connect and secure tens of billions of new devices with ease.

Explores Opportunities in Technology

- ✓ Develops digital basics
- ✓ Explores career opportunities in the new emerging technologies landscape

[View Course](#)

Course Details

Target Audience: 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:

- ✓ 6 modules
- ✓ 16 practice lab activities
- ✓ 7 Cisco Packet Tracer activities
- ✓ 12 videos
- ✓ Knowledge checks and module quizzes
- ✓ Final exam

Course Recognitions: Digital Badge

Recommended Insertion Points: A great start for any learning path, and a way to introduce digital transformation before or during any Career course.



Requirements

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

Programming



Python Essentials 1

Course Overview

This course teaches in-demand skills including how to design, develop, and improve computer programs using Python.

Benefits

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

Explore Opportunities in Technology

- ✓ Explores the world of computer programming and the careers it offers
- ✓ Develops coding skills using Python
- ✓ Teaches about data types, variables, I/O operations, control flow and functions

Course Details

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

Estimated Time to Completion: 30 hours

Prerequisites: None

Course Delivery: Self-paced

Learning Component Highlights:

- ✓ 4 modules and 30 practice labs
- ✓ Interactive activities & quizzes
- ✓ 1 final project
- ✓ 1 final test

Course Recognitions: Digital Badge

Certification Aligned: PCEP: Certified Entry-Level Python Programmer certification

Recommended Next Course:
Python Essentials 2



Requirements

- ASC Alignment: Recommended
- Instructor Training Required: No
- Basic Equipment: Computer/Mobile Device and Internet
- Additional Equipment Required: No

Developed in collaboration with

Search course outline



Programming

0%

PE1: Module 2. Python Data Types, Variables, Operators, and Basic I/O Operations



1%

2.1. Section 1 – The "Hello, World!" Program

1 / 15

2.1.1 Your very first program

2.1.2 The print() function

2.1.3 Function arguments

2.1.4 Function invocation

2.1.5 LAB Working with the print() function

2.1.6 The print() function and its effect, arguments, and values returned

2.1.7 Instructions

2.1.8 Python escape and newline characters

2.1.9 Using multiple arguments

2.1.10 Positional arguments

2.1.11 Keyword arguments

2.1.12 LAB The print() function and its arguments

2.1.13 LAB Formatting the output

2.1.14 SECTION SUMMARY

2.1.15 SECTION QUIZ

2.1.1 Your very first program

It's time to start writing some **real, working Python code**. It'll be very simple for the time being.

As we're going to show you some fundamental concepts and terms, these snippets of code won't be all that serious or complex.

Run the code in the editor window. If everything goes okay here, you'll see the **line of text** in the console window.

Alternatively, launch IDLE, create a new Python source file, fill it with this code, name the file and save it. Now run it. If everything goes okay, you'll see the text contained within the quotation marks in the IDLE console window. The code you have run should look familiar. You saw something very similar when we led you through the setting up of the IDLE environment.

```
1 print("Hello, world!")
2
```

Console >_

```
Hello, world!
```

Practice

Hands-on tools & interactive experiences
to build skills, not just knowledge



Exploring Networking with Cisco Packet Tracer

Course Overview

In this course, learners create and explore a small office network using Cisco Packet Tracer. Teach how to connect and configure devices in a network, including wireless devices, and how to manage and monitor a network.

Benefits

Offers valuable tips and practices networking skills using Cisco Packet Tracer.

Explore Opportunities in Technology

- ✓ Teach how to connect and configure devices in a small office network using Packet Tracer
- ✓ Show how packets travel across a network using Simulation Mode
- ✓ Explore how a network controller can be used to manage and configure a network

[View Course](#)

Course Details

Target Audience: General audience

Estimated Time to Completion: 3 hours

Prerequisites: Getting Started with Cisco Packet Tracer

Course Delivery: Instructor-guided or Self-paced

Learning Component Highlights:

- ✓ 2 modules
- ✓ 1 Cisco Packet Tracer Tutored Activity (PTTA)
- ✓ 7 Cisco Packet Tracer Activity
- ✓ 1 assessment

Course Recognitions: SFA Achievement

Recommended Next Course:

- ✓ Exploring IoT with Cisco Packet Tracer



Requirement

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

Exploring IoT with Cisco Packet Tracer

Course Overview

This course teaches how to set up a smart home network using Cisco Packet Tracer, how to add IoT devices to a home network, and then connect, configure, and monitor them. Learners become more familiar with IoT devices and how they can be programmed. Learners will create their own IoT device and use it in a simulated smart home network.

Benefits

Practice IoT (Internet of Things) skills using Cisco Packet Tracer.

Explores Opportunities in Technology

- ✓ Connect and monitor devices in a smart home network.
- ✓ Modify and monitor environment elements that may affect IoT devices.
- ✓ Create and modify an IoT Thing in Cisco Packet Tracer.

[View Course](#)

Course Details

Target Audience: General audience

Estimated Time to Completion: 3 hours

Prerequisites: Getting Started with Cisco Packet Tracer course

Course Delivery: Instructor-guided or Self-paced

Learning Component Highlights:

- ✓ 2 modules
- ✓ 6 Cisco Packet Tracer Activity
- ✓ 1 assessment

Course Recognitions: SFA Achievement

Recommended Next Course:

Exploring Networking with Cisco Packet Tracer



Requirements

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

Hoe kan ik starten?

- Neem contact op:
- Willem-Jan Derks
- widerks@cisco.com



Empowering all people
with career possibilities

Skills-to-Jobs Curriculum

A comprehensive portfolio to develop job-ready learners



Networking



Cybersecurity



Data Science



Operating Systems
and IT



Programming



Digital Literacy



Professional Skills



Practice

Flexible choices for learners and educators

Independent Learner

On-demand, engaging experiences

Hybrid

- Learners go through self-paced content with a guide or mentor
- Learners go through self-paced content and come to class for workshops & labs

Instructor-Led

Virtual or in-class experiences

Skills-to-Jobs Learning Platforms

More teaching & learning options to expand access for underserved and underrepresented communities and meet learners wherever they are



skillsforall.com

- Entry point for tech curious learners, with career pathways to entry-level certifications and job matching
- Flexible options to offer self-paced and instructor-led courses, licensed free to academies
- Academies can leverage pre-built, engaging content to meet learners earlier in their learning journeys
- Greenfield innovation space where we are building out our new teaching & learning experience with interactive, adaptive, and game-based learning



netacad.com

- Entry point for learners pursuing tech careers, with courses aligned to entry- and associate-level certifications and job matching
- Curriculum licensed free to academies
- Course progression from Skills for All attracts and prepares learners for instructor-led courses
- Existing teaching experience maintains continuity for educators as we build out our next-gen teaching & learning experience

