

The background is a vibrant, abstract graphic. It features a central bright white light source from which numerous colorful rays emanate, creating a sunburst or starburst effect. The rays transition through a spectrum of colors including yellow, orange, red, and various shades of blue and green. Overlaid on this background are large, semi-transparent, wavy shapes in similar colors, giving the impression of flowing water or soft, glowing clouds. The overall composition is dynamic and energetic.

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The bridge to possible

Getting your CCNP Data Center Certification

Straight from the Source

Lukasz Rola, CCNP Data Center Exam Program Manager
BRKCRT-2012

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<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKCRT-2012>

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Event code: #2012

Agenda

- Overview of CCNP Data Center track
- Certification roadmap
- Exam blueprints & domains
- How to prepare for CCNP Data Center
- Training resources
- Study tips
- Q&A

A woman with dark hair tied in a bun, wearing a light blue denim shirt, is standing at a large wooden workbench in a workshop. She is looking at a silver laptop and has her hands on the keyboard. The workbench is cluttered with various tools, including a hand saw, a hand plane, a tape measure, and some wood shavings. In the background, there are stacks of wood and large windows letting in natural light.

Why do I need to get Cisco certified?

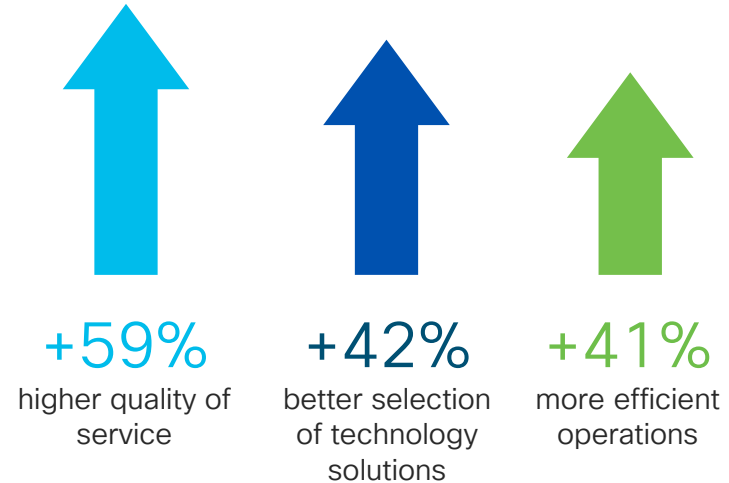
Hiring managers love certified candidates



Certified employees are valued assets

99%
of organizations use
certifications to make
hiring decisions

Increased performance
of certified employees



Cisco certifications are:

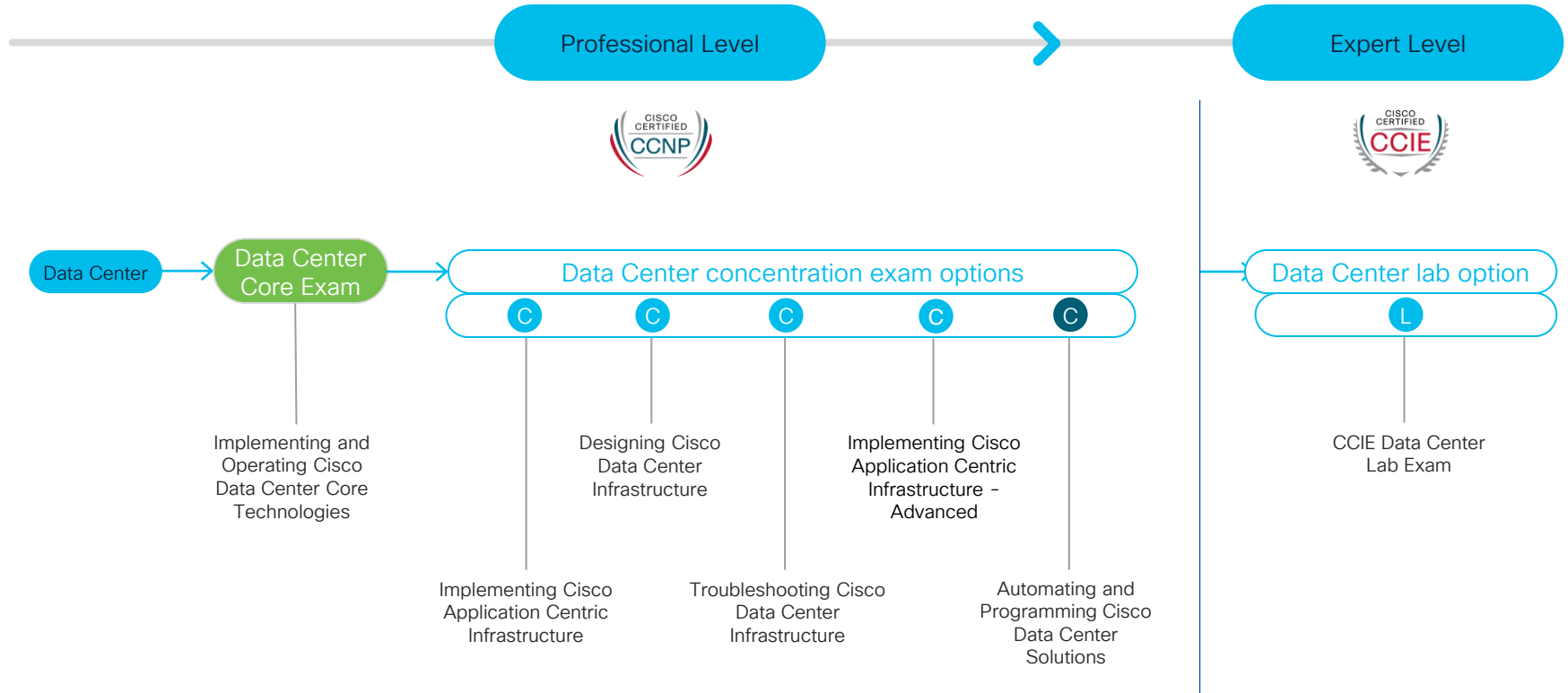
Applicable to real
life situations



Appropriately
difficult




CCNP – Data Center certification track



Preparing for your exams

Exam Blueprint

<https://learningnetwork.cisco.com>

The Cisco Learning Network

Certifications ▾Communities ▾Webinars & Videos ▾Study Resources

Certifications / CCNP Data Center | CCIE Data Center / 350-601 DCCOR Exam Topics

350-601 DCCOR Exam: Implementing and Operating Cisco Data Center Core Technologies

Exam Description

The Implementing and Operating Cisco Data Center Core Technologies v1.0 (DCCOR 350-601) exam is a 120-minute exam associated with the CCNP Data Center, Cisco Certified Specialist - Data Center Core, and CCIE Data Center certifications. This exam tests a candidate's knowledge of implementing core data center technologies including network, compute, storage network, automation, and security. The course, Implementing and Operating Cisco Data Center Core Technologies, helps candidates to prepare for this exam.

The following topics are general guidelines for the content likely to be included on the exam. However, other related topics may also appear on any specific delivery of the exam. To better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

Download Complete List of Topics in PDF format

1.0 Network	25%	▾
2.0 Compute	25%	▾
3.0 Storage Network	20%	▾
4.0 Automation	15%	▾
5.0 Security	15%	▾

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Cognitive Complexity

- Each question addresses a single task on the blueprint.
- Each task is an action a person has to be able to perform

–
Look at the Verb!

- Each action requires knowledge and skill to be able to perform it.
- Questions require the test taker to engage in a cognitive activity to get the right answer
 - Recall information
 - Combine facts and develop their own meaning
 - Apply rules to a new situation



Deciphering the Blueprint:

350-601 DCCOR Implementing and Operating Cisco Data Center Core Technologies exam

Task Verbs

- 25% 1.0 **Network**
 - 1.1 **Apply** routing protocols
 - 1.1.a OSPFv2 and OSPFv3
 - 1.1.b MP-BGP
 - 1.1.c PIM
 - 1.1.d FHRP
 - 1.2 Apply switching protocols such as RSTP+, LACP and vPC
 - 1.3 Apply overlay protocols such as VXLAN EVPN
 - 1.4 Apply ACI concepts
 - 1.4.a Fabric setup
 - 1.4.b Access policies
 - 1.4.c VMM
 - 1.5 Analyze packet flow (unicast, multicast, and broadcast)
 - 1.6 Describe Cloud service and deployment models (NIST 800-145)
 - 1.7 **Describe** software updates and their impacts
 - 1.7.a Disruptive / nondisruptive
 - 1.7.b EPLD
 - 1.7.c Patches
 - 1.8 **Implement** network configuration management
 - 1.9 Implement infrastructure monitoring such as NetFlow and SPAN
 - 1.10 Explain network assurance concepts such as streaming telemetry

350-601 DCCOR Exam: Implementing and Operating Cisco Data Center Core Technologies

