PASS DevNet LABS

CCIE DevNet v1.0 Real Labs

Deploy Module

Lab 1

Lab Workbook Policy

1. We highly discourage sharing of the workbook hence the workbooks are mapped to Laptop/Desktop MAC address. If one tries to open the workbook on desktop or laptop other than the registered MAC address; account will get locked and we will not unlock it for any reasons.

2. The workbook does not have print access; kindly do not request to enable to print access. You will have access to the documents for 120 days post that your document will not be accessible.

3. One will be provided with free updates up to 120 days from the date of purchase, post that one need to renew his/her account to access the latest update.

4. If one wish to renew their subscription/account, you need to renew within 120 days or before the account gets expired. Post 120 days one can renew their account however the renewal will be considered has a new purchase. Hence we encourage eveyone to renew within 120 days of the purchase.

5. The renewal cost is 999 USD if one pay within 120 days, if one fail to renew then the cost will be equivalent of a new purchase. (The renewal price can change at any time, without informing the client)

6. Every workbook is uniquely identified for each user with hidden words. If one shares his/her workbooks with others, and if the system detects the share, the account will be banned and we will not entertain any explanation of any sort.

7. For any queries regarding Questions/Solutions, you can contact us on email: support@passdevnetlabs.com or skype @ cciedevnetlabs@gmail.com. Response time to any of the queries is 24 hours.

8. We do require CISCO ID, CCIE# and personal email id for securing the workbooks. We do not sell without these details. We do background verification of the details provided, so request to give us the correct CISCO ID and official email id.

9. The workbooks are in secured pdc format and delivered via email within 24 hours after payment is received.

10. License is provided for only one Device. And we don't give license again if the device crashes or company security policies. Please install license on the device cautiously as the license will not be provided again.

11. We do support devices running Windows OS, Mac OS, Android and Mac iOS only. Virtualized Machines or Citrix based devices are not supported at all.

12. We do not provide Refund in any circumstances once the product is sold.

13. The most Updated deploy workbooks are given 30 days before the Exam. Exam booking is manually verified using remote desktop.

14. If there is any update, one will receive the update automatically on their respective skype id.

15. Design Module will be given only 15 days before the CCIE exam .

17. CCIE Labs are always published in phases. For e.g. if there is a new lab we publish it as First, Second, Third ... till Final release.

18. Client who have purchased our workbooks and services and wishes to attempt the lab, need to consult our experts before their CCIE Lab.

CCIE Deploy Guidelines

Before starting, please read the below guidelines:

1. In this module, you will be creating, analyzing, validating and optimizing a low-level network design. All relevant resources needed to successfully complete this module are provided within this module.

2. The menu bar on the main screen can be used to navigate to:

    a) **Exam content.** Here you will find the exam questions. This module is scenario-based and contains about 30 to 35 web-based items. No device access is provided.

    b) **Resources.** Here you will find provided resources. An initial set of resources is provided at the start of the module. Additional resources are provided as you progress. Resources are cumulative and remain available throughout the remainder of the module. It is recommended to read all the provided resources prior to answering a question.

    c) **Guidelines.** If you want to review this guideline again during your exam, you can find them here.

    d) **Help.** Here you will find more information about the exam environment and functionalities.

    e) **End Exam Section.** Clicking this button will end this exam section

3. Backward navigation in this module is disabled; once you proceed to the next question, you will not be able to return to the previous question

4. Question point values will not be visible in this module. More complex items may have partial scoring opportunities

5. Item level feedback can be provided at question level. Feedback will be processed, but Cisco will not reach out to you to discuss any feedback provided. Any time spent on providing feedback will not be compensated.

6. Access to selected Cisco online documentation is available from your desktop. Access to select 3rd party product documentation (such as python) is available from the resources window under the "External Documentation" category.

7. If you suspect an issue with your exam environment, contact the lab proctor as soon as possible.

8. You have 3 hours to complete this module. If you finish early, you may start with the next module but any unused time will not be carried over to the next module.

DevNet Expert Developer Environment

Assigned Tasks to complete
Locate your exam tasks under "Exam Content".

Any additional resources or Information that might be needed to complete a task can be found under "Resources".

Candidate Workstation (CWS)
The Candidate Workstation (CWS) is your workspace for writing code, accessing infrastructure components, and interacting with all development systems. It has the standard development tools and utilities installed and ready for your use.

It is an Ubuntu based desktop environment that can be accessed through RDP for a full GUI experience,
Or through telnet if a pure command line interface is preferred.
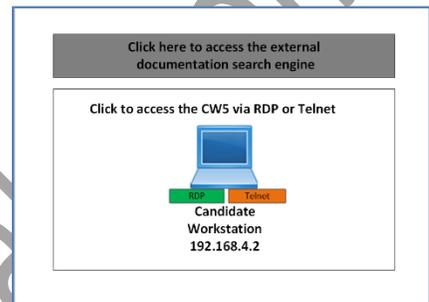
To grab all keyboard events (such as Alt+ Tab) in the RDP session, click the keyboard ⌨ icons in the toolbar (of the RDP session) on the left side.

Upon logging into your CWS, a web browser will open to a homepage that contains useful links for the tasks you will be working on.
Also opening automatically is a terminal window that displays some Information for running code.

Note: Also, upon accessing your CWS for the first time, you'll be promoted to "Choose a password for new keyring".
This password would be used if you were to save passwords within your web browser for accessing systems. You can set a passphrase or just "Cancel". This prompt may come up twice.

Source Code, Version Control, and CICD Tooling
All code repositories are located at -/arc/tosics. There is one directory per question. Be sure to push all commits to the main branch in Gitlab.

Gitlab can be accessed at https://gitlab-01.ppm.example.com from your Candidate Workstation.

All necessary configuration of your git, client, including ssh keys for communication, have been configured on your CWS for you. You will be able to commit and push without any changes.

Python Virtual Environments

Python libraries and environments are already configured on your CWS and are as follows.

-/venvs/noin -The primary virtual environment used for most tasks
-/venvs/onsible -A virtual environment with Ansible installed
-/venvs/youngsuite -A virtual environment with YANG Suite installed

Terminal sessions will automatically have the "main" veny activated.

The following terminal aliases have been created to change venvs if you need to do so:

-/venvs/noin
-/venvs/onsible
-/venvs/youngsuite

Perpetual Motion Machines Network Automation Team Development Lab and Resources

Common Resources

Candidate Workstation
192.168.4.2

Telegraf/Influx/Grafana
tig-01.ppm.example.com
192.168.4.27

GitLab Server
gitlab-01.ppm.example.com
192.168.4.21

Vault Server
vault_01.ppm.example.com
192.168.4.21

Development Help Desk Software System

dev-zammad
zammad 6.1
dev-zammad.ppm.example
192.168.4.101

used in Tasks:
T4.1_New_REST_API

Development Data Center Fabric

APIC

ACI Simulator
apic-01.ppm.example.com
192.168.4.22

used in Tasks:
T1.1_Terraform_ACI
T3.2_Python_Lib_SDK

Development Branch 54 Topology

brch-rtr-01
Catalyist 8000v 17.5.1a
brch-rtr-01.ppm.example.com
192.168.5.101

brch-rtr-02
Catalyist 8000v 17.5.1a
brch-rtr-02.ppm.example.com
192.168.5.102

Gig2 Gig2
Gig3 Gig4 Gig3 Gig4

E1/1 E1/2 E1/1 E1/2
E1/3 E1/3
E1/5 E1/5

brch-sw-01
Nexus 9300v 9.3.8
brch-sw-01.ppm.exampl.com
192.168.5.103

brch-sw-02
Nexus 9300v 9.3.8
brch-sw-02.ppm.exampl.com
192.168.5.104

Used in Tasks:
T2.4_NETCONF_RESTCONF
T3.6_Secure_Mgmt
T3.7_Secure_REST

Development WAN Edge Network Topology 01

rtr-sp1
IOSv 15.9(3) M3
192.168.5.110

rtr-sp2
IOSv 15.9(3) M3
192.168.5.111

Gig0/1 Gig0/1

Note: access to SP routers is restricted within the lab.

