



# 200-901 DEVASC Exam Topics

## Customize Your Study Plan

To earn your DevNet Associate certification, you must pass the **200-901 DEVASC** exam. This 120-minute exam tests your knowledge of software development and design including understanding and using APIs, Cisco platforms and development, application development and security, and infrastructure and automation.

The following topics are likely to be included on the **200-901 DEVASC** exam. The topics are subject to change at any time to reflect the latest technologies aligned to Cisco's products.



**Cisco Cert Prep Tip:** Print out this document and use it as you assess your strengths and challenges in preparing your study plan.

### Exam Topics:

#### Section: 1.0 Software Development and Design

1.1 Compare data formats (XML, JSON, and YAML)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
1.2 Describe parsing of common data format (XML, JSON, and YAML) to Python data structures	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
1.3 Describe the concepts of test-driven development	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
1.4 Compare software development methods (agile, lean, and waterfall)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
1.5 Explain the benefits of organizing code into methods / functions, classes, and modules	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
1.6 Identify the advantages of common design patterns (MVC and Observer)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>

1.7 Explain the advantages of version control	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
1.8 Utilize common version control operations with Git	Need to Study?	Complete by:	Resource:	Completed
1.8.a Clone	Y / N			<input type="checkbox"/>
1.8.b Add/remove	Y / N			<input type="checkbox"/>
1.8.c Commit	Y / N			<input type="checkbox"/>
1.8.d Push / pull	Y / N			<input type="checkbox"/>
1.8.e Branch	Y / N			<input type="checkbox"/>
1.8.f Merge and handling conflicts	Y / N			<input type="checkbox"/>
1.8.g diff	Y / N			<input type="checkbox"/>

## Section: 2.0 Understanding and Using APIs

2.1 Construct a REST API request to accomplish a task given API documentation	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
2.2 Describe common usage patterns related to webhooks	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
2.3 Identify the constraints when consuming APIs	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
2.4 Explain common HTTP response codes associated with REST APIs	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
2.5 Troubleshoot a problem given the HTTP response code, request and API documentation	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
2.6 Identify the parts of an HTTP response (response code, headers, body)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
2.7 Utilize common API authentication mechanisms: basic, custom token, and API keys	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>

2.8 Compare common API styles (REST, RPC, synchronous, and asynchronous)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
2.9 Construct a Python script that calls a REST API using the requests library	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>

## Section: 3.0 Cisco Platforms and Development

3.1 Construct a Python script that uses a Cisco SDK given SDK documentation	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
3.2 Describe the capabilities of Cisco network management platforms and APIs (Meraki, Cisco DNA Center, ACI, Cisco SD-WAN, and NSO)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
3.3 Describe the capabilities of Cisco compute management platforms and APIs (UCS Manager, UCS Director, and Intersight)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
3.4 Describe the capabilities of Cisco collaboration platforms and APIs (Webex Teams, Webex devices, Cisco Unified Communication Manager including AXL and UDS interfaces, and Finesse)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
3.5 Describe the capabilities of Cisco security platforms and APIs (Firepower, Umbrella, AMP, ISE, and ThreatGrid)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
3.6 Describe the device level APIs and dynamic interfaces for IOS XE and NX-OS	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
3.7 Identify the appropriate DevNet resource for a given scenario (Sandbox, Code Exchange, support, forums, Learning Labs, and API documentation)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
3.8 Apply concepts of model driven programmability (YANG, RESTCONF, and NETCONF) in a Cisco environment	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>

3.9 Construct code to perform a specific operation based on a set of requirements and given API reference documentation such as these:	Need to Study?	Complete by:	Resource:	Completed
3.9.a Obtain a list of network devices by using Meraki, Cisco DNA Center, ACI, Cisco SD-WAN, or NSO	Y / N			<input type="checkbox"/>
3.9.b Manage spaces, participants, and messages in Webex Teams	Y / N			<input type="checkbox"/>
3.9.c Obtain a list of clients / hosts seen on a network using Meraki or Cisco DNA Center	Y / N			<input type="checkbox"/>

## Section: 4.0 Application Deployment and Security

4.1 Describe benefits of edge computing	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
4.2 Identify attributes of different application deployment models (private cloud, public cloud, hybrid cloud, and edge)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
4.3 Identify the attributes of these application deployment types	Need to Study?	Complete by:	Resource:	Completed
4.3.a Virtual machines	Y / N			<input type="checkbox"/>
4.3.b Bare metal	Y / N			<input type="checkbox"/>
4.3.c Containers	Y / N			<input type="checkbox"/>
4.4 Describe components for a CI/CD pipeline in application deployments	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
4.5 Construct a Python unit test	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
4.6 Interpret contents of a Dockerfile	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
4.7 Utilize Docker images in local developer environment	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
4.8 Identify application security issues related to secret protection, encryption (storage and transport), and data handling	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>

4.9 Explain how firewall, DNS, load balancers, and reverse proxy in application deployment	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
4.10 Describe top OWASP threats (such as XSS, SQL injections, and CSRF)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
4.11 Utilize Bash commands (file management, directory navigation, and environmental variables)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
4.12 Identify the principles of DevOps practices	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>

## Section: 5.0 Infrastructure and Automation

5.1 Describe the value of model driven programmability for infrastructure automation	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.2 Compare controller-level to device-level management	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.3 Describe the use and roles of network simulation and test tools (such as VIRL and pyATS)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.4 Describe the components and benefits of CI/CD pipeline in infrastructure automation	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.5 Describe principles of infrastructure as code	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.6 Describe the capabilities of automation tools such as Ansible, Puppet, Chef, and Cisco NSO	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.7 Identify the workflow being automated by a Python script that uses Cisco APIs including ACI, Meraki, Cisco DNA Center, or RESTCONF	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>

5.8 Identify the workflow being automated by an Ansible playbook (management packages, user management related to services, basic service configuration, and start/stop)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.9 Identify the workflow being automated by a bash script (such as file management, app install, user management, directory navigation)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.10 Interpret the results of a RESTCONF or NETCONF query	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.11 Interpret basic YANG models	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.12 Interpret a unified diff	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.13 Describe the principles and benefits of a code review process	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
5.14 Interpret sequence diagram that includes API calls	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>

## Section: 6.0 Network Fundamentals

6.1 Describe the purpose and usage of MAC addresses and VLANs	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
6.2 Describe the purpose and usage of IP addresses, routes, subnet mask / prefix, and gateways	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
6.3 Describe the function of common networking components (such as switches, routers, firewalls, and load balancers)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>

6.4 Interpret a basic network topology diagram with elements such as switches, routers, firewalls, load balancers, and port values	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
6.5 Describe the function of management, data, and control planes in a network device	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
6.6 Describe the functionality of these IP Services: DHCP, DNS, NAT, SNMP, NTP	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
6.7 Recognize common protocol port values (such as, SSH, Telnet, HTTP, HTTPS, and NETCONF)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
6.8 Identify cause of application connectivity issues (NAT problem, Transport Port blocked, proxy, and VPN)	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>
6.9 Explain the impacts of network constraints on applications	Need to Study?	Complete by:	Resource:	Completed
	Y / N			<input type="checkbox"/>

## DEVASC Study Resources

Cisco certifications empower you to understand real-world issues and address them quickly and effectively. Get started on the path to certification success and enjoy your personal and professional journey.



### DEVASC Course Overview

<http://cs.co/DEVASCOverview>

Prepare for your certification with official Cisco training courses.



### Exam Review Tool

<http://cs.co/cisco-exam-devnet>

Put your skills to the test with practice questions designed to identify knowledge gaps.



### DevNet Community Forum

<http://cs.co/DevNetCommunity>

Join your community for a chance to ask questions, share ideas and connect with your peers.



### DevNet Associate Prep

<http://cs.co/examtopicspage>

Access your ultimate self-study resource including webinars, quizzes and resources.



### DEVASC Study Materials

<http://cs.co/DEVASCstudy>

Add these study materials to your Learning Plan.



### DEVASC Preparation Bundle

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Save on the official e-learning course, exam review tool and exam voucher for the DevNet Associate.