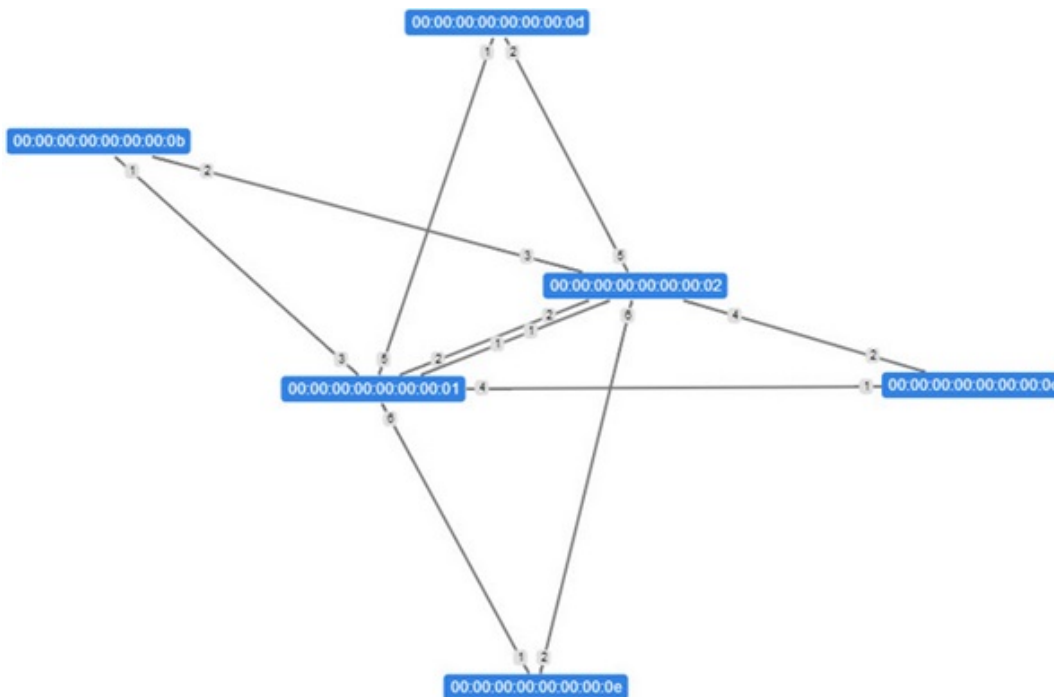# HP

## Exam HP2-Z31

## Creating HP Software-defined Networks

**Version: 9.0**

**[ Total Questions:   90 ]**

## Question No : 1

Refer to the exhibit.



Mininet is being used by a developer to test an OpenFlow RESTful API application developed in Python. The developer is able to view the switches in the OpenFlow topology diagram shown in the exhibit, but no hosts are displayed in the topology diagram. The same behavior is seen when making a RESTful API call for nodes via the RESTful API. Switch information is provided via API calls from the HP VAN SDN Controller, but no nodes are shown.

What is a possible issue?

**A.** Traffic needs to be sent by the Mininet nodes before they will be discovered by the HP VAN SDN Controller.
**B.** The developer is using the incorrect API calls and needs to ensure that tokens are sent when requesting information from the HP VAN SDN Controller
**C.** OpenFlow communication between Mininet and the HP VAN SDN Controller is not functioning correctly. Wireshark can be used to aid with troubleshooting the OpenFlow communication.
**D.** The Topology Service has been stopped on the HP VAN SDN Controller and needs to be started.

**Answer: D**

## Question No : 2

Which mechanism provides authentication of API calls via the REST API within the HP VAN SDN Controller?

**A.** Openstack Keystone
**B.** Java
**C.** RabbitMQ
**D.** Openstack

**Answer: A**

## Question No : 3

A single HP VAN SDN Controller is used to control OpenFlow enabled switches that operate in virtualization mode. An internal application is installed on the controller that redirects classified traffic to a specific VLAN. The connection between the controller and the network is lost. The HP OpenFlow enabled switches' connection interruption mode is set to standalone mode.

What is the forwarding behavior of the OpenFlow enabled switches?

**A.** Based on the timeout values, the flow entries age out, and only OpenFlow traffic is discarded
**B.** All flow entries are removed, and traffic is forwarded using normal switch processing.
**C.** All flow entries are set not to age out, and the classified traffic is still redirected.
**D.** Based on the timeout values, the flow entries are removed from the flow tables, and all traffic is discarded on the switches.

**Answer: B**

## Question No : 4

An administrator wants to navigate to the HP VAN SDN Controller graphical user interface to view options such as the OpenFlow Topology, Alerts, and installed applications. Which URL is correct for release 2.0 of the HP VAN SDN Controller configured with IP address 192.168.56.7?

**A.** https://192.168.56.7:8443/api

**B.** https://192.168.56.7:8080/sdn/ui
**C.** https://192.168.56.7:8443/sdn/ui
**D.** http://192.168.56.7:8443/sdn/ui

**Answer: C**

## Question No : 5

Which service on the HP VAN SDN Controller allows Observation posts to be set on a network?

**A.** Network Node Service
**B.** Path Diagnostic Service
**C.** Path Daemon Service
**D.** Topology Service

**Answer: B**

## Question No : 6

Refer to exhibit.

| Time | Event | Remote ID | Message |
|------|-------|-----------|---------|
| 12:51:30.399 | MESSAGE_RX | 00:14:00:9c:02:d8:18:00 | [ofm:[V_1_3,PACKET_IN,110,108],inPort=0x1(1),reason=NO_MA... |
| 12:51:30.399 | MESSAGE_TX | 00:14:00:9c:02:d8:18:00 | [ofm:[V_1_3,PACKET_OUT,100,108],acts=[[Act:[OUTPUT,len=16]... |
| 12:51:30.570 | DATAPATH_CONNECT... | 192.168.56.103/52076 | |
| 12:51:30.570 | MESSAGE_RX | 192.168.56.103/52076 | [ofm:[V_1_3,HELLO,16,10],elems=VERSION_BITMAP] |
| 12:51:30.570 | MESSAGE_TX | 192.168.56.103/52076 | [ofm:[V_1_3,HELLO,16,10],elems=VERSION_BITMAP] |
| 12:51:30.571 | MESSAGE_TX | 192.168.56.103/52076 | [ofm:[V_1_3,FEATURES_REQUEST,8,40587]] |
| 12:51:30.770 | MESSAGE_RX | 00:0a:00:9c:02:d8:18:00 | [ofm:[V_1_3,FEATURES_REPLY,32,40587],dpid=00:0a:00:9c:02:... |
| 12:51:30.772 | MESSAGE_TX | 00:0a:00:9c:02:d8:18:00 | [ofm:[V_1_3,MULTIPART_REQUEST,16,40588],PORT_DESC,flgs=n... |
| 12:51:30.772 | MESSAGE_TX | 00:0a:00:9c:02:d8:18:00 | [ofm:[V_1_3,SET_CONFIG,12,40589],flags=[fragReasm],msLen=... |
| 12:51:30.772 | MESSAGE_TX | 00:0a:00:9c:02:d8:18:00 | [ofm:[V_1_3,MULTIPART_REQUEST,16,40590],TABLE_FEATURES,... |
| 12:51:30.774 | MESSAGE_RX | 00:0a:00:9c:02:d8:18:00 | [ofm:[V_1_3,MULTIPART_REPLY,1616,40588],PORT_DESC,flgs=[]... |
| 12:51:30.902 | MESSAGE_RX | 00:0a:44:31:92:5f:aa:3b | [ofm:[V_1_3,PACKET_IN,110,0],inPort=0x2(2),reason=NO_MATC... |
| 12:51:30.902 | MESSAGE_TX | 00:0a:44:31:92:5f:aa:3b | [ofm:[V_1_3,PACKET_OUT,100,0],acts=[[Act:[OUTPUT,len=16],p... |
| 12:51:30.904 | MESSAGE_RX | 00:0a:00:9c:02:d8:ff:c0 | [ofm:[V_1_3,PACKET_IN,110,1970282596],inPort=0x7(7),reaso... |
| 12:51:30.943 | MESSAGE_RX | 00:14:00:9c:02:d8:18:00 | [ofm:[V_1_3,PACKET_IN,110,1970282596],inPort=0x7(7),reaso... |

Which HP VAN SDN Controller interface can a network administrator use to troubleshoot the southbound interface of the controller and displays the output shown in the exhibit?

**A.** Audit Log
**B.** OpenFlow Monitor

**C.** OpenFlow Tracer
**D.** Dissector

**Answer: C**

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## Question No : 7

How does an HP VAN SDN Controller team provide high availability for external applications?

**A.** By using the southbound controller interface tied to a region configuration
**B.** By using the southbound controller interface with a secondary interface
**C.** By using the northbound controller interface tied to a region configuration
**D.** By using the northbound controller interface with a secondary interface

**Answer: C**

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## Question No : 8

Refer to the exhibit.

**Flows for Data Path ID: 00:0a:00:9c:02:d8:18:00**

Summary    Ports    Flows    Groups

| Table ID | Priority | Packets | Bytes | Matches | Actions/Instructions |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | | goto_table: 100 |
| 100 | 0 | 157693 | 0 | | goto_table: 200 |
| 100 | 29999 | 721 | 0 | in_port: 4<br>eth_dst: 00:0c:29:24:53:3e<br>eth_src: 00:0c:29:15:20:e6<br>eth_type: arp | apply_actions:<br>output: 2 |
| 100 | 29999 | 723 | 0 | in_port: 2<br>eth_dst: 00:0c:29:15:20:e6<br>eth_src: 00:0c:29:24:53:3e<br>eth_type: arp | apply_actions:<br>output: 4 |
| 100 | 29999 | 28740 | 0 | in_port: 2<br>eth_dst: 00:0c:29:15:20:e6<br>eth_src: 00:0c:29:24:53:3e<br>eth_type: ipv4 | apply_actions:<br>output: 4 |
| 100 | 29999 | 28739 | 0 | in_port: 4<br>eth_dst: 00:0c:29:24:53:3e<br>eth_src: 00:0c:29:15:20:e6<br>eth_type: ipv4 | apply_actions:<br>output: 2 |
| 200 | 0 | 154712 | 9982515 | | apply_actions:<br>output: 4294967293 |

Which version of OpenFlow has the switch shown in the exhibit with DPID 00 0a:00 9c 02:d8 18:00 negotiated to use with the HP VAN SDN Controller version 2.0?

**A.** 1.0.0
**B.** 1.3.0
**C.** 1.5.0
**D.** 1.6.0

**Answer: B**

## Question No : 9

Which statement best describes software-defined networking (SDN)?

**A.** SDN allows software to leverage the network infrastructure, enabling a centralized and policy-based approach to network provisioning and traffic forwarding.
**B.** SDN allows administrators to share software, policies, templates, and applications between multiple virtual machines that are running on the same network.
**C.** SDN is another name for OpenFlow, a protocol that lets switches handle traffic with OpenFlow tables rather than MAC forwarding tables and routing tables.
**D.** SDN lets IT developers manage physical infrastructure devices directly without pre-defined templates or intermediary devices.

