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The bridge to possible

# Earning Your CCNP Enterprise Certification

## What You Need to Know


Janet Wourms, Exam Program Manager  
Ivan Caduff, Technical Solutions Architect  
BRKCRT-2008

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# Agenda

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

# Cisco Webex App

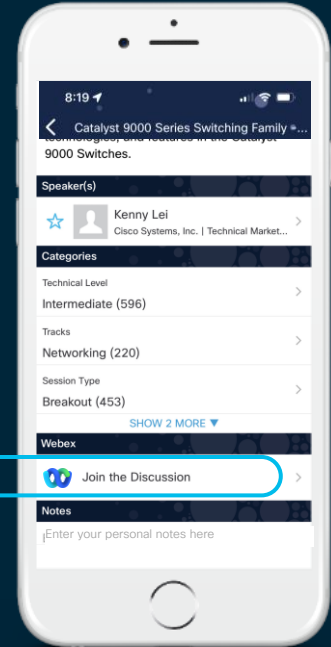
## Questions?

Use Cisco Webex App to chat with the speaker after the session

## 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
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 17, 2022.



<https://cicolive.ciscoevents.com/cicolivebot/#BRKCRT-2008>

# “CCNP Required”

ime this meeting was productive and has brought major changes on Earth. We will visit several places of strategic interest and will discuss possible collaborations nationally.

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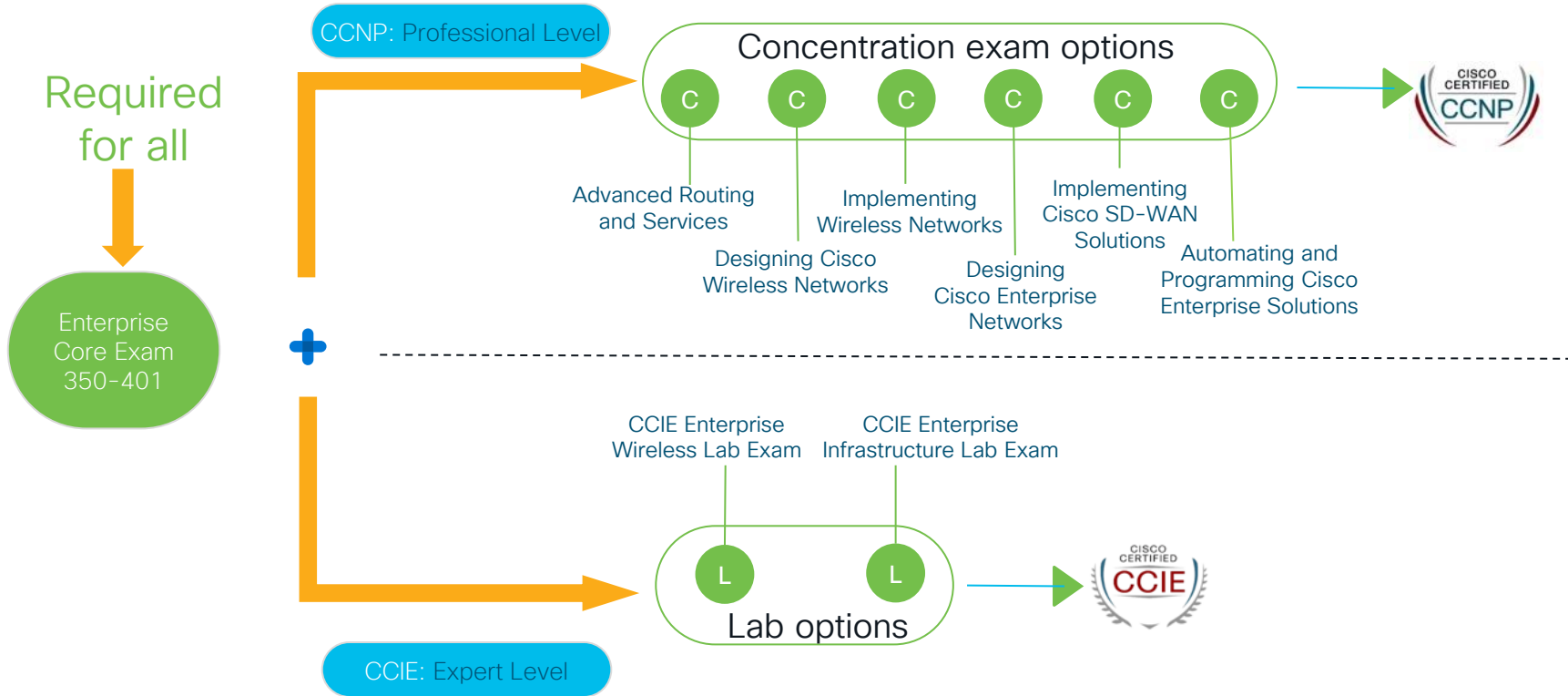
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Will also discuss new measures on global security. Last time this meeting was very productive and has brought major changes on Earth. We will visit several places of strategic interest and will discuss possible collaborations nationally.

