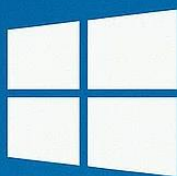# CRASH COURSE

MASTER WINDOWS SERVER 2022 IN JUST 1 HOUR! 🚀

INCLUDES WINDOWS SERVER 2025 UPDATES

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**Table of Contents**

Introduction

Welcome to **Crash Course: Master Windows Server 2022 in Just 1 Hour!** This eBook is designed for IT professionals, system administrators, and beginners aiming to quickly master the essentials of **Windows Server 2022**. In just one hour, you'll learn to set up, deploy, and manage a Windows Server environment with confidence. This guide also highlights key updates from **Windows Server 2025** to prepare you for the future. Whether you're preparing for the AZ-800 certification or enhancing your IT skills, this concise guide combines practical steps with the latest best practices. Let's dive in! 🚀

Step 1: Configure Networking 🌐

A robust network setup is the foundation of any Windows Server environment.
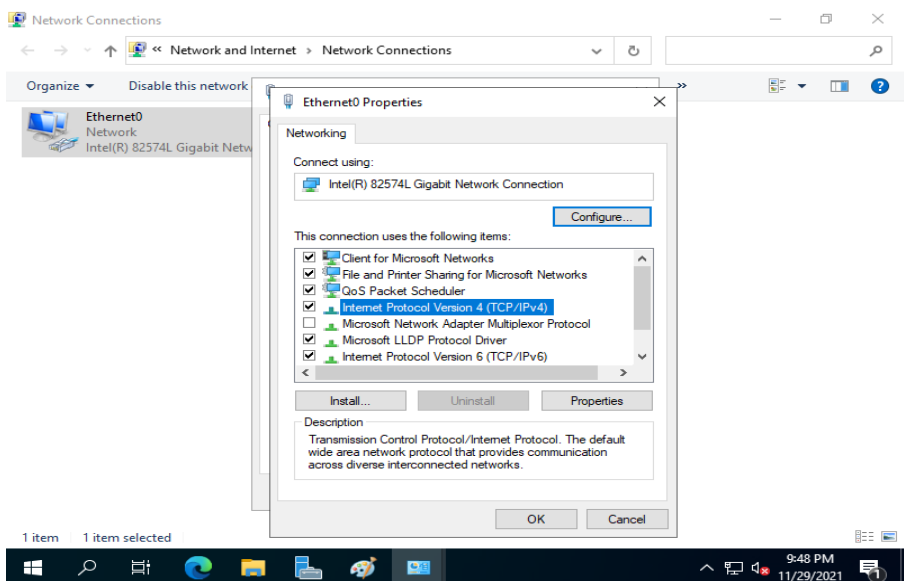
- **Access Network Settings**: Open **Control Panel** > **Network and Sharing Center** > **Change Adapter Options**.

- **Configure IPv4 Settings**:

    - Set a static IP address (e.g., 192.168.1.10 for training purposes).

    - Define the default gateway (e.g., your router at 192.168.1.1).

    - Specify DNS server addresses (e.g., 192.168.1.1 or a public DNS like 8.8.8.8).

- **Best Practice**: Use private IP ranges (e.g., 192.168.x.x) for lab environments to avoid conflicts. Verify connectivity with ping commands. 🔧

- **2025 Update**: Windows Server 2025 enhances networking with **Accelerated Networking (AccelNet)**, simplifying single root I/O virtualization (SR-IOV) for virtual machines, improving performance for hybrid setups.


Step 2: Navigate Server Manager 🛠️

Server Manager is your central hub for managing Windows Server 2022.

Overview: Upon login, Server Manager launches automatically, displaying details like computer name, domain status, and system health.

- **Rename the Server**: Update the computer name via **Local Server** settings (requires a reboot).

- **Join a Domain**: Move from a workgroup to a domain for centralized management (also requires a reboot). 🖧
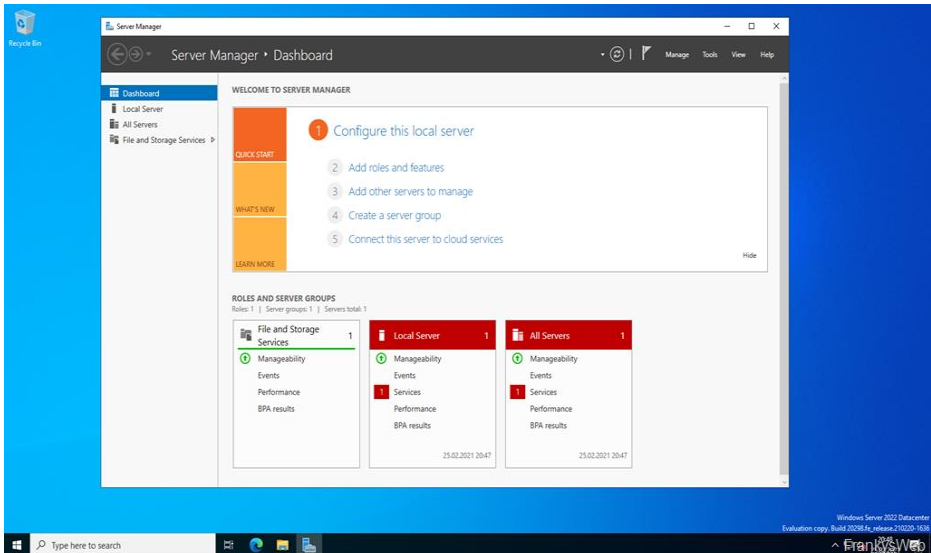
- **Pro Tip**: Regularly check the **Local Server** dashboard for quick insights into server status. Use **Windows Admin Center** for a modern, browser-based management interface, enhanced in 2025 for streamlined dashboards.

Step 3: Add Roles and Features ⚙️

Roles and features define your server's functionality.
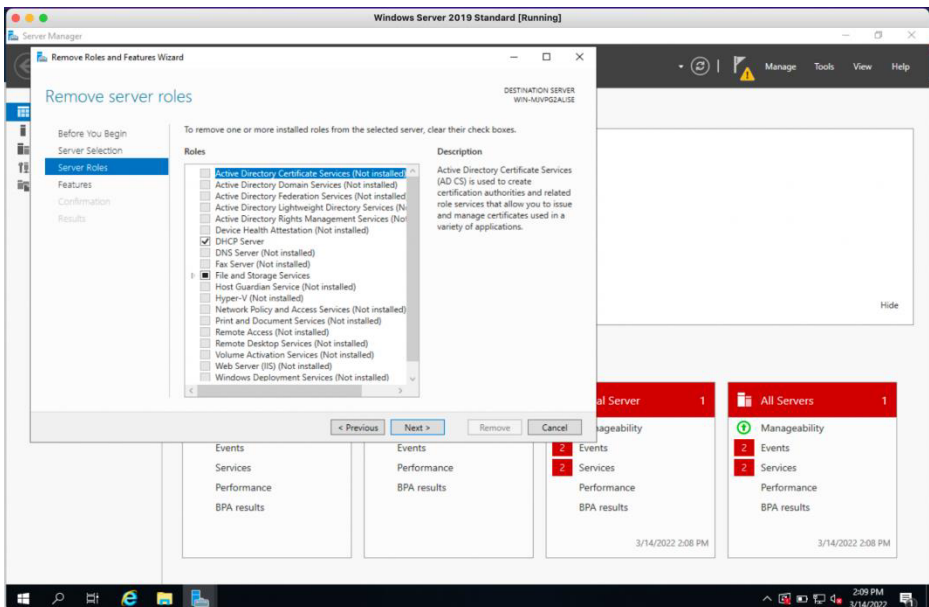
- **Access**: In Server Manager, go to **Manage** > **Add Roles and Features**.

- **Key Roles**:

  - **Active Directory Domain Services (AD DS)**: Manages users and resources.

  - **DHCP Server**: Automates IP assignments.

  - **DNS Server**: Resolves domain names, now supporting DNS-over-HTTPS (DoH) for encrypted queries in Windows Server 2022.

- o **Other Roles**: Consider **Remote Desktop Services** or **File and Storage Services** based on your needs.

- **Features**: Add tools like **BitLocker** for encryption or **Failover Clustering** