



FREE for  
instructors to  
participate!

# Programmability Initiative

Preparing US/Canada Instructors for the Programmable Age of Networking

Website: <https://devnet.academy>

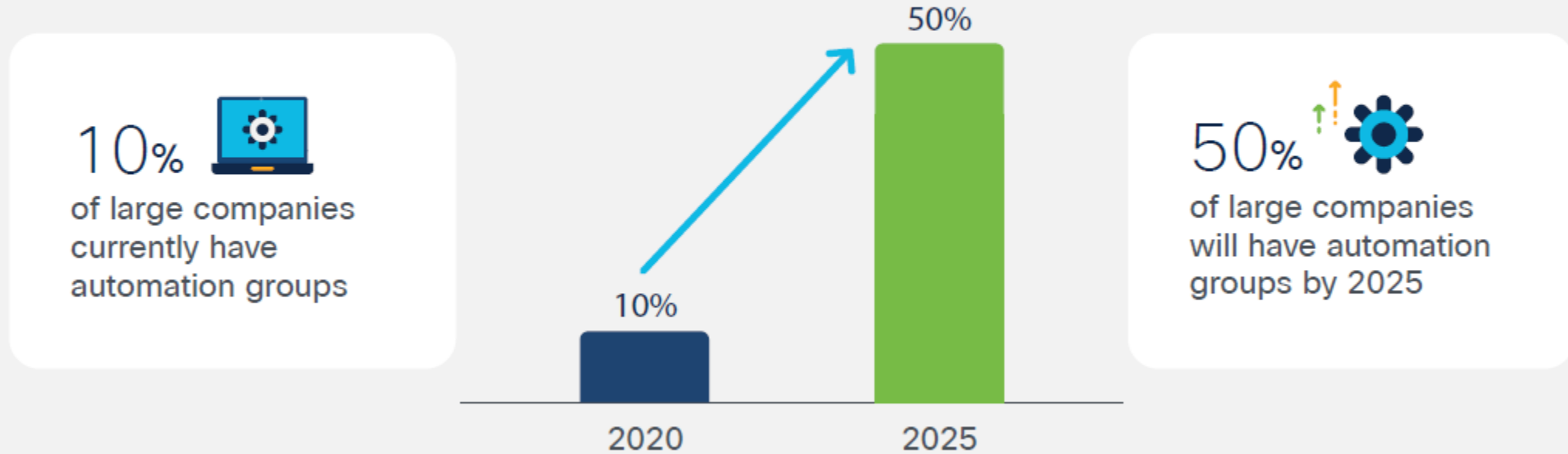
Contact us here: [programmability\\_initiative@external.cisco.com](mailto:programmability_initiative@external.cisco.com)

January 2022

# Programmability Initiative Executive Summary

# The Programmable Age of Networking is HERE!

## The Rising Focus on Automation in Large Companies



That's a 500% increase over 5 years.

# Programmable Infrastructure: Trends & Feedback

## Industry Trends

- Over **90%** of IT organizations are exploring or implementing DevOps to accelerate solutions delivery. This suggests the DevOps Engineer will exhibit sustainable growth.
- **34% of all IT roles will require skills that can be addressed by Cisco's DevNet training** and certification program.
- Certifications prepare for in-demand jobs. **By 2024 there will be 5.3M jobs globally that align to the DevNet Associate professional.**
- Network Automation Engineer is the fastest growing title, with the smallest population today, given the focused responsibilities associated, such as a blend of traditional Network Engineering & Automation.

**Source:** Data created by collaboration between Cisco and the world's leading research organization.

## DevNet Associate Course Feedback

- From interviews conducted with instructor trainers, instructors & other industry professionals we heard there needs to be **more applied labs** in DevNet Associate.
- Additional **supplemental content asked** for in interviews was, webinars from industry professionals, videos & demos to support the DevNet Associate course.
- We need a bridge from CCNA to Network Automation & Programmability.
- **Prerequisites needed in DevNet Associate** for traditional Networkers are Python, basic Linux & scripting. Networking Essentials if you are a Software Developer.
- Networking Instructors commented on the increased difficulty of the DevNet Associate course and certification. Prepping for this certification differs from traditional CCNA Certification as question complexity is very different.

