VCP6-DCV Study Checklist
Exam Number: 2V0-621

Version 1.2

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Exam Topics		
Section 1: Configure and Administer vSphere 6.x Security	**Completed**	**Revise**
Objective 1.1: Configure and Administer Role-based Access Control		
Knowledge		
• Compare and contrast propagated and explicit permission assignments		
• View/Sort/Export user and group lists		
• Add/Modify/Remove permissions for users and groups on vCenter Server inventory objects		
• Determine how permissions are applied and inherited in vCenter Server		
• Create/Clone/Edit vCenter Server Roles		
• Configure VMware Directory Service		
• Apply a role to a User/Group and to an object or group of objects		
• Change permission validation settings		
• Determine the appropriate set of privileges for common tasks in vCenter Server		
• Compare and contrast default system/sample roles		
• Determine the correct permissions needed to integrate vCenter Server with other VMware products		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Security Guide		
• What's New in the VMware vSphere® 6.0 Platform		
• vSphere Administration with the vSphere Client Guide		
• vSphere Client / vSphere Web Client		
Objective 1.2: Secure ESXi, vCenter Server, and vSphere Virtual Machines		
Knowledge		
• Harden virtual machine access		
Control VMware Tools installation		
Control VM data access		
Configure virtual machine security policies		
• Harden a virtual machine against Denial-of-Service attacks		
Control VM-VM communications		
Control VM device connections		
Configure network security policies		
• Harden ESXi Hosts		
Enable/Configure/Disable services in the ESXi firewall		
Change default account access		
Add an ESXi Host to a directory service		
Apply permissions to ESXi Hosts using Host Profiles		

Enable Lockdown Mode		
Control access to hosts (DCUI/Shell/SSH/MOB)		
• Harden vCenter Server		
Control datastore browser access		
Create/Manage vCenter Server Security Certificates		
Control MOB access		
Change default account access		
Restrict administrative privileges		
• Understand the implications of securing a vSphere environment		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Security Guide		
• What's New in the VMware vSphere® 6.0 Platform		
• Security of the VMware vSphere® Hypervisor		
• vSphere Administration with the vSphere Client Guide		
• VMware Hardened Virtual Appliance Operations Guide added to Tech Resource Directory		
• vSphere Client / vSphere Web Client		
Objective 1.3: Enable SSO and Active Directory Integration		
Knowledge		
• Describe SSO architecture and components		
• Differentiate available authentication methods with VMware vCenter		
• Perform a multi-site SSO installation		
• Configure/Manage Active Directory Authentication		
• Configure/Manage Platform Services Controller (PSC)		
• Configure/Manage VMware Certificate Authority (VMCA)		
• Enable/Disable Single Sign-On (SSO) Users		
• Upgrade a single/multi-site SSO installation		
• Configure SSO policies		
• Add/Edit/Remove SSO identity sources		
• Add an ESXi Host to an AD domain		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Security Guide		
• What's New in the VMware vSphere® 6.0 Platform		
• VMware vCenter Server™ 6.0 Deployment Guide		
• Direct Console User Interface (DCUI)		
• vSphere Client / vSphere Web Client		

Section 2: Configure and Administer Advanced vSphere 6.x Networking	Completed	Revise
Objective 2.1: Configure Advanced Policies/Features and Verify Network Virtualization Implementation		
Knowledge		
• Create/Delete a vSphere Distributed Switch		
• Add/Remove ESXi Hosts from a vSphere Distributed Switch		
• Add/Configure/Remove dvPort groups		
• Add/Remove uplink adapters to dvUplink groups		
• Configure vSphere Distributed Switch general and dvPort group settings		
• Create/Configure/Remove virtual adapters		
• Migrate virtual machines to/from a vSphere Distributed Switch		
• Configure LACP on vDS given design parameters		
• Describe vDS Security Polices/Settings		
• Configure dvPort group blocking policies		
• Configure load balancing and failover policies		
• Configure VLAN/PVLAN settings for VMs given communication requirements		
• Configure traffic shaping policies		
• Enable TCP Segmentation Offload support for a virtual machine		
• Enable Jumbo Frames support on appropriate components		
• Recognize behavior of vDS Auto-Rollback		
• Configure vDS across multiple vCenter Servers to support [Long Distance vMotion]		
• Compare and contrast vSphere Distributed Switch (vDS) capabilities		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Networking Guide		
• What's New in the VMware vSphere® 6.0 Platform		
• Leveraging NIC Technology to Improve Network Performance in VMware vSphere		
• VDS Network Health Check		
• vSphere Client / vSphere Web Client		
Objective 2.2: Configure Network I/O Control (NIOC)		
Knowledge		
• Define NIOC		
• Explain NIOC capabilities		
• Configure NIOC shares/limits based on VM requirements		
• Explain the behavior of a given NIOC setting		
• Determine Network I/O Control requirements		
• Differentiate Network I/O Control capabilities		
• Enable/Disable Network I/O Control		
• Monitor Network I/O Control		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Networking Guide		
• What's New in the VMware vSphere® 6.0 Platform		
• Performance Evaluation of Network I/O Control in VMware vSphere 6		

• vSphere Client / vSphere Web Client		

Section 3: Configure and Administer Advanced vSphere 6.x Storage	Completed	Revise
Objective 3.1: Manage vSphere Storage Virtualization		
Knowledge		
• Discover new storage LUNs		
• Configure FC/iSCSI/FCoE LUNs as ESXi boot devices		
• Create an NFS share for use with vSphere		
• Enable/Configure/Disable vCenter Server storage filters		
• Configure/Edit hardware/dependent hardware initiators		
• Enable/Disable software iSCSI initiator		
• Configure/Edit software iSCSI initiator settings		
• Configure iSCSI port binding		
• Enable/Configure/Disable iSCSI CHAP		
• Determine use cases for fiber channel zoning		
• Compare and contrast array thin provisioning and virtual disk thin provisioning		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Storage Guide		
• Best Practices for Running VMware vSphere® on iSCSI		
• vSphere Client / vSphere Web Client		
Objective 3.2: Configure Software-defined Storage		
Knowledge		
• Explain VSAN and VVOL architectural components		
• Determine the role of storage providers in VSAN		
• Determine the role of storage providers in VVOLs		
• Explain VSAN failure domains functionality		
• Configure/Manage VMware Virtual SAN		
• Create/Modify VMware Virtual Volumes (VVOLs)		
• Configure Storage Policies		
• Enable/Disable Virtual SAN Fault Domains		
• Create Virtual Volumes given the workload and availability requirements		
• Collect VSAN Observer output		
• Create storage policies appropriate for given workloads and availability requirements		
• Configure VVOLs Protocol Endpoints		
Tools		
• Administering VMware Virtual SAN		
• vSphere Storage Guide		
• What's New: VMware Virtual SAN 6.0		
• What's New in the VMware vSphere® 6.0 Platform		
• Virtual SAN 6.0 Performance: Scalability and Best Practices		
• vSphere Client / vSphere Web Client		

