# VMware vSphere Foundation: Build, Manage, and Operate [V9.0]

Kód kurzu: VMW_VSFBMO

This five-day course provides you with the knowledge, skills, and abilities to achieve competence in deploying, configuring and managing VMware vSphere Foundation. You will learn about the architecture of vSphere Foundation, compute, storage, networks and licensing. This course prepares you to administer a vSphere Foundation, which includes VCF Operations 9.0, vCenter 9.0, and ESX 9.0.

## Pro koho je kurz určen

System Administrators, Solution Engineers, Consultants, Architects, and Support Personnel

## Co Vás naučíme

By the end of the course, you should be able to meet the following objectives:

- Define the key features, use cases and, capabilities of vSphere Foundation.
- Navigating the VCF Operations User Interface.
- Describe the licensing options and manage licenses for vSphere Foundation.
- Describe the installation and configuration of ESX.
- Create virtual networks using vSphere standard switches and distributed switches.
- Create and configure datastores using storage technologies supported by vSphere.
- Use the vSphere Client to create virtual machines, templates, clones, and snapshots.
- Create content libraries for managing templates and deploying virtual machines.
- Manage virtual machine resource allocation.
- Migrate virtual machines with VMware vSphere vMotion and VMware vSphere Storage vMotion.
- Create and configure a vSphere cluster that is enabled with VMware vSphere High Availability and VMware vSphereDistributed Resource Scheduler.
- Analyzing the Placement of VM Objects and Components in the vSAN Cluster.
- Creating Custom Views and Policies in VCF Operations.
- Describe vSphere Kubernetes, vSphere Supervisor Service.
- Deploy and configure vSphere Foundation.
- Deploy additional vSphere Foundation components such as VCF Operations Collector, VCF Operations for Logs, andVCF Operations for Orchestrator.
- Manage the life cycle of VCF Operations and vSphere components.

## Požadované vstupní znalosti

Working experience and knowledge of VMware vSphere, VMware NSX, and vSAN environments

## Osnova kurzu

1. Course Introduction
   - Introduction and course logistics.
   - Course objectives.
2. VMware vSphere Foundation Overview and Architecture
   - Define the vSphere Foundation key features.
   - Explain vSphere Foundation use cases.
   - Explain the architecture of vSphere Foundation.
   - Explore the components of vSphere Foundation.
   - Introduction to VCF Operations.
   - List the steps to navigate the VCF Operations UI and vSphere UI.
3. License Management
   - Describe the process for managing and assigning licenses.
   - Enable VCF Operations integration for vCenter.

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- Explain license usage by product.4. vSphere Foundation Compute
- Explain basic virtualization concepts.
- Describe how vSphere fits in the software-defined data center.
- Describe vSphere architecture and use cases.
- Recognize the user interfaces for accessing vSphere.
- Install and configure ESXi host.
- Create and organize vCenter inventory objects

5. vSphere Foundation Networking
- Create and configure standard switch.
- Create and configure distributed switch.
- Differentiate between standard and distributed switches.
- Explain how to set networking policies.

6. vSphere Foundation Storage
- Recognize vSphere storage technologies.
- Identify the types of vSphere datastores.
- Describe Fibre Channel components and addressing.
- Describe iSCSI components and addressing.
- Configure iSCSI storage on ESXi.
- Create and manage VMFS datastores.
- Configure and manage NFS datastores.

7. Deploying Virtual Machines
- Create and provision VMs.
- Explain the importance of VMware Tools.
- Manage a virtual machine from the vSphere client.
- Manage virtual machine resources.
- List the steps to deploy virtual machines.
- Clone VMs and create customization specifications for guest operating systems.
- Create local, published, and subscribed content libraries.

8. Virtual Machine Management
- Migrate VMs using vSphere vMotion and Storage vMotion.
- Perform snapshots operations.
- Specify CPU and memory shares, reservations, and limits.

9. Deploying and Configuring vSphere Clusters
- Create a vSphere cluster enabled for vSphere DRS and vSphere HA.
- Explain how vSphere DRS determines VM placement on hosts in the cluster.
- Recognize use cases for vSphere DRS settings.
- Describe how vSphere HA responds to various types of failures.
- Identify options for configuring network redundancy in a vSphere HA cluster.
- Recognize vSphere HA design considerations.
- Recognize the use cases for various vSphere HA settings.
- Configure a vSphere HA cluster.

10. vSAN Management
- Identify the features of vSAN.
- Understand the key differences between vSAN OSA and vSAN ESA.
- Explain the role of the performance leg and the capacity leg in vSAN ESA.
- Examine vSAN ESA Object health states.
- Compare how RAID-0/1/5/6 space consumption.

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- Identify vSAN component states.

11. vSphere Kubernetes Service Overview
    - Describe vSphere Supervisor Architecture and use cases.
    - Explain vSphere Supervisor Deployment Options.
    - Install vSphere Supervisor.
    - Explain Supervisor Storage vSphere Zones, Networking, and Storage.
    - Configuring and managing a supervisor.
    - Configuring vSphere Namespaces for Hosting VKS Clusters.
    - Managing vSphere Kubernetes Service Clusters.
12. VCF Operations Metrics
    - Outline the role of metrics in VCF Operations.
    - Create and configure views in VCF Operations.
    - Create and configure reports in VCF Operations.
    - Create and configure dashboards in VCF Operations.
    - Configure widget interactions.
    - Describe the purpose of using alerts.
    - Identify the components of an alert definition.
    - Create static symptom definitions.
13. vSphere Foundation Deployment
    - Prepare the infrastructure for VMware vSphere Foundation.
    - Identify the information required for the Planning and Preparation Workbook.
    - Explain the high-level steps to deploy vSphere Foundation.
    - Describe the procedure for downloading the software using online and offline modes.
    - Describe the vSphere Foundation workflow using the VCF Installer UI and JSON spec file.
    - Deploy and enable VCF Operations collector, VCF Operations for Logs, and VCF Operations Orchestrator
    - Deploy vCenter Server Appliance.
14. Managing the vSphere Foundation Lifecycle
    - Describe features of the vCenter Update Planner.
    - Run vCenter upgrade prechecks and interoperability reports.
    - Recognize features of VMware vSphere Lifecycle Manager
    - Validate and update ESXi hosts using vSphere Lifecycle Manager
    - Use vSphere Lifecycle Manager to upgrade VMware Tools and VM hardware

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