# US & Canada Networking Academy: FREE Programmability Initiative 2022

**Mission:** Cisco Networking Academy's (NetAcad) Programmability Initiative centers around guiding new and current network instructors into the Programmable Age.

**Outcome:** The result of the project is to become DevNet Associate Accredited and empowered to teach the NetAcad course.

## Initiative Audience (Higher Education):

1. New DevNet Associate Instructors – New instructors to NetAcad & DevNet and Current NetAcad instructors new to DevNet
2. Supporting current DevNet Associate Instructors
3. Supporting current Network Automation instructors in CCNA Enterprise Networking, Security and Automation (ENSA)

**Interested in Participating?**  
[Link: Refer Yourself Today!](#)  
**Know of a Colleague who might be interested?**

[Link: Refer Colleagues Today!](#)

## Program Information:

<https://devnet.academy>

## Contact us for questions:

[programmability\\_initiative@external.cisco.com](mailto:programmability_initiative@external.cisco.com)

**Note:** Underscore between programmability & initiative.

## Benefits of Participation:

- Certification preparation offered by the Cisco DevNet Group
- Cisco SE's (system engineers) presentations on the technologies
- Industry professional presentations
- Instructor technical webinars and best practices
- Ability to reach out and ask questions to mentors
- Newly developed resources Such as applied labs, videos & demos (**Note:** these will be shared with ALL instructors Globally)
- Capture the flag event for extra practice
- NetAcad & DevNet swag if you complete all check point activities

## Schedule Of Events 2022:



# Programmability Initiative Details

# Programmability Initiative



- **Mission:** Cisco Networking Academy's FREE Programmability Initiative centers around guiding new and current network instructors into the Programmable Age.
- **Goal:** The goal of the initiative is to use multiple approaches to teach and guide US/Canada instructors to provide quality instruction for student success. This initiative includes pre-requisite instruction and new hands-on labs/activities recommended by early adopters. Additional aspects will include mentoring, check-point activities, webinars and technical demos.
- **Recording of project overview, located on <https://devnet.academy>**

# Benefits of Participation for Instructors!

- Training is offered to instructors for FREE
- Certification preparation offered by DevNet
- Cisco SE's (system engineers) presentations on the technologies
- Industry professional presentations
- Instructor technical webinars and best practices
- Ability to reach out and ask questions to mentors
- Newly developed resources (**Note:** that will be shared with ALL instructors Globally)
  - Such as applied labs, videos & demos
- Capture the flag event for extra practice
- NetAcad & DevNet swag if you complete all check point activities



# Programmability Initiative Audience

## Targeting Higher Education Instructors



### 1. New DevNet Associate Instructors

- New instructors to Networking Academy & DevNet
- Current Networking Academy instructors new to DevNet

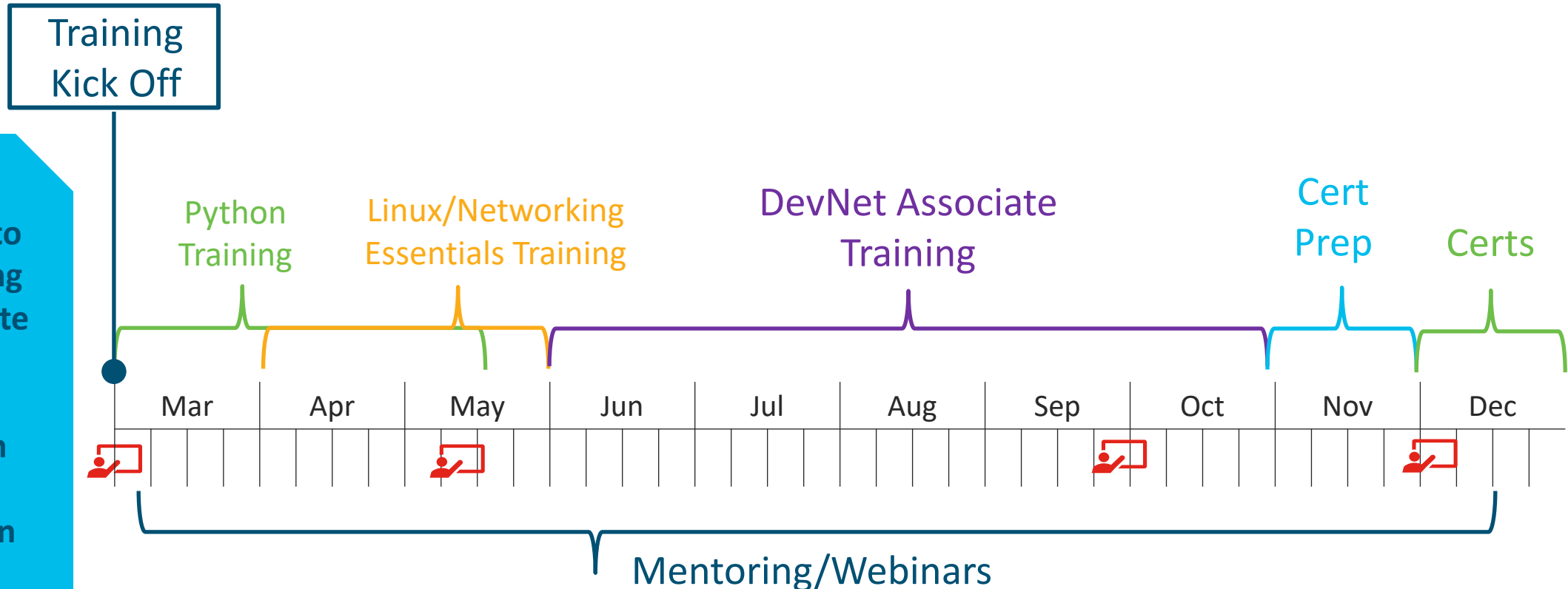
### 2. Supporting current DevNet Associate Instructors

### 3. Supporting current Network Automation instructors in CCNA Enterprise Networking, Security and Automation (ENSA)

# Programmability Initiative Summary Timeline 2022

Expectation is to plan on teaching DevNet Associate to students.

NO curriculum prerequisites required to sign up and participate!



- Corresponding Topic Webinars from Cisco SEs, DevNet Evangelists, Instructors, Industry Professionals
- Mentoring Sessions
- Monitored Webex Teams rooms

 IPD Weeks

Technical Sessions relevant for Project Participants and Global Instructor Community

# PCAP: Programming Essentials in Python



## Course Overview

Designed as easy to understand and beginner-friendly course focusing on various data collections, manipulation tools, logic and bit operations and creating basic REST APIs.

## Benefits

Learn to design, write, debug, and run programs encoded in the Python language. No prior programming knowledge is required. The course begins with the very basics guiding you step by step until you become adept at solving more complex problems.

## Prepare for Careers

- ✓ Develop fundamental programming skills
- ✓ Prepare for PCEP and PCAP certification exam
- ✓ Build your foundation to pursue more specialized networking and software development skills

## Course Details

Target Audience: Secondary, 2-year and 4-year college students

Estimated Time to Completion: 75 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:

- ✓ 8 modules of interactive instructional content
- ✓ 30+ practice labs
- ✓ Built-in online tool for labs and practice
- ✓ Quizzes, tests, and final exam

Course Recognitions: Statement of Achievement

Recommended Next Course:  
DevNet Associate

In partnership with 



## Programmability Initiative:

- Python
  - Modules 1-4 (PCEP)
  - 30 hours of content

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



Certification Aligned

[PCEP: Certified Entry-Level Python Programmer](#)

[PCAP: Certified Associate in Python Programming](#)

# Networking Essentials

## Course Overview

Networking Essentials teaches networking based on environments students may encounter in daily life, including small office and home office networking. This course provides an engaging, self-paced learning experience using Packet Tracer simulation, interactive activities, and learning with your own devices at home.

## Benefits

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

## Prepare for Careers

- ✓ For developers, cybersecurity, business analysts, or other professionals: gain essential networking knowledge
- ✓ For students: a launching point for many career pathways, from cybersecurity to software to business and more

## Course Details

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

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Self-Paced, Instructor-led

Learning Component Highlights:

- ✓ 20 modules and 19 practice labs
- ✓ 24 Cisco Packet Tracer activities
- ✓ 130+ interactive activities, videos, & quizzes
- ✓ 5 module exams
- ✓ 1 final exam and 1 skills assessment (Instructor-led only)

Course Recognitions: Certificate of Completion, Digital Badge (Instructor-led only)

Recommended Next Course:

CCNA: Introduction to Networks (ITN), Cybersecurity Essentials, or DevNet Associate



Networking



## Programmability Initiative:

- **Networking Essentials**
  - 10 Modules
  - 30 hours of content

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



Practice with  
Cisco Packet Tracer

# DevNet Associate

## Course Overview

This course introduces the methodologies and tools of modern software development, applied to the IT and Network operations. It covers a 360° view of the domain including microservices, testing, containers and DevOps, as well as securely automating infrastructures with Application Programming Interfaces (APIs).

