Cisco Network Programmability Design and Implementation Specialist (NPDESI) Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- **Practice answering questions under realistic conditions,**
- **Improve accuracy and speed,**
- **Review explanations to strengthen weak areas, and**
- **Approach the exam with greater confidence.**

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here’s how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don’t just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There’s no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. What is not a Waterfall Development Process phase?

A. Analysis

B. Testing

C. Design

D. Sprints

2. What is a recognized virtual network emulator?

A. Learning Labs

B. VIRL

C. VirtualBox

D. All of the above

3. When should ACLs be applied according to best practices?

A. On all network devices only

B. Only at the network entry points

C. Throughout the network including critical paths

D. On user devices only

4. What Cisco platform can be used in the data center if ACI is not being used to simplify tenant and overlay management?

A. NSO

B. UCS-D

C. VTS

D. WAE

5. Which three YANG model types are supported by Cisco IOS XR?

A. OpenConfig

B. Cisco

C. IETF

D. OpenDaylight

6. Which of the following is an advantage of using REST APIs?

A. Complexity

B. Statelessness

C. Tight coupling

D. Exclusivity

7. Which command-line command is used for package management in Debian distributions including Ubuntu?

A. .rpm

B. yum

C. .deb

D. apt-get

8. What defines a Sprint in Agile methodology?

A. A short run program in Lean

B. A 26 minute developer hackathon

C. A short time period for specific development tasks

D. The time before a deadline when everyone works harder

9. Which two Cisco platforms can be used together to easily model WAN services and examine the impact of changes?

A. NSO

B. VTS

C. WAE

D. ACI

10. Which of the following is the best description of a CI/CD pipeline?

A. A set of automated processes helping software developers integrate code changes

B. A live monitoring system for tracking live application performance

C. A traditional project management tool for scheduling tasks

D. A method for manual testing of application features

Answers

1. D
2. B
3. C
4. C
5. A
6. B
7. D
8. C
9. B
10. A

Explanations

1. What is not a Waterfall Development Process phase?

A. Analysis

B. Testing

C. Design

D. Sprints

The Waterfall Development Process is characterized by a linear and sequential approach to software development, where each phase must be completed before the next one begins. The main phases typically include Analysis, Design, Implementation, Testing, and Maintenance. In this context, Analysis refers to gathering and understanding requirements, Design focuses on how the system will fulfill those requirements, and Testing involves verifying and validating the software against the identified requirements. Sprints, however, do not fit into the Waterfall model. Instead, Sprints are a key component of the Agile methodology, which promotes iterative development and emphasizes flexibility, collaboration, and customer feedback throughout the development process. In Agile, work is divided into incremental cycles (Sprints), allowing teams to make adjustments more frequently and respond to changes. Therefore, recognizing that Sprints are associated with Agile rather than Waterfall helps clarify why it is not considered a phase within the Waterfall Development Process.

2. What is a recognized virtual network emulator?

A. Learning Labs

B. VIRL

C. VirtualBox

D. All of the above

VIRL, which stands for Virtual Internet Routing Lab, is a recognized virtual network emulator specifically designed to help network engineers model and simulate network topologies and configurations. It provides a user-friendly interface to create virtual networks that can emulate real-world environments, facilitating testing and experimentation with different network configurations without the need for physical hardware. VIRL supports various networking devices and operating systems, allowing users to simulate complex network scenarios, which is invaluable for training, designing, and troubleshooting. It utilizes Cisco's own images and software, ensuring that users are working with authentic tools relevant to Cisco networking. While Learning Labs and VirtualBox have their own use cases—Learning Labs for hands-on training and VirtualBox as a general-purpose virtualization platform—they do not specialize in providing the comprehensive network emulation capabilities that VIRL offers. Therefore, the focus on virtual network emulation makes VIRL the most suitable answer in this context.

3. When should ACLs be applied according to best practices?

A. On all network devices only

B. Only at the network entry points

C. Throughout the network including critical paths

D. On user devices only

Applying ACLs (Access Control Lists) throughout the network, including critical paths, is considered best practice for several reasons. First, distributing ACLs across all relevant network devices enhances overall security by ensuring consistent policy enforcement at various points. This reduces the risk of unauthorized access or data breaches, as network segments can be individually secured. Second, placing ACLs only at network entry points may leave internal segments vulnerable. For example, if an attacker manages to bypass the entry point, any internal communications may go unchecked. Therefore, implementing ACLs on critical paths helps monitor and control network traffic more effectively, ensuring that sensitive data and operations are protected even after the initial entry point. Moreover, strategically deploying ACLs across the network allows for more granular and specific controls tailored to different segments or user groups. This layered security approach aids in defending against a variety of threats, thereby enhancing the network's resilience. Deploying ACLs solely on user devices or just on network devices not only limits the security posture but also fosters inconsistencies across the network. A comprehensive strategy that touches all network areas ensures better management and streamlined traffic control, leading to improved performance and security. Thus, the practice of integrating ACLs throughout the network, especially along critical paths, maximizes both security and

4. What Cisco platform can be used in the data center if ACI is not being used to simplify tenant and overlay management?

A. NSO

B. UCS-D

C. VTS

D. WAE

The most appropriate choice for simplifying tenant and overlay management in a Cisco data center environment, when ACI (Application Centric Infrastructure) is not employed, is VTS (Virtual Traffic Selector). VTS is designed to facilitate traffic visibility and management within a virtualized data center by efficiently managing and monitoring traffic across different tenants and overlays. VTS can handle complex network traffic flows and provide insights into virtual network infrastructures. It streamlines the process of managing overlay networks, making it easier for administrators to operate and maintain multiple tenancies within a data center without the need for ACI's full framework. Utilizing VTS allows organizations to leverage existing network resources while maintaining a clear overview of network traffic and virtual workloads, which is essential for effective management and operational efficiency. The other options serve different purposes in the Cisco ecosystem. For example, NSO (Network Services Orchestrator) focuses on network automation and orchestration rather than explicitly on tenant and overlay management. UCS-D (Unified Computing System Director) is aimed at managing compute resources and orchestration in the UCS environment without the same specialization for overlays. WAE (Wide Area Application Services) is primarily concerned with application performance in WAN environments, not specifically with tenant management in the data center context.

5. Which three YANG model types are supported by Cisco IOS XR?

A. OpenConfig

B. Cisco

C. IETF

D. OpenDaylight

The selection of OpenConfig as a supported YANG model type in Cisco IOS XR highlights the platform's commitment to industry standards and interoperability. OpenConfig is a vendor-neutral initiative that provides a set of YANG data models aimed at supporting network automation across various platforms, making it very relevant for modern network programmability and automation strategies. Cisco IOS XR also supports Cisco-specific YANG models, which provide detailed control over Cisco's networking features and capabilities. These models are designed to leverage the proprietary functionalities of Cisco equipment while ensuring programmability. In addition, the IETF YANG models are crucial as they represent standardized models widely used across various network devices and are fundamental for enabling consistent network device management. OpenDaylight is not a YANG model type in the same context; rather, it is a platform for network programmability that leverages YANG models but is not itself supported as a YANG model type within Cisco IOS XR. Understanding the distinctions and purposes of these models is integral to leveraging Cisco IOS XR for network automation and management effectively.

6. Which of the following is an advantage of using REST APIs?

A. Complexity

B. Statelessness

C. Tight coupling

D. Exclusivity

REST APIs offer several advantages, one of the key benefits being statelessness. This means that each request from a client to the server must contain all the information the server needs to fulfill that request. The server does not store any context or state information about the client, which simplifies server design and improves reliability. By being stateless, REST APIs can scale more easily, as each request can be processed independently without the need for the server to retain information about previous requests. This architecture also enhances fault tolerance, as there is less dependency on the server's memory and it allows for more flexible deployment configurations. Statelessness can also improve performance, especially in environments where numerous requests are made, as servers can process each request more quickly without needing to manage state information. Overall, the stateless nature of REST APIs contributes to their popularity in network programmability and web service design.

7. Which command-line command is used for package management in Debian distributions including Ubuntu?

A. .rpm

B. yum

C. .deb

D. apt-get

In Debian-based distributions such as Ubuntu, package management involves installing, updating, and removing software packages. The command used for this purpose is `apt-get`. This command is part of the Advanced Package Tool (APT) suite and is specifically designed to handle the .deb package files, which are the format used by Debian-based systems. `apt-get` can manage packages from the official repositories and can perform several functions, including installing packages (`apt-get install`), updating package lists (`apt-get update`), and removing packages (`apt-get remove`). Its user-friendly interface and robust functionality make it a go-to choice for system administration in these distributions. Other choices, while related to package management, are not directly applicable to Debian distributions. For example, `.rpm` refers to the Red Hat Package Manager, used by RPM-based systems such as Red Hat and Fedora. YUM (Yellowdog Updater, Modified) is a package management utility that works with RPM packages. Finally, `.deb` refers to the package file format itself but is not a command. Hence, `apt-get` stands out as the correct command for package management in Debian and Ubuntu environments.

8. What defines a Sprint in Agile methodology?

A. A short run program in Lean

B. A 26 minute developer hackathon

C. A short time period for specific development tasks

D. The time before a deadline when everyone works harder

A Sprint in Agile methodology is defined as a short time period specifically allocated for development tasks, typically ranging from one to four weeks. This timeframe allows teams to focus intensely on a set of deliverables, enabling iterative progress through regular reviews and adjustments based on feedback. By concentrating efforts within this defined period, teams can improve their productivity, maintain high quality, and foster collaboration. The concept of a Sprint emphasizes the importance of timeboxed work, where the duration is fixed and teams commit to achieving specific goals. This structure allows for regular assessment of progress and helps teams to remain aligned with project objectives, ultimately supporting continuous improvement and adaptability in response to changing requirements or stakeholder feedback. Sprints play a critical role in the Agile framework, facilitating a rhythm for development and encouraging incremental delivery of functionality.

9. Which two Cisco platforms can be used together to easily model WAN services and examine the impact of changes?

A. NSO

B. VTS

C. WAE

D. ACI

The correct choice is the combination of platforms that allows for effective modeling of WAN services and analysis of potential changes. The use of VTS, or Virtual Transport Switching, in conjunction with another platform facilitates comprehensive digital twin capabilities which enhance the ability to simulate and understand the behavior of WAN services. VTS provides a visual representation of network services and enables administrators to test various scenarios in a safe environment. This ability to model changes allows for better planning and decision-making about WAN architecture and service delivery. When combined with another Cisco platform, it can effectively simulate how alterations in configurations, capacity, or other parameters might affect overall service performance and reliability. ACI (Application Centric Infrastructure) and NSO (Network Services Orchestrator) do provide valuable capabilities in network management and orchestration but are not specifically designed for detailed modeling of WAN services in the same way that VTS does when paired with another appropriate platform. WAE (Wide Area Application Services), while it deals with WAN optimization, does not focus primarily on the modeling aspect, making it less suitable for the purpose of the question.

10. Which of the following is the best description of a CI/CD pipeline?

A. A set of automated processes helping software developers integrate code changes

B. A live monitoring system for tracking live application performance

C. A traditional project management tool for scheduling tasks

D. A method for manual testing of application features

A CI/CD pipeline is fundamentally a set of automated processes that allow software developers to integrate code changes frequently and deploy them effectively. This descriptive framework captures the essence of Continuous Integration (CI) and Continuous Deployment (CD). Continuous Integration involves automatically testing and merging code changes into a shared repository, where developers collaboratively work. Automated tests ensure that new code does not introduce errors, facilitating a seamless integration process. Continuous Deployment takes this a step further by automating the release of these integrated changes to production, making new features and fixes available to users swiftly and reliably. The automation aspect is particularly critical as it minimizes manual errors and speeds up the deployment process. On the other hand, the other choices describe different concepts unrelated to the primary function of CI/CD pipelines. Monitoring live application performance addresses application reliability and user experience post-deployment. Project management tools focus on task scheduling and resource allocation in a development project but do not inherently provide a means to integrate or deploy code. Manual testing methods, while essential for quality assurance, do not align with the automation principle that defines CI/CD. All of these illustrate critical operational components in software development but do not encapsulate the CI/CD pipeline's primary purpose of automating code integration and deployment.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://cisconpdesi.examzify.com

We wish you the very best on your exam journey. You've got this!