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The bridge to possible

Earning Your CCNP Enterprise Certification

What You Need to Know

George Koukis, Leader Exam Program Manager, CCIEW#42079

BRKCRT-2008

Agenda

- Value of the Cisco Certification brand
- Roadmap and changes
- Requirements to earn your CCNP
- Preparing for the Enterprise exams
  - Enterprise Core Blueprint
  - Sample exam questions
  - Tools and resources
- Q&A

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Cisco Webex App

Questions?

Use Cisco Webex App to chat
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How

1. Find this session in the Cisco Live Mobile App
2. Click “Join the Discussion”
3. Install the Webex App or go directly to the Webex space
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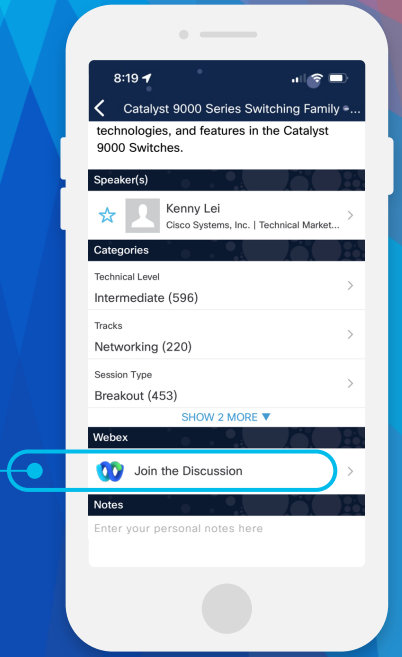

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“CCNP Required”

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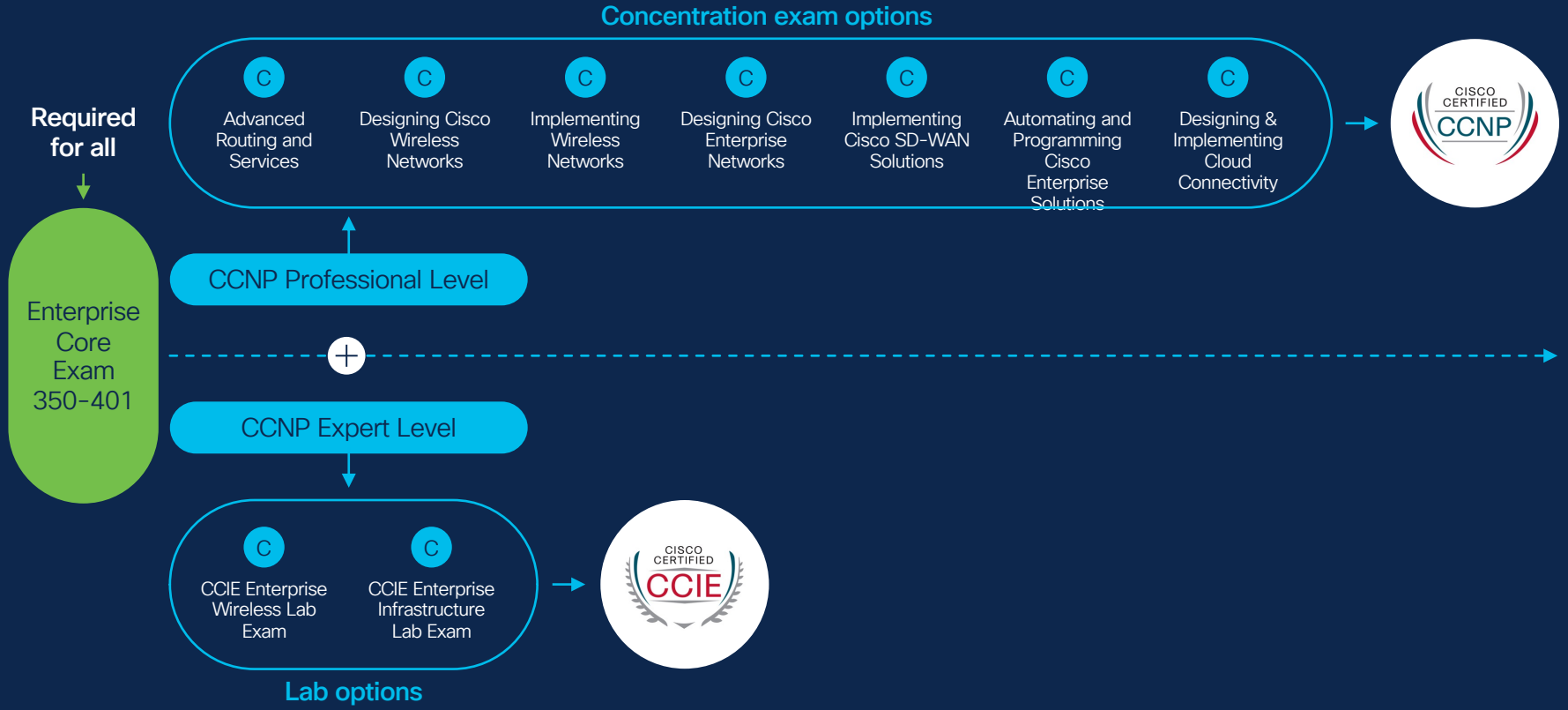
CCNP = Core + 1 concentration (in any order)



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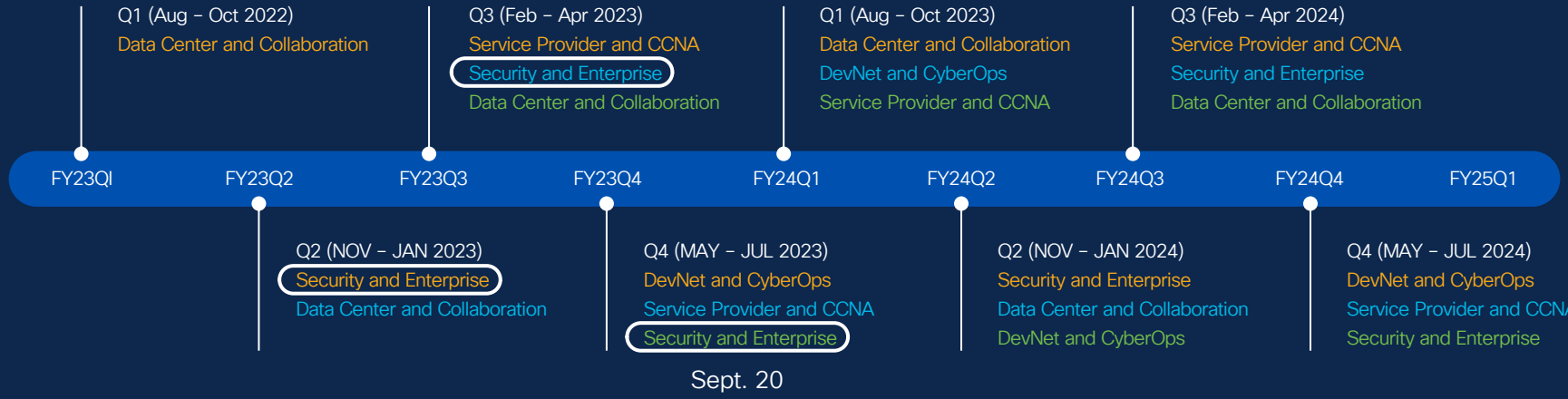
Certification roadmap

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 3-6 months in advance along with revised exam topics and release notes.
3. We publish the updated exam 3-6 months after the exam blueprint publication.



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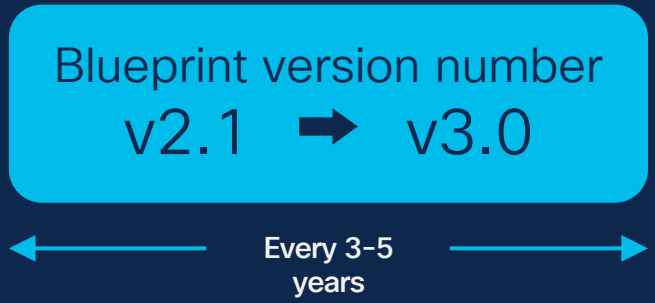
Revision framework

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)

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ENCOR v1.0 vs. ENCOR v1.1

Legend
Blue: Minor change
Orange: Removed
Green: Addition

1.0 Architecture

1.1 Explain the different design principles used in an enterprise network

1.1.a High-level enterprise network design such as 2-tier, 3-tier, fabric ~~capacity planning~~, and cloud

1.2 ~~Analyze~~ Describe wireless network design principles ~~of a WLAN deployment~~

1.2.a Client density

1.3 ~~Differentiate between on-premises and cloud infrastructure deployments~~

1.4 Explain the working principles of the Cisco SD-WAN solution

1.4.a ~~Traditional WAN and~~ Benefits and limitations of SD-WAN solutions

1.5 ~~Describe~~ Interpret ~~concepts of~~ wired and wireless QoS configurations

1.6 ~~Differentiate~~ Describe hardware and software switching mechanisms such as ~~process switching~~ CEF, CAM,

TCAM, FIB, RIB, and adjacency tables

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ENCOR v1.0 vs. ENCOR v1.1 (continued)

Legend
Blue: Minor change
Orange: Removed
Green: Addition

3.0 Infrastructure

3.1 Layer 2

3.1.c Configure common Spanning Tree Protocols (RSTP, MST) and Spanning Tree enhancements such as root guard and BPDU guard

3.2 Layer 3

3.2.a Compare routing concepts of EIGRP and OSPF (advanced distance vector vs. linked state, load balancing, path selection, path operations, metrics area types)

