

Cloud and Virtualization Concepts

OVERVIEW

Release date: August 1, 2019

Micro-course length: 8–12 hours

Micro-course format: Online accessible through [NDG Online](#) or through a Learning Tool Interoperability (LTI) cartridge that can be uploaded into your own Learning Management System (LMS)

Delivery: Instructor-led or self-paced

Upon completion: Users will be able to request a skills badge

PREREQUISITES

While not required, learners who understand the following will be more successful in the course:

- Basic computing concepts
- Basic understanding of operating systems

TARGET AUDIENCE

- Secondary students
- Community college/technical college
- College and university
- Non-technical and technical learners
- High schools

Summary

Through VMware IT Academy, Cloud and Virtualization Concepts provides the learner with the knowledge needed to start a career in the digital world. Upon completion of this micro-course, the learner will be aware of the basics of virtualization and the data center. The learner will be able to set up and manage a virtual machine.

Modules

1. Welcome
 - 1.1. Before You Get Started
 - 1.2. Course Objectives
 - 1.3. Course Review
 - 1.4. Additional resources available via VMware
 - 1.5. Access to an NDG NETLAB+ system to complete labs
2. Introduction to Virtualization
 - 2.1. Hardware and Software
 - 2.2. What is a Virtual Machine?
 - 2.3. Before Virtualization and After Virtualization
3. The Hypervisor
 - 3.1. Type 1 Hypervisor
 - 3.2. Type 2 Hypervisor
 - 3.3. Two Virtualization Scenarios
 - 3.4. VMware Workstation
 - 3.4.1. Creating a Virtual Machine
 - 3.4.2. Virtual Machine Files
 - 3.4.3. Snapshots
 - 3.5. From the Personal Desktop to Enterprise Virtualization
4. The Data Center
 - 4.1. Compute Systems
 - 4.2. Networks
 - 4.3. Storage
 - 4.3.1. RAID
 - 4.3.2. File Level and Block Level Storage
 - 4.3.3. Direct Attached Storage
 - 4.3.4. Network Attached Storage (NAS)
 - 4.3.5. Storage Area Network (SAN)
 - 4.3.6. Storage Protocols
 - 4.3.7. Storage Provisioning
 - 4.4. Building a Data Center
5. The Virtual Data Center
 - 5.1. vSphere
 - 5.1.1. ESXi
 - 5.1.2. vCenter
 - 5.1.3. vSphere Client
 - 5.2. Server Virtualization
 - 5.3. Storage Virtualization
 - 5.4. Network Virtualization
 - 5.4.1. Types of Virtual Networks
 - 5.5. Application and Desktop Virtualization
 - 5.6. From a Physical to a Virtual Data Center – Convergence

6. The Cloud
 - 6.1. Types of Cloud Computing
 - 6.1.1. Software as a Service (SaaS)
 - 6.1.2. Platform as a Service (PaaS)
 - 6.1.3. Infrastructure as a Service (IaaS)
 - 6.2. Cloud Deployment Models-Include how VMware can deploy to multiple clouds, AWS, IBM, Azure, etc.
 - 6.2.1. Private and Community Clouds
 - 6.2.2. Public Clouds
 - 6.2.3. Hybrid Clouds
7. VMware Virtualization Solutions
 - 7.1. vMotion
 - 7.2. Storage vMotion
 - 7.3. vSphere High Availability (HA)
 - 7.4. vSphere Distributed Resource Scheduler (DRS)
 - 7.5. vSphere Storage Distributed Resource Scheduler (Storage DRS)
 - 7.6. vSphere Fault Tolerance (FT)
 - 7.7. vSphere Replication
 - 7.8. VMware vSAN
 - 7.9. VMware NSX
 - 7.10. VMware Cloud Foundation
 - 7.11. vCloud Automation Center
 - 7.12. CloudHealth
8. Where to Go From Here?
 - 8.1. Who is NDG?

For additional information, please contact itacademy@vmware.com.