Exam blueprint

350-601 DCCOR

- 120-minute exam
- Associated with the CCNP and CCIE Data Center Certifications

Domain / Weight

1.0	Network	25%
2.0	Compute	25%
3.0	Storage Network	20%
4.0	Automation	15%
5.0	Security	15%

Blueprint domain and tasks

Domain 1

Tasks

Network

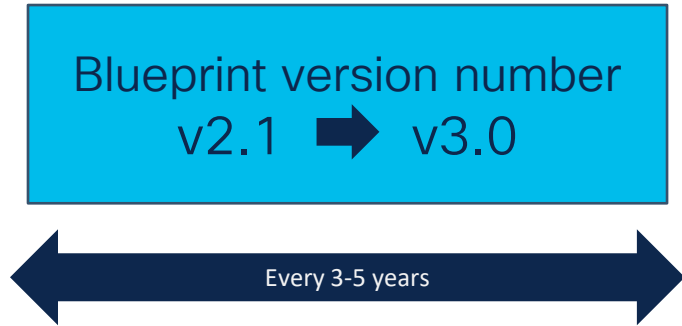
- 1.1 Apply routing protocols
- 1.2 Apply switching protocols such as RSTP+, LACP
- 1.3 Apply overlay protocols such as VXLAN EVPN
- 1.4 Apply ACI concepts
- 1.5 Analyze packet flow (unicast, multicast, and broadcast)
- 1.6 Describe Cloud service and deployment models (NIST 800-145)
- 1.7 Describe software updates and their impacts
- 1.8 Implement network configuration management
- 1.9 Implement infrastructure monitoring such as NetFlow and SPAN
- 1.10 Explain network assurance concepts such as streaming telemetry
- 1.11 Describe the capabilities and features of Nexus Dashboard

Blueprints revision

Revision Framework

Major Revision

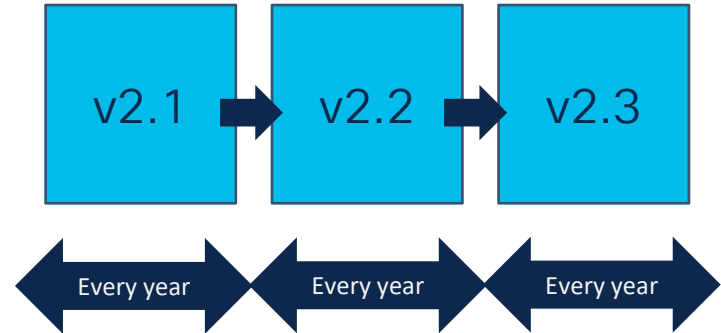
(Traditional Revision Model)



- Large revisions
- Major changes
- Steep learning curve
- Wider Alignment (Product & Technology)

Minor Revision

(Agile Revision Model)



- Smaller modular revisions
- Incremental changes
- Easy bite-size learning model
- Frequent alignment (Product & Technology)

350-601 DCCOR Blueprint changes example

350-601 Implementing and Operating Cisco Data Center Core Technologies			
v1.0		v1.1	
1.3	Apply overlay protocols such as VXLAN EVPN and OTV	1.3	Apply overlay protocols such as VXLAN EVPN
1.4	Apply ACI concepts	1.4	Apply ACI concepts
1.4.a	Fabric setup	1.4.a	Fabric setup
1.4.b	Access policies	1.4.b	Access policies
1.4.c	VMM	1.4.c	VMM
1.4.d	Tenant policies		
4.1	Implement automation and scripting tools	1.11	Describe the capabilities and features of Nexus Dashboard
4.1.a	EEM	4.1	Implement automation and scripting tools
4.1.b	Scheduler	4.1.a	EEM
4.1.c	Bash Shell and Guest Shell for NX-OS	4.1.b	Scheduler
4.1.d	REST API	4.1.c	Bash Shell and Guest Shell for NX-OS
4.1.e	JSON and XML encodings	4.1.d	REST API (NX-API, JSON encodings, and XML encodings)
		4.1.e	On-box Python
4.2	Evaluate automation and orchestration technologies	4.2	Evaluate automation and orchestration technologies
4.2.a	Ansible	4.2.a	Ansible
4.2.b	Puppet	4.2.b	Python
4.2.c	Python	4.2.c	POAP
4.2.d	POAP	4.2.d	Cisco Nexus Dashboard Fabric Controller
4.2.e	DCNM	4.2.e	PowerShell
4.2.f	UCSD	4.2.f	Terraform
4.2.g	PowerShell		
5.1	Apply network security	5.1	Apply network security
5.1.a	AAA and RBAC	5.1.a	AAA and RBAC
5.1.b	ACI contracts and microsegmentation	5.1.b	ACI contracts and microsegmentation
5.1.c	First-hop security features such as dynamic ARP inspection (DAI), DHCP snooping, and port security	5.1.c	First-hop security features
5.1.d	CoPP	5.1.d	Keychain Authentication

Cisco Certifications Roadmap

How it works:

1. Cisco **reviews** each technology on the same quarterly schedule each year to make sure our exams align with the latest Cisco technologies.
2. We **announce** blueprint changes 3 months in advance along with revised exam topics and release notes.
3. We **publish** the updated exam 3 months after the exam blueprint publication.



● = Review certification exams ● = Announce blueprint changes ● = Publish updated exam

Dates shown reflect Cisco's fiscal year calendar.

- Annual, iterative, agile model
- Cadence-based systemic approach
- Align with rapid technology evolution
- Ensure relevancy for today
- Prepare for the future
- Add new technologies
- Remove obsolete technologies
- Predictable cadence for planning

www.cisco.com/go/CertRoadmap

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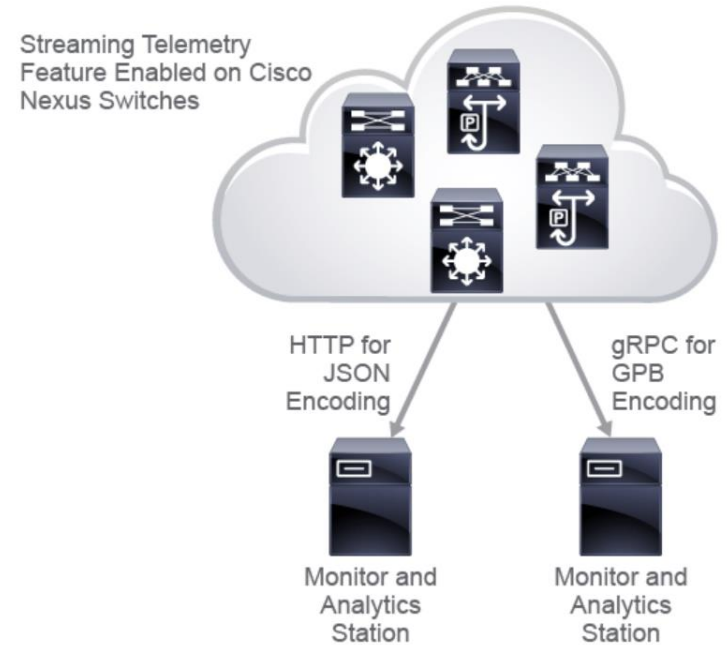
Streaming Telemetry

Cisco Telemetry streaming consists of

Data collection: The telemetry data is collected from the NX-OS DME in branches of the object model specified using distinguished name (DN) paths.

Data encoding: The telemetry encoder encapsulates the collected data into the desired format for transporting, such as JSON and GPB.

Data transport: The telemetry data is typically transported from the Cisco NX-OS device to an external collector using HTTP for JSON encoding and gRPC for GPB encoding. The gRPC Agent on NX-OS provides a secure transport through TLS.



Streaming Telemetry – sample configuration

```
feature telemetry
telemetry
  destination-group 100
    ip address 1.2.3.4 port 50004 protocol gRPC encoding GPB
  sensor-group 100
    path sys/bgp/inst/dom-default depth 0
  subscription 600
    dst-grp 100
    snsr-grp 100 sample-interval 7000
```

Source: Cisco Nexus 9000 Series NX-OS Programmability Guide

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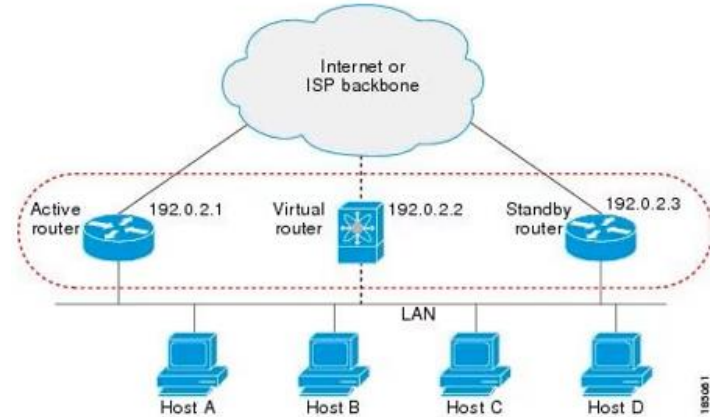


HSRP overview

HSRP is a first-hop redundancy protocol allows a transparent failover of the first-hop IP router. HSRP provides first-hop routing redundancy for IP hosts on Ethernet networks configured with a default router IP address. You use HSRP in a group of routers for selecting an active router and a standby router. In a group of routers, the active router is the router that routes packets; the standby router is the router that takes over when the active router fails or when preset conditions are met.

HSRP version 2 has the following enhancements to HSRP version 1:

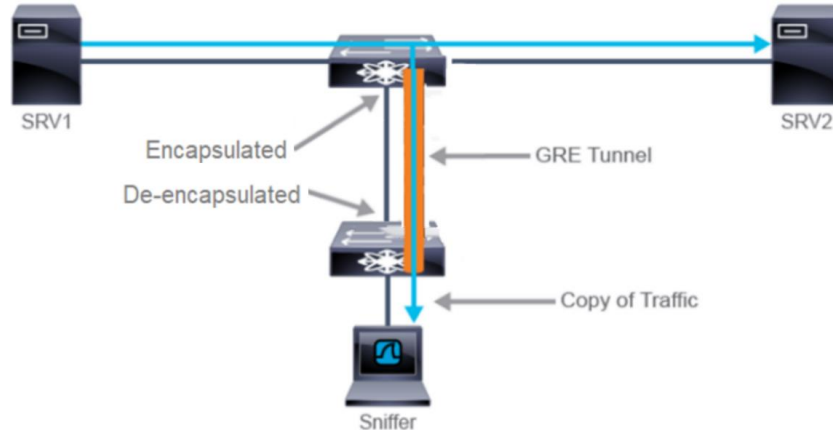
- Expands the group number range. HSRP version 1 supports group numbers from 0 to 255. HSRP version 2 supports group numbers from 0 to 4095. (...)
- You can configure the priority of an HSRP group. HSRP uses the priority to determine which HSRP group member acts as the active router.



