Installation, Storage, and Compute with Windows Server 2016
The 70-740 Practice Lab will provide you with the necessary platform to gain hands-on skills in Microsoft Windows Server 2016.

By completing the lab tasks, you will improve your practical skills in installing Windows Server 2016, maintaining and monitoring server environments, implementing storage solutions, creating and managing Windows containers, implementing high availability and Hyper-V.

These same tasks will help you understand the objectives and competencies required by the Microsoft 70-740 certification exam.

Outcomes

After completing this Practice Lab, students will be able to:

- Configure Windows Server 2016 (Desktop Experience)
- Install and Configure Windows Server 2016 Standard (Server Core)
- Administer Server Core using Windows PowerShell
- Create and Configure Nano Server using the GUI and Windows Powershell
- Collect OS Information using Microsoft Assessment and Planning Toolkit (MAP)
- Manage Operating System Images using DISM
- Prepare and Install Operating System Image with WDS
- Create and Configure Disk Volumes and Resilient Volumes
- Prepare and Manage Virtual Hard Disks
- Create and Manage Storage Pools and File Share Infrastructure
- Configure iSCSI Storage
- Install and Configure Data Deduplication
- Configure Event Log Forwarding
- Manage Virtual Machine Settings, Storage and Networks
- Enable Hyper-V Replica and Configure Nested Virtualization
- Implement Fault Tolerance on Hyper-V and File Servers
- Configure Virtual Machine Movement
- Monitor Server Performance
- Install and Configure Windows Update Services
- Install and Configure Network Load Balancing

Prerequisites

No prior hands-on experience is required to use or complete this Practice Lab. However, it would be beneficial to be familiar with the following concepts:

- A basic understanding of networking fundamentals
- Awareness and understanding of security best practices
- An understanding of basic AD DS concepts.
- Experience supporting and configuring Windows client operating systems

Who is it For?

The 70-740 certificate is aimed at Windows Server administrators or IT professionals seeking to advance their hands-on skills in Windows Server administration.

Additional Info

This Practice Lab focuses on the practical aspects of the 70-740 exam objectives. It is therefore advised to refer to your own course materials to gain a deeper understanding of any theoretical aspects of the exam objectives.
Lab Topologies

You will also have access to the following topologies:

- **PLABDC01**
  - 192.168.0.1 /24
- **PLABDM01**
  - 192.168.0.2 /24
- **PLABDM02**
  - 192.168.0.3 /24
- **PLABSA01**
  - 192.168.0.4 /24
- **PLABWIN810**
  - 192.168.0.5 /24
- **PLABWIN701**
  - 192.168.0.6 /24
Installation, Storage, and Compute with Windows Server 2016

Modules and Exercises

**Installing Server Core**
- Introduction
- Exercise 1 - Installing Windows Server 2016 Standard
- Exercise 2 - Configuring Windows Server 2016 Standard
- Exercise 3 - Managing Windows Server Core with PowerShell
- Summary

**Installing Windows Server 2016**
- Introduction
- Exercise 1 - Installing Windows Server 2016
- Exercise 2 - Configuring Windows Server 2016
- Exercise 3 - Managing Server Roles and Features
- Summary

**Configuring and Managing Nano Server**
- Introduction
- Exercise 1 - Creating Nano Server
- Exercise 2 - Completing Post Installation Tasks on Nano Server
- Exercise 3 - Managing Nano Server
- Summary

**Working with Microsoft Assessment and Planning (MAP) Toolkit**
- Introduction
- Exercise 1 - Collecting Operating System Information with MAP
- Summary

**Maintaining Operating System Images Using DISM**
- Introduction
- Exercise 1 - Add Operating System Patches to Offline Windows Image
- Exercise 2 - Add Device Driver to Offline Windows Image
- Summary

**Manage Operating System Images with Windows Deployment Services**
- Introduction
- Exercise 1 - Preparing System Requirements for Windows Deployment Services
- Exercise 2 - Verify Functionality of Windows Deployment Services
- Summary

**Managing Local Storage and Virtual Hard Disks**
- Introduction
- Exercise 1 - Creating Disk Volumes
- Exercise 2 - Managing Virtual Hard Disks
- Summary

**Implementing Storage Pools**
- Introduction
- Exercise 1 - Creating and Managing a Storage Pool
- Summary

**Managing iSCSI Storage**
- Introduction
- Exercise 1 - Configuring iSCSI Storage
- Exercise 2 - Preparing the iSCSI Initiator for MPIO
- Summary

**Implementing Centralized Event Logs**
- Introduction
- Exercise 1 - Prepare Event Logs Subscription Prerequisites
- Exercise 2 - Configure Event Collector Subscription
- Exercise 3 - View Forwarded Event Logs
- Summary

**Managing Virtual Machine Settings**
- Introduction
- Exercise 1 - Configure Dynamic Memory and Smart Paging
- Exercise 2 - Configure Guest Integration Services
- Exercise 3 - Create Generation 2 Virtual Machine
- Summary

**Managing Virtual Machine Storage**
- Introduction
- Exercise 1 - Create VHD and VHDX
- Exercise 2 - Modify VHDS
- Exercise 3 - Managing VM Checkpoints
- Exercise 4 - Working with Fibre Channel Adapter
- Summary

**Managing Virtual Machine Networks**
- Introduction
- Exercise 1 - Configure Hyper-V Virtual Switches
- Exercise 2 - Configure Network Isolation
- Exercise 3 - Optimize Network Performance
- Summary
Implementing Hyper-V Replica

Introduction
Exercise 1 - Prepare System Requirements for Hyper-V Replica
Exercise 2 - Managing Hyper-V Replication
Exercise 3 - Understanding Hyper-V Failover
Summary

Managing Hyper-V Fault Tolerance Using Failover Clustering

Introduction
Exercise 1 - Prepare System Requirements for Failover Clustering
Exercise 2 - Install and Configure Failover Clustering
Exercise 3 - Install Virtual Machine Role on Failover Cluster
Exercise 4 - Manage Failover Clustering
Summary

Implementing Failover Clustering for Scale-out File Servers

Introduction
Exercise 1 - Preparing System Requirements for Failover Clustering
Exercise 2 - Install and Configure Failover Clustering
Exercise 3 - Install File Server Application to the Failover Cluster
Exercise 4 - Manage Failover Clustering
Summary

Managing Virtual Machine Movement

Introduction
Exercise 1 - Prepare System Requirements for Virtual Machine Move
Exercise 2 - Move Virtual Machines and Hyper-V Storage
Exercise 3 - Exporting and Importing Virtual Machines
Summary

Managing Server Performance

Introduction
Exercise 1 - Exploring with Performance Monitor Features
Exercise 2 - Managing Performance Monitor Features
Exercise 3 - Detecting System Bottlenecks
Summary

Install and Configure Network Load Balancing

Introduction
Exercise 1 - Installing Network Load Balancing Nodes
Exercise 2 - Configuring a New NLB Cluster
Exercise 3 - Adding a Secondary Node to an NLB Cluster
Exercise 4 - Examining the Working of an NLB Cluster
Exercise 5 - Configuring and Validating Port Rules for NLB
Summary

Implementing Windows Server Update Services

Introduction
Exercise 1 - Installing and Configuring WSUS
Exercise 2 - Configuring Computer Groups for WSUS
Exercise 3 - Managing GPO for WSUS Clients
Summary