HP Certified Professional
Routing Switch Essentials Exam (HP0-790)
Exam Preparation Guide

Purpose of the Exam Prep Guide

The intent of this guide is to set expectations about the content and the context of the exam and to help candidates prepare for the exam. In this guide, you will find recommended HP training courses, reference and study material to assist you in preparing for the exam.

Studies conducted by HP and Prometric show that a combination of course attendance and self-study maximizes the likelihood of passing the exam on the first attempt.

Audience

This exam is for system engineer or networking engineer who have experience designing complex networks. Examples of job roles:

Reseller and customer network specialists, System Engineers, Network Engineers, HP Field System Engineers, HP Services Technical Support and Field Services Engineers

Certification Requirements

The Routing Switch Essentials, HP0-790 is one of the core requirements to be certified as an Accredited System Engineer (ASE) for ProCurve Networking.

The ASE – ProCurve Networking designation provides certification that an individual has the skills to design complex, scalable ProCurve-based networks and can implement and support complex switched and routing environments. This certification also has a focus on multi-protocol networks and performance management. Candidates are expected to have knowledge and hands-on experience with the product to pass this exam.

Prerequisites:

The following requirements are prerequisites for the ASE – ProCurve Networking Certification.

- AIS – ProCurve Networking

Exam Details

At the beginning of the exam, you will be asked to answer several survey questions. The survey questions are designed to assist the exam development team in accurately profiling test results and to improve future exams.

The following are details about the exam:

- **Number of items:** 57
- **Item types:** multiple choice, drag and drop
- **Time commitment:** 90 minutes
- **Passing Score:** 72%
- **Reference Material:** No on-line or hard copy reference material will be allowed at the testing site.

Comments on the Exam

After the exam has been completed, there is additional 15 minutes allotted for the participant to make specific comments about the test items (i.e., accuracy, appropriateness to audience, etc). HP welcomes these comments as part of our continuous improvement process.

Exam Content

Topics included in this exam are:

- Device configuration and management
- VLANs and IP interfaces
- Enabling port trunking
- Providing redundant links
- Providing redundant default gateways
- Designing and configuring IP networks
- Configuring OSPF
- Defining and applying ACLs

Student Performance Objectives

After completing Routing Switch Essentials v5.21, students will be able to:

- List the features and benefits of the ProCurve Routing Switch 9300m series
- Describe the management and port modules available for the 9300m
- Explain the components and advantages of the 9300m's distributed switching architecture
- Explain how the 9300m and other ProCurve switches support ProCurve Adaptive EDGE Architecture
- Install, configure, and monitor redundant management modules on the 9300m
- Compare the configuration options and commands available on the 9300m and the ProCurve Switch 5300xl series and 3400cl series
- Using the Command Line Interface, configure VLANs and virtual interfaces on the 9300m
- Describe the in-band management methods available on the 9300m
- Using the Command Line Interface, configure system-defined user accounts
- Using the Command Line Interface, configure local user accounts and use them to synchronize authentication methods for the in-band management methods
- Using the Command Line Interface, update 9300m system image files
- Using the Command Line Interface, save, backup, and restore 9300m configuration files
- Use the 9300m Boot Monitor to diagnose and recover from system problems or failures
- Identify port and slot numbers on the 9300m
- Describe the VLAN functionality of the 9300m
- Compare and contrast the VLAN functionality of the 9300m and the 3400cl/5300xl
- Given a set of customer requirements, configure VLANs and virtual interfaces on the 9300m
- Given a set of customer requirements, define static routes on the 9300m
- Describe the port trunking functionality of the 9300m series
- Compare and contrast the port trunking functionality of the 9300m and the 3400cl/5300xl
- Given a set of customer requirements, configure port trunking on the 9300m