Source: Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide

ERSPAN overview

The traffic is encapsulated at the source router and is transferred across the network. The packet is de-encapsulated at the destination router and then sent to the destination interface.



ERSPAN consists of an:

- ERSPAN source session,
- routable ERSPAN GRE-encapsulated traffic,
- an ERSPAN destination session.

You separately configure ERSPAN source sessions and destination sessions on different switches.

Learning resources

DCCOR course on Cisco Digital Learning

Blueprint
structure

Hands-on Labs

CISCO *Live!*

Table of Contents

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Welcome to Implementing and Operating Cisco Data Center Core Technologies

Section 1:
Implementing Data Center Switching Protocols

1.1 Introduction

1.2 Spanning Tree Protocol

1.3 Port Channels Overview

1.4 Virtual Port Channels Overview

1.5 Summary Challenge

Section 2:
Implementing First-Hop Redundancy Protocols

Section 3:
Implementing Routing in Data Center

Section 4:
Implementing Multicast in Data Center

Section 5:
Implementing Data Center Overlay Protocols

Section 6:
Implementing Network Infrastructure Security

Section 7:
Describing Cisco

Implementing Data Center Switching Protocols

Spanning Tree Protocol


1.2 Implementing Data Center Switching Protocols

Spanning Tree Protocol

Although you have several alternatives to STP that are available for your data center, STP is still a fairly popular technology in the data center environment. It is a Layer 2 control plane protocol that runs on switches to ensure that you do not create topology loops when you have these redundant paths in the network. STP features on the Cisco Nexus platform are similar to STP features on Cisco IOS platforms and include a number of enhancements that improve the basic STP functionality.

Rapid PVST+ Overview

Rapid Per VLAN Spanning Tree Plus (Rapid PVST+) is an updated, faster implementation of STP that allows you to create one spanning tree topology for each VLAN. It is the default STP mode on Cisco Nexus switches. Rapid PVST+ is enabled by default on the default VLAN (VLAN1) and on all newly created VLANs in software. It provides for rapid recovery of connectivity following the failure of switch, a switch port, or a LAN.



Rapid Spanning Tree Protocol (RSTP) IEEE 802.1w represents the evolution of the IEEE 802.1D standard. The 802.1D terminology remains basically unchanged in 802.1w, as do most parameters, which makes it easier for users to configure the new protocol.

Self Study Materials

Organized by domain







DCCOR Study Materials


350-601 DCCOR

Status: Not Registered Duration: 22 hrs 34 mins


[Back to CCIE Data Center Certification and Training](#)

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To launch these training resources, please be sure you are logged in to the Cisco Learning Network by clicking the profile icon in the upper right corner of the page, and have registered for the learning plan by clicking the blue "Add to My Learning" button on the right side of the page (or bottom of the page on a mobile device). [Learn more](#)

 22 hrs 34 mins

Welcome to the 350-601 DCCOR Study Material page. This page is designed to help you quickly find what you are looking for by organizing the content according to the exam topics.

These resources are meant to supplement your learning experience and exam preparation. They are NOT designed to serve as a complete self-study program, but intended only as a suggested starting point.

Plan activities

Network*	Status: 0%	Duration: 14 hrs 46 mins
 Configuring OSPFv2		45 mins Launch
 Configuring IS-IS		23 mins Launch
 Configuring Advanced BGP		54 mins Launch

Cisco Learning & Certifications Communities

<https://learningnetwork.cisco.com/s/communities>

The screenshot shows the Cisco Learning Network interface. At the top, the header includes 'The Cisco Learning Network' and the Cisco logo. A navigation bar contains links for 'Certifications', 'Communities', 'Webinars & Videos', and 'Study Resources'. The main content area is titled 'Data Center Certification Community' and includes a welcome message. A dropdown menu is open, listing various certification paths: All Communities, All Topics, CCNA Certification, Collaboration Certifications, CyberOps Certifications, Data Center Certifications (highlighted), DevNet Certifications, Enterprise Certifications, Enterprise Wireless Certification, Security Certifications, Service Provider Certifications, CCDE Certification, Cisco Modeling Labs - Personal, and Community Impact. Below the menu, there are sections for 'Discussions', 'Articles', and 'Blogs'. The 'Discussions' section is active, showing a list of topics with their respective engagement metrics (views, likes, and replies). The topics listed are 'National Password Day', 'Registration open now for DevNet Expert', and '2022 Check-In: How Can We Improve?'. Each topic includes the community name, the user who posted it, and the date.

The Cisco Learning Network

Certifications ▾ Communities ▾ Webinars & Videos ▾ Study Resources ▾

Data Center Certification Community

Welcome to the Data Center Certification Community. Connect with other members as you prepare for your exam.

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- All Topics
- CCNA Certification
- Collaboration Certifications
- CyberOps Certifications
- Data Center Certifications
- DevNet Certifications
- Enterprise Certifications
- Enterprise Wireless Certification
- Security Certifications
- Service Provider Certifications
- CCDE Certification
- Cisco Modeling Labs - Personal
- Community Impact

Center Lab Exam

Discussions Articles Blogs

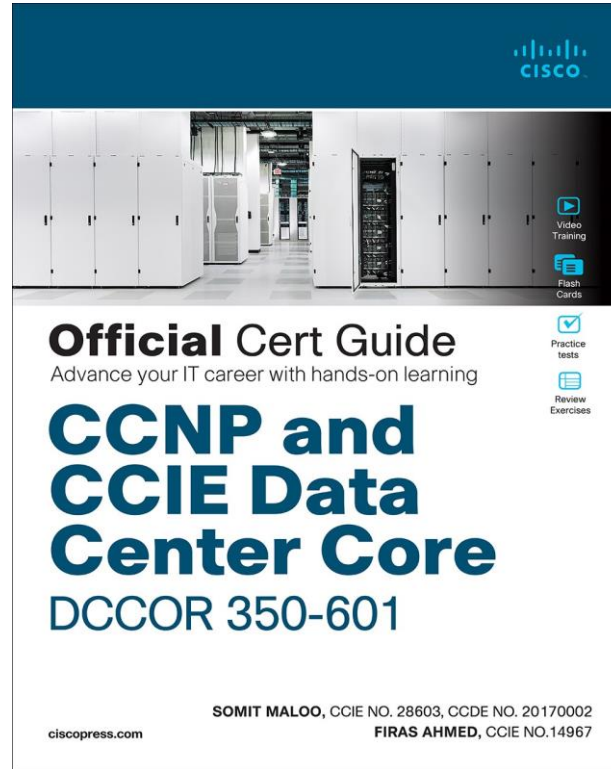
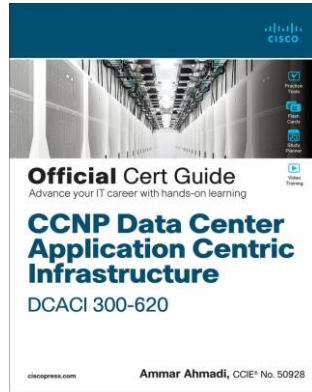
Sort by: Top Questions ▾

National Password Day
CCNA Certification Community · Tanner · Community Manager · March 30, 2022 at 8:27 PM
92 views 4 likes 8 replies

Registration open now for DevNet Expert
DevNet Certifications Community · Karlo Bobiles · March 30, 2022 at 8:27 PM
711 views 8 likes 10 replies

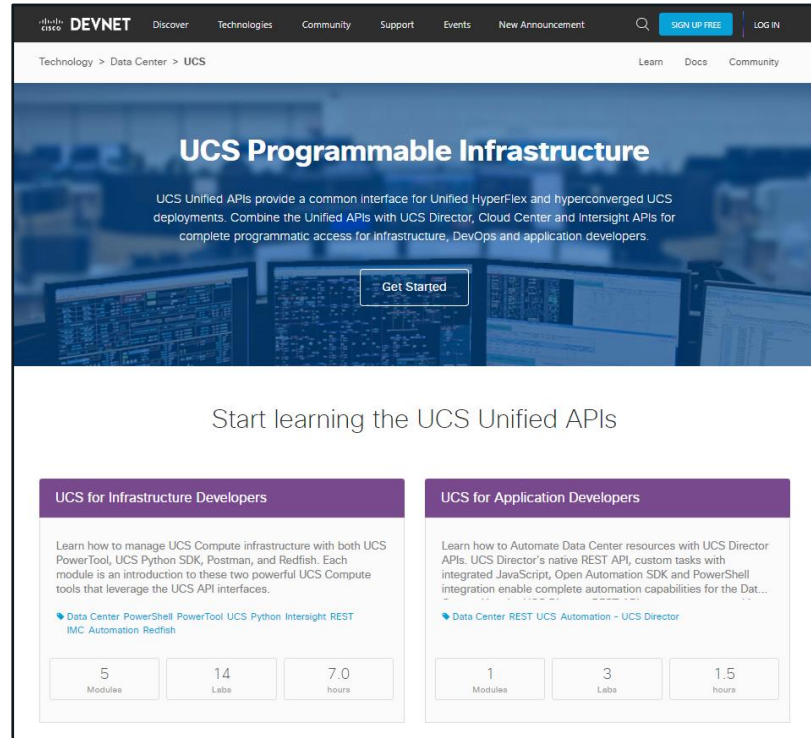
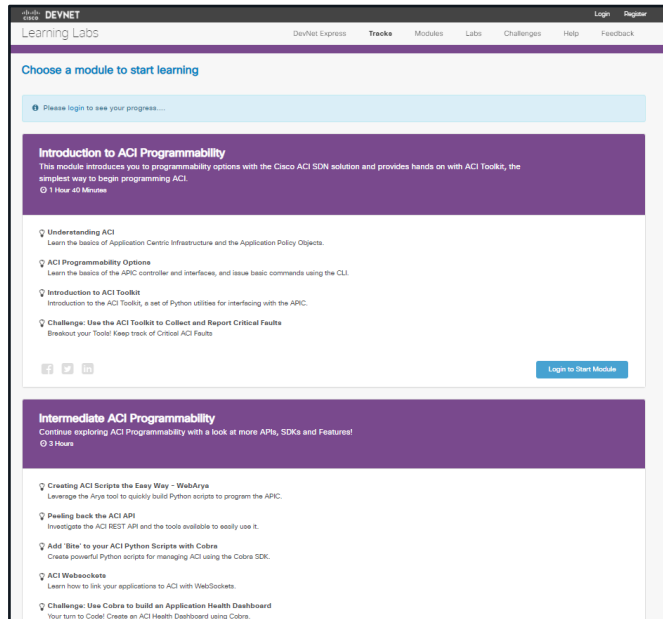
2022 Check-In: How Can We Improve?
CCNA Certification Community · Tanner · Community Manager · March 30, 2022 at 8:27 PM
258 views 3 likes 10 replies

Books, Video Courses, and Practice Tests



DevNet Learning Labs and DevNet Sandboxes

<https://developer.cisco.com/learning/tracks>
<https://developer.cisco.com/site/sandbox/>



dCloud - Hands-On Labs, and Sandboxes

<https://dCloud.cisco.com>

The screenshot displays the dCloud Catalog interface. The top navigation bar includes the Cisco logo, 'dCloud', 'My Hub', 'Catalog' (active), 'Support', 'News', 'Community', 'Collections', and 'Make a Request'. On the right, there are icons for notifications, RTP, and a user profile.

The left sidebar contains three sections:

- Content Producers:** ☐ Advanced Services, ☐ Community Development, ☐ dCloud
- Content Categories:** ☐ Business Value Demo, ☐ Demonstration, ☐ Guided Demo, ☐ Instant Demo, ☒ Lab, ☒ Sandbox
- Solutions:** ☐ Application Centric Infrastructure, ☐ Cloud, ☐ Collaboration, ☐ Contact Center, ☒ Data Center, ☐ DevNet Sandbox

The main content area is titled 'Catalog'. It features a 'Sort By' dropdown set to 'Name' and a 'Search Catalog' input field. Below this, a filter bar shows '23 results in: Lab (x) Sandbox (x) Data Center (x)'. The results list includes:

- Cisco ACI 4.1 Automation v1**
ID: 605886 | Published Date: 09-Oct-2019 18:10 | Lab | Data Center | Application Centric Infrastructure
Application Centric Infrastructure | Data Center Management and Automation | English
Automating ACI explores the use of popular automation tools running configuration tasks against an ACI network. See how these tools are used to configure ACI network interfaces, tenants/VRFs/BDs, contracts, and deploy a complete application stack.
★ Favorite | Related Documents | Schedule
- Cisco ACI 4.1 with VMware Lab v1**
ID: 598078 | Published Date: 13-Sep-2019 12:08 | Lab | Data Center | Application Centric Infrastructure | Virtual Networking
Unified Computing System | Application Centric Infrastructure | Application Centric Infrastructure | English
This lab provides an introduction to Cisco ACI when deployed with VMware. Topics covered include APIC overview, VMM Domain creation, Tenants, Application Profiles, Contracts and Micro-segmentation.
★ Favorite | Related Documents | Schedule
- Cisco ACI 5.2 with VMware Lab v1**

Study tips

- Take the time to master the technology
- Think of different use cases
- Study the learning matrix and the blueprint
- Put what you learned into practice
- Be consistent!



*“If you fail to plan,
you are planning to fail”*

Benjamin Franklin

Questions?



Fill out your session surveys!



