

DevNet

It's the place to create and find inspiring applications, learn about our APIs, and connect with other developers in our communities.

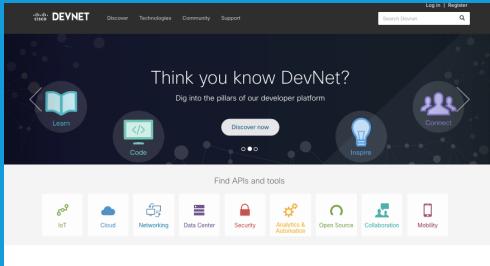
The single, resource for everything 'developer' at Cisco.



Scan and Join us now!
<https://developer.cisco.com>

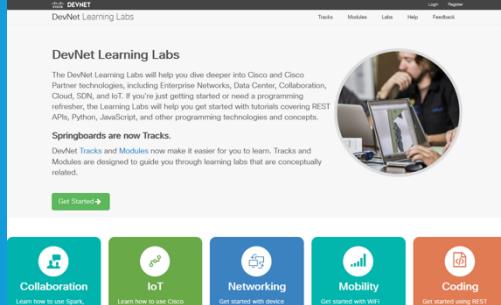
DevNet answers these questions...

What is it and do I want to use it?



Portal

How do I get started?



Learning Tracks

How do I get access?



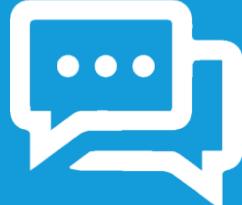
Sandbox

How do I use it?



Docs and Sample Code

How do I get help?



Communities & Support

How do I share inspiration?



DevNet Creations and events

developer.cisco.com

is the single point of entry

- Joining DevNet gives you access to everything within DevNet

The screenshot shows the developer.cisco.com homepage. At the top, there's a navigation bar with the Cisco DevNet logo, a search bar, and links for 'Discover', 'Technologies', 'Community', and 'Support'. A 'Log in | Register' button is highlighted with an orange cursor. Below the header, there are several circular icons representing different pillars: 'Learn' (book icon), 'Code' (code editor icon), 'Inspire' (lightbulb icon), 'Connect' (people icon), and 'Discover now' (dot icon). A central text area says 'Think you know DevNet? Dig into the pillars of our developer platform'. Below this, a section titled 'Find APIs and tools' lists various categories with icons: IoT, Cloud, Networking, Data Center, Security, Analytics & Automation, Open Source, Collaboration, and Mobility. Further down, there's a 'Learn and code' section with a sub-section for 'NETWORKING' featuring 'Network Programmability for Network Engineers' and 'APIC-EM Programmability', each with their respective details and module counts.

Think you know DevNet?
Dig into the pillars of our developer platform

Discover now

Learn

Code

Inspire

Connect

Find APIs and tools

IoT Cloud Networking Data Center Security Analytics & Automation Open Source Collaboration Mobility

Learn and code

It's easy to start learning the latest Cisco APIs & technologies with guided Learning Tracks, and it's free!

NETWORKING

Network Programmability for Network Engineers
Learn about network programmability from the perspective of a Network Engineer. Contains information about programming, REST APIs, as well as new interfaces...

3 Modules 10 Labs 5 hours

APIC-EM Programmability
Learn how to return the IOS configuration for a network device using APIC-EM API, and then create a simple Python application to display the interface list of a...

2 Modules 4 Labs 2 hours

developer.cisco.com

is the single point of entry

- Joining DevNet gives you access to everything within DevNet

The screenshot shows the developer.cisco.com website with the Cisco DevNet logo at the top left. The top navigation bar includes links for Discover, Technologies, Community, and Support, along with Log in | Register and a search bar. Below the header, there's a main content area with a title "3 simple steps to becoming a DevNet member". It lists three steps: Step 1 (Create a Cisco ID), Step 2 (Log in to DevNet and create your account), and Step 3 (Complete your profile). To the right, there are several callout boxes: "Look what you can do once you've joined DevNet", "Dive into the Learning Labs" (with a sub-note about over 20 self-paced tutorials), and "Get active in the community" (with a sub-note about participating in forums and blogs). A sidebar on the right features a "Connect" button with a user icon.

developer.cisco.com

is the single point of entry

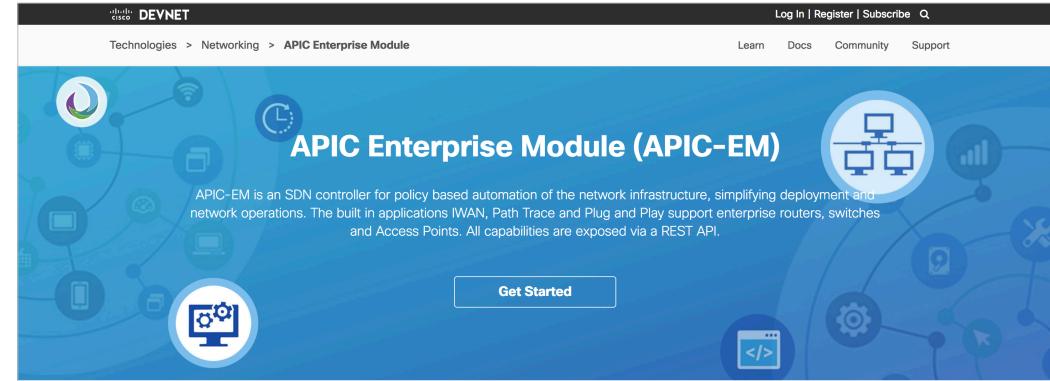
- Joining DevNet gives you access to everything within DevNet
- Browse through over 80 sets of APIs and tools within 10 technology groups

The screenshot shows the DevNet homepage with a dark header featuring the Cisco logo and "DEVMET". Navigation links include "Discover", "Technologies", "Community", and "Support". A search bar at the top right says "Search Devnet". Below the header, there's a banner with icons for "Learn" (book), "Code" (code editor), "Inspire" (lightbulb), and "Connect" (people). The text "Think you know DevNet? Dig into the pillars of our developer platform" and a "Discover now" button are also present. A section titled "Find APIs and tools" lists ten technology groups with corresponding icons: IoT, Cloud, Networking, Data Center, Security, Analytics & Automation, Open Source, Collaboration, and Mobility.



You will find...

- Overviews
- API Reference
- Getting Started guides
- Learning Labs
- Sandboxes
- Videos
- Links to support
- Links to forums
- Virtual and physical events



The screenshot shows the Cisco DevNet APIC Enterprise Module (APIC-EM) landing page. At the top, there's a navigation bar with links for Log In | Register | Subscribe and a search icon. Below the header, the page title "APIC Enterprise Module (APIC-EM)" is displayed in large blue text. A brief description follows: "APIC-EM is an SDN controller for policy based automation of the network infrastructure, simplifying deployment and network operations. The built-in applications IWAN, Path Trace and Plug and Play support enterprise routers, switches and Access Points. All capabilities are exposed via a REST API." A "Get Started" button is located in the center. The background features a blue gradient with various network-related icons like servers, databases, and mobile devices.

Learn how to code with APIC-EM API

FEATURED LEARNING TRACK

APIC-EM Programmability

Learn how to automate and simplify network operations by using Python to implement the APIC-EM policy based controller REST APIs.

JSON, REST, Python, Coding, Sandbox, APIC-EM, Intermediate ...

2 Modules	4 Learning Labs	2 Hours
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Explore More Learning Labs

- Coding 101 - REST Basics**
Beginner · 0 20 mins
- Coding 102: Calling REST APIs from Python**
Beginner · 0 35 mins
- APIC-EM APIs with Python - Basic Labs**
Intermediate · 0 35 mins
- APIC-EM APIs with Python - Policy Labs**
Intermediate · 0 30 mins

[View all 4 Learning Labs >](#)

Find sample code and scripts

Coding Skills Sample Code
by Cisco

Sample code to be used with the APIC-EM Learning Labs. Use the APIC-EM API to create a service ticket for authentication, parse the JSON response, get a list of hosts, retrieve a network device list, manage users and more.

APIC-EM Top 5
by Adam Radford

Everything on APIC-EM can be done via API. These are the top 5 basic API that might help you be more productive. There are examples for network devices, filtering by IP or MAC address, and flow analysis.

Plug and Play (PnP)
by Adam Radford

Discover network Plug and Play examples that demonstrate how to upload, list, and delete configuration and image files.