**Answer: A**

## Question No : 10
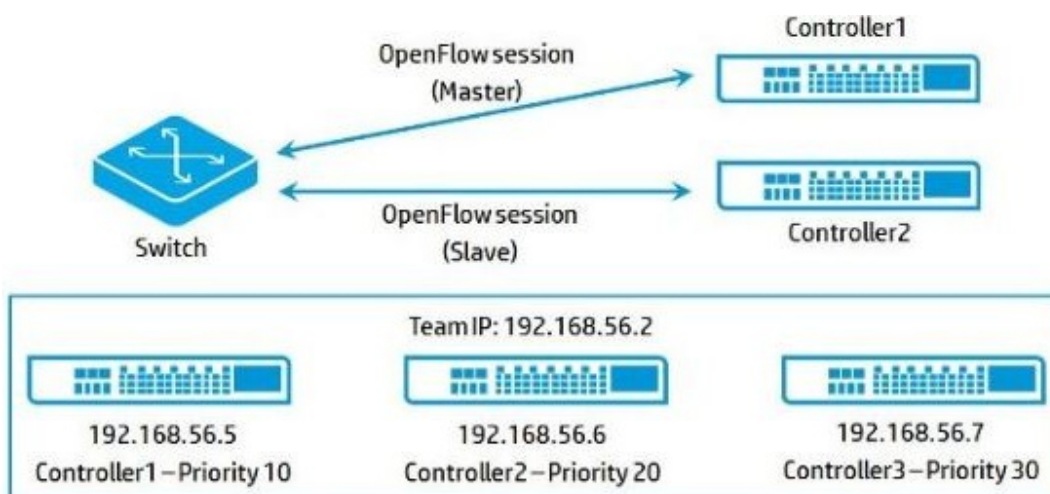
Refer to the exhibit.

A team of HP VAN SDN Controllers has been configured. In addition, regions have been configured. The switch shown in the exhibit has two OpenFlow sessions as follows:

Controller1 - Master

Controller2 - Slave

Controller1 is rebooted

What happens?

**A.** The role orchestration service detects Controller1 failure, and Controller2 becomes the master. Once Controller1 rejoins the team, it becomes the master, and Controller2 reverts to being the slave.
**B.** The role orchestration service detects Controller1 failure, and Controlle2 becomes the master. Once Controller1 rejoins the team, it joins as the slave controller.
**C.** The role orchestration service detects Controller1 failure. Controller2 becomes the master, and Controller1 becomes the slave. Once Controller1 rejoins the team. It joins as the master and Controller2 becomes the slave.
**D.** The role orchestration service detects Controller1 failure. Controller2 becomes the master and Controller1 becomes the slave. Once Controller1 rejoins the team it no longer communicates with the switch.

**Answer: A**

**Question No : 11**

Which component of OpenStack is used by the HP VAN SDN Controller for identity services?

**A.** Glance
**B.** Keystone
**C.** Swift
**D.** Horizon

**Answer: B**

**Question No : 12**

What are the addressing requirements for an HP VAN SDN Controller team?

**A.** A team requires two IP addresses for each controller, plus one IP address assigned to the team.

**B.** A team requires one IP address for each controller, plus one IP address assigned to the team.

**C.** A team requires one IP address, and members communicate using their MAC addresses.

**D.** A team requires one IP address for each controller; each is configured with the same multicast address.

**Answer: B**

## Question No : 13

What is a key feature of cloud computing?

**A.** server virtualization
**B.** network management virtualization
**C.** user self-provisioning
**D.** software-defined networking

**Answer: A**

## Question No : 14

Which HP IMC SDN Manager functionality provides a logical overview of the OpenFlow network?

**A.** SDN Manager reports
**B.** SDN Manager dashboard
**C.** SDN Manager flow entry management
**D.** SDN Manager OpenFlow topology

**Answer: B**

## Question No : 15

Which HP IMC SDN Manager functionally provides a detailed overview of flow entry history?

**A.** SDN Manager service flow management
**B.** SDN Manager Open Flow device management
**C.** SDN Manager dashboard
**D.** SDN Manager flow entry management

**Answer: A**

## Question No : 16

How does an HP Provision OpenFlow device treat packets received on a port blocked by Spanning Tree Protocol?

**A.** Packets are submitted to the OpenFlow pipeline for processing.
**B.** Packets are not submitted to the OpenFlow pipeline for processing.
**C.** BPDU frames are submitted to The OpenFlow pipeline for processing.
**D.** All Layer 2 frames are submitted to the controller for processing

**Answer: A**

## Question No : 17

A customer writes an internal application that does not run properly and crashes. Which component of the HP VAN SDN Controller framework offers protection so that other applications continue to function?

**A.** OSGi
**B.** Zookeeper
**C.** Cassandra
**D.** Keystone

**Answer: A**

## Question No : 18