

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

<b>HPE course number</b>	H2UX4S
<b>Course length</b>	5 days
<b>Delivery mode</b>	ILT/VILT
<b>View schedule, local pricing, and register</b>	<a href="#">View now</a>
<b>View related courses</b>	<a href="#">View now</a>

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)<sup>2</sup>
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## 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

\*Realize Technology Value with Training, IDC Infographic 2037, Sponsored by HPE, January 2016

## 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

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

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