

VMware vSphere: Optimize and Scale [V6.5] H2UX4S

HPE course number	H2UX4S
Course length	5 days
Delivery mode	ILT/VILT
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This five-day course will teach you advanced skills for configuring and maintaining a highly available and scalable virtual infrastructure. Through a mix of lecture and hands-on labs, you will configure and optimize the vSphere features that build a foundation for a truly scalable infrastructure, and you will discuss when and where these features have the greatest effect. Anyone who is ready to take their understanding of vSphere to a deeper level and learn how to use advanced features and controls will greatly benefit from this course.

Why HPE Education Services?

- IDC MarketScape leader 4 years running for IT education and training*
- Recognized by IDC for leading with global coverage, unmatched technical expertise, and targeted education consulting services*
- Key partnerships with industry leaders OpenStack®, VMware®, Linux®, Microsoft®, ITIL, PMI, CSA, and (ISC)²
- Complete continuum of training delivery options—self-paced eLearning, custom education consulting, traditional classroom, video on-demand instruction, live virtual instructor-led with hands-on lab, dedicated onsite training
- Simplified purchase option with HPE Training Credits

Audience

- Experienced system administrators, System engineers, System integrators

- Equivalent knowledge and administration experience with ESXi and vCenter Server
- Experience with working at the command prompt is highly recommended

Prerequisites

This course requires the following prerequisites:

- Understanding of concepts presented in the VMware vSphere: Install, Configure, Manage [V6.5] course

Objectives

By the end of the course, you should be able to meet the following objectives:

- Configure and manage ESXi networking and storage for a large and sophisticated enterprise
- Manage changes to the vSphere environment
- Optimize the performance of all vSphere components
- Harden the vSphere environment against security threats
- Use VMware vSphere® Client™, VMware vSphere® Web Client, and VMware vSphere® ESXi™ Shell to manage vSphere
- Use VMware vSphere® Auto Deploy™ to provision ESXi hosts
- Use VMware vRealize® Log Insight™ to monitor system logs
- Deploy VMware vCenter® Server Appliance™ to be highly available and optimized for performance

Detailed Outline

1. Course Introduction	<ul style="list-style-type: none">• Introductions and course logistics• Course objectives	<ul style="list-style-type: none">• Identify additional resources for after this course• Identify other VMware Education offerings
2. Network Scalability	<ul style="list-style-type: none">• Configure and manage vSphere distributed switches	<ul style="list-style-type: none">• Explain distributed switch features such as port mirroring, LACP, QoS tagging, and NetFlow
3. Storage Scalability	<ul style="list-style-type: none">• Explain vSphere storage APIs for array integration and storage awareness• Configure and assign virtual machine storage policies	<ul style="list-style-type: none">• Configure VMware vSphere® Storage DRS™ and VMware vSphere® Storage I/O Control• Create and use virtual volumes in vSphere
4. Host and Management Scalability	<ul style="list-style-type: none">• Explain the uses of VMware vCenter® Converter™• Define and use content libraries	<ul style="list-style-type: none">• Describe and use host profiles• Describe and use VMware vSphere® ESXi™ Image Builder CLI and vSphere Auto Deploy
5. CPU Optimization	<ul style="list-style-type: none">• Explain the CPU scheduler operation, NUMA support, and other features that affect CPU performance	<ul style="list-style-type: none">• Use esxtop to monitor key CPU performance metrics
6. Memory Optimization	<ul style="list-style-type: none">• Explain ballooning, memory compression, and host-swapping techniques for memory reclamation when memory is overcommitted	<ul style="list-style-type: none">• Use esxtop to monitor key memory performance metrics
7. Storage Optimization	<ul style="list-style-type: none">• Describe factors that affect storage performance	<ul style="list-style-type: none">• Use esxtop to monitor key storage performance metrics
8. Network Optimization	<ul style="list-style-type: none">• Explain the performance features of network adapters• Explain the performance features of vSphere networking	<ul style="list-style-type: none">• Use esxtop to monitor key network performance metrics
9. Analyzing vSphere	<ul style="list-style-type: none">• Explain how Proactive DRS enhances virtual machine availability	<ul style="list-style-type: none">• Use vRealize Log Insight to identify and troubleshoot issues
10. vCenter Server Availability and Performance	<ul style="list-style-type: none">• Explain the native high availability feature of vCenter Server and VMware Platform Services Controller™• Configure vCenter Server and Platform Services Controller high availability	<ul style="list-style-type: none">• Understand what factors influence vCenter Server performance
11. vSphere Security	<ul style="list-style-type: none">• Configure ESXi host access and authorization• Secure ESXi, vCenter Server, and virtual machines	<ul style="list-style-type: none">• Use VMware Certificate Authority to configure vSphere certificate management• Configure vSphere to encrypt virtual machines, core dumps, and VMware vSphere® vMotion®

Learn more at
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