

مشاوره، تحقیقات، طرح و اجرای شبکه های ارتباطی  
و برگزار کننده دوره های آموزشی

## Pack VMware VCP6.5-DCV 1 + VCP6.5-DCV 2

### VMware Certified Professional –Data Center Virtualization VMware vSphere DCV1: Install, Configure, Manage v6.5 VMware vSphere DCV2: Optimize and Scale v6.5

اعتبار دهنده: VMware

پیش نیاز: CCNA or MCITP

مدت (ساعت): ۶۰

#### معرفی دوره :

بسته ویژه مجازی سازی که منجر به دریافت مدرک

VCP6.5-DCV - VMware Certified Professional 6.5 -  
DataCenter Virtualization

ترکیبی از دو دوره می باشد و مباحث ذیل را پوشش می دهد :

Vmware Vsphere DCV -1: Install, Configure, Manage v6.5 (VSICM)

Vmware Vsphere DCV -2: Optimize and Scale v6.5 (VSOS)

این دوره برای افرادی طراحی شده است که می خواهند خود را برای آزمون  
VCP DataCenter Virtualization که سطح حرفه ایی در زمینه  
راه اندازی و مدیریت و طراحی Virtualization می باشد آماده کنند .

این دوره برای مدیران و کارشناسان مربوط به IT شرکت ها و سازمان ها و  
بانک ها و ... طراحی شده است.

مدت زمان دوره و سیلابس دوره به صورت بین المللی و منطبق بر شرکت  
VMware طراحی شده است.

#### مخاطبان دوره :

مدیران، کارشناسان، دانشجویان فعال در حوزه فناوری اطلاعات

#### اهداف دوره :

- ▶ راه اندازی و تنظیم سرویس دهنده های ESXi و vCenter
- ▶ راه اندازی و تنظیم بستر vNetworking و vStorage بر روی VMware ESXi
- ▶ نصب، راه اندازی و مدیریت ماشین های مجازی
- ▶ نصب، راه اندازی و مدیریت سرویس های VMware vMotion, VMware HA, VMware DRS و VMware FT جهت ایجاد High Availability
- ▶ تبدیل سرویس دهنده های فیزیکی به ماشین های مجازی P2V Conversion
- ▶ Backup و Restore کردن ماشین های مجازی
- ▶ استفاده از vCenter جهت مدیریت منابع ماشینهای مجازی
- ▶ به کارگیری تمهیداتی جهت بهینه سازی در کارکرد CPU

#### امتیازات دوره :

- ▶ اعطای مدرک فارسی و انگلیسی با مجوز رسمی از :
- ▶ سازمان مدیریت و برنامه ریزی کشور (معلونت توسعه مدیریت و سرمایه انسانی رئیس جمهوری سابق)
- ▶ مجوز از اداره کل نظام مدیریت امنیت اطلاعات (نما)
- ▶ شورای عالی انفورماتیک
- ▶ قابلیت ترجمه و تایید قوه قضاییه و امور خارجه
- ▶ بهره گیری از لابراتوارسخت افزاری و نرم افزاری مجهز
- ▶ بهره گیری از اساتید مجرب و تأیید شده با سابقه حضور در پروژه های ملی
- ▶ طراحی شده توسط تیم اساتید کاریار ارقام

