

Fast Track VMware vSphere: Optimize and Scale plus Troubleshooting Fast Track [V6.7]

خلاصه :

دوره آموزش VMware vSphere: Optimize and Scale plus Troubleshooting Fast Track v6.7 جهت آشنایی مدیران و مهندسين سيستم‌های مجازی سازی با مباحث پیشرفته جهت مدیریت، عیب‌یابی و بهینه سازی زیرساخت vSphere طراحی شده است. این دوره که همزمان با نسخه vSphere 6.7 منتشر شده است، جایگزین و تلفیق از دو دوره vSphere Troubleshoot و vSphere Performance Tuning می‌باشد. در این دوره مخاطبان علاوه بر رفع مشکلات واقعی و معمول VMware vSphere در لابراتواری با تجهیزات سخت افزاری کامل، اقدام به یادگیری مواردی کاملاً کاربردی جهت بهبود Performance در زیر ساخت مجازی سازی شده خواهند نمود. علاوه بر این مواردی حیاتی که هنگام مجازی سازی سرویس‌هایی مانند Microsoft Exchange, Microsoft Server, Oracle Server, SQL به منظور بهبود کارایی می بایست رعایت شوند، مورد بررسی قرار خواهند گرفت، این دوره از ترکیب دو دوره Optimize and Scale و Troubleshooting Fast Track ایجاد شده است به شکلی که سرفصل‌های هر دو دوره را به طور کامل پوشش می‌دهد.

مدت دوره : ۴۰ ساعت

پیش نیاز : پیش نیازهای لازم برای شرکت در این دوره، تسلط بر مفاهیم دوره‌های VMware vSphere Install

Configure, Manage می باشد.

اهداف دوره : آشنایی و تسلط بر موارد زیر:

- استفاده از vSphere client و دستورات CLI جهت عیب یابی مشکلات بر روی سرویس دهنده ESXi
- معرفی و استفاده از vSphere Management Assistant یا vMA جهت رفع مشکلات سرویس دهنده های ESXi و vCenter Server
- استفاده از محیط CLI جهت عیب یابی vMotion, SVMotion, HA, DRS
- استفاده از vSphere Client جهت ردیابی و رفع عیب ماشین های مجازی در محیط VMware vSphere
- بکارگیری تمهیداتی جهت بهینه سازی در کارکرد CPU
- بکارگیری تمهیداتی جهت بهینه سازی در تخصیص Memory
- بکارگیری تمهیداتی جهت بهینه سازی vNetworking و Storage

سرفصل دوره :

- 1- Course Introduction
 - Introductions and course logistics
 - Course objectives
- 2- Introduction to Troubleshooting
 - Identify the effects of a system problem
 - Define the scope of troubleshooting
 - Use a structured approach
 - Understand the principles of troubleshooting
 - Follow a logical troubleshooting procedure
 - Examine examples of troubleshooting



3- Troubleshooting Tools

- Use command-line tools to identify and troubleshoot problems
- Use vSphere CLI
- Find and interpret important log files
- Use VMware vRealize® Log Insight™ for log aggregation, efficient log search, and problem analysis

4- Network Optimization

- Explain the performance features of network adapters
- Explain the performance features of vSphere networking
- Use esxtop to monitor key network performance metrics

5- Networking Troubleshooting

- Identify the symptoms of network-related problems
- Analyze and resolve standard switch and distributed switch problems
- Analyze virtual machine connectivity problems and fix them
- Examine common management network connectivity problems and restore configurations
- Identify and prevent potential problems

6- Storage Optimization

- Describe storage queue types and other factors that affect storage performance
- Use esxtop to monitor key storage performance metrics

7- Storage Troubleshooting

- Troubleshoot storage (iSCSI, NFS, VMware vSphere® VMFS, VMware vSAN™, and VMware vSphere® Virtual Volumes™) connectivity problems
- Analyze storage-related logs
- Analyze hardware malfunction and software misconfiguration scenarios
- Identify multipathing-related problems, including permanent device loss (PDL) and all paths down (APD)



- Analyze possible causes, recover from the faulty conditions, and restore storage visibility
- 8- CPU Optimization
- Explain the CPU scheduler operation and other features that affect CPU performance
 - Explain NUMA and vNUMA support
 - Use esxtop to monitor key CPU performance metrics
- 9- Memory Optimization
- Explain ballooning, memory compression, and host-swapping techniques for memory reclamation when
memory is overcommitted
 - Use esxtop to monitor key memory performance metrics
- 10- vCenter Server Performance Optimization
- Describe the factors that influence vCenter Server performance
 - Use VMware vCenter® Server Appliance™ tools to monitor resource usage
- 11- vSphere Cluster Troubleshooting
- Identify and recover from problems related to VMware vSphere® High Availability
 - Analyze and troubleshoot various types of vSphere vMotion problems related to virtual machine migrations
 - Discuss and recover from VMware vSphere® Distributed Resource Scheduler™ problems to achieve
proper function and balanced resource use
 - Examine vSphere cluster failure scenarios and possible solutions
- 12- Virtual Machine Troubleshooting
- Analyze and resolve common virtual machine snapshot problems
 - Identify possible causes and resolve virtual machine power-on problems
 - Troubleshoot virtual machine connection state problems
 - Resolve problems seen during VMware Tools™ installations
 - Examine failure scenarios and provide solutions



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13- vSphere Security

- Configure ESXi host access and authorization
- Secure ESXi, vCenter Server, and virtual machines
- Use VMware Certificate Authority to configure vSphere certificate management
- Configure vSphere to encrypt virtual machines, core dumps and VMware vSphere® vMotion® migrations

14- vCenter Server and ESXi Troubleshooting

- Understand the vCenter Server and VMware Platform Services Controller™ architecture in vSphere 6.x
- Identify and resolve authentication problems
- Troubleshoot VMware Certificate Authority and certificate problems
- Analyze and fix problems with vCenter Server services
- Analyze and fix vCenter Server database problems
- Identify VMware vCenter Server® High Availability problems
- Examine ESXi host and vCenter Server failure scenarios and resolve the problems