The Learning Labs

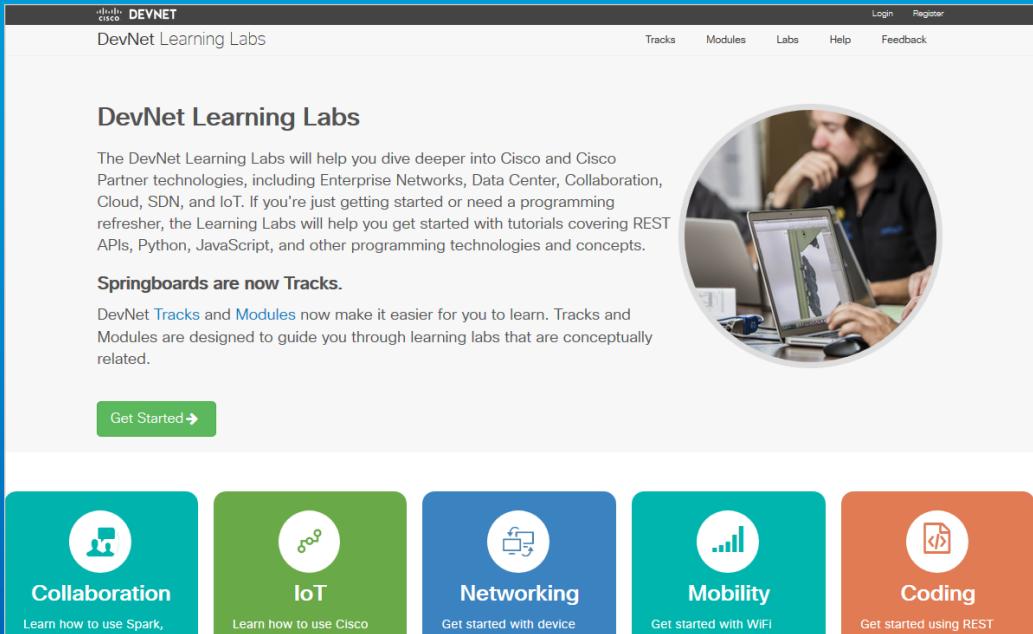
Self-paced, step-by-step tutorials on a wide range of programmability topics and solutions

Available online and at events with 1-on-1 support from the DevNet team

Learning centered around concrete tasks for specific types of developers



<https://learninglabs.cisco.com>



The screenshot shows the DevNet Learning Labs homepage. At the top, there's a navigation bar with links for Tracks, Modules, Labs, Help, and Feedback. Below the navigation, a large circular image shows a person working on a laptop. The main content area has a heading "DevNet Learning Labs" and a paragraph describing the purpose of the labs. It also features a section about "Springboards are now Tracks." A "Get Started" button is located below this section. At the bottom, there are five colored boxes representing different tracks: Collaboration (teal), IoT (green), Networking (blue), Mobility (teal), and Coding (orange). Each box contains an icon and a brief description.

DevNet Learning Labs

The DevNet Learning Labs will help you dive deeper into Cisco and Cisco Partner technologies, including Enterprise Networks, Data Center, Collaboration, Cloud, SDN, and IoT. If you're just getting started or need a programming refresher, the Learning Labs will help you get started with tutorials covering REST APIs, Python, JavaScript, and other programming technologies and concepts.

Springboards are now Tracks.

DevNet [Tracks](#) and [Modules](#) now make it easier for you to learn. Tracks and Modules are designed to guide you through learning labs that are conceptually related.

[Get Started →](#)

Collaboration
Learn how to use Spark,

IoT
Learn how to use Cisco

Networking
Get started with device

Mobility
Get started with WiFi

Coding
Get started using REST

The Learning Labs

Learning Labs are **Always On** and available from any web-enabled device
They're **Self Service** – just log in and go

Tracks



Modules



Labs

DevNet Learning Labs

Network Programmability for Network Engineers		
Learn about network programmability from the perspective of a Network Engineer. Contains information about programming, REST APIs, as well as new interfaces like NETCONF.		
3 Modules	11 Labs	6 Hours

DevNet Beginner		
Welcome DevNet beginner! Each module will contain an overview, a glossary, use cases, explanation of the technology, and how to implement the technology. You'll also find information on how to extend your learning and where to find resources to receive assistance. Good luck!		
3 Modules	9 Labs	4 Hours

Network Programmability for Application Developers		
Learn about network programmability from the perspective of an Application Developer. Contains information about basic networking concepts in addition to interfaces like RESTCONF.		
3 Modules	12 Labs	6 Hours

Cisco IOx		
Learn how to develop, deploy, and manage applications at the network edge with Cisco IOx.		
1 Module	3 Labs	2 Hours

Network Programmability for Network Engineers

Learn about network programmability from the perspective of a Network Engineer. Contains information about programming, REST APIs, as well as new interfaces like NETCONF.

Choose a module to start learning

Please login to see your progress...

Network Programming

Learn the elements of network programming

4 hours

NETCONF 101: Introduction to NETCONF

Learning the basics of the NETCONF protocol and how it differs from other programmatic interfaces such as RESTCONF

NETCONF 102: Using Python to generate NETCONF API calls

Learn how to call and consume a NETCONF API in Python

NETCONF 103: Parsing Your Scripts in NETCONF

Learn the basics of how NETCONF simplifies and improves network scripting

RESTCONF 101: Introduction to RESTCONF

Learning the basics of the RESTCONF protocol and how it differs from other programmatic interfaces such as NETCONF

RESTCONF 102: Generate RESTCONF API calls with Python

Learn how to call and consume a RESTCONF API in Python

NETCONF 103: Parsing Your Scripts in RESTCONF

DevNet Learning Labs

All (221) In Progress Completed Sort By Search >

Tags

Tags All

- ACI (1)
- Ansible (1)
- AnyConnect (1)
- API (1)
- APIC-EM (15)
- APIs (1)
- ASA with FP Services (9)
- Automation (1)
- Automation - UCS Director ...
- Beginner (22)
- Cals (3)
- CDP (3)
- Cisco Security REST API (9)
- Cisco Spark (1)

Spark: DevNet Bot

Introducing Devie, our DevNet Bot for Cisco Spark. Come play with Devie. Interact with the DevNet Train, Crm and more.

Spark Featured Crm Fun IoT Login to Start Lab

ACI 101 - The APIC Interfaces

Learn the basics of the APIC controller and interfaces, and issue basic commands using the CLI

Data Center SDN 20 min

The Sandbox

A virtual environment with hosted, live infrastructure

Provides instant access to platforms to help you quickly and easily explore, create and test solutions

The DevNet Sandbox is available from any web enabled device

It's **Self Service** – just log in and go



<https://developer.cisco.com/site/devnet/sandbox/>



The screenshot shows the DevNet Sandbox homepage with a dark blue header. The header includes the word "Sandbox" on the left and "Sandbox Catalog Docs Support" on the right. Below the header, a large white banner features the text "Looking for a development lab?" and "Dig in with DevNet Sandbox – technology packed Cisco labs – today! FREE with 24x7 access!". It has two buttons: "Learn more" and "Get started with Sandbox". A central graphic shows a tablet displaying various Cisco platform interfaces like APIC-EM, UCS, and WebEx, resting on a stylized red and yellow base. To the right, there's a section titled "EXPLORE TECHNOLOGIES" with eight circular icons representing different areas: Networking, Data Center, Cloud, Security, IoT, Collaboration, Analytics & Automation, and Open Source.

Which type of Sandbox do I need?

Always-on



Always On Labs

- Shared Environment with limited functionality
- No admin privileges, no 3rd party applications
- Generally used for learning, endpoint/client connections, or basic REST calls

Reservation



Reservation-based Labs

- Private Environment with full functionality
- Hardware or Software VPN access and admin privileges to all/most devices
- Generally used for development, testing

The Sandbox in action

DEVNET LAB MANAGEMENT

Search environments

Sandbox Labs

Reservations
0 New, 0 Total

Filter by:

- Sandbox Lab Status
 - Available
 - Unavailable
 - View only

LAB CATALOG (42) Reset filters

All Sandbox Labs (42)

TYPE All ▾

Lab Name	Version	Status	Action
ACI Hardware Lab	Version 2.2(1n)	RESERVE	ACI Hardware Rese...
ACI Simulator	Version 1.2(1i)	ALWAYS-ON	ACI Simulator Alwa...
APIC-EM	Version 1.3.1	ALWAYS-ON	APIC-EM _GA_DB...
APIC-EM	Version 1.3.1	RESERVE	APIC-EM _GA_DB...
APIC-EM	Version 1.3.1	RESERVE	APIC-EM _GA_HW...
APIC-EM	Version 1.3.1	RESERVE	APIC-EM HW MinLab 1
APIC-EM	Version 1.3.1	RESERVE	APIC-EM HW MinLab 2
APIC-EM	Version 1.3.1	RESERVE	APIC-EM HW MinLab 3
APIC-EM	Version 1.3.1	RESERVE	APIC-EM HW MinLab 4
Cisco Information Server	Version 1.3.1	RESERVE	Cisco Information Server

BROWSE BY CATEGORY

- Networking
- IoT
- Data Center
- Collaboration
- Cloud
- Analytics and Automation SW
- Security

Cisco CMX

#NetDevOps #Devnet



Use Case

- Location based services, Analytics – WiFi & BLE
- Allow for users to check how “crowded” an area (event, line, store, etc) is relative to capacity.
- Automate attendance and classroom assignments from mobile device

