



HP Certified Professional

HP-UX System Administration

Exam # HP0-091

Exam Preparation Guide

Purpose of the exam prep guide

The intent of this guide is to set your expectations about the content and the context of the exam, and to help you prepare for the exam by providing the following items:

- recommended HP training courses
- outline of the topics covered by the exam
- sample test questions. These sample questions do not represent a complete practice exam.

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

Audience

System and network administrators, system integrators, support engineers, and technical consultants. These professionals are expected to have an intermediate-level knowledge of and at least one year of hands-on experience with HP-UX.

Certification Requirements

The HP-UX System Administration Exam # HP0-091 is the core requirement to be certified as Certified Systems Administrator (CSA). Visit the HP Certified Professional website for additional information, www.hp.com/go/certification.

Prerequisites

There are no formal pre-requisites for this exam. Intermediate-level knowledge of and at least one year of hands-on experience with HP-UX is expected. Attendance at the HP training courses listed below is highly recommended.

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 to accurately profile test results and to improve future exams.

The following are details about the exam:

- **Number of items:** 75
- **Item types:** multiple choice, multiple response, drag and drop
- **Time commitment:** 105 minutes
- **Passing Score:** 64%
- **Reference Material:** No online or hard copy reference material will be allowed at the testing site.

Comments on the exam

During the exam, participants can make specific comments about the items (i.e., accuracy, appropriateness to audience, etc). HP welcomes these comments as part of our continuous improvement process. Comment time is included in the overall time for taking the exam. We suggest you mark the questions you want to comment on, and then when done with the test, revisit the marked items and make comments. This way if time runs out, you will not be compromising your score.

Exam content

The following topics and testing objectives represent the specific areas of content covered in the exam. Use this outline to guide your study and to check your readiness for the exam. The exam measures your understanding of these areas. The percentages in parentheses indicate the relative percentage of the exam devoted to each objective.

1. **Describe and explain the architecture and structure of HP-UX and its foundational technologies (10%)**
 - a. HP-UX OS architecture
 - b. Major hardware components found in HP's current systems
 - c. Features and benefits of HP's currently supported PCI bus types.
 - d. Differences and compatibilities between common SCSI technologies.
 - e. Features and benefits of HP disk management solutions.
 - f. HP-UX file systems and their use.
 - g. Significance of basic LVM concepts and structure.

- h. Significance of basic VxVM concepts and structure
- 2. **Describe the HP-UX user environment and demonstrate the use of basic commands and utilities (25%)**
 - a. Login and logout of an HP-UX system
 - b. Navigate the CDE GUI interface
 - c. Determine basic information about a system.
 - d. Execute HP-UX commands from the command line.
 - e. Manage and manipulate files and directories.
 - f. Define and describe the attributes of basic system components.
 - g. Demonstrate the tools and techniques used to identify, monitor, and terminate programs and processes.
 - h. Identify and explain how and when to use advanced shell features.
 - i. Describe and demonstrate how to communicate with system users.
 - j. Describe when and how to access basic network services.
- 3. **Perform HP-UX system administration and operational tasks using command line and GUI tools (25%)**
 - a. Boot, reboot and shutdown an HP-UX system or partition.
 - b. Connect and configure HP-UX hardware.
 - c. Describe, configure, and manage HP-UX device files.
 - d. Configure and manage disks and partitions.
 - e. Maintain file and file system integrity and design.
 - f. Backup and recover data on an HP-UX system.
 - g. Create and manage swap space.
 - h. Create and manage user/group environments.
 - i. Describe print spooling and its use.
 - j. Describe common areas of performance bottlenecks.
 - k. Describe SYS-V IPC services and their use.
 - l. Describe SAM and its use.
 - m. Describe system startup model and its use.
 - n. Describe *chroot* and its use.
 - o. Describe */etc/default* and its use.
 - p. Monitor system activity and events.
- 4. **Perform HP-UX system network administration tasks (22%)**

- a. Describe MAC addressing and its use.
- b. Describe IP addressing and its use.
- c. Describe NIC and its use.
- d. Enable DHCP for NIC address configuration.
- e. Check local connectivity to a known neighbor by IP or by MAC (Station or Ether) address.
- f. Describe *set_parms* and its use.
- g. Describe common network configuration files and their use.
- h. Describe network monitor utilities and their use.
- i. Describe and configure HP-UX routing.
- j. Configure and monitor network services.
- k. Describe CIFS/9000 (SAMBA) and its use.
- l. Describe the ONC suite of network services and their use.
- m. Describe DNS and its use.
- n. Describe *sendmail* and its use as a MTA and MDA.
- o. Describe *ntp* and its use.
- p. Describe other tools to monitor network utilization.

5. Perform HP-UX installation, upgrade, and recovery tasks (8%)

- a. Perform and HP-UX installation from local installation media.
- b. Perform a software/patch installation from a software distribution depot server.
- c. Configure a software distribution depot server.
- d. Install HP-UX patches.
- e. Describe the features and benefits of Ignite-UX and install and configure an Ignite-UX server.
- f. Describe and use system recovery options.

6. Perform HP-UX security administration tasks (10%)

- a. Cite user-level security settings.
- b. Describe trusted system and its use.
- c. Describe password creation options and their use.
- d. Describe how to implement system access restrictions.
- e. Describe common system security concerns.
- f. Describe *ssh* and its use.

- g. Describe PAM and its use.
- h. Describe available security tools.
- i. Describe common administrative security tasks.
- j. Explain how various network architectures/features can affect a system security policy.

Recommended Training

It is recommended that you thoroughly review all course material and documents before taking the exam, even if you believe you have sufficient on-the-job experience. If you do not intend to take the recommended training course, check your local HP certification or training website to see if the course materials are available for purchase separately.

Instructor-Led Course	Course Number	How to Enroll
HP-UX System and Network Administration for Experienced UNIX System Administrators	H5875S	Please visit your local HP certification or training website to enroll
-or- Fundamentals of the UNIX System Bundle	51434S	
HP-UX System and Network Administration I	H3064S	
HP-UX System and Network Administration II	H3065S	

Other Study Resources

- HP-UX manual pages
http://docs.hp.com/hpux/os/man_pages.html
- HP-UX v11 system administration manuals
<http://docs.hp.com/hpux/os/11.0/index.html#System%20Administration>
- HP-UX v11 user guides
<http://docs.hp.com/hpux/os/11.0/index.html#User%20Guides>

- HP-UX v11 installation and update documentation

<http://docs.hp.com/hpux/os/11.0/index.html#Installing%20and%20Updating>

- Other useful study resources

HP-UX CSA: Official Study Guide and Desk Reference by Rafeeq Rehman

(Prentice Hall, Pub date: Aug 04, ISBN: 0131448544, 1088 pages, \$59.99)

Sample Test Questions

The sample test questions give you a preview of what the actual test will be like. It is important to note that these questions WILL NOT be on the exam. However, they are representative of the actual questions, and they should help you become familiar with the format and complexity of the test. These sample test questions are not a check for readiness.

1. What is the advantage of adding a journal to a file system?

- A. automatic defragmentation
- B. improved buffer cache utilization
- C. faster recovery time
- D. guaranteed data integrity
- E. to provide an audit trail

2. Which LVM structure is used to hold a file system?

- A. volume group
- B. VGRA area
- C. physical volume
- D. logical volume

3. Choose the significant features of VxVM on HP-UX. Select TWO.

- A. online backup, cluster file systems, and online administration
- B. preferred type for SWAP file system
- C. runs an independent form of the HP-UX kernel resulting in better performance
- D. journalled file system with striping and mirroring allowed on the same volume
- E. preferred file system type for `/stand`

4. What does the `su` command do?

- A. suspends a user
- B. shutdown UNIX
- C. changes your user id
- D. shows the users on the system

5. Which command shows your current group?

- A. `newgroup`
- B. `who`
- C. `id`
- D. `whoami`

6. Which key combination is used for command line completion in the POSIX shell?

- A. `<tab> <tab>`
- B. `<esc> <k>`
- C. `<esc> <esc>`
- D. `<up arrow> <up arrow>`

7. Which command is used to determine the number of disks attached to a SCSI controller?

- A. `diskinfo -in`
- B. `lsdev`
- C. `cat /etc/scsi.conf`
- D. `pvdisplay`
- E. `ioscan -fn`

8. What does the `PATH` variable define?

- A. directories you can `cd` into
- B. multiple fibre channel access paths to disk
- C. directory search order when using the `find` command
- D. directory search order used when locating a command for execution

9. What is the purpose of a MAC address?
- A. controls the PA-RISC processor chip
 - B. points to a location in physical system memory
 - C. identifies a LAN interface port
 - D. locates a block of data on a disk
10. Which ways can you boot to install HP-UX? Select THREE.
- A. an NFS mounted filesystem
 - B. LAN
 - C. CDROM/DVDROM
 - D. tape
 - E. IDE drive
 - F. mirrored disk

Conclusion

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

APPENDIX A: Answers to Sample Exam Questions

Answer key:

1. C
2. D
3. A, D
4. C
5. C
6. C
7. E
8. D
9. C
10. B, C, D