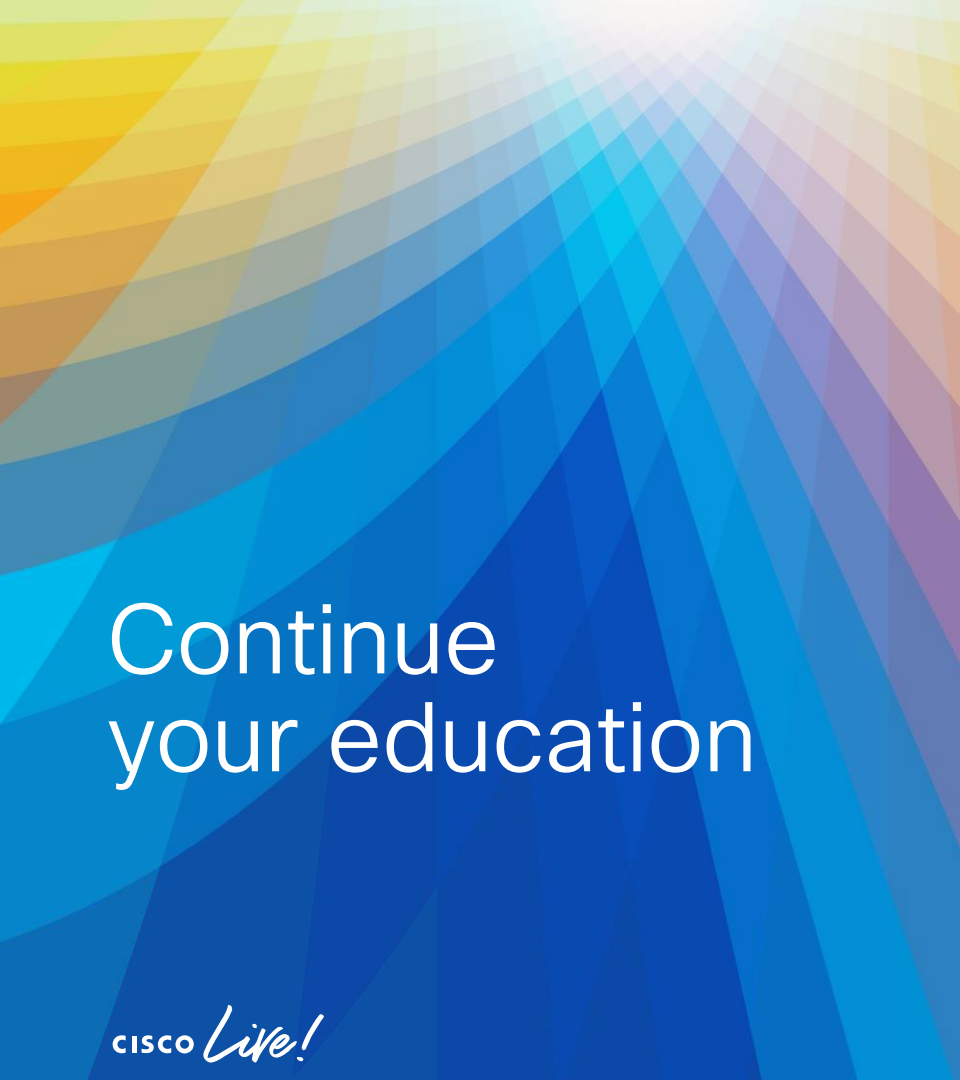
Attendees who fill out a minimum of four session surveys and the overall event survey will get **Cisco Live-branded socks** (while supplies last)!



Attendees will also earn 100 points in the **Cisco Live Challenge** for every survey completed.



These points help you get on the leaderboard and increase your chances of winning daily and grand prizes



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The bridge to possible

Thank you

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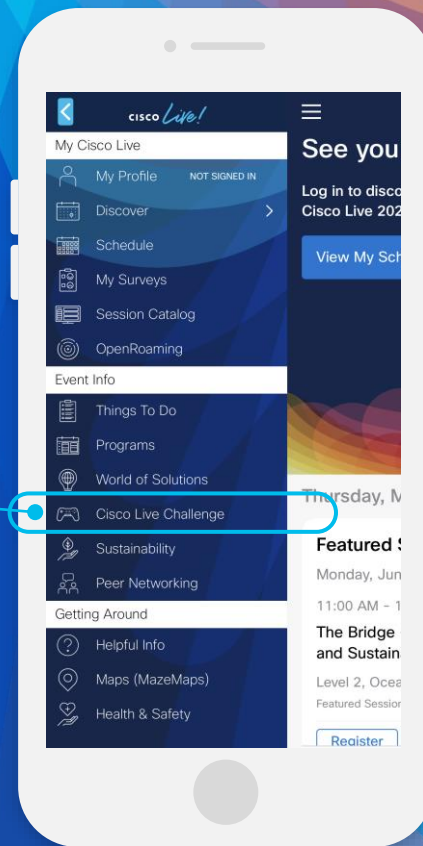
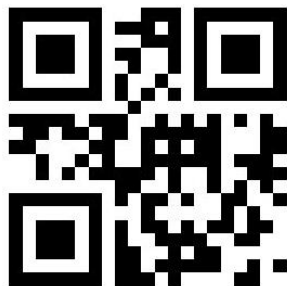
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Cisco Live Challenge

Gamify your Cisco Live experience!
Get points for attending this session!

How:

- 1 Open the Cisco Events App.
- 2 Click on 'Cisco Live Challenge' in the side menu.
- 3 Click on View Your Badges at the top.
- 4 Click the + at the bottom of the screen and scan the QR code:



The background of the slide is a vibrant, abstract graphic. It features a series of overlapping, wavy bands of color in shades of red, orange, yellow, green, and blue, creating a sense of movement and energy. On the right side, there is a bright, multi-colored sunburst or starburst effect that radiates outwards, adding to the dynamic feel of the design.

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Let's go

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