Getting Started with Cisco CMX : <https://developer.cisco.com/site/cmx-mobility-services/>

Hello World

Signup & Login to developer.cisco.com

visit following URL <https://learninglabs.cisco.com/modules/dna-cmx-mse>

Sandbox * Dashboard: <http://cmxlocationsandbox.cisco.com/> * Username: learning * Password: learning

<https://github.com/akshayakumar/CiscoHackathon>

Cisco DNA Center & APIC-EM

#NetDevOps #Devnet



Use case

- Automate daily health reports around network support.
- Generate and deliver automated network reporting
- Provide different reports for different level users.

Getting Started with <https://developer.cisco.com/docs/dna-center/>
<https://developer.cisco.com/site/apic-em/>

Hello World

<https://developer.cisco.com/docs/dna-center/#hello-world>
<https://learninglabs.cisco.com/tracks/apic-em-prog>

Sandbox

DNA Center : <https://sandboxdnac.cisco.com/> * username: devnetuser * password: Cisco123!
APIC-EM : <https://sandboxapic.cisco.com/> * username: devnetuser * password: Cisco123!

<https://github.com/akshayakumar/CiscoHackathon>

Cisco Meraki

#Meraki #NetDevOps #Devnet



Use case

- Remotely manage your Meraki network with the Dashboard API (#NetDevOps)
- Add captive portals or splash pages to your customers workflow
- Location based services, Analytics – WiFi & BLE
- Allow for users to check how “crowded” an area (event, line, store, etc) is relative to capacity.

More usecases : <https://create.meraki.io/>

Getting Started with <https://developer.cisco.com/site/meraki/>

Hello World

<https://learninglabs.cisco.com/modules/getting-started-with-meraki>

<https://documenter.getpostman.com/view/897512/meraki-dashboard-prov-api/2To9xm>

Sandbox

Login to "Meraki Devnet Network" dashboard with username "devnetmeraki@cisco.com/ ilovemeraki"

API Key cc54e1f9520616813f654aab8e0dfc614e33c179

Contact Meraki experts Onsite for Event network access

<https://github.com/akshayakumar/CiscoHackathon>

Cisco Spark

#ChatOps #Spark #Devnet



Use case

- Chat bot that can be interrogated
- Public announcements: Allow for broadcast messages to be sent/received
- Bot to Order Pizza, show direction to airport, report network health
- Alerts, Notifications share to individual or Group

Getting Started with <https://developer.ciscospark.com/getting-started.html>

Hello World

<https://learninglabs.cisco.com/tracks/collab-cloud>

Sandbox

Create your own Cisco account

<https://developer.ciscospark.com/getting-started.html>

API Test-mode <https://developer.ciscospark.com/endpoint-people-get.html>

<https://github.com/akshayakumar/CiscoHackathon>

Cisco Umbrella

#OpenDNS #ThreatGrid #Devnet



Cisco
Umbrella

Use case

- Publish list of sites visited in Cisco Spark room
- Create Spark Bot to query Security score/Health / Category of Specific URL
- Add information from other sites like VirusTotal using the free API in addition to Umbrella/ Investigate API

Getting Started with <https://docs.umbrella.com/developer/enforcement-api/>
<https://docs.umbrella.com/developer/investigate-api/>

Hello World

<https://docs.umbrella.com/developer/investigate-api/coding-examples-1/>
<https://github.com/opendns/investigate-examples/blob/master/scripts.py>

Sandbox

Hackathon API ACCESS TOKEN: 3bb69d0a-ccc7-40b5-a386-48632333e381

<https://github.com/akshayakumar/CiscoHackathon>

Cisco Firepower

#Sourcefire #Snort #Devnet



Use case

- query intrusion, discovery, user activity, correlation, connection, vulnerability, and application and URL statistics database tables on a Cisco Firepower Management Center

Getting Started with <https://developer.cisco.com/site/firepower/>

Snort: <https://www.snort.org/>

Hello World

<https://learninglabs.cisco.com/modules/Firepower>

Sandbox

<https://devnetsandbox.cisco.com/RM/Topology>

More Sandboxes can be found here: <https://developer.cisco.com/site/sandbox/>

Devnet on GitHub <https://github.com/CiscoDevNet>

Learning tracks: <https://learninglabs.cisco.com/tracks>

<https://github.com/akshayakumar/CiscoHackathon>



DEVNET



<https://developer.cisco.com>