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# CCNP = Core + 1 concentration (in any order)



# Preparing for your exams

Don't be scared...




Be prepared!!





# Exam Blueprint

<https://learningnetwork.cisco.com>

The Cisco Learning Network 

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Certifications / CCNP Enterprise / 350-401 ENCOR Exam Topics

## 350-401 ENCOR Exam: Implementing Cisco Enterprise Network Core Technologies

### Exam Description

Implementing Cisco Enterprise Network Core Technologies v1.0 (ENCOR 350-401) is a 120-minute exam associated with the CCNP and CCIE Enterprise Certifications. This exam tests a candidate's knowledge of implementing core enterprise network technologies including dual stack (IPv4 and IPv6) architecture, virtualization, infrastructure, network assurance, security and automation. The course, Implementing Cisco Enterprise Network 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 Architecture	15%	▾
2.0 Virtualization	10%	▾
3.0 Infrastructure	30%	▾
4.0 Network Assurance	10%	▾
5.0 Security	20%	▾
6.0 Automation	15%	▾

# Deciphering the Blueprint:

## Implementing Cisco Enterprise Network Core Technologies (350-401)

15%

1.0 Architecture

Domain

Domain  
Weight

1.1 Explain the different design principles used in an enterprise network — Task

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

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

1.2 Analyze design principles of a WLAN deployment — Task

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

1.2b Location services in a WLAN design

1.3 Differentiate between on-premises and cloud infrastructure deployments — Task

# Blueprint Verbs

Describe/Explain

Compare/Differentiate

Configure/Interpret

Diagnose/Troubleshoot

Depth of Knowledge 

# Implementing Cisco Enterprise Network Core Technologies (350-401)

## Exam Blueprint

Six major areas of knowledge

### Domain / Weight

- |                      |     |
|----------------------|-----|
| 1. Architecture      | 15% |
| 2. Virtualization    | 10% |
| 3. Infrastructure    | 30% |
| 4. Network Assurance | 10% |
| 5. Security          | 20% |
| 6. Automation        | 15% |

# Types of questions

Multiple  
choice

Drag and  
drop

Labs

## 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 Analyze design principles of a WLAN deployment
  - 1.2.a Wireless deployment models
  - 1.2.b Location services in a WLAN design
- 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 SD-WAN control and data planes elements
  - 1.4.b Traditional WAN and SD-WAN solutions
- 1.5 Explain the working principles of the Cisco SD-Access solution
  - 1.5.a SD-Access control and data planes elements
  - 1.5.b Traditional campus interoperating with SD-Access

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# Multiple Choice “Explain”

## Task

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

1.4a SD-WAN control and data planes elements

## Question

Which protocol does Cisco SD-WAN use to measure link quality?

A. RSVP

B. OMP

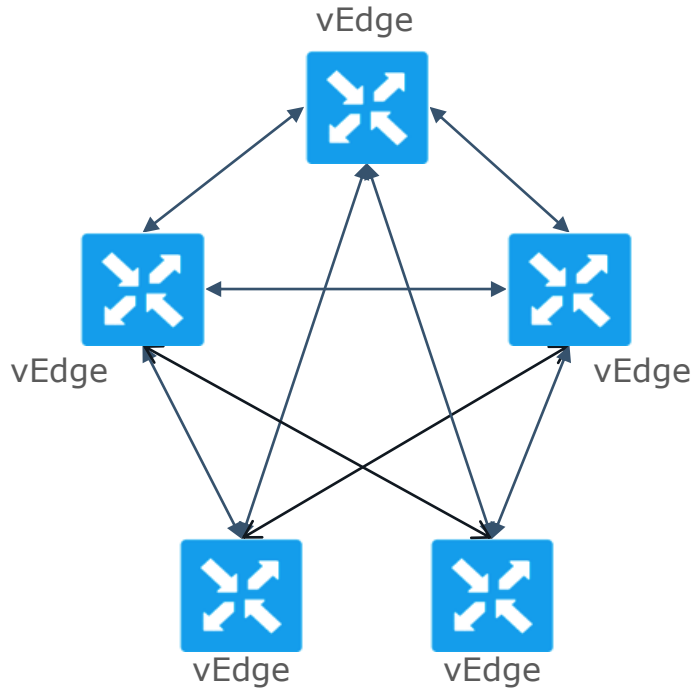
C. IPsec



D. BFD



# Bidirectional Forwarding Detection (BFD)



- Protocol used to measure path liveness and quality
  - Up/Down, loss/latency/jitter, IPsec tunnel MTU
- Runs between all vEdge and vEdge Cloud routers in the topology
  - Inside IPsec tunnels
  - Automatically invoked after each IPsec tunnel establishment
  - Cannot be disabled
- Uses hello (up/down) interval, poll (app-aware) interval and multiplier for detection
  - Fully customizable per-vEdge, per-color

# Multiple Choice “Explain”

## Task

1.5 Explain the working principles of the Cisco SD-Access solution

1.5a SD-Access control and data planes elements

## Question

Which control plane protocol is used for mapping and resolving endpoints in a Cisco SD-Access fabric?