## Benefits

Gain practical, relevant, hands-on lab experience, including programming in Python, using GIT and common data formats (JSON, XML and YAML), deploying applications as containers, using Continuous Integration/Continuous Deployment (CI/CD) pipelines, and automating infrastructure using code.

## Prepare for Careers

- ✓ Develop skills for entry-level software development and infrastructure automation jobs
- ✓ Prepare for DevNet Associate certification exam

## Course Details

Target Audience: Secondary vocational students, 2-year and 4-year college students and participants of coding bootcamps

Estimated Time to Completion: 70 hours

Recommended Preparation:  
Object-oriented coding skills, equivalent to:  
PCAP: Programming Essentials in Python  
Fundamental skills of networking, equivalent to:  
CCNA: Introduction to Networks

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 8 modules and 23 practice labs
- ✓ 5 Cisco Packet Tracer activities
- ✓ 6 videos, 8 quizzes, 8 module exams
- ✓ 1 final exam, 1 practice certification exam

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

Recommended Next Course: CCNA, CCNP Enterprise, or CyberOps Associate



Infrastructure Automation

## Programmability Initiative:

- **DevNet Associate**
  - 70 hours of content
  - 2 Instructor Trainers

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



How do I participate in the  
Programmability Initiative?



# Refer-Yourself Survey

## I am interested in Teaching DevNet/Programmability from Cisco Networking Academy

The DevNet Associate course introduces the methodologies and tools of modern software development, applied to the IT and Network operations. It covers a 360 view of the domain including microservices, testing, containers and DevOps, as well as securely automating infrastructures with Application Programming Interfaces (APIs). Students completing this course, gain practical, relevant, hands-on lab experience, including programming in Python, using GIT and common data formats (JSON, XML and YAML), deploying applications as containers, using Continuous Integration/Continuous Deployment (CI/CD) pipelines and automating infrastructure using code. The course prepares students for entry-level software development and infrastructure automation jobs and prepares them for the DevNet Associate certification exam.

By the end of the course, you will be able to:

- Use basic Python programming and Linux skills.
- Implement a development environment using DevNet resources.
- Use software development and design best practices.
- Create REST API requests over HTTPS to securely integrate services.
- Explain the processes and devices that support network connectivity.
- Use current technologies to deploy and secure applications and data in a cloud environment.
- Compare software testing and deployment methods in automation and simulation environments.
- Compare Cisco platforms used for collaboration, infrastructure management, and automation.

Please ensure you meet the following conditions before completing the form:

- You are a teacher/professor or staff at a school/institution
- You do not have an existing Instructor Cisco Networking Academy account

First Name \*

Last Name \*

Email Address \*

School/Institution \*

Department (if applicable, if not please type N/A) \*

State/Province \*

Is there any additional information you would like to share about your interest in the course or Cisco Networking Academy?

Send me a copy of my responses

Submit

For US & Canada Instructors ONLY

# Refer-a-Colleague Survey

## Refer an Instructor to Teach DevNet Programmability from Cisco Networking Academy

We value you as a Cisco Networking Academy Instructor! Thank you for all that you do!

Help us share the curriculum/resources that you have come to appreciate with your fellow instructor(s).

Please Provide Your Colleague's Information Here:

Please provide the information for the colleague you are referring.

Colleague's Name \*

Colleague's Email Address \*

Colleague's School/Institution \*

Colleague's State/Province

Colleague's Department (if known)

For example: Software Development, Computer Science, Business, etc.

Reason for Referring Colleague

Additional Information

Send me a copy of my responses

Submit



Training for US & Canada Instructors ONLY.  
Resources will be shared globally.

Check out our  
website here:

<https://devnet.academy>

**Note:** There is no .com at the end!

Contact us here:

[programmability\\_initiative@external.cisco.com](mailto:programmability_initiative@external.cisco.com)

**Note:** There is an underscore between  
programmability and initiative.

# Thank you!