rtr-edge-01
Catalyist 8000v 17.5 1a
rtr-edge-01.ppm.example.com
192.168.5.112

rtr-edge-02
Catalyist 8000v 17.5 1a
rtr-edge-02.ppm.example.com
192.168.5.113

Gig2 Gig2
Gig6 Gig6
Gig5 Gig5
Gig4 Gig4

E1/1 E1/2 E1/1 E1/2

sw-spine-01
Nexus 9300v 9.3.8
sw-spine-01.ppm.example.com
192.168.5.114

sw-spine-02
Nexus 9300v 9.3.8
sw-spine-02.ppm.exampl.com
192.168.5.115

Used in Tasks:
T4.2_YANG_Model_Driven_Telemetry

Development WAN Edge Network Topology 02

rtr-sp3
IOSv 15.9(3) M3
192.168.5.116

rtr-sp4
IOSv 15.9(3) M3
192.168.5.117

Gig0/1 Gig0/1

Note: access to SP routers is restricted within the lab.

rtr-edge-03
Catalyist 8000v 17.5 1a
rtr-edge-01.ppm.example.com
192.168.5.118

rtr-edge-04
Catalyist 8000v 17.5 1a
rtr-edge-02.ppm.example.com
192.168.5.119

Gig2 Gig2
Gig6 Gig6
Gig5 Gig5
Gig4 Gig4

E1/1 E1/2 E1/1 E1/2

sw-spine-03
Nexus 9300v 9.3.8
sw-spine-01.ppm.example.com
192.168.5.120

sw-spine-04
Nexus 9300v 9.3.8
sw-spine-02.ppm.exampl.com
192.168.5.122

Used in Tasks:
T2.5_IOS-XE_cfg_mgmt_1
T2.6_IOS-XE_cfg_mgmt_2

Development Internet Edge Topology

Internet
Catalyist 8000v 17.5 1a
internet.ppm.example.com
192.168.4.30

Gig3
Gig1

cpe-01
Catalyist 8000v 17.5 1a
cpe-01.ppm.example.com
192.168.4.31

Gig2 Gig3

cpe-02
Catalyist 8000v 17.5 1a
cpe-02.ppm.example.com
192.168.4.32

Used in Tasks:
T3.4_PyATS

Common Development Credentials:

Interactive user	Service Account
Username: expert	Username: expert_auto
Password: 1234Qwerl	Password: Qwar1234_

Systems with unique password or authentication details are noted where relevant

1.1: TerraForm - ACI

The team lead started to create a new IaC Terraform plan but it is failing. You are being asked to fix the plan so that it can correctly configure the network for the upcoming connections for our new vending machines.

We are currently receiving this error:

```
# terraform plan
!
! Error: Reference to
undeclared resource
!
!       on main. tf line 20, in
resource
"aci_application_profile"
"appl":
!       20:            tenant_dn -
aci_tenant.tenant1
!
! A managed resource
"aci_tenant" "tenant1" has
not been declared in the root
module.
!


!
! Error: Reference to
undeclared resource
!
!       on main.tf line 31, in
resource "aci_contract"
"contracts":
!       31: tenant_dn -
aci_tenant.tenant1
!
! A managed resource
"aci_tenant" "tenant1" has
not been declared in the root
module.
```

The credentials admin/QWer1234_ to log in to ACI are already set through environment variables. Refer to envrc.

When it is complete, this plan must correctly execute and create the network topology as described in the variables file.

While you prepare your answer, keep these requirements in mind:

- The plan must create these elements based on the variables.tf file

  -The required tenant
  -The required contracts
  -The required EPGs
  -The required application profiles
  -The association between the EPGs and the contracts

- Leave the variables.tf file untouched.
- The task will be validated with a different variables.tf file.

All updates must be committed to the Git repository for the project and pushed to GitLab. Make sure to merge your updates into the main branch.

3points

Thank You for choosing www.passDevNetlabs.com Workbooks.