- Describe the Spanning Tree functionality of the 9300m
- Compare and contrast the Spanning Tree functionality of the 9300m and the 3400cl/5300xl
- Describe the options for configuring the 9300m and the 3400cl/5300xl for interoperable Spanning Tree
- Given a set of customer requirements, configure Spanning Tree on the 9300m and the 3400cl/5300xl
- Describe the 9300m series' support for default gateway redundancy
- Describe the interaction of VRRP and Spanning Tree
- Compare and contrast VRRP and VRRP Extended (VRRPE)
- Given a set of customer requirements, configure VRRP and VRRPE on the 9300m
- Design a virtual router solution that will enable default gateway redundancy for enterprise clients
- Given a set of customer requirements, design an IP network addressing and routing scheme that uses intelligent edge devices
- Configure virtual, physical, and loopback interfaces on the 9300m
- Given a set of customer requirements, configure, monitor, and troubleshoot RIP on the 9300m and 3400cl/5300xl
- Given a set of customer requirements, design a route summarization and redistribution scheme
- Given a set of customer requirements, configure, monitor, and troubleshoot OSPF on the 9300m and the 3400cl/5300xl
- Given a set of customer requirements, define OSPF areas to enable efficient routing topologies
- Given a set of customer requirements, configure redistribution of external routes
- Describe the applications for ACLs on the 9300m and the 3400cl/5300xl
- Compare and contrast the uses and applications for standard and extended ACLs
- Distinguish between named and numbered ACLs
- Given a set of customer requirements, configure ACLs to effectively filter network traffic on the 9300m
- Monitor and troubleshoot ACL operation on 9300m and the 3400cl/5300xl

Recommended Training and Study References

This section lists training courses and documents that can help you acquire a majority of the knowledge and skills needed to pass the exam. You must also gain the practical experience outlined in this guide

You are not required to take the courses listed in this section. However, HP **strongly recommends** that you attend the classes, participate in class labs, and thoroughly review all course material and documents before taking the exam, even if you believe you have sufficient on-the-job experience.

Instructor-Led Training

Use the information in this guide and the practical experience you have gained to determine your need for the instructor-led training.

Title	Course Number	How to Enroll
Adaptive EDGE Fundamentals	15768	www.hp.com/go/procurvetraining use the regional links to find schedules and registration information
IP Routing Foundation	24266	www.hp.com/go/procurvetraining use the regional links to find schedules and registration information
Routing Switch Essentials v 5.21 or later	23365	www.hp.com/go/procurvetraining use the regional links to find schedules and registration information

Documentation

Title	Section Title	Source/Order Number
Product Manuals		http://www.hp.com/rnd/support/manuals/index.htm

Other Reference Material

Title	Order Number	Source
FAQs, Manuals, Configuration Examples, etc.		http://www.hp.com/rnd/support/

Preparing for the exam

Here are some recommended steps to prepare for the exam.

1) Attend the recommended training courses
2) Perform all lab activities
3) Make notes about examples that the instructor may have provided
4) Read the student and lab guides thoroughly, and ensure that you
   - Can define/describe relevant technologies
   - Can describe the importance of the technologies
   - Understand the possible options available for configuring this product or solution – and know the advantages/disadvantages of each option
   - Know HOW to perform each lab activity and know WHY each task is necessary
5) Think about how this product or solution would be used in other scenarios
6) Become familiar with the typical installation problems, and be able to perform basic troubleshooting

Sample Test Items

The sample test items give you a preview of what the actual test items will look like. It is important to note that these items WILL NOT be on the exam itself. However, they are representative of the actual items, and they should help you become familiar with the format and complexity of the test items. These items are numbered two ways, sequentially on the left, and by course module number on the right. After the exam number (790), you will see the course module that the question is related to.

These sample test items are not a check for readiness.

1.) You are installing a second management module on a ProCurve Routing Switch 9300m. Under default settings, which configuration step is necessary to ensure that the firmware images of the two modules are synchronized?

A. You must enter the sync-standby command.
B. The images will automatically be synchronized.
C. You must manually update the firmware on the second module.
D. You must reboot the switch using the image on the first module.

2.) What is a difference between the default authentication methods used by the web management interfaces on the ProCurve Routing Switch 9300m and the Switch 5300xl?

A. The 9300m uses different passwords for the web interface and the CLI. The 5300xl uses the same password.
B. The web interface of the 9300m uses the super-user password. The web interface for the 5300xl uses the Privileged EXEC password.
C. The 5300xl uses different passwords for the web interface and the CLI. The 9300m uses the same passwords.
D. The web interface of the 5300xl requires a username and a password. The web interface of the 9300m requires only a password.

3.) What is the procedure for entering the Boot Monitor?

A. Press b on a directly connected terminal while the system is booting.
B. Press Ctrl-b on a directly connected terminal while the system is booting.
C. Hold the RESET button on the management module at any time.
D. Enter the command boot mon from the Privileged EXEC level.

4.) Which ProCurve switch model supports the largest number of port-based VLANs?

A. 3400cl
B. 4100gl
C. 5300xl
D. 9300m
E. 12000m

5.) What is the function of an “uplink port” on the ProCurve Routing Switch 9300m?

