DEVASC- Cisco Certified DevNet Associate

Zetlan Technologies

Online Course

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Course Modules

1. Software Development and Design

- Compare data formats (XML, JSON, and YAML)
- Describe parsing of common data format to Python data structures
- Describe the concepts of test-driven development
- Compare software development methods (agile, lean, & waterfall)
- Benefits of organizg code into mthds / functins, classes, & modules
- Idntfy the advantags of common design patterns (MVC & Observer)
- Explain the advantages of version control

2. Utilize common version control operations with Git

- Clone
- Add/remove
- Commit
- Push / pull
- Branch
- Merge and handling conflicts
- diff

3. Perform a specific operation based on a set of requirements

- List of network devices by using Meraki, Cisco DNA Centre, etc
- Manage spaces, participants, and messages in Webex
- Obtain a list of clients / hosts seen on a ntwrk using Meraki

Course Modules

4. Understanding and Using APIs

- Construct a REST API request to accomplish a task given API doc
- Describe common usage patterns related to webhooks
- Identify the constraints when consuming APIs
- Explain common HTTP response codes associated with REST APIs
- Tshoot a problem given the HTTP response code, reqst and API doc
- Identfy the parts of an HTTP response (rspnse code, headers, body)
- Utilize common API authentication mechnsms: basic, custom token
- Compare cmon API styles (REST, RPC, synchrnous, & asynchronous)
- Cnstrct a Python script that calls a REST API usg the requests library

5. Cisco Platforms and Development

- Construct a Python script that uses a Cisco SDK givn SDK docntatn
- Capabilities of Cisco network management platforms and APIs
- Capabilities of Cisco compute management platforms and APIs
- Capabilities of Cisco collaboration platforms and APIs
- Capabilities of Cisco security platforms and APIs (XDR, Firepower)
- Device level APIs and dynamic interfaces for IOS XE and NX-OS
- Identify the appropriate DevNet resource for a given scenario
- Apply concepts of model driven programmability

6. Application Deployment and Security

- Describe benefits of edge computing
- Identify attributes of different application deployment models
- Identify the attributes of these application deployment types
  - Virtual machines
  - Bare metal
  - Containers
- Describe components for a CI/CD pipeline in app deployments
- Construct a Python unit test
- Interpret contents of a Docker file
- Utilize Docker images in local developer environment
- Idntfy app security issues related to secret protection, encryption
- Firewall, DNS, load balancers, &vreverse proxy in app deployment
- Describe top OWASP threats (such as XSS, SQL injections, &vCSRF)
- Utilize Bash commands (file mngmnt, directory navigation, etc)
- Identify the principles of DevOps practices

7.Infrastructure and Automation

- Describe the value of model driven programmability
- Compare controller-level to device-level management
- Describe the use and roles of network simulation and test tools
- Components & benefits of CI/CD pipeline in infrstrctr automation
- Describe principles of infrastructure as code
- The capabilities of autmton tools sch as Ansible, Terraform,etc
- Identify the workflow being automated by a Python script
- Identify the workflow being automated by an Ansible playbook
- Identify the workflow being automated by a bash script
- Interpret the results of a RESTCONF or NETCONF query
- Interpret basic YANG models
- Interpret a unified diff
- Describe the principles and benefits of a code review process
- Interpret sequence diagram that includes API calls

8. Network Fundamentals

- Describe the purpose and usage of MAC addresses and VLANs
- Describe the purpose and usage of IP addresses, routes, etc.,
- Describe the function of common networking components
- Interpret a basic network topology diagram with elements
- Functn of management, data, and ctrl planes in a network device
- Describe the functionality of these IP Services: DHCP, DNS, NAT, etc
- Recognize common protocol port values (such as, SSH, Telnet, etc)
- Cause of app connectivity issues (NAT problem, Transport Port blk..)
- Explain the impacts of network constraints on applications

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