3.2.d Describe policy-based routing

3.3 Wireless

3.3.e Troubleshoot WLAN configuration and wireless client connectivity issues using GUI only

3.3.f Describe wireless segmentation with groups, profiles, and tags

3.4 IP Services

3.4.a ~~Describe~~ Interpret network time protocol configurations such as NTP and PTP

4.0 Network Assurance

4.2 ~~Configure device monitoring using Syslog for remote logging~~

4.3 Configure and verify ~~NetFlow and~~ Flexible NetFlow

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ENCOR v1.0 vs. ENCOR v1.1 (continued)

Legend
Blue: Minor change
Orange: Removed
Green: Addition

5.0 Security

5.1. Configure and verify device access control

5.1.a Lines and ~~password protection~~ ocal user authentication

5.4 Configure and verify wireless security features

5.4.a ~~EAP~~ 802.1X

5.4.d EAPOL (4-way handshake)

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ENCOR v1.0 vs. ENCOR v1.1 summary

Legend
Blue: Minor change
Orange: Removed
Green: Addition

1.0 Architecture

- Describe wireless client density
- Interpret QoS configurations

2.0 Virtualization

- No changes

3.0 Infrastructure

- Spanning Tree enhancements
- Area types
- Describe policy-based routing
- Describe wireless segmentation with groups, profiles, and tags
- Interpret NTP and PTP configurations

4.0 Network Assurance

- Traditional NetFlow configuration

5.0 Security

- EAPOL

6.0 Automation

- No changes

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https://learningnetwork.cisco.com/s/cisco-certification-roadmaps?tabset-94f5d=1

Upcoming Exam Changes

Select the technology tabs below for specific exam changes:

DevNet | CyberOps | Service Provider | CCNA | Security | Enterprise | Collaboration | Data Center | FAQs

Exam Number	Release Notes	Exam Topic Blueprint	Learning Matrix	Hardware/ Software List
Cisco Enterprise Exams	CCNP Release Notes			
CCNP/CCIE Core Exam Updates				
350-401 ENCOR v1.1		Exam Topics		
CCNP Concentration Exam Updates				
300-410 ENARSI v1.1		Exam Topics		
300-415 ENSDWI v1.2		Exam Topics		
300-420 ENSLD v1.1		Exam Topics		
300-425 ENWLSD v1.1		Exam Topics		
300-430 ENWLSI v1.1		Exam Topics		
300-435 ENAUTO v1.1		Exam Topics		
300-440 ENCC v1.0		Exam Topics		

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Preparing for your exams

Don’t be scared…

Be prepared!!

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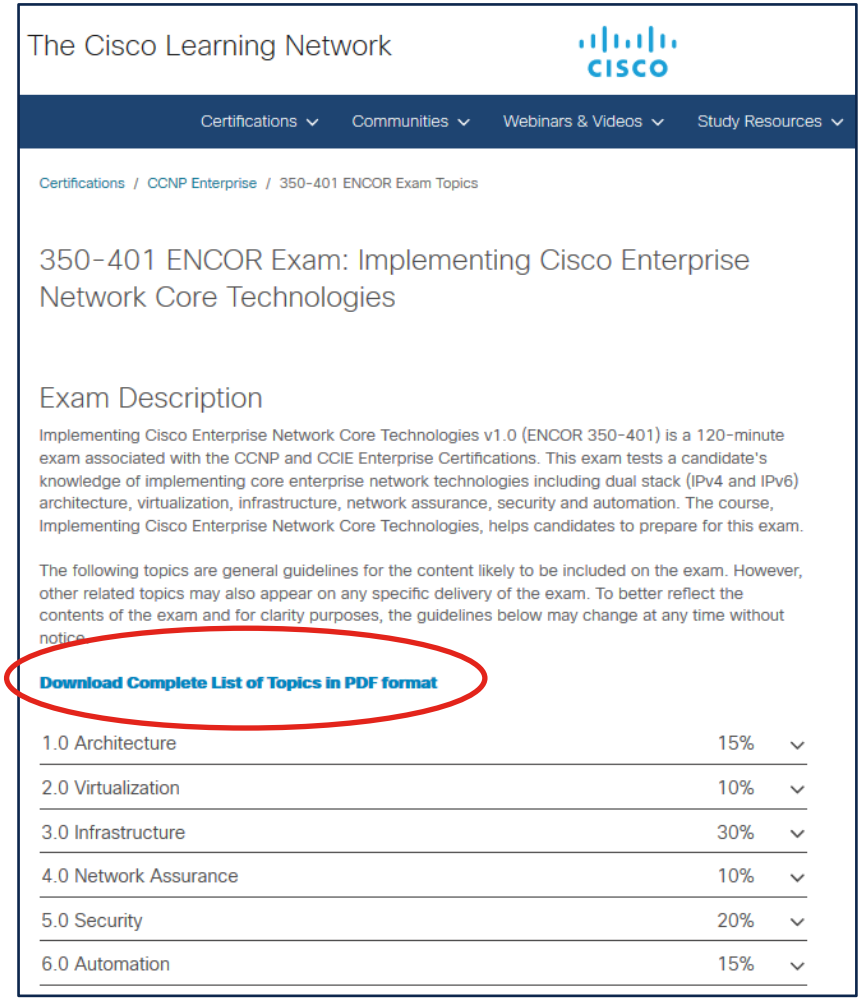
Exam Blueprint

https://learningnetwork.cisco.com



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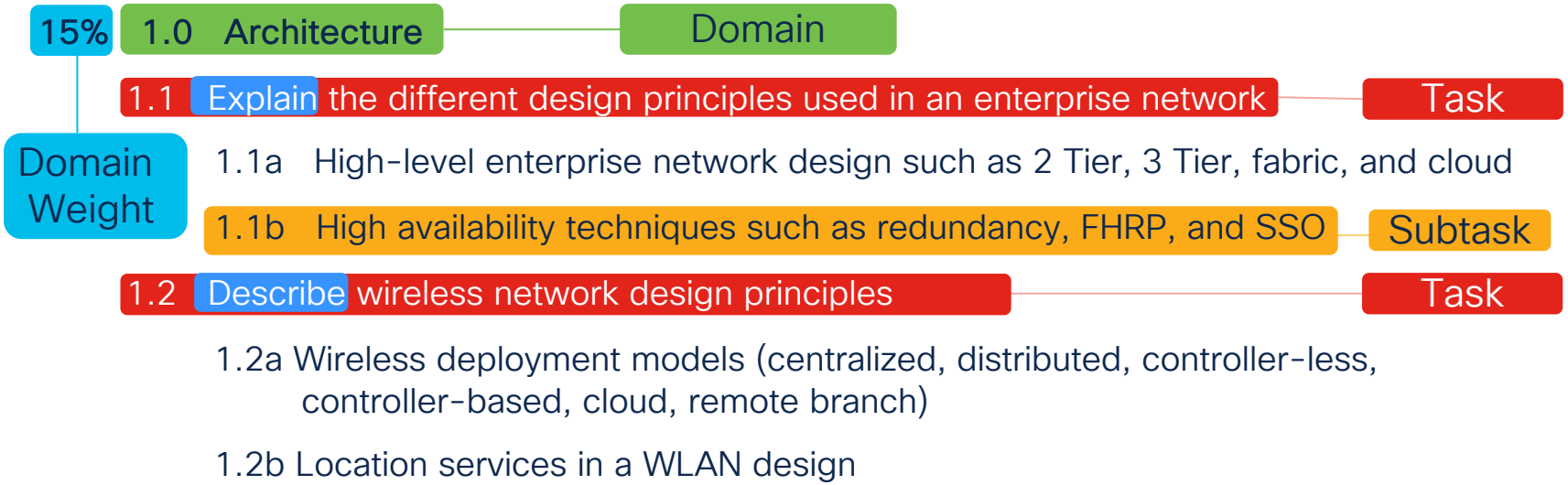
Deciphering the Blueprint:

Implementing Cisco Enterprise Network Core Technologies (350-401)



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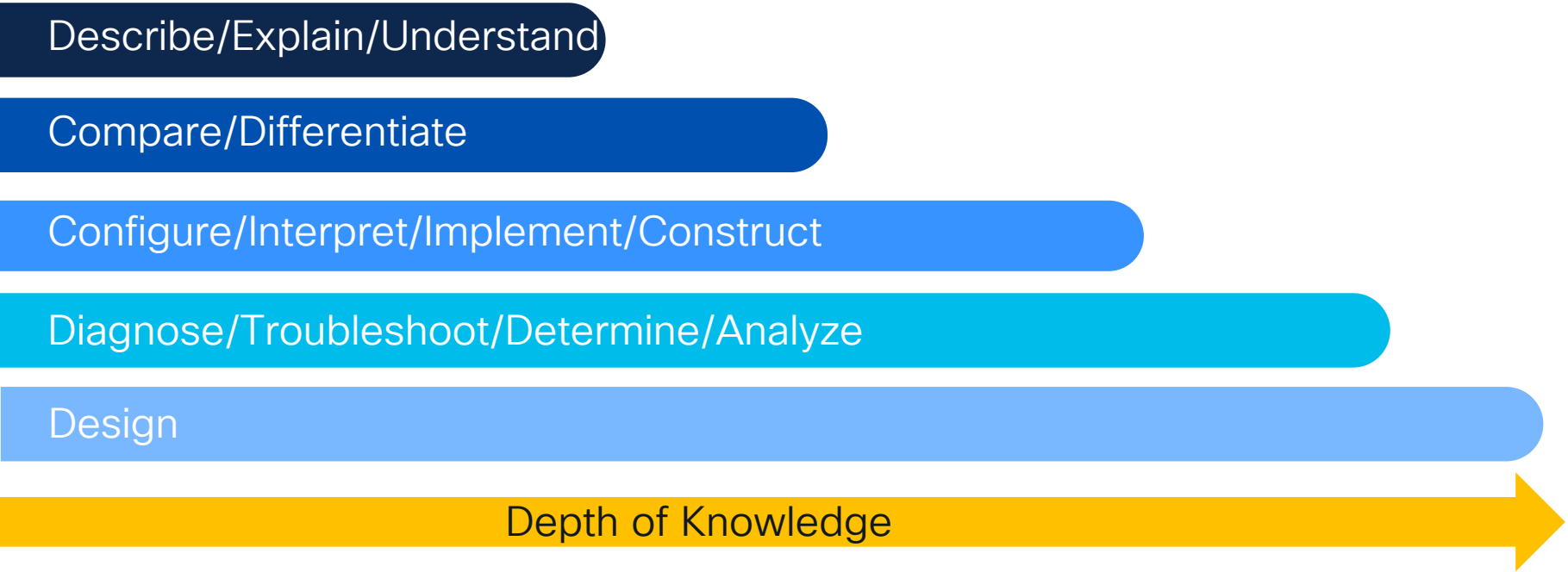
Blueprint Verbs