Objective 3.3: Configure vSphere Storage Multi-pathing and Failover		
Knowledge		
• Explain common multi-pathing components		
• Differentiate APD and PDL states		
• Given a scenario, compare and contrast Active Optimized vs. Active non-Optimized port group states		
• Explain features of Pluggable Storage Architecture (PSA)		
• Understand the effects of a given claim rule on multipathing and failover		
• Explain the function of claim rule elements:		
Vendor		
Model		
Device ID		
SATP		
PSP		
• Change the Path Selection Policy using the UI		
• Determine required claim rule elements to change the default PSP		
• Determine the effect of changing PSP on Multipathing and failover		
• Determine the effects of changing SATP on relevant device behavior		
• Configure/Manage Storage Load Balancing		
• Differentiate available Storage Load Balancing options		
• Differentiate available Storage Multi-pathing Policies		
• Configure Storage Policies		
• Locate failover events in the UI		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Storage Guide		
• Multipathing Configuration for Software iSCSI Using Port Binding		
• vSphere Client / vSphere Web Client		
Objective 3.4: Perform Advanced VMFS and NFS Configurations and Upgrades		
Knowledge		
• Describe VAAI primitives for block devices and NAS		
• Differentiate VMware file system technologies		
• Upgrade VMFS3 to VMFS5		
• Compare functionality of newly created vs. upgraded VMFS5 datastores		
• Differentiate Physical Mode RDMs and Virtual Mode RDMs		
• Create a Virtual/Physical Mode RDM		
• Differentiate NFS 3.x and 4.1 capabilities		
• Compare and contrast VMFS and NFS datastore properties		
• Configure Bus Sharing		
• Configure Multi-writer locking		
• Connect an NFS 4.1 datastore using Kerberos		
• Create/Rename/Delete/Unmount VMFS datastores		
• Mount/Unmount an NFS datastore		
• Extend/Expand VMFS datastores		

	Completed	Revise
• Place a VMFS datastore in Maintenance Mode		
• Select the Preferred Path/Disable a Path to a VMFS datastore		
• Enable/Disable vStorage API for Array Integration (VAAI)		
• Given a scenario, determine a proper use case for multiple VMFS/NFS datastores		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Storage Guide		
• VMware vSphere® Storage APIs – Array Integration (VAAI)		
• vSphere Client / vSphere Web Client		
Objective 3.5: Setup and Configure Storage I/O Control		
Knowledge		
• Describe the benefits of SIOC		
• Enable and configure SIOC		
• Configure/Manage SIOC		
• Monitor SIOC		
• Differentiate between SIOC and Dynamic Queue Depth Throttling features		
• Given a scenario, determine a proper use case for SIOC		
• Compare and contrast the effects of I/O contention in environments with and without SIOC		
Tools		
• Administering VMware Virtual SAN		
• vSphere Storage Guide		
• vSphere Resource Management Guide		
• vSphere Client / vSphere Web Client		

Section 4: Upgrade a vSphere Deployment to 6.x	Completed	Revise
Objective 4.1: Perform ESXi Host and Virtual Machine Upgrades		
Knowledge		
• Configure download source(s)		
• Setup UMDS to setup download repository		
• Import ESXi images		
• Create Baselines and/or Baseline groups		
• Attach Baselines to vSphere objects		
• Scan vSphere objects		
• Stage patches & Extensions		
• Remediate an object		
• Upgrade a vSphere Distributed Switch		
• Upgrade VMware Tools		
• Upgrade Virtual Machine hardware		
• Upgrade an ESXi Host using vCenter Update Manager		
• Stage multiple ESXi Host upgrades		
• Align appropriate baselines with target inventory objects.		

	Completed	Revise
Tools		
• vSphere Upgrade Guide		
• vSphere Virtual Machine Administration Guide		
• vSphere Client / vSphere Web Client		
Objective 4.2: Perform vCenter Server Upgrades		
Knowledge		
• Compare the methods of upgrading vCenter Server		
• Backup vCenter Server database, configuration and certificate datastore		
• Perform update as prescribed for Appliance or Installable		
• Upgrade vCenter Server Appliance (vCSA)		
• Given a scenario, determine the upgrade compatibility of an environment		
• Determine correct order of steps to upgrade a vSphere implementation		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Upgrade Guide		
• VMware vCenter Server™ 6.0 Deployment Guide		
• Command-Line Installation and Upgrade of VMware vCenter Server Appliance 6.0		
• Command-Line Installation and Upgrade of VMware vCenter Server 6.0 for Windows		
• vSphere Client / vSphere Web Client		

Section 5: Administer and Manage vSphere 6.x Resources	Completed	Revise
Objective 5.1: Configure Advanced/Multilevel Resource Pools		
Knowledge		
• Understand/Apply		
• Determine the effect of the Expandable Reservation parameter on resource allocation		
• Create a resource pool hierarchical structure		
• Configure custom resource pool attributes		
• Determine how resource pools apply to vApps		
• Describe vFlash architecture		
• Create/Remove a Resource Pool		
• Add/Remove virtual machines from a Resource Pool		
• Create/Delete vFlash Resource Pool		
• Assign vFlash resources to VMDKs		
• Given a scenario, determine appropriate shares, reservations and limits for hierarchical Resource Pools		
Tools		
• vSphere Resource Management Guide		
• vSphere Virtual Machine Administration Guide		
• What's New in VMware vSphere® Flash Read Cache®		
• vSphere Client / vSphere Web Client		

Section 6: Backup and Recover a vSphere Deployment	Completed	Revise
Objective 6.1: Configure and Administer a vSphere Backups/Restore/Replication Solution		
Knowledge		
• Compare and contrast vSphere Replication compression methods		
• Differentiate VMware Data Protection capabilities		
• Configure recovery point objective (RPO) for a protected virtual machine		
• Explain VMware Data Protection sizing guidelines		
• Create/Delete/Consolidate virtual machine snapshots		
• Install and Configure VMware Data Protection		
• Create a backup job with VMware Data Protection		
• Backup/Restore a virtual machine with VMware Data Protection		
• Install/Configure/Upgrade vSphere Replication		
• Configure VMware Certificate Authority (VMCA) integration with vSphere Replication		
• Configure vSphere Replication for Single/Multiple VMs		
• Recover a VM using vSphere Replication		
• Perform a failback operation using vSphere Replication		
• Deploy a pair of vSphere Replication virtual appliances		
Tools		
• VMware vSphere® Data Protection™ 6.0		
• vSphere Data Protection Administration Guide		
• VMware vSphere® Data Protection™ Evaluation Guide		
• What's New in the VMware vSphere® 6.0 Platform		
• VMware vSphere Replication Administration		
• VDR Data Migration Tool		
• VDP Configure Utility		
• vSphere Client / vSphere Web Client		

Section 7: Troubleshoot a vSphere Deployment	Completed	Revise
Objective 7.1: Troubleshoot vCenter Server, ESXi Hosts, and Virtual Machines		
Knowledge		
• Monitor status of the vCenter Server service		
• Perform basic maintenance of a vCenter Server database		
• Monitor status of ESXi management agents		
• Determine ESXi Host stability issues and gather diagnostics information		
• Monitor ESXi system health		
• Locate and analyze vCenter Server and ESXi logs		
• Determine the appropriate Command Line Interface (CLI) command for a given troubleshooting task		
• Troubleshoot common issues, including:		
vCenter Server service		
SSO		
vCenter Server connectivity		

Virtual machine resource contention, configuration and operation		
Platform Services Controller (PSC)		
Problems with installation		
VMware Tools installation		
Fault Tolerant network latency		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Troubleshooting Guide		
• vSphere Virtual Machine Administration Guide		
• vSphere Server and Host Management Guide		
• vSphere Monitoring and Performance Guide		
• vSphere Security Guide		
• vSphere Client / vSphere Web Client		
Objective 7.2: Troubleshoot vSphere Storage and Network Issues		
Knowledge		
• Identify and isolate network and storage resource contention and latency issues		
• Monitor networking and storage resources using vROps alerts and all badges		
• Verify network and storage configuration		
• Verify a given virtual machine is configured with the correct network resources		
• Monitor/Troubleshoot Storage Distributed Resource Scheduler (SDRS) issues		
• Recognize the impact of network and storage I/O control configurations		
• Recognize a connectivity issue caused by a VLAN/PVLAN		
• Troubleshoot common issues with:		
Storage and network		
Virtual switch and port group configuration		
Physical network adapter configuration		
VMFS metadata consistency		
Tools		
• vSphere Networking Guide		
• vSphere Storage Guide		
• vSphere Troubleshooting Guide		
• vSphere Server and Host Management Guide		
• vSphere Client / vSphere Web Client		
Objective 7.3: Troubleshoot vSphere Upgrades		
Knowledge		
• Collect upgrade diagnostic information		
• Recognize common upgrade issues with vCenter Server and vCenter Server Appliance		
• Create/Locate/Analyze VMware log bundles		
• Determine alternative methods to upgrade ESXi Hosts in event of failure		
• Configure vCenter Server logging options		
Tools		

• vSphere Upgrade Guide		
• vSphere Troubleshooting Guide		
• vSphere Update Manager Utility		
• vSphere Client / vSphere Web Client		
• Update Manager Web Client		
Objective 7.4: Troubleshoot and Monitor vSphere Performance		
Knowledge		
• Monitor CPU and memory usage (including vRealize OM badges and alerts)		
• Identify and isolate CPU and memory contention issues		
• Recognize impact of using CPU/memory limits, reservations and shares		
• Describe and differentiate critical performance metrics		
• Describe and differentiate common metrics, including:		
Memory		
CPU		
Network		
Storage		
• Monitor performance through esxtop		
• Troubleshoot Enhanced vMotion Compatibility (EVC) issues		
• Troubleshoot virtual machine performance with vRealize Operations		
• Compare and contrast Overview and Advanced Charts		
Tools		
• Compare and contrast Overview and Advanced Charts		
• vSphere Resource Management Guide		
• vSphere Troubleshooting Guide		
• vSphere Monitoring and Performance Guide		
• vCenter Operations Manager Getting Started Guide (vSphere UI)		
Objective 7.5: Troubleshoot HA and DRS Configurations and Fault Tolerance		
Knowledge		
• Troubleshoot issues with:		
DRS workload balancing		
HA failover/redundancy, capacity and network configuration		
HA/DRS cluster configuration		
vMotion/Storage vMotion configuration and/or migration		
Fault Tolerance configuration and failover issues		
• Explain the DRS Resource Distribution Graph and Target/Current Host Load Deviation		
• Explain vMotion Resource Maps		
Tools		
• vSphere Resource Management Guide		
• vSphere Monitoring and Performance Guide		
• vSphere Installation and Setup Guide		
• vSphere Troubleshooting Guide		
• vSphere Availability Guide		

		Completed	Revise
• vSphere Client / vSphere Web Client			

Section 8: Deploy and Consolidate vSphere Data Center		Completed	Revise
Objective 8.1: Deploy ESXi Hosts Using Autodeploy			
Knowledge			
• Describe the components and architecture of an Auto Deploy environment			
• Use Auto Deploy Image Builder and PowerCLI scripts			
• Implement Host Profiles with an Auto Deploy of an ESXi Host			
• Install and configure Auto Deploy			
• Understand PowerCLI cmdlets for Auto Deploy			
• Deploy multiple ESXi Hosts using Auto Deploy			
• Given a scenario, explain the Auto Deploy deployment model needed to meet a business requirement			
Tools			
• vSphere Installation and Setup Guide			
• vSphere Client / vSphere Web Client			
• Direct Console User Interface (DCUI)			
Objective 8.2: Customize Host Profile Settings			
Knowledge			
• Edit answer file to customize ESXi Host settings			
• Modify and apply a storage path selection plugin (PSP) to a device using host profiles			
• Modify and apply switch configurations across multiple hosts using a Host Profile			
• Create/Edit/Remove a Host Profile from an ESXi Host			
• Import/Export a Host Profile			
• Attach and apply a Host Profile to ESXi Hosts in a cluster			
• Perform compliance scanning and remediation of an ESXi Hosts and clusters using Host Profiles			
• Enable or disable Host Profile components			
Tools			
• vSphere Installation and Setup Guide			
• vSphere Host Profiles Guide			
• vSphere Client / vSphere Web Client			
Objective 8.3: Consolidate Physical Workloads using VMware Converter			
Knowledge			
• Install vCenter Converter standalone instance			
• Convert physical workloads using vCenter Converter			
• Modify server resources during conversion			
• Interpret and correct errors during conversion			
• Deploy a physical host as a virtual machine using vCenter Converter			
• Collect diagnostic information during conversion operation			
• Resize partitions during the conversion process			
• Given a scenario, determine which virtual disk format to use			

	Completed	Revise
Tools		
• vSphere Installation and Setup Guide		
• VMware vCenter Converter Standalone Guide		
• vSphere Client / vSphere Web Client		
• VMware vCenter Converter Standalone Client		

Section 9: Configure and Administer vSphere Availability Solutions	Completed	Revise
Objective 9.1: Configure Advanced vSphere HA Features		
Knowledge		
• Modify vSphere HA advanced cluster settings		
• Configure a network for use with HA heartbeats		
• Apply an admission control policy for HA		
• Enable/disable advanced vSphere HA settings		
• Configure different heartbeat datastores for an HA cluster		
• Apply virtual machine monitoring for a cluster		
• Configure Virtual Machine Component Protection (VMCP) settings		
• Implement vSphere HA on a Virtual SAN cluster		
• Explain how vSphere HA communicates with Distributed Resource Scheduler and Distributed Power Management		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Availability Guide		
• What's New in the VMware vSphere® 6.0 Platform		
• vSphere Administration with the vSphere Client Guide		
• vSphere Client / vSphere Web Client		
Objective 9.2: Configure Advanced vSphere DRS Features		
Knowledge		
• Configure VM-Host affinity/anti-affinity rules		
• Configure VM-VM affinity/anti-affinity rules		
• Add/remove Host DRS Group		
• Add/remove virtual machine DRS Group		
• Enable/disable Distributed Resource Scheduler (DRS) affinity rules		
• Configure the proper Distributed Resource Scheduler (DRS) automation level based on a set of business requirements		
• Explain how DRS affinity rules effect virtual machine placement		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Administration with the vSphere Client Guide		
• What's New in the VMware vSphere® 6.0 Platform		
• vSphere Resource Management		
• vSphere Client / vSphere Web Client		

Section 10: Administer and Manage vSphere Virtual Machines	Completed	Revise
Objective 10.1: Configure Advanced vSphere Virtual Machine Settings		
Knowledge		
• Determine how using a shared USB device impacts the environment		
• Configure virtual machines for vGPUs, DirectPath I/O and SR-IOV		
• Configure virtual machines for multicore vCPUs		
• Differentiate virtual machine configuration settings		
• Interpret virtual machine configuration files (.vmx) settings		
• Enable/disable advanced virtual machine settings		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Administration with the vSphere Client Guide		
• vSphere Virtual Machine Administration Guide		
• vSphere Client / vSphere Web Client		
Objective 10.2: Create and Manage a Multi-site Content Library		
Knowledge		
• Publish a content catalog		
• Subscribe to a published catalog		
• Determine which privileges are required to globally manage a content catalog		
• Compare the functionality of Automatic sync and On-Demand sync		
• Configure Content Library to work across sites		
• Configure Content Library authentication		
• Set/configure Content Library roles		
• Add/remove Content Libraries		
Tools		
• vSphere Installation and Setup Guide		
• vSphere Administration with the vSphere Client Guide		
• What's New in the VMware vSphere® 6.0 Platform		
• vSphere Virtual Machine Administration Guide		
• vSphere Client / vSphere Web Client		
Objective 10.3: Configure and Maintain a vCloud Air Connection		
Knowledge		
• Create a VPN connection between vCloud Air and an on-premise site		
• Deploy a virtual machine using vCloud Air		
• Migrate a virtual machine to vCloud Air		
• Verify VPN connection configuration to vCloud Air		
• Configure vCenter Server connection to vCloud Air		
• Configure replicated objects in vCloud Air Disaster Recovery service		
• Given a scenario, determine the required settings for virtual machines deployed in vCloud Air		
Tools		

• vSphere Installation and Setup Guide		
• vSphere Administration with the vSphere Client Guide		
• vSphere Networking Guide		
• VMware vCloud Air – Disaster Recovery User's Guide		
• vSphere Client / vSphere Web Client		