

WINDOWS SERVER 2019

OBJETIVOS DE CURSO

Windows Server 2019 provides you with a wide range of powerful, new, and enhanced features such as Hyper-V, Nano-server, server virtualization, storage, software-defined networking, server management and automation, access and information protection, virtual desktop infrastructure, and failover clustering; the list goes on...

In this course, as you cover all aspects of administration-level tasks and activities and how to manage Windows Server 2019, you'll master tips for adapting to the new server management ideology, which is all about centralized monitoring and configuration. We'll also show you how migrating your existing setup (Windows Server 2016 or 2012 R2) to the latest update can be so simple.

You'll learn about networking and Software-Defined Networking; use PowerShell as a central platform for performing many functions; use the new built-in integration with Docker with this latest release of Windows Server 2019 which centers around security; master HCI; and get a lot of powerful information about the remote access technologies available in this OS, as well as guidelines for virtualizing your datacenter with Hyper-V.

By the end of this course, you will have all the collateral required to start planning for a full-scale implementation of Windows Server 2019

DURACION Y ESTRUCTURA DE LAS SESIONES

Horas: 25

Idioma del Curso: castellano

Idioma Materiales: castellano

Fecha inicio: 08/11/2021

Fecha Fin 12/11/2021

Horario: 9:00h a 14:00h

Precio: 1350€ por alumno.

Incluye manual

IMPARTICION

Campus to Business. C/Pérez Galdós, 22 bajo Bilbao

Aula virtual. Mediante TEAMS.

INSCRIPCIÓN

Fecha Límite Inscripción: 02/11/2021

La inscripción al curso deberá realizarse bien a través de la Intranet de GAIA: Wiki GAIA o bien enviando un mail a Cristina Urriaga: urriaga@gaia.es indicando: nombre apellido y DNI de las personas participantes.

El cargo del coste del curso se realizará directamente desde Campus to Business de la siguiente manera: 50% del coste en el momento de la inscripción, cantidad restante a la finalización del curso en función del número final de participantes. No se admitirán cancelaciones 10 días antes del inicio de la formación.

Recordamos que esta formación puede ser susceptible de subvención por la Fundación Tripartita, gestión en la que C2B puede apoyar a tu empresa sin cargo alguno en el caso de no contar con los medios internos propios. No obstante, deberás indicarnos al realizar la inscripción si precisas de apoyo en este sentido.

CONTENIDOS

1. Getting Started with Windows Server 2019

The purpose of Windows Server

It's getting cloudy out there

- Public cloud
- Private cloud

Windows Server versions and licensing

- Standard versus Datacenter
- Desktop Experience/Server Core/Nano Server
 - Desktop Experience
 - Server Core
- Nano Server
 - Licensing models - SAC and LTSC
- Semi-Annual Channel (SAC)
- Long-Term Servicing Channel (LTSC)

Overview of new and updated features

- The Windows 10 experience continued
- Hyper-Converged Infrastructure
- Windows Admin Center
- Windows Defender Advanced Threat Protection
- Banned Passwords
- Soft restart
- Integration with Linux
- Enhanced Shielded Virtual Machines
- Azure Network Adapter
- Always On VPN

Navigating the interface

- The updated Start menu
- The Quick Admin Tasks menu
- Using the Search function
- Pinning programs to the taskbar
 - The power of right-clicking
- **Using the newer Settings screen**
- Two ways to do the same thing
- Creating a new user through Control Panel
- Creating a new user through the Settings menu

Task Manager

Task View

Summary

Questions

2. Installing and Managing Windows Server 2019

Technical requirements

Installing Windows Server 2019

- Burning that ISO
- Creating a bootable USB stick
- Running the installer

Installing roles and features

- Installing a role using the wizard
- Installing a feature using PowerShell

Centralized management and monitoring

- Server Manager

Remote Server Administration Tools (RSAT)

- Does this mean RDP is dead?
Remote Desktop Connection Manager

Windows Admin Center (WAC)

- Installing Windows Admin Center
- Launching Windows Admin Center
- Adding more servers to Windows Admin Center
- Managing a server with Windows Admin Center

Enabling quick server rollouts with Sysprep

- Installing Windows Server 2019 onto a new server
- Configuring customizations and updates onto your new server
- Running Sysprep to prepare and shut down your master server
- Creating your master image of the drive
- Building new servers using copies of the master image

Summary

Questions

3. Core Infrastructure Services

What is a Domain Controller?

- Active Directory Domain Services

Using AD DS to organize your network

- Active Directory Users and Computers
User accounts

Security Groups

- Prestaging computer accounts
- Active Directory Domains and Trusts
- Active Directory Sites and Services
- Active Directory Administrative Center
- Dynamic Access Control
- Read-Only Domain Controllers (RODC)

The power of Group Policy

- The Default Domain Policy
- Creating and linking a new GPO
- Filtering GPOs to particular devices

Domain Name System (DNS)

- Different kinds of DNS records
- Host record (A or AAAA)
- ALIAS record - CNAME
- Mail Exchanger record (MX)
- Name Server (NS) record
- ipconfig /flushdns

DHCP versus static addressing

- The DHCP scope
- DHCP reservations

Back up and restore

- Schedule regular backups
- Restoring from Windows
- Restoring from the installer disc

MMC and MSC shortcuts

Summary

Questions

4. Certificates in Windows Server 2019

Common certificate types

- User certificates
- Computer certificates
- SSL certificates
- Single-name certificates
- Subject Alternative Name certificates
- Wildcard certificates

Planning your PKI

- Role services
- Enterprise versus Standalone
- Root versus Subordinate (issuing)
- Naming your CA server
- Can I install the CA role onto a domain controller?

Creating a new certificate template

Issuing your new certificates

- Publishing the template
- Requesting a cert from MMC
- Requesting a cert from the Web interface

Creating an auto-enrollment policy

Obtaining a public-authority SSL certificate

- Public/private key pair
- Creating a Certificate Signing Request
- Submitting the certificate request
- Downloading and installing your certificate

Exporting and importing certificates

- Exporting from MMC
- Exporting from IIS
- Importing into a second server

Summary

Questions

5. Networking with Windows Server 2019

Introduction to IPv6

- Understanding IPv6 IP addresses

Your networking toolbox

- ping
- tracert
- pathping
- Test-Connection
- telnet
- Test-NetConnection
- Packet tracing with Wireshark or Message Analyzer
- TCPView

Building a routing table

- Multi-homed servers
- Only one default gateway
- Building a route
- Adding a route with the Command Prompt
- Deleting a route
- Adding a route with PowerShell

NIC Teaming

Software-defined networking

- Hyper-V Network Virtualization
- Private clouds
- Hybrid clouds
- How does it work?
System Center Virtual Machine Manager
Network controller
- Generic Routing Encapsulation
- Microsoft Azure Virtual Network
- Windows Server Gateway/SDN Gateway
- Virtual network encryption
- Bridging the gap to Azure

Azure Network Adapter

Summary

Questions

6. Enabling Your Mobile Workforce

Always On VPN

- Types of AOVPN tunnel
- User Tunnels
- Device Tunnels
- Device Tunnel requirements
- AOVPN client requirements
- Domain-joined
- Rolling out the settings

- AOVPN server components
- Remote Access Server
- IKEv2
- SSTP
- L2TP
- PPTP
- Certification Authority (CA)
- Network Policy Server (NPS)

DirectAccess

- The truth about DirectAccess and IPv6
- Prerequisites for DirectAccess
- Domain-joined
- Supported client operating systems
- DirectAccess servers get one or two NICs
- Single NIC Mode
- Dual NICs
- More than two NICs
- To NAT or not to NAT?
- 6to4
- Teredo
- IP-HTTPS
- Installing on the true edge – on the internet
- Installing behind a NAT
- Network Location Server
- Certificates used with DirectAccess
- SSL certificate on the NLS web server
- SSL certificate on the DirectAccess server
- Machine certificates on the DA server and all DA clients
- Do not use the Getting Started Wizard (GSW)!

Remote Access Management Console

- Configuration
- Dashboard
- Operations Status
- Remote Client Status
- Reporting
- Tasks

DA, VPN, or AOVPN? Which is best?

- Domain-joined or not?
- Auto or manual launch
- Software versus built-in
- Password and login issues with traditional VPNs
- Port-restricted firewalls
- Manual disconnect
- Native load-balancing capabilities
- Distribution of client configurations

Web Application Proxy

- WAP as AD FS Proxy
- Requirements for WAP
- Latest improvements to WAP
- Preauthentication for HTTP Basic
- HTTP to HTTPS redirection
- Client IP addresses forwarded to applications
- Publishing Remote Desktop Gateway
- Improved administrative console

Summary

Questions

7. Hardening and Security

Windows Defender Advanced Threat Protection

- Installing Windows Defender AV
- Exploring the user interface
- Disabling Windows Defender
- What is ATP, anyway?
- Windows Defender ATP Exploit Guard

Windows Defender Firewall – no laughing matter

- Three Windows Firewall administrative consoles
- Windows Defender Firewall (Control Panel)
- Firewall & network protection (Windows Security Settings)
- Windows Defender Firewall with Advanced Security (WFAS)
- Three different firewall profiles
- Building a new inbound firewall rule
- Creating a rule to allow pings (ICMP)
- Managing WFAS with Group Policy

Encryption technologies

- BitLocker and the virtual TPM
- Shielded VMs
- Encrypted virtual networks
- Encrypting File System
- IPsec
- Configuring IPsec
- Server policy
- Secure Server policy
- Client policy
- IPsec Security Policy snap-in
- Using WFAS instead

Banned passwords

Advanced Threat Analytics

General security best practices

- Getting rid of perpetual administrators
- Using distinct accounts for administrative access
- Using a different computer to accomplish administrative tasks
- Never browse the internet from servers
- Role-Based Access Control (RBAC)

- Just Enough Administration (JEA)

Summary

Questions

8. Server Core

Why use Server Core?

- No more switching back and forth

Interfacing with Server Core

- PowerShell
- Using cmdlets to manage IP addresses
- Setting the server hostname
- Joining your domain
- Remote PowerShell
- Server Manager
- Remote Server Administration Tools
- Accidentally closing Command Prompt

Windows Admin Center for managing Server Core

The Sconfig utility

Roles available in Server Core

What happened to Nano Server?

Summary

Questions

9. Redundancy in Windows Server 2019

Network Load Balancing (NLB)

- Not the same as round-robin DNS
- What roles can use NLB?
- Virtual and dedicated IP addresses
- NLB modes
- Unicast
- Multicast
- Multicast IGMP

Configuring a load-balanced website

- Enabling NLB
- Enabling MAC address spoofing on VMs
- Configuring NLB
- Configuring IIS and DNS
- Testing it out
- Flushing the ARP cache

Failover clustering

- Clustering Hyper-V hosts
- Virtual machine load balancing
- Clustering for file services
- Scale-out file server

Clustering tiers

- Application-layer clustering
- Host-layer clustering
- A combination of both

- How does failover work?

Setting up a failover cluster

- Building the servers
- Installing the feature
- Running the failover cluster manager
- Running cluster validation
- Running the Create Cluster wizard

Recent clustering improvements in Windows Server

- True two-node clusters with USB witnesses
- Higher security for clusters
- Multi-site clustering
- Cross-domain or workgroup clustering
- Migrating cross-domain clusters
- Cluster operating-system rolling upgrades
- Virtual machine resiliency
- Storage Replica (SR)

Storage Spaces Direct (S2D)

- New in Server 2019

Summary

Questions

10. PowerShell

- Why move to PowerShell?
- Cmdlets
- PowerShell is the backbone
- Scripting
- Server Core

Working within PowerShell

- Launching PowerShell
- Default Execution Policy
- Restricted
- AllSigned
- RemoteSigned
- Unrestricted
- The Bypass mode
- Using the Tab key
- Useful cmdlets for daily tasks
- Using Get-Help
- Formatting the output
- Format-Table
- Format-List

PowerShell Integrated Scripting Environment

- PS1 files
- PowerShell Integrated Scripting Environment

Remotely managing a server

- Preparing the remote server
- The WinRM service

- Enable-PSRemoting
- Allowing machines from other domains or workgroups
- Connecting to the remote server
- Using -ComputerName
- Using Enter-PSSession

Desired State Configuration

Summary

Questions

11. Containers and Nano Server

Understanding application containers

- Sharing resources
- Isolation
- Scalability

Containers and Nano Server

Windows Server containers versus Hyper-V containers

- Windows Server Containers
- Hyper-V Containers

Docker and Kubernetes

- Linux containers
- Docker Hub
- Docker Trusted Registry
- Kubernetes

Working with containers

- Installing the role and feature
- Installing Docker for Windows
- Docker commands
- docker --help
- docker images
- docker search
- docker pull
- docker run
- docker ps -a
- docker info
- Downloading a container image
- Running a container

Summary

Questions

12. Virtualizing Your Data Center with Hyper-V

Designing and implementing your Hyper-V Server

- Installing the Hyper-V role

Using virtual switches

- The external virtual switch
- The internal virtual switch
- The private virtual switch

Creating a new virtual switch

Implementing a new virtual server

- Starting and connecting to the VM
- Installing the operating system

Managing a virtual server

- Hyper-V Manager
- The Settings menu
- Checkpoints
- Hyper-V Console, Remote Desktop Protocol (RDP), or PowerShell
- Windows Admin Center (WAC)

Shielded VMs

- Encrypting VHDs
- Infrastructure requirements for shielded VMs
- Guarded hosts
- Host Guardian Service (HGS)
- Host attestations
- TPM-trusted attestations
- Host key attestations
- Admin-trusted attestation – deprecated in 2019

Integrating with Linux

ReFS deduplication

- ReFS
- Data deduplication
- Why is this important to Hyper-V?
- Hyper-V Server 2019

Summary

Questions

LINKS DE INTERÉS

Microsoft Learning:

<https://www.microsoft.com/en-us/learning/course.aspx?cid=MS-100T01>

<https://www.microsoft.com/en-us/learning/course.aspx?cid=MS-100T02>

<https://www.microsoft.com/en-us/learning/course.aspx?cid=MS-100T03>