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Types of questions

Multiple choice

Drag and drop

Labs

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Tasks

Domain 1: Architecture

1.1 Explain the different design principles used in an enterprise network

1.1.a Enterprise network design such as 2 Tier, 3 Tier, and Fabric Capacity planning

1.1.b High availability techniques such as redundancy, FHRP, and SSO

1.2 Describe design principles of a WLAN deployment

1.2.a Wireless deployment models (centralized, distributed, controller-less, controller-based, cloud, remote branch)

1.2.b Location services in a WLAN design

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Multiple Choice “Describe”

Task → Question

1.2 Describe wireless network design principles

1.2.a Wireless deployment models (centralized, distributed, controller-less, controller-based, cloud, remote branch)

A customer with multiple stores around the country needs a wireless solution that will provide easy installation, visibility, and easy to manage. Which solution matches the requirements?

A. centralized

B. distributed

C. controller-less

D. cloud

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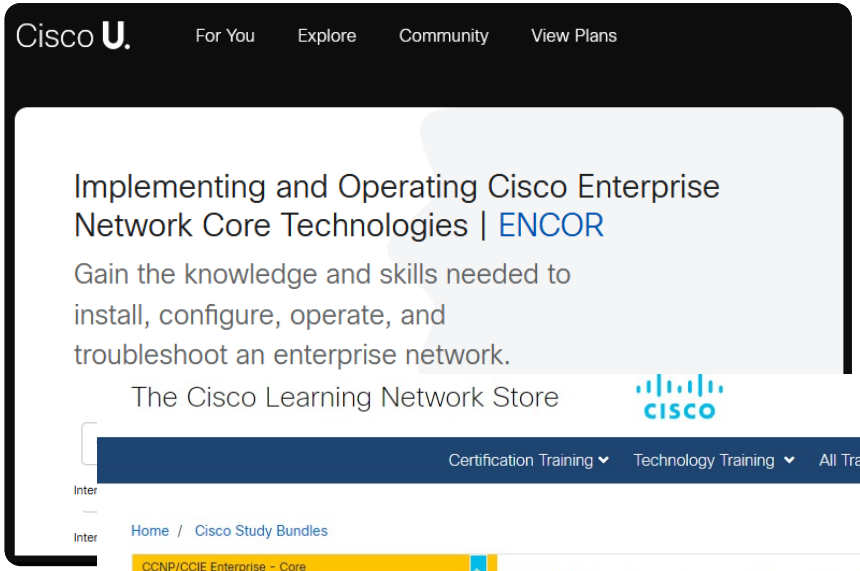
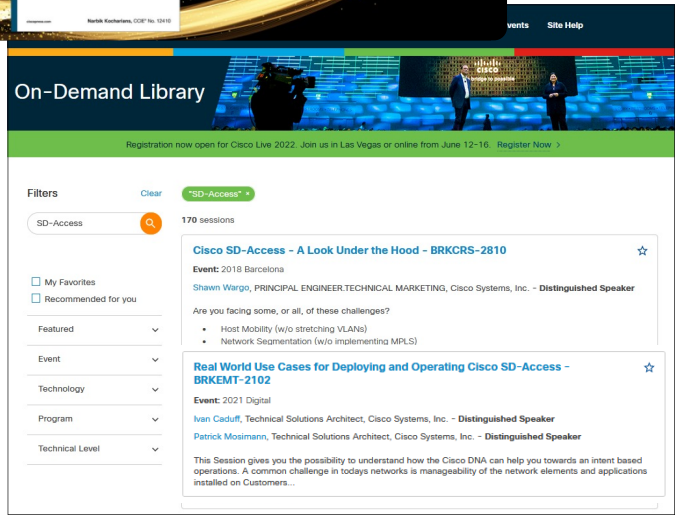
Study resources





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Tasks

Domain 2: Virtualization

2.1 Describe device virtualization technologies

- 2.1.a Hypervisor type 1 and 2
- 2.1.b Virtual machine
- 2.1.c Virtual switching

2.2 Configure and verify data path virtualization technologies

- 2.2.a VRF
- 2.2.b GRE and IPsec tunneling

2.3 Describe network virtualization concepts

- 2.3.a LISP
- 2.3.b VXLAN

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Multiple Choice “Configure”

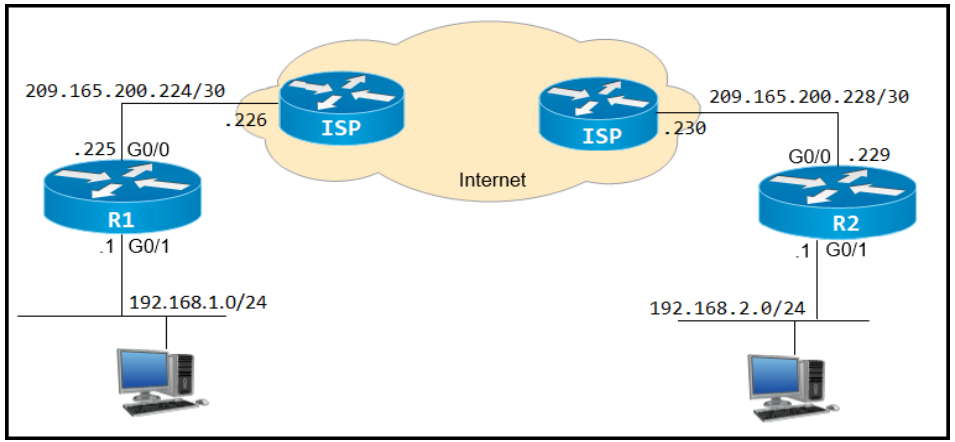
Task

2.2 Configure and verify data path virtualization technologies

2.2.b GRE and IPsec tunneling

Question

Which configuration is required on R1 to configure a GRE tunnel between R1 and R2?



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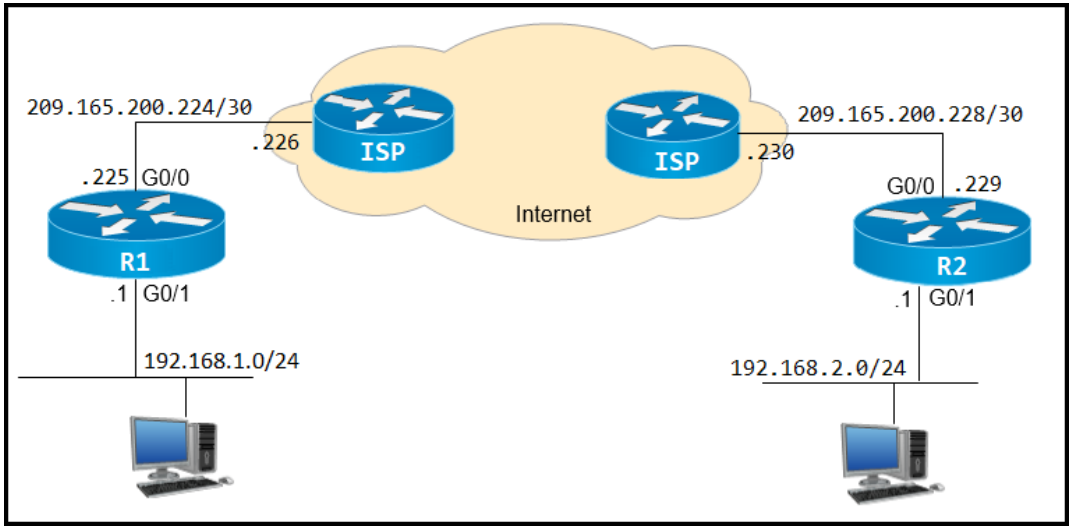
Which configuration is required on R1 to configure a GRE tunnel between R1 and R2?



A. interface Tunnel1
ip address 192.168.5.1 255.255.255.0
tunnel source GigabitEthernet0/0
tunnel destination 209.165.200.229

B. interface Tunnel1
ip address 192.168.1.2 255.255.255.0
tunnel source GigabitEthernet0/0
tunnel destination 209.165.200.230

C. interface Tunnel1
ip address 209.165.200.225 255.255.255.252
tunnel source GigabitEthernet0/0
tunnel destination 209.165.200.229

D. interface Tunnel1
ip address 192.168.1.1 255.255.255.0
tunnel source GigabitEthernet0/0
tunnel destination 172.16.1.1

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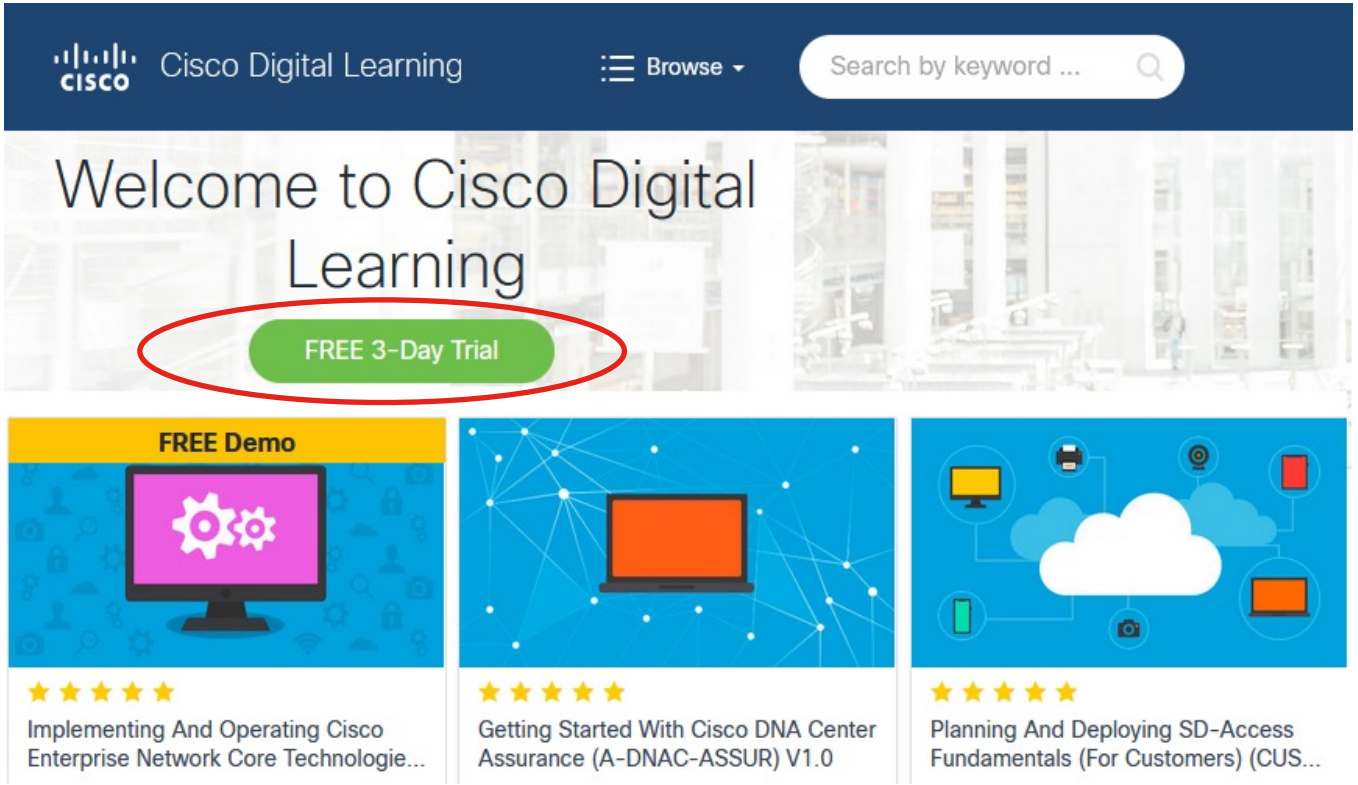
- Bundles



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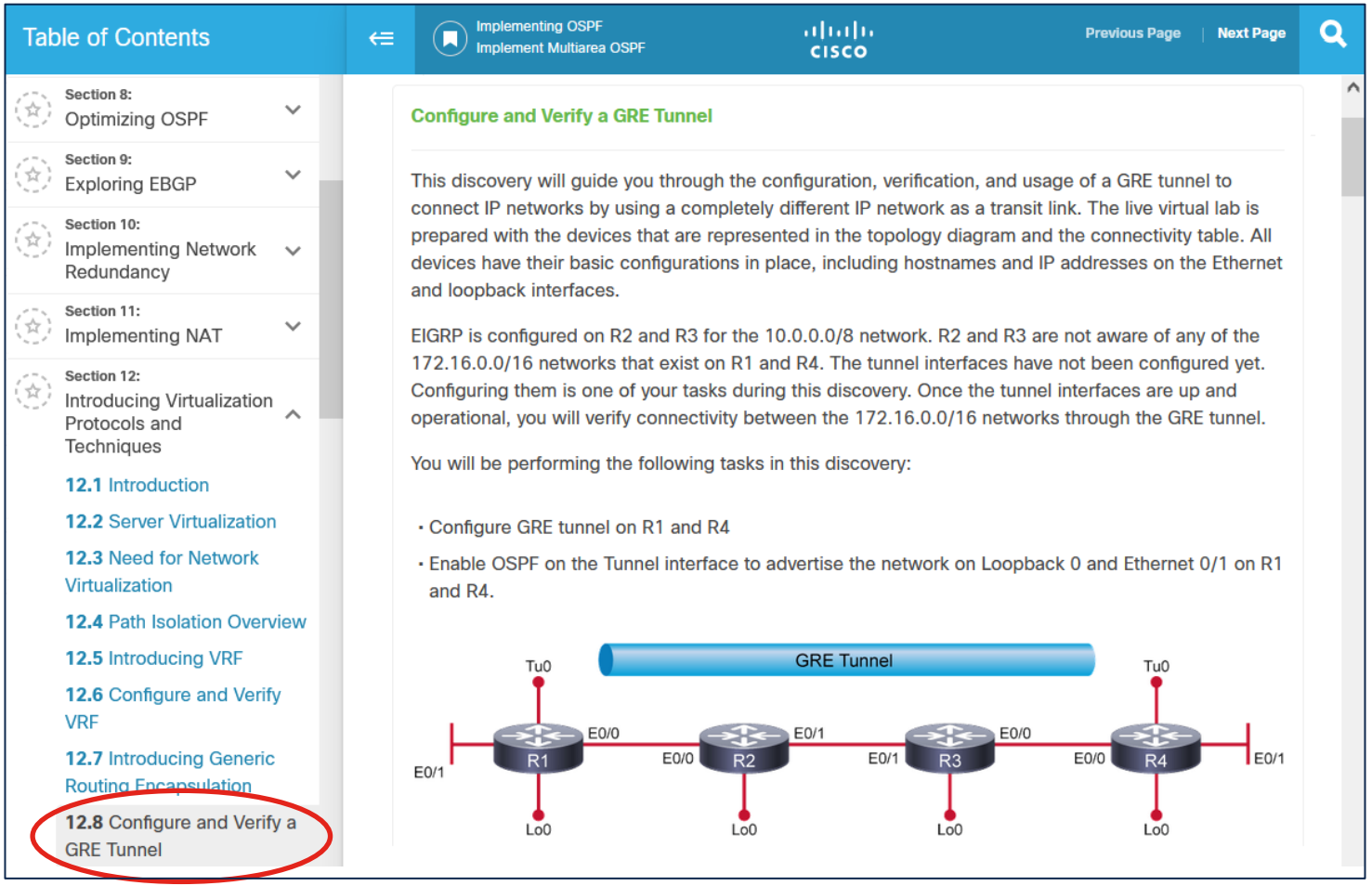
ENCOR

Blueprint structure

Hands-on Labs



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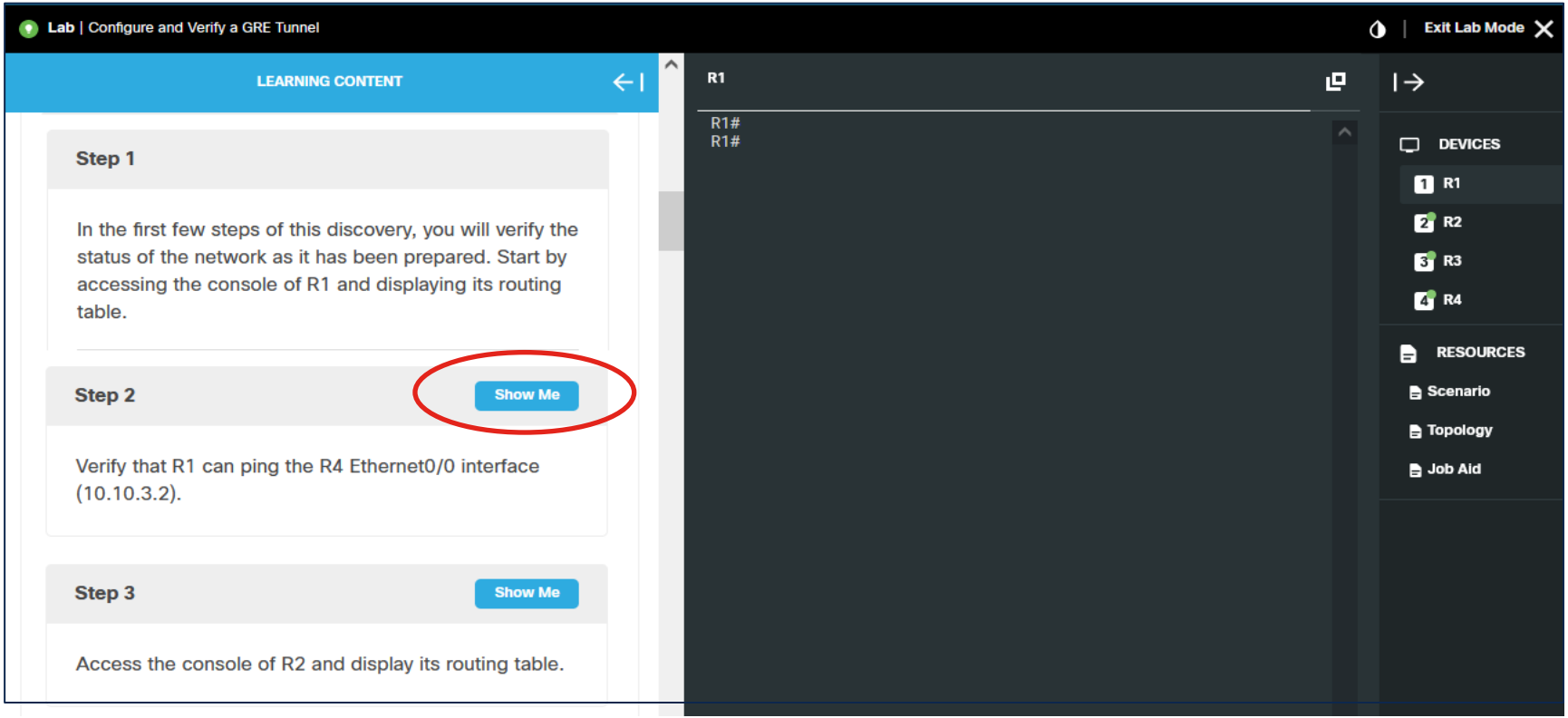
Lab help



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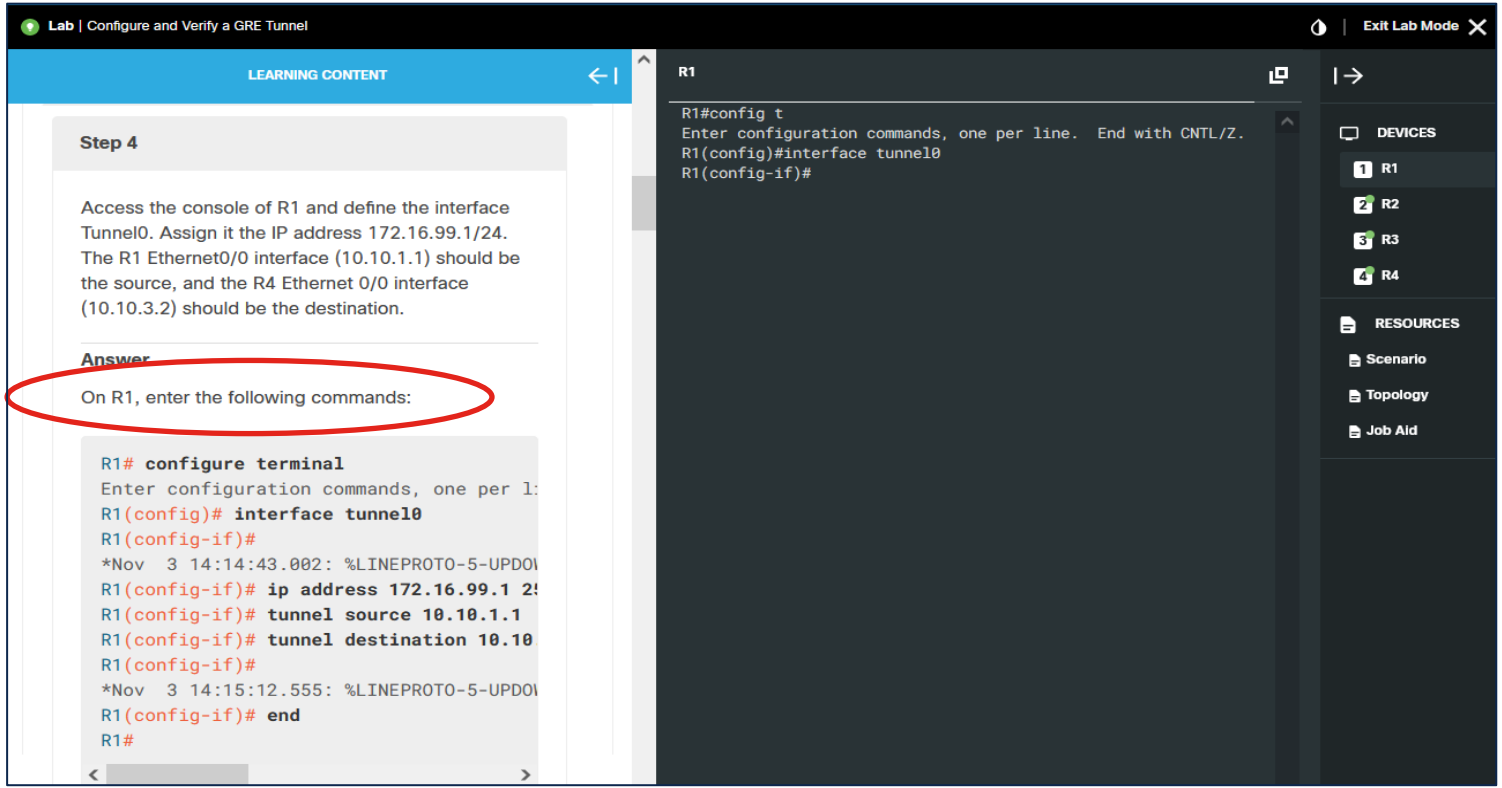
Lab help



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World of Solutions Walk-In Labs

- **LABCRT-2452** CCNP ENCOR
  Core Enterprise Network Technologies Practice Lab
- **LABCRT-2464**
  Troubleshoot like a CCNP Practice Lab
- **LABCRT-2460** CCNP ENARSI
  Implementing Cisco Enterprise Advanced Routing and Services Practice Lab

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Tasks

Domain 3: Infrastructure

3.1 Layer 2

3.1.a Troubleshoot static and dynamic 802.1q trunking protocols

3.1.b Troubleshoot static and dynamic EtherChannels

3.1.c Configure and verify common Spanning Tree Protocols (RSTP, MST) and Spanning Tree enhancements such as root guard and BPDU guard

3.2 Layer 3

3.2.a Compare routing concepts of EIGRP and OSPF (advanced distance vector vs. link state, load balancing, path selection, path operations, metrics, and area types)

3.2.b Configure and verify simple OSPF environments, including multiple normal areas, summarization, and filtering

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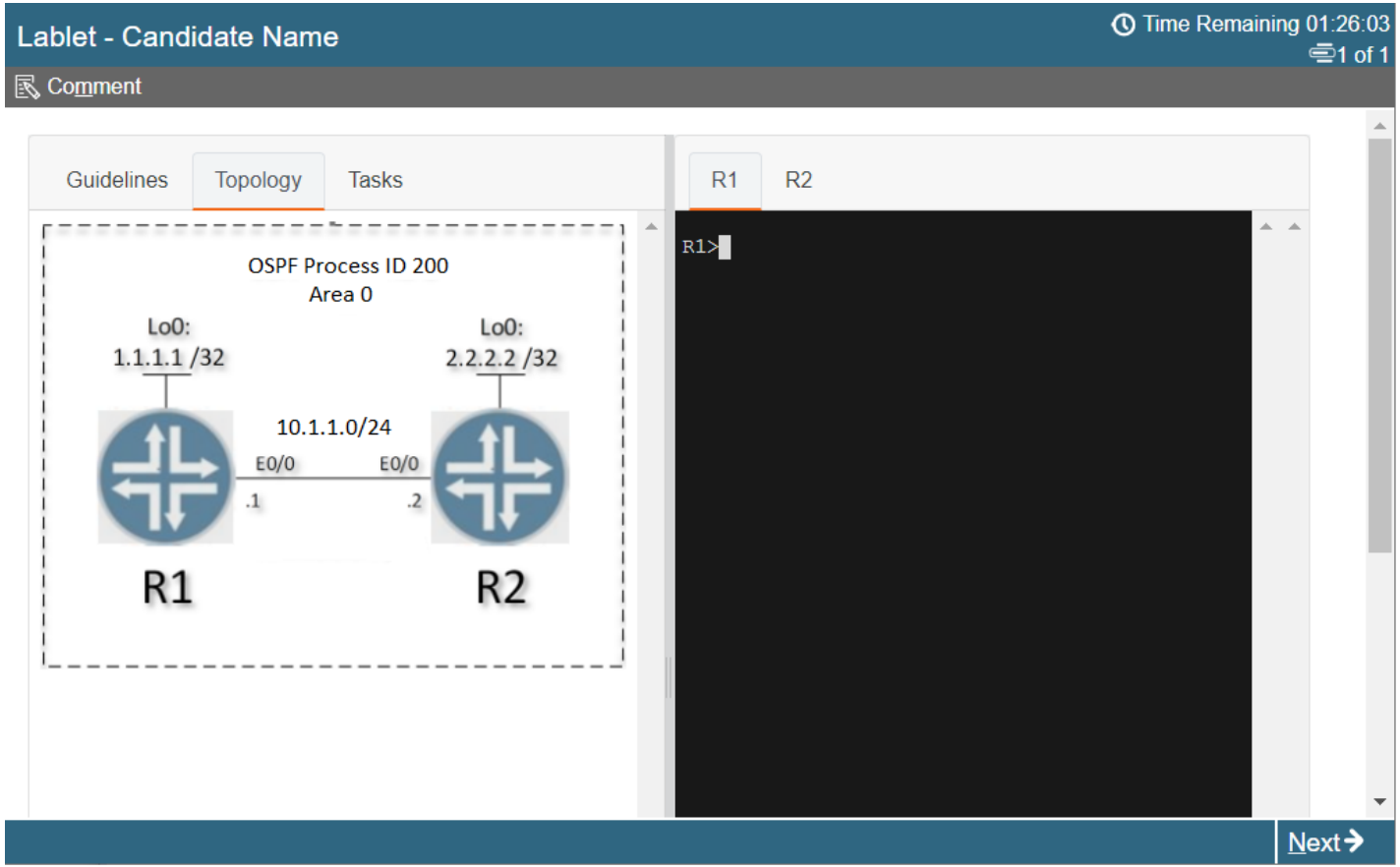
Labs

- Configure
- Construct
- Diagnose
- Troubleshoot



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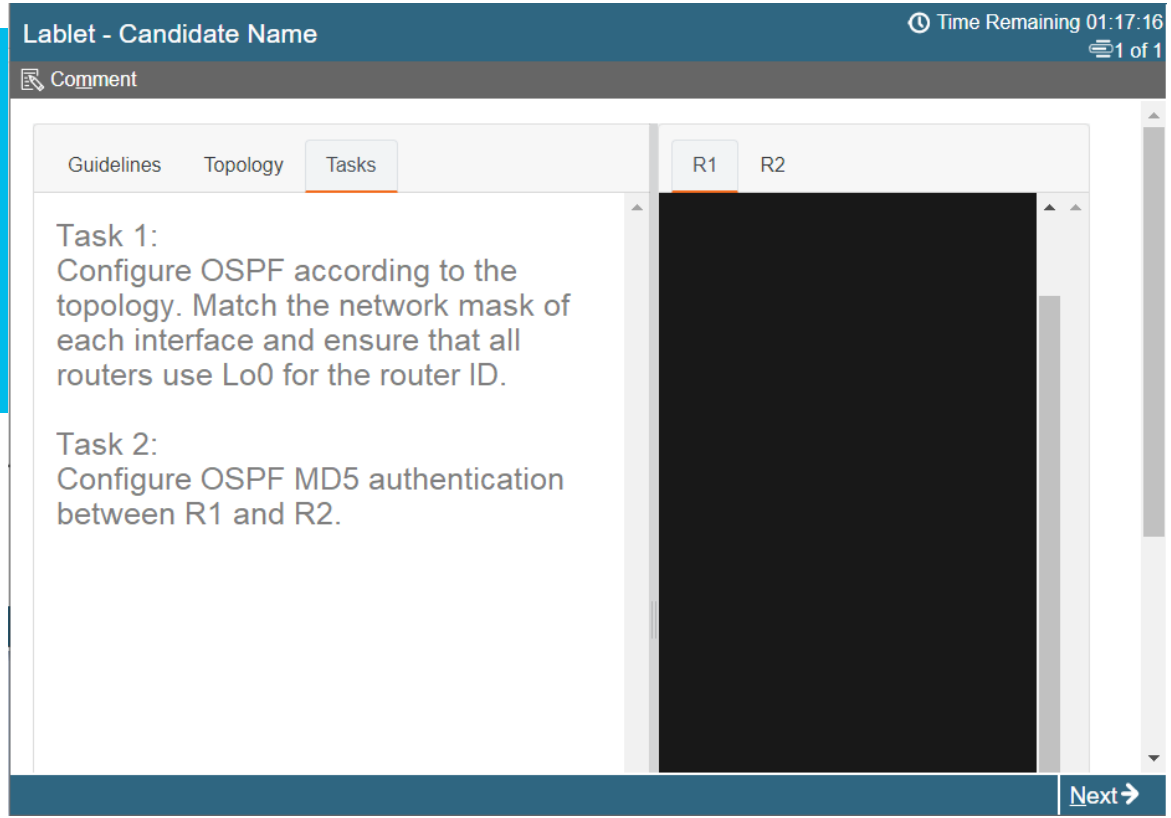
Task

Question

3.2 Layer 3

3.2.b Configure and verify simple OSPF environments



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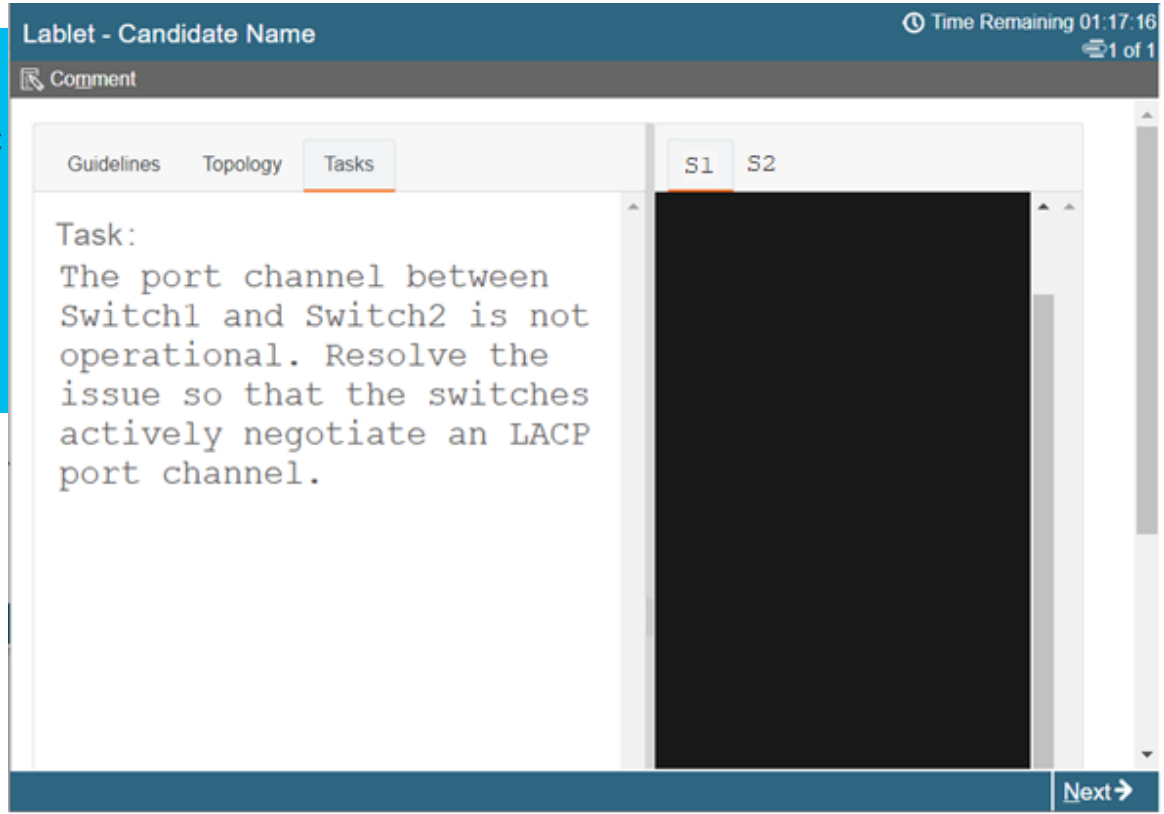
Task

Question

3.1 Layer 2

3.1.b Troubleshoot static and dynamic EtherChannels



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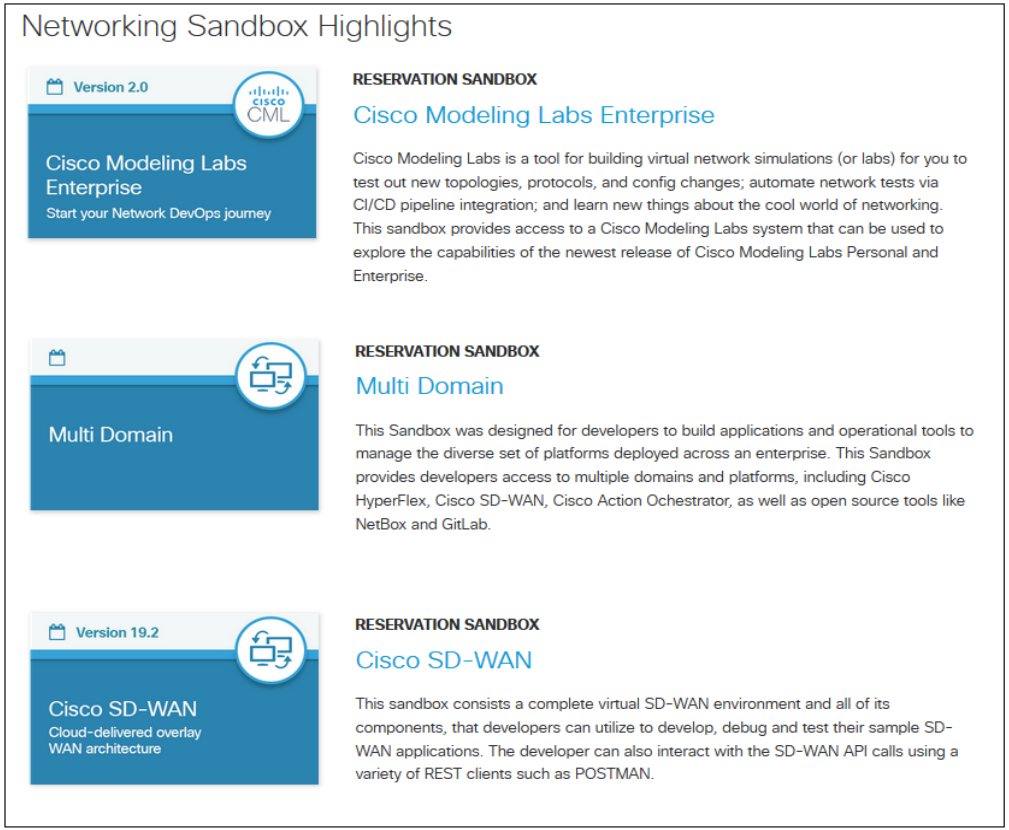
DevNet Sandbox- Cisco Modeling Labs Demo

https://developer.cisco.com

ALWAYS-ON

or

RESERVE



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Tasks

Domain 4:
Network
Assurance

4.1 Diagnose network problems using tools such as debugs, conditional debugs, trace route, ping, SNMP, and syslog

4.2 Configure and verify Flexible NetFlow

4.3 Configure and verify SPAN/RSPAN/ERSPAN

4.4 Configure and verify IPSLA

4.5 Describe Cisco DNA Center workflows to apply network configuration, monitoring, and management

4.6 Configure and verify NETCONF and RESTCONF

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Multiple Choice “Describe”

Task	Question
4.6 Describe Cisco DNA Center workflows to apply network configuration, monitoring, and management	How does Cisco DNA Center perform a network discovery?

A. Through a network scan

B. Through a DHCP server

C. Using CDP with a seed address

D. Using SNMP

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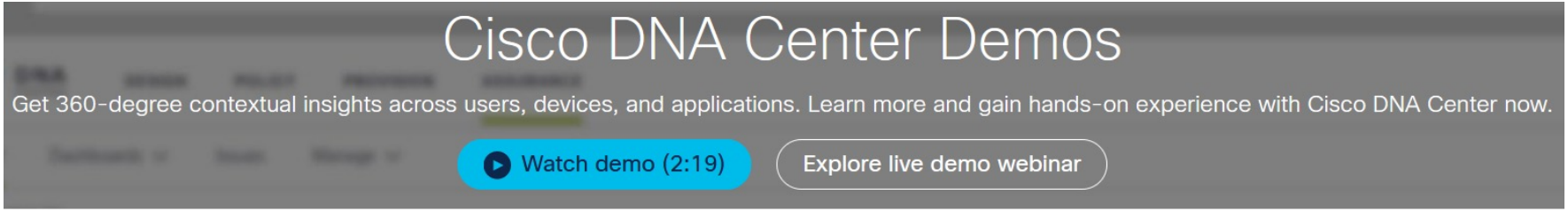
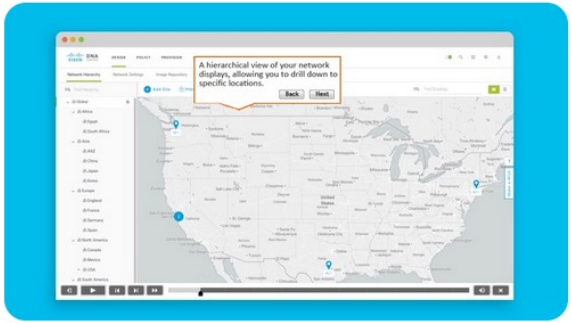
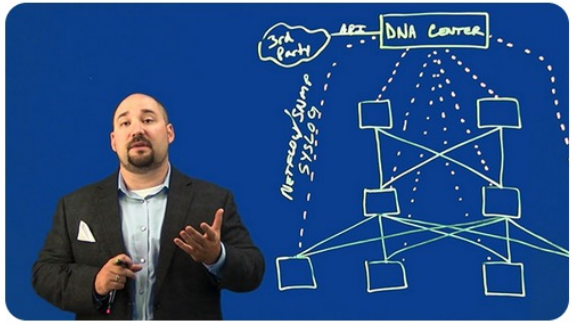
dCloud Cisco DNA Center Demo (dcloud.cisco.com)



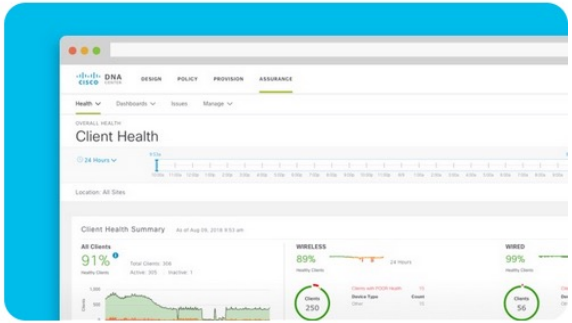
Take demos to the next level



Self-guided demo: Cisco DNA Center



Walk-through: Cisco DNA Center



Live instant demo: Cisco DNA Center

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Tasks

Domain 6: Automation

6.1 Interpret basic Python components and scripts

6.2 Construct valid JSON encoded file

6.3 Describe the high-level principles and benefits of a data modeling language, such as YANG

6.4 Describe APIs for Cisco DNA Center and vManage

6.5 Interpret REST API response codes and results in payload using Cisco DNA Center and RESTCONF

6.6 Construct EEM applet to automate configuration, troubleshooting, or data collection

6.7 Compare agent vs. agentless orchestration tools, such as Chef, Puppet, Ansible, and SaltStack

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Drag-and-Drop “Construct”

Task → 6.2 Construct valid JSON encoded file

Question → Drag and drop the code snippets onto the blanks in the Python script to convert a Python object into a JSON string.

A. json.dumps

B. json

C. json_string

```
import [          ]

data = {
  "measurement": "freeMemory",
  "maxDataPoints": 30,
  "alert": True,
  "policy": "1.2.1",
  "devices": [{"model":"Cisco 9200","ipv4": '10.10.10.1'}]
}
model = data["devices"][0]["model"]

json_string = [          ]    (data)

print(  [          ]  )
```


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DevNet – Learning Labs

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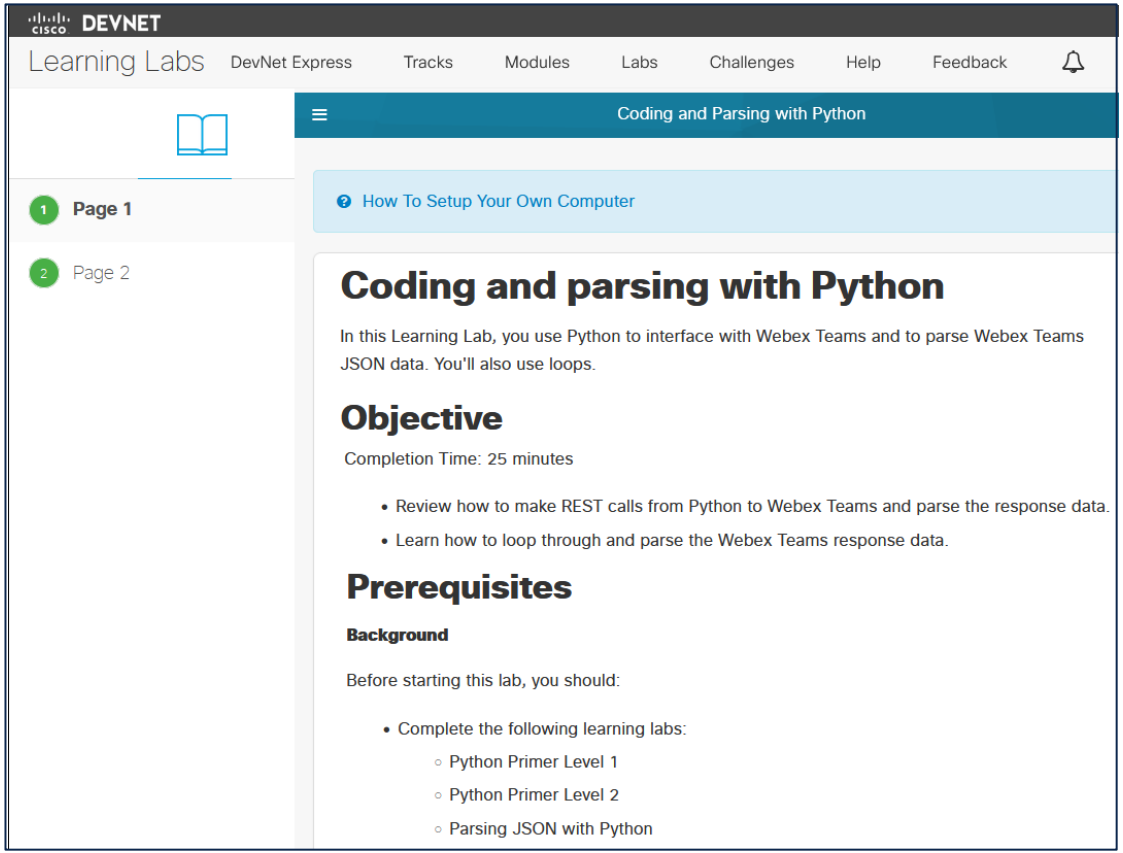

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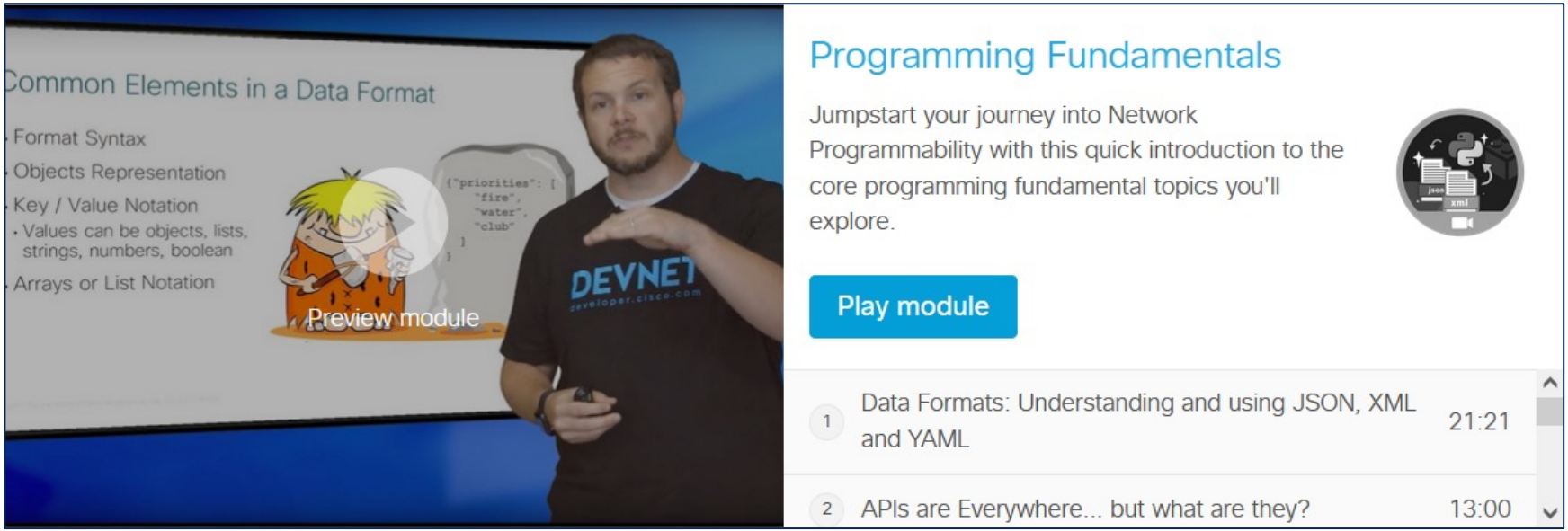

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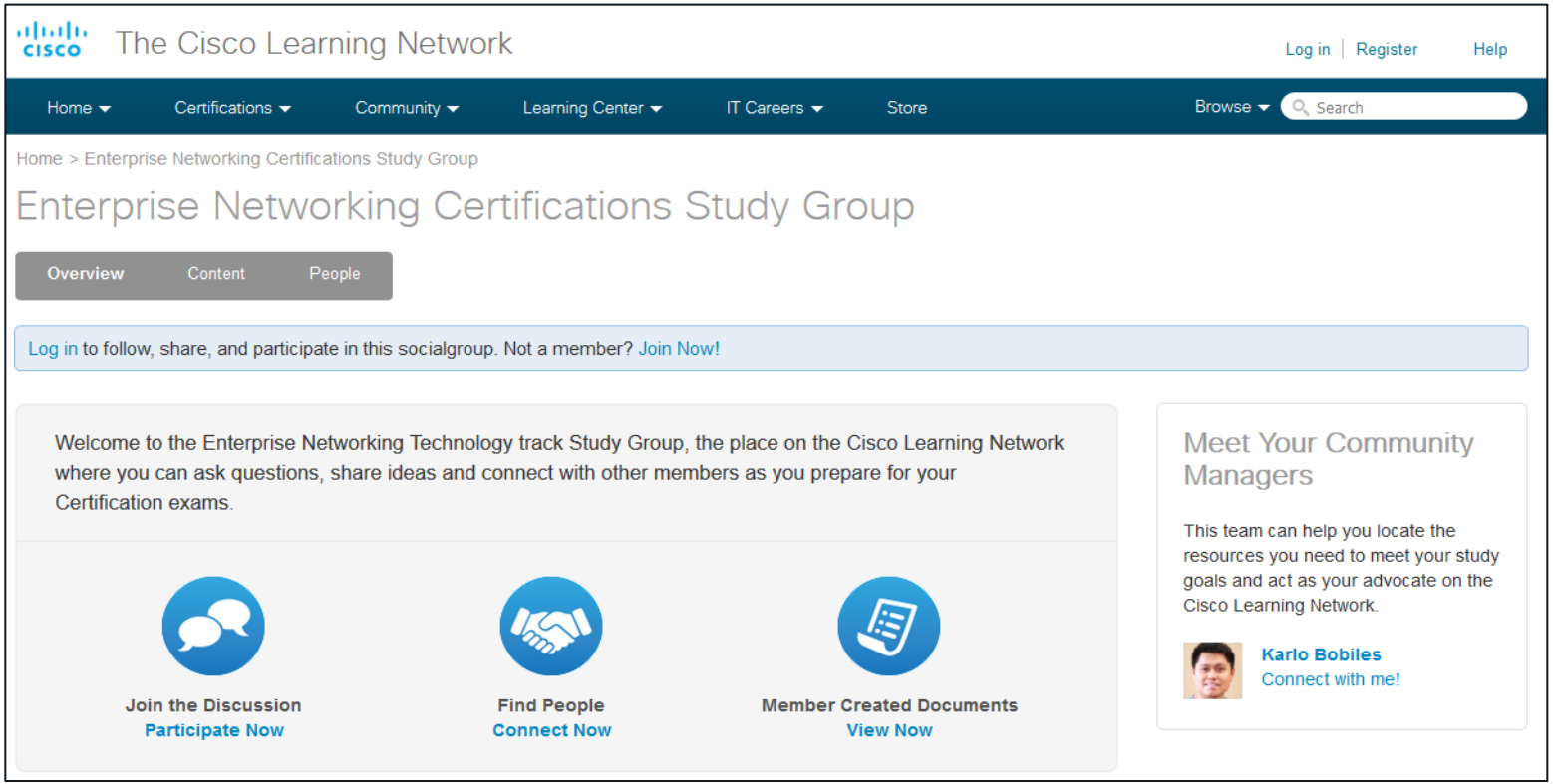
Community – Study groups



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Questions?

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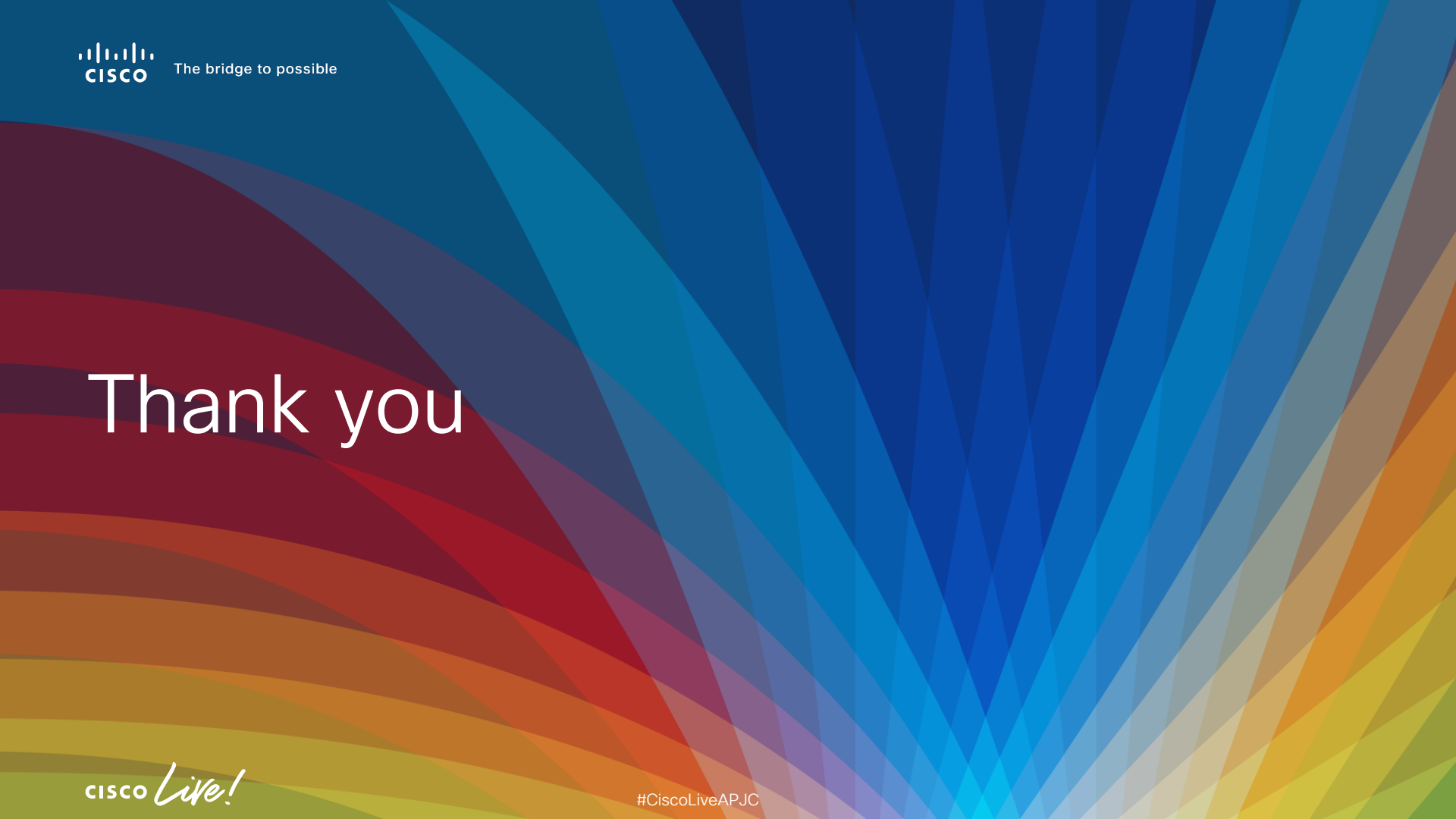
cisco
The bridge to possible
Thank you
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#CiscoLiveAPJC

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Let's go

#CiscoLiveAPJC