- A. DHCP
- B. VXLAN
- C. SXP
- D. LISP

# Control Plane based on LISP

## LISP Map Server / Resolver (Control-Plane)

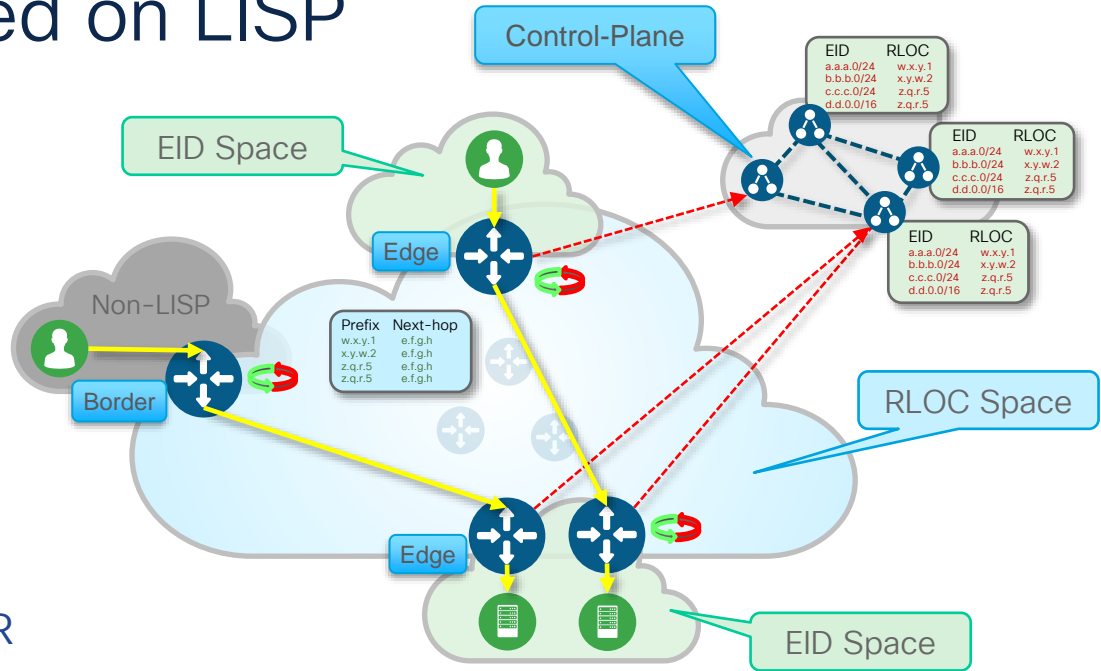
- EID to RLOC mappings
- Can be distributed across multiple LISP devices

## LISP Tunnel Router - XTR (Edge & Internal Border)

- Register EID with Map Server
- Ingress / Egress (ITR / ETR)

## LISP Proxy Tunnel Router - PXTR (External Border)

- Provides a Default Gateway when no mapping exists
- Ingress / Egress (PITR / PETR)




- **EID = Endpoint Identifier**
  - Host Address or Subnet
- **RLOC = Routing Locator**
  - Local Router Address

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Core Exam**

A Day-By-Day Review Guide for the  
ENCOR 350-401 Certification Exam

ciscopress.com Patrick Gargano

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Review Exercises  
Study Planner

# Cisco Live On-Demand Library

(www.ciscolive.com)

The screenshot displays the Cisco Live On-Demand Library interface. At the top, there is a navigation bar with 'On-Demand Library', 'Upcoming Events', and 'Site Help'. Below this is a banner image of a stage event with the text 'On-Demand Library' overlaid. A green bar below the banner contains the text: 'Registration now open for Cisco Live 2022. Join us in Las Vegas or online from June 12-16. Register Now >'. The main content area features a 'Filters' section on the left with a search input field containing 'SD-Access' and a magnifying glass icon, which is circled in red. To the right of the search field is a 'Clear' link and a filter tag 'SD-Access'. Below the search field are checkboxes for 'My Favorites' and 'Recommended for you'. A list of filter categories follows: 'Featured', 'Event', 'Technology', 'Program', and 'Technical Level', each with a dropdown arrow. The main content area shows '170 sessions' and two session cards. The first card is titled 'Cisco SD-Access - Solution Fundamentals - DGTL-BRKCRS-2810' and features Shawn Wargo as a Distinguished Speaker. The second card is titled 'Real World Use Cases for Deploying and Operating Cisco SD-Access - BRKEMT-2102' and features Ivan Caduff and Patrick Mosimann as Distinguished Speakers.

## Domain 2: Virtualization

### Tasks

- 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



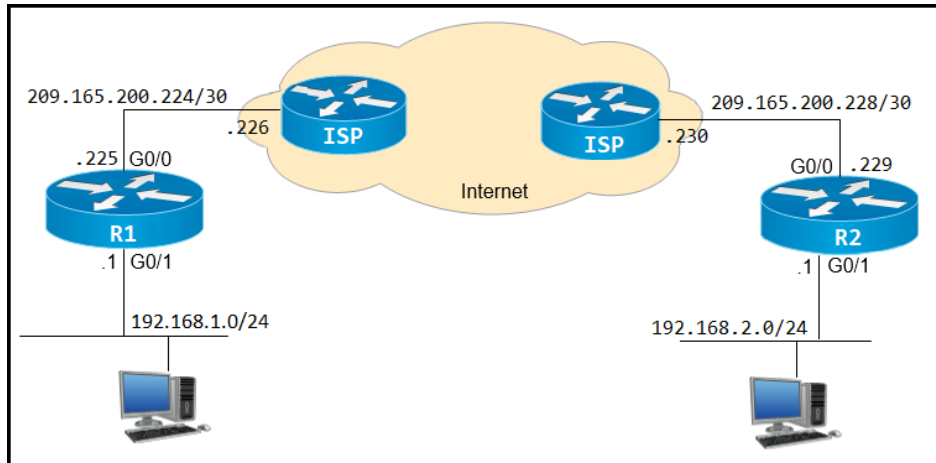
2.2 **Configure** and verify data path virtualization technologies

2.2.b GRE and IPsec tunneling

Question

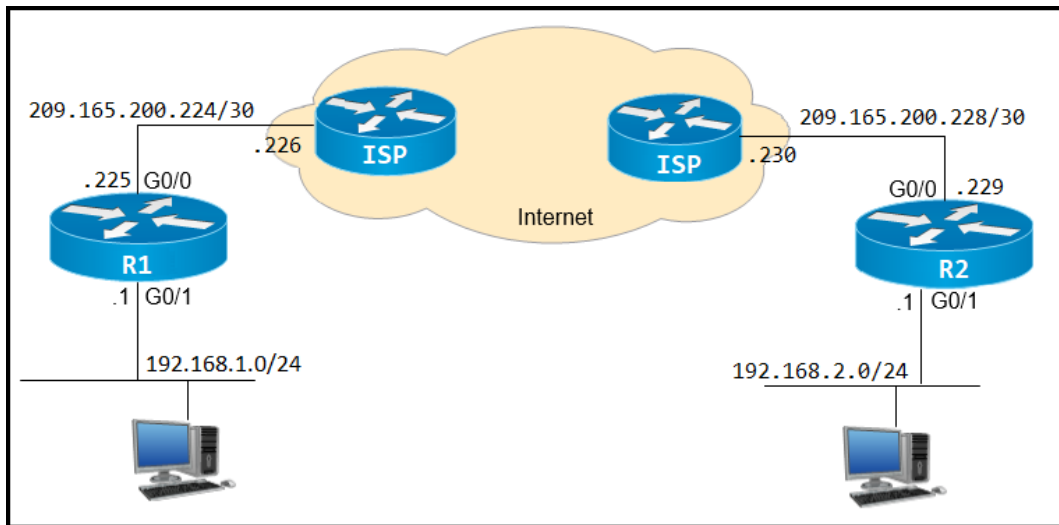


Which configuration is required on R1 to configure a GRE tunnel between R1 and R2?





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
```

# Cisco e-Learning (Self Paced Training)

- Single Offerings
- Subscriptions
- Bundles

The screenshot shows the Cisco Digital Learning website interface. At the top, there is a dark blue header with the Cisco logo on the left, the text 'Cisco Digital Learning' in the center, a 'Browse' dropdown menu on the right, and a search bar with the placeholder text 'Search by keyword ...'. Below the header is a large banner area with the text 'Welcome to Cisco Digital Learning' and a prominent green button labeled 'FREE 3-Day Trial' which is circled in red. Underneath the banner are three course cards. Each card has a yellow header with the text 'FREE Demo', a blue background with an illustration, a 5-star rating, and a title. The first card features a monitor with gears and is titled 'Implementing And Operating Cisco Enterprise Network Core Technologie...'. The second card features a laptop and is titled 'Getting Started With Cisco DNA Center Assurance (A-DNAC-ASSUR) V1.0'. The third card features a cloud with various device icons and is titled 'Planning And Deploying SD-Access Fundamentals (For Customers) (CUS...'. The bottom of the page contains the Cisco Live! logo on the left and the text '#CiscoLive BRKCRT-2008 © 2022 Cisco and/or its affiliates. All rights reserved. Cisco Public 26' on the right.

# ENCOR

Blueprint  
structure



Hands-on Labs



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Table of Contents

- Section 8: Optimizing OSPF
- Section 9: Exploring EBGP
- Section 10: Implementing Network Redundancy
- Section 11: Implementing NAT
- Section 12: Introducing Virtualization Protocols and Techniques
  - 12.1 Introduction
  - 12.2 Server Virtualization
  - 12.3 Need for Network Virtualization
  - 12.4 Path Isolation Overview
  - 12.5 Introducing VRF
  - 12.6 Configure and Verify VRF
  - 12.7 Introducing Generic Routing Encapsulation
  - 12.8 Configure and Verify a GRE Tunnel**

Implementing OSPF  
Implement Multiarea OSPF

Previous Page | Next Page

## Configure and Verify a GRE Tunnel

This discovery will guide you through the configuration, verification, and usage of a GRE tunnel to connect IP networks by using a completely different IP network as a transit link. The live virtual lab is prepared with the devices that are represented in the topology diagram and the connectivity table. All devices have their basic configurations in place, including hostnames and IP addresses on the Ethernet and loopback interfaces.

IGRP is configured on R2 and R3 for the 10.0.0.0/8 network. R2 and R3 are not aware of any of the 172.16.0.0/16 networks that exist on R1 and R4. The tunnel interfaces have not been configured yet. Configuring them is one of your tasks during this discovery. Once the tunnel interfaces are up and operational, you will verify connectivity between the 172.16.0.0/16 networks through the GRE tunnel.

You will be performing the following tasks in this discovery:

- Configure GRE tunnel on R1 and R4
- Enable OSPF on the Tunnel interface to advertise the network on Loopback 0 and Ethernet 0/1 on R1 and R4.

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# Lab help

The screenshot displays a Cisco lab environment. On the left, a 'LEARNING CONTENT' panel is visible, containing three steps:

- Step 1:** In the first few steps of this discovery, you will verify the status of the network as it has been prepared. Start by accessing the console of R1 and displaying its routing table.
- Step 2:** Verify that R1 can ping the R4 Ethernet0/0 interface (10.10.3.2). A blue 'Show Me' button next to this step is circled in red.
- Step 3:** Access the console of R2 and display its routing table. A blue 'Show Me' button is also present.

On the right, the main lab interface shows a console window for R1 with the prompt 'R1#' and 'R1#'. A sidebar on the far right lists 'DEVICES' (R1, R2, R3, R4) and 'RESOURCES' (Scenario, Topology, Job Aid). The top right corner of the interface includes an 'Exit Lab Mode' button.

# Lab help

Lab | Configure and Verify a GRE Tunnel

LEARNING CONTENT

**Step 4**

Access the console of R1 and define the interface Tunnel0. Assign it the IP address 172.16.99.1/24. The R1 Ethernet0/0 interface (10.10.1.1) should be the source, and the R4 Ethernet 0/0 interface (10.10.3.2) should be the destination.

**Answer**

On R1, enter the following commands:

```
R1# configure terminal
Enter configuration commands, one per line:
R1(config)# interface tunnel0
R1(config-if)#
*Nov 3 14:14:43.002: %LINEPROTO-5-UPDOWN: Line protocol is down
R1(config-if)# ip address 172.16.99.1 255.255.255.0
R1(config-if)# tunnel source 10.10.1.1
R1(config-if)# tunnel destination 10.10.3.2
R1(config-if)#
*Nov 3 14:15:12.555: %LINEPROTO-5-UPDOWN: Line protocol is up
R1(config-if)# end
R1#
```

R1

```
R1#config t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#interface tunnel0
R1(config-if)#
```

DEVICES

- 1 R1
- 2 R2
- 3 R3
- 4 R4

RESOURCES

- Scenario
- Topology
- Job Aid

# 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

## 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 and MST)

### 3.2 Layer 3

- 3.2.a Compare routing concepts of EIGRP and OSPF
- 3.2.b Configure and verify simple OSPF environments, including multiple normal areas, summarization, and filtering
- 3.2.c Configure and verify eBGP between directly connected neighbors

### 3.3 Wireless

- 3.3.a Describe the main RF signal concepts

# Labs

- ➔ Configure
- ➔ Construct
- ➔ Diagnose
- ➔ Troubleshoot

Labelt - Candidate Name 🕒 Time Remaining 01:26:03

📄 Comment 📄 1 of 1

Guidelines **Topology** Tasks

OSPF Process ID 200  
Area 0

```
graph LR; R1((R1)) ---|10.1.1.0/24 E0/0 .1 --- E0/0 .2| R2((R2)); R1 ---|Lo0| L1[1.1.1.1/32]; R2 ---|Lo0| L2[2.2.2.2/32];
```

R1

```
R1>
```

R2

[Next ➔](#)



Task



Question

## 3.2 Layer 3

3.2.b **Configure** and verify simple OSPF environments

The screenshot shows a Cisco exam interface with the following elements:

- Header:** "Lablet - Candidate Name" on the left and "Time Remaining 01:17:16" on the right.
- Toolbar:** A "Comment" icon and text.
- Navigation:** Tabs for "Guidelines", "Topology", and "Tasks" (which is selected).
- Router Selection:** Tabs for "R1" (selected) and "R2".
- Task 1:** "Configure OSPF according to the topology. Match the network mask of each interface and ensure that all routers use Lo0 for the router ID."
- Task 2:** "Configure OSPF MD5 authentication between R1 and R2."
- Footer:** A "Next" button with a right-pointing arrow.

Task



Question

## 3.1 Layer 2

### 3.1.b Troubleshoot static and dynamic EtherChannels

The screenshot shows a Cisco exam interface. At the top, it says "Lablet - Candidate Name" and "Time Remaining 01:17:16". Below that is a "Comment" section. The main content area has three tabs: "Guidelines", "Topology", and "Tasks". The "Tasks" tab is selected. On the right side of the task area, there are two tabs labeled "S1" and "S2". The task description reads: "Task: The port channel between Switch1 and Switch2 is not operational. Resolve the issue so that the switches actively negotiate an LACP port channel." At the bottom right, there is a "Next" button with a right-pointing arrow.

# DevNet Sandbox Cisco Modeling Labs Demo

<https://developer.cisco.com>

ALWAYS-ON

or

RESERVE

## Networking Sandbox Highlights

Version 2.0



### Cisco Modeling Labs Enterprise

Start your Network DevOps journey

#### RESERVATION SANDBOX

### Cisco Modeling Labs Enterprise

Cisco Modeling Labs is a tool for building virtual network simulations (or labs) for you to test out new topologies, protocols, and config changes; automate network tests via CI/CD pipeline integration; and learn new things about the cool world of networking. This sandbox provides access to a Cisco Modeling Labs system that can be used to explore the capabilities of the newest release of Cisco Modeling Labs Personal and Enterprise.



### Multi Domain

#### RESERVATION SANDBOX

### Multi Domain

This Sandbox was designed for developers to build applications and operational tools to manage the diverse set of platforms deployed across an enterprise. This Sandbox provides developers access to multiple domains and platforms, including Cisco HyperFlex, Cisco SD-WAN, Cisco Action Orchestrator, as well as open source tools like NetBox and GitLab.

Version 19.2



### Cisco SD-WAN Cloud-delivered overlay WAN architecture

#### RESERVATION SANDBOX

### Cisco SD-WAN

This sandbox consists a complete virtual SD-WAN environment and all of its components, that developers can utilize to develop, debug and test their sample SD-WAN applications. The developer can also interact with the SD-WAN API calls using a variety of REST clients such as POSTMAN.

## 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 device monitoring using syslog for remote logging
- 4.3 Configure and verify NetFlow and Flexible NetFlow
- 4.4 Configure and verify SPAN/RSPAN/ERSPAN
- 4.5 Configure and verify IPSLA
- 4.6 Describe Cisco DNA Center workflows to apply network configuration, monitoring, and management
- 4.7 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

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

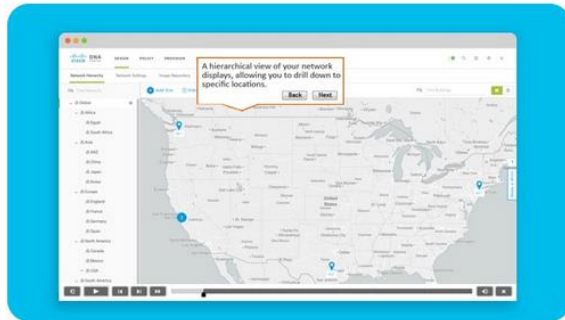
## Cisco DNA Center Demos

Get 360-degree contextual insights across users, devices, and applications. Learn more and gain hands-on experience with Cisco DNA Center now.

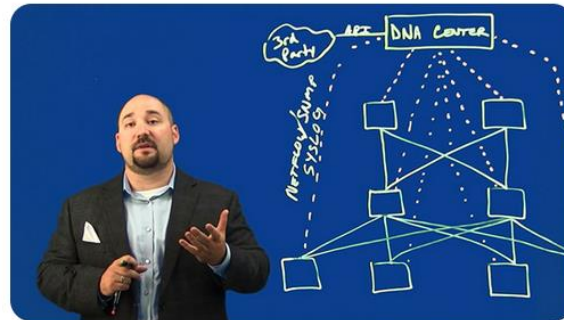
[Watch demo \(2:19\)](#)

[Explore live demo webinar](#)

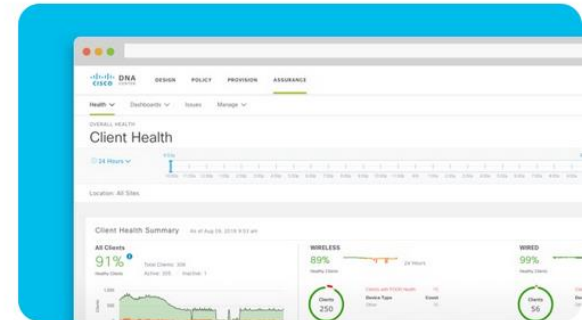
### Take demos to the next level



Self-guided demo: Cisco DNA Center



Walk-through: Cisco DNA Center



Live instant demo: Cisco DNA Center

## Tasks

### Domain 5: Security

- 5.1 Configure and verify device access control
  - 5.1.a Lines and password protection
  - 5.1.b Authentication and authorization using AAA
- 5.2 Configure and verify infrastructure security features
  - 5.2.a ACLs
  - 5.2.b CoPP
- 5.3 Describe REST API security
- 5.4 Configure and verify wireless security features
  - 5.4.a EAP
  - 5.4.b WebAuth
  - 5.4.c PSK



## 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(                  )
```

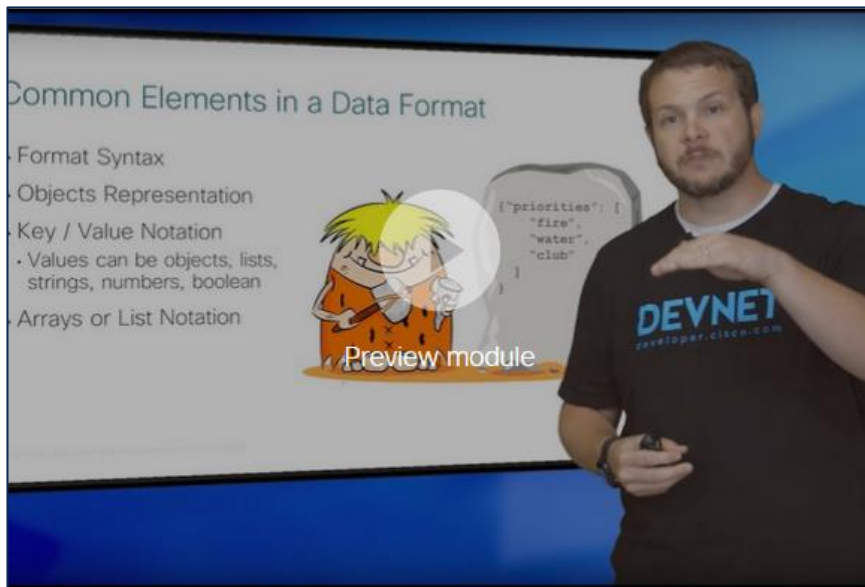
# DevNet Learning Labs

<https://developer.cisco.com>

The screenshot shows the Cisco DevNet Learning Labs interface. At the top, there is a navigation bar with 'Learning Labs', 'DevNet Express', 'Tracks', 'Modules', 'Labs', 'Challenges', 'Help', and 'Feedback'. Below this, a teal header indicates the current lab: 'Coding and Parsing with Python'. A sidebar on the left shows a list of pages, with 'Page 1' selected. The main content area features a sub-header 'How To Setup Your Own Computer' and the main title 'Coding and parsing with Python'. The introductory text states: 'In this Learning Lab, you use Python to interface with Webex Teams and to parse Webex Teams JSON data. You'll also use loops.' The 'Objective' section lists a completion time of 25 minutes and two bullet points: 'Review how to make REST calls from Python to Webex Teams and parse the response data.' and 'Learn how to loop through and parse the Webex Teams response data.' The 'Prerequisites' section includes a 'Background' subsection with the instruction 'Before starting this lab, you should:' followed by a list of three prerequisite labs: 'Python Primer Level 1', 'Python Primer Level 2', and 'Parsing JSON with Python'.

# DevNet Video Courses

<https://developer.cisco.com>



## Programming Fundamentals

Jumpstart your journey into Network Programmability with this quick introduction to the core programming fundamental topics you'll explore.



Play module

- |   |  |       |
|---|--|-------|
| 1 | Data Formats: Understanding and using JSON, XML and YAML | 21:21 |
| 2 | APIs are Everywhere... but what are they?                | 13:00 |

# Community - Study groups

The screenshot shows the Cisco Learning Network interface for the Enterprise Networking Certifications Study Group. At the top, the Cisco logo and 'The Cisco Learning Network' are displayed, along with 'Log in | Register | Help' links. A dark blue navigation bar contains 'Home', 'Certifications', 'Community', 'Learning Center', 'IT Careers', and 'Store' menus, and a search bar. Below the navigation, the breadcrumb 'Home > Enterprise Networking Certifications Study Group' is shown. The main heading is 'Enterprise Networking Certifications Study Group', with sub-tabs for 'Overview', 'Content', and 'People'. A light blue banner prompts users to 'Log in to follow, share, and participate in this socialgroup. Not a member? Join Now!'. A grey box contains a welcome message: 'Welcome to the Enterprise Networking Technology track Study Group, the place on the Cisco Learning Network where you can ask questions, share ideas and connect with other members as you prepare for your Certification exams.' Below this are three blue circular icons: 'Join the Discussion Participate Now' (speech bubbles), 'Find People Connect Now' (handshake), and 'Member Created Documents View Now' (document with checkmark). On the right, a 'Meet Your Community Managers' section features a profile for 'Karlo Bobiles' with a 'Connect with me!' link.

# Questions?



# Technical Session Surveys

- Attendees who fill out a minimum of four session surveys and the overall event survey will get Cisco Live branded socks!
- Attendees will also earn 100 points in the Cisco Live Game for every survey completed.
- These points help you get on the leaderboard and increase your chances of winning daily and grand prizes.





# Cisco Learning and Certifications

From technology training and team development to Cisco certifications and learning plans, let us help you empower your business and career. [www.cisco.com/go/certs](http://www.cisco.com/go/certs)

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### Cisco U.

IT learning hub that guides teams and learners toward their goals

### Cisco Digital Learning

Subscription-based product, technology, and certification training

### Cisco Modeling Labs

Network simulation platform for design, testing, and troubleshooting

### Cisco Learning Network

Resource community portal for certifications and learning



## Train



### Cisco Training Bootcamps

Intensive team & individual automation and technology training programs

### Cisco Learning Partner Program

Authorized training partners supporting Cisco technology and career certifications

### Cisco Instructor-led and Virtual Instructor-led training

Accelerated curriculum of product, technology, and certification courses



## Certify



### Cisco Certifications and Specialist Certifications

Award-winning certification program empowers students and IT Professionals to advance their technical careers

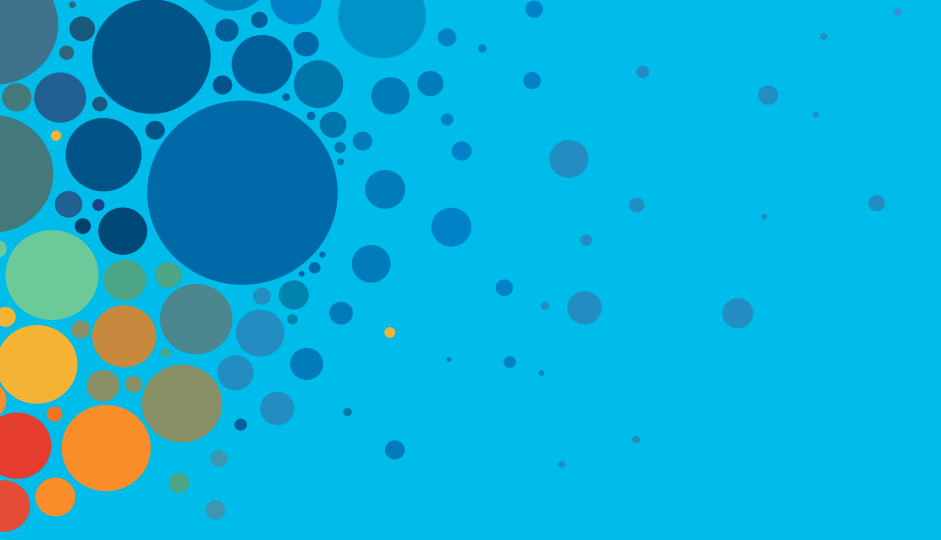
### Cisco Guided Study Groups

180-day certification prep program with learning and support

### Cisco Continuing Education Program

Recertification training options for Cisco certified individuals

Here at the event? Visit us at **The Learning and Certifications lounge at the World of Solutions**



# Continue your education

- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at [www.CiscoLive.com/on-demand](http://www.CiscoLive.com/on-demand)



The bridge to possible

# Thank you

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