A. It is the only port in a port-based VLAN that does not receive broadcast traffic.
B. It is a port that carries all VLANs configured on the switch.
C. It can be used only for switch-to-switch connections.
D. It is the only port in a port-based VLAN that forwards broadcast traffic.

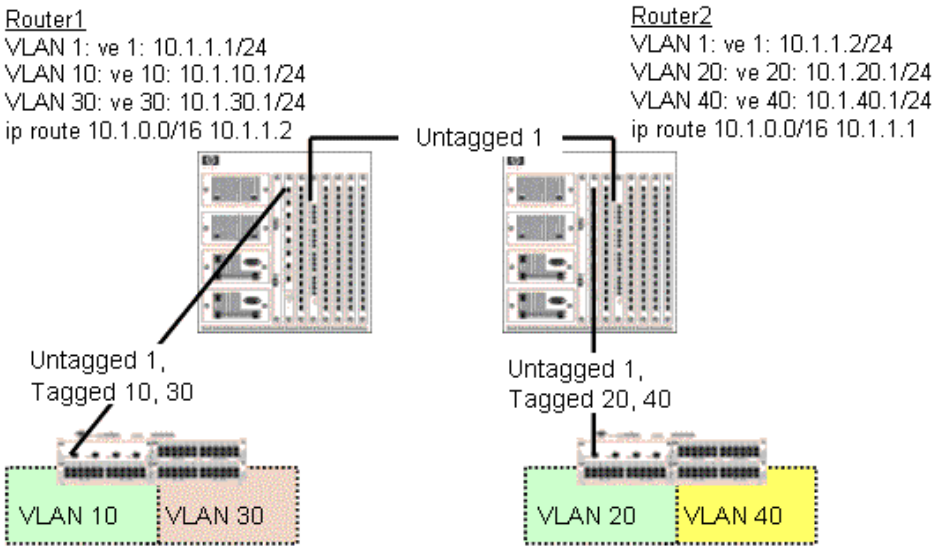
6.) What is a difference between the configuration of the Default VLAN on the ProCurve Routing Switch 9300m and the Switch 5300xl?

A. At factory defaults, VLAN 1 is the Default VLAN on the 9300m. The ID of the Default VLAN must be configured on the 5300xl.
B. The ID of the Default VLAN must be configured during initial setup of the 9300m. VLAN 1 is the Default VLAN under factory defaults on the 5300xl.
C. The ID of the Default VLAN can be configured on the 9300m. The Default VLAN is always VLAN 1 on the 5300xl.
D. The Default VLAN is always VLAN 1 on the 9300m. The Default VLAN ID is configurable on the 5300xl.

7.) Please refer to the exhibit below to answer this question.

How does the configuration of the ProCurve 9300m Routing Switches affect traffic sent from a host in VLAN 10 to a host in VLAN 40?

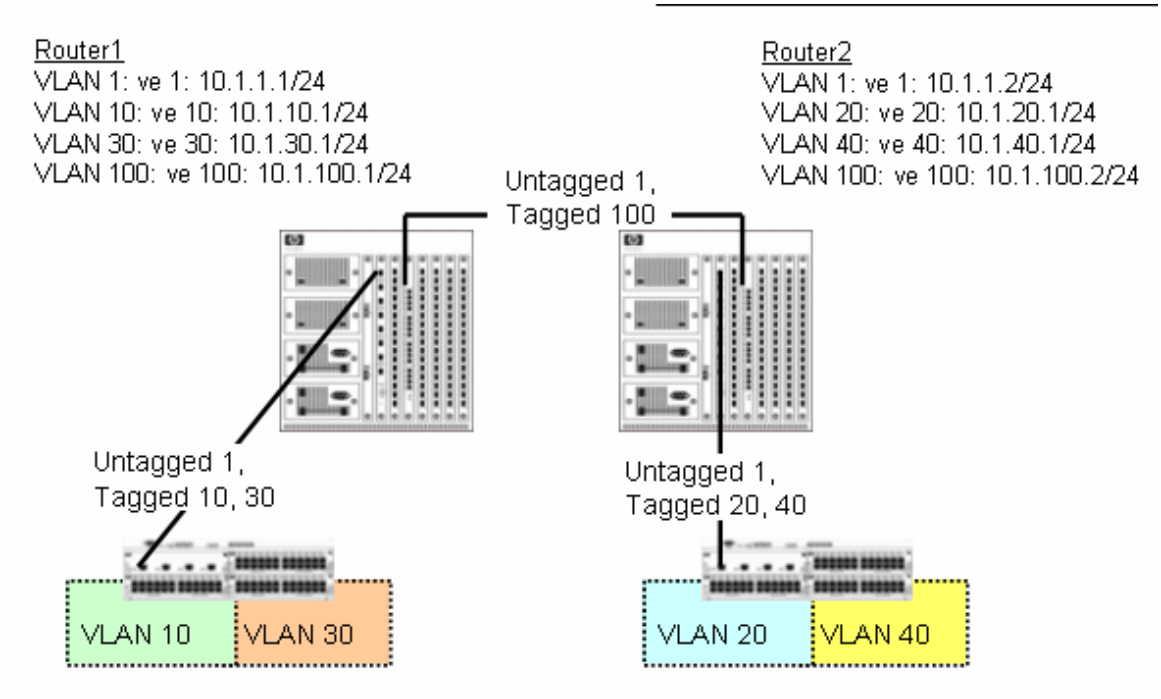
A. The traffic will not be forwarded.
B. The traffic will be forwarded with no Layer 2 prioritization information.
C. The traffic will be forwarded with a VLAN ID of 1.
D. The traffic will be forwarded only if the hosts have default gateways in VLAN 1.



8.) Please refer to the exhibit below to answer this question.

On Router1, which command will ensure that traffic from VLAN 10 is forwarded to Router2 with the IEEE 802.1Q tag intact?

A. ip route 10.1.0.0/16 10.1.100.2
B. ip route 10.1.0.0/16 10.1.1.2
C. ip route 10.1.100.0/24 10.1.100.2
D. ip route 10.1.10.0/24 10.1.100.2



9.) Module 7 on a ProCurve Routing Switch 9308m contains sixteen ports. Which ports could serve as primary port for a four-port trunk? Select TWO.

A. 7/4
B. 7/5
C. 7/7
D. 7/8
E. 7/9
F. 7/11

10.) What does this CLI output indicate about the Spanning Tree configuration of the ProCurve Routing Switch 9300m?

A. The switch is configured for 802.1D.
B. The switch is configured for 802.1w.
C. The switch is configured for 802.1s.
D. The switch is configured for PVST+.

11.) How does the output of the show ip rip command differ between the ProCurve Routing Switch 9300m and the Switch 5300xl?

A. On the 9300m, the output lists all RIP neighbors and the version of their RIP advertisements. On the 5300xl, the output describes all enabled RIP interfaces.
B. On the 9300m, the output displays information about currently configured RIP filters. On the 5300xl, the output shows information about RIP neighbors and advertisements.
C. On the 9300m, the output provides information about the RIP version configured on the 9300m. On the 5300xl, the output lists information about all routes advertised by RIP neighbors.
D. On the 9300m, the output lists all RIP neighbors and the routes they advertise. On the 5300xl, the output shows the content of the advertisements that the 5300xl sends to its neighbors.

12.) What is a difference between the processes for configuring RIP on the ProCurve Routing Switch 9300m and the Switch 5300xl?

A. On the 9300m, you must specify a RIP version. On the 5300xl, RIP v2 is enabled by default.
B. On the 9300m, RIP is enabled by default. On the 5300xl, you must enable RIP in the global configuration context.
C. On the 9300m, you must enable RIP for all router interfaces. On the 5300xl, you must enable RIP only on interfaces with RIP neighbors.
D. On the 9300m, you must enable RIP only in the virtual interface context. On the 5300xl, you must enable RIP must globally and for specific VLANs.

13.) What is a difference between the methods used for determining OSPF link costs on the ProCurve Routing Switch 9300m and the Switch 5300xl?

A. The 9300m learns cost parameters from neighbors. Costs must be configured on the 5300xl.
B. The 9300m supports automatic link cost assignment. Costs must be configured manually on the 5300xl.
C. The 9300m allows a different cost to be assigned to each interface. On the 5300xl, a single cost is assigned to all routed links.
D. The 9300m automatically bases costs on the speed of the fastest routed link. On the 5300xl, the administrator must specify the fastest link.

14.) The administrator of a ProCurve Routing Switch 9300m enters the following command at the CLI:

9300m(config-ospf-router)#redistribute static

How will a static route configured on the 9300m be displayed in the route tables of adjacent routers?

A. Static route
B. Default route
C. OSPF route
D. Directly

Answers:

1) B.
2) A.
3) A.
4) D.
5) D.
6) C.
7) B.
8) A.
9) B.E.
10) B.
11) B.
12) A.
13) B.
14) C.

Conclusion

HP wishes you success in the HP Certified Professional Program and in passing the exam for which you are preparing.