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Course Outline :	محتوای دوره :
<p><b>VCP6.5-DCV 1:</b></p> <p><b>1. Course Introduction</b></p> <ul style="list-style-type: none"> <li>• Introductions and course logistics</li> <li>• Course objectives</li> <li>• Describe the content of this course</li> <li>• Gain a complete picture of the VMware certification system</li> <li>• Familiarize yourself with the benefits of the VMware Education Learning Zone</li> <li>• Identify additional resources</li> </ul> <p><b>2. Introduction to vSphere and the Software-Defined Data Center</b></p> <ul style="list-style-type: none"> <li>• Describe the topology of a physical data center</li> <li>• Explain the vSphere virtual infrastructure</li> <li>• Define the files and components of virtual machines</li> <li>• Describe the benefits of using virtual machines</li> <li>• Explain the similarities and differences between physical architectures and virtual architectures</li> <li>• Define the purpose of ESXi</li> <li>• Define the purpose of vCenter Server</li> <li>• Explain the software-defined data center</li> <li>• Describe private, public, and hybrid clouds</li> </ul> <p><b>3. Creating Virtual Machines</b></p> <ul style="list-style-type: none"> <li>• Introduce virtual machines, virtual machine hardware, and virtual machine files</li> <li>• Identify the files that make up a virtual machine</li> <li>• Discuss the latest virtual machine hardware and its features</li> <li>• Describe virtual machine CPU, memory, disk, and network resource usage</li> <li>• Explain the importance of VMware Tools™</li> <li>• Discuss PCI pass-through, Direct I/O, remote direct memory access, and NVMe</li> <li>• Deploy and configure virtual machines and templates</li> <li>• Identify the virtual machine disk format</li> </ul> <p><b>4 vCenter Server</b></p> <ul style="list-style-type: none"> <li>• Introduce the vCenter Server architecture</li> <li>• Deploy and configure vCenter Server Appliance</li> <li>• Use vSphere Web Client</li> </ul>	<ul style="list-style-type: none"> <li>• Backup and restore vCenter Server</li> <li>• Access and navigate the new vSphere clients</li> <li>• Examine vCenter Server permissions and roles</li> <li>• Explain the vSphere HA architectures and features</li> <li>• Examine the new vSphere authentication proxy</li> <li>• Manage vCenter Server inventory objects and licenses</li> </ul> <p><b>5 Configuring and Managing Virtual Networks</b></p> <ul style="list-style-type: none"> <li>• Describe, create, and manage standard switches</li> <li>• Configure virtual switch security and load-balancing policies</li> <li>• Contrast and compare vSphere distributed switches and standard switches</li> <li>• Describe the virtual switch connection types</li> <li>• Describe the new TCP/IP stack architecture</li> <li>• Use VLANs with standard switches</li> </ul> <p><b>6 Configuring and Managing Virtual Storage</b></p> <ul style="list-style-type: none"> <li>• Introduce storage protocols and storage device types</li> <li>• Discuss ESXi hosts using iSCSI, NFS, and Fibre Channel storage</li> <li>• Create and manage VMFS and NFS datastores</li> <li>• Describe the new features of VMFS 6.5</li> <li>• Introduce Virtual SAN</li> <li>• Describe guest file encryption</li> </ul> <p><b>7 Virtual Machine Management</b></p> <ul style="list-style-type: none"> <li>• Use templates and cloning to deploy new virtual machines</li> <li>• Modify and manage virtual machines</li> <li>• Clone a virtual machine</li> <li>• Upgrade virtual machine hardware to version 12</li> <li>• Remove virtual machines from the vCenter Server inventory and datastore</li> <li>• Customize a new virtual machine using customization specification files</li> <li>• Perform vSphere vMotion and vSphere Storage vMotion migrations</li> <li>• Create and manage virtual machine snapshots</li> <li>• Create, clone, and export vApps</li> <li>• Introduce the types of content libraries and how to deploy and use them</li> </ul>

Course Outline :	محتوای دوره :
<p><b>8 Resource Management and Monitoring</b></p> <ul style="list-style-type: none"> <li>• Introduce virtual CPU and memory concepts</li> <li>• Explain virtual memory reclamation techniques</li> <li>• Describe virtual machine overcommitment and resource competition</li> <li>• Configure and manage resource pools</li> <li>• Describe methods for optimizing CPU and memory usage</li> <li>• Use various tools to monitor resource usage</li> <li>• Create and use alarms to report certain conditions or events</li> <li>• Describe and deploy resource pools</li> <li>• Set reservations, limits, and shares</li> <li>• Describe expandable reservations</li> <li>• Schedule changes to resource settings</li> <li>• Create, clone, and export vApps</li> <li>• Use vCenter Server performance charts and esxtop to analyze vSphere performance</li> </ul> <p><b>9 vSphere HA and vSphere Fault Tolerance</b></p> <ul style="list-style-type: none"> <li>• Explain the vSphere HA architecture</li> <li>• Configure and manage a vSphere HA cluster</li> <li>• Use vSphere HA advanced parameters</li> <li>• Define clusterwide restart ordering capabilities</li> <li>• Enforce infrastructural or intra-app dependencies during failover</li> <li>• Describe vSphere HA heartbeat networks and datastore heartbeats</li> <li>• Introduce vSphere Fault Tolerance</li> <li>• Enable vSphere Fault Tolerance on virtual machines</li> <li>• Support vSphere Fault Tolerance interoperability with Virtual SAN</li> <li>• Examine enhanced consolidation of vSphere Fault Tolerance virtual machines</li> <li>• Introduce vSphere Replication</li> <li>• Use vSphere Data Protection to back up and restore data</li> </ul> <p><b>10 Host Scalability</b></p> <ul style="list-style-type: none"> <li>• Describe the functions and benefits of a vSphere DRS cluster</li> </ul>	<ul style="list-style-type: none"> <li>• Configure and manage a vSphere DRS cluster</li> <li>• Work with affinity and anti-affinity rules</li> <li>• Describe the new capabilities for what-if analysis and proactive vSphere DRS</li> <li>• Highlight the evolution of vSphere DRS using predictive data from VMware vRealize® Operations Manager™</li> <li>• Perform preemptive actions to prepare for CPU or memory changes</li> <li>• Describe the vCenter Server embedded vSphere Update Manager, VMware vSphere® ESXi™ Image Builder CLI, and VMware vSphere® Auto Deploy capabilities</li> <li>• Use vSphere HA and vSphere DRS together for business continuity</li> </ul> <p><b>11 vSphere Update Manager and Host Maintenance</b></p> <ul style="list-style-type: none"> <li>• Describe the new vSphere Update Manager architecture, components, and capabilities</li> <li>• Use vSphere Update Manager to manage ESXi, virtual machine and vApp patching</li> <li>• Install vSphere Update Manager and the vSphere Update Manager plug-in</li> <li>• Create patch baselines</li> <li>• Use host profiles to manage host configuration compliance</li> <li>• Scan and remediate hosts</li> </ul> <p><b>VCP6.5-DCV 2:</b></p> <p><b>1 Course Introduction</b></p> <ul style="list-style-type: none"> <li>• Introductions and course logistics</li> <li>• Course objectives</li> <li>• Identify additional resources for after this course</li> <li>• Identify other VMware Education offerings</li> </ul>

Course Outline :	محتوای دوره :
<p><b>2 Network Scalability</b></p> <ul style="list-style-type: none"> <li>• Configure and manage vSphere distributed switches</li> <li>• Explain distributed switch features such as port mirroring, LACP, QoS tagging, and NetFlow</li> </ul> <p><b>3 Storage Scalability</b></p> <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> <li>• Configure VMware vSphere® Storage DRS™ and VMware vSphere® Storage I/O Control</li> <li>• Create and use virtual volumes in vSphere</li> </ul> <p><b>4 Host and Management Scalability</b></p> <ul style="list-style-type: none"> <li>• Explain the uses of VMware vCenter® Converter™</li> <li>• Define and use content libraries</li> <li>• Describe and use host profiles</li> <li>• Describe and use VMware vSphere® ESXi™ Image Builder CLI and vSphere Auto Deploy</li> </ul> <p><b>5 CPU Optimization</b></p> <ul style="list-style-type: none"> <li>• Explain the CPU scheduler operation, NUMA support, and other features that affect CPU performance</li> <li>• Use esxtop to monitor key CPU performance metrics</li> </ul> <p><b>6 Memory Optimization</b></p> <ul style="list-style-type: none"> <li>• Explain ballooning, memory compression, and host-swapping techniques for memory reclamation when memory is overcommitted</li> <li>• Use esxtop to monitor key memory performance metrics</li> </ul>	<p><b>7 Storage Optimization</b></p> <ul style="list-style-type: none"> <li>• Describe factors that affect storage performance</li> <li>• Use esxtop to monitor key storage performance metrics</li> </ul> <p><b>8 Network Optimization</b></p> <ul style="list-style-type: none"> <li>• Explain the performance features of network adapters</li> <li>• Explain the performance features of vSphere networking</li> <li>• Use esxtop to monitor key network performance metrics</li> </ul> <p><b>9 Analyzing vSphere</b></p> <ul style="list-style-type: none"> <li>• Explain how Proactive DRS enhances virtual machine availability</li> <li>• Use vRealize Log Insight to identify and troubleshoot issues</li> </ul> <p><b>10 vCenter Server Availability and Performance</b></p> <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> <li>• Understand what factors influence vCenter Server performance</li> </ul> <p><b>11 vSphere Security</b></p> <ul style="list-style-type: none"> <li>• Configure ESXi host access and authorization</li> <li>• Secure ESXi, vCenter Server, and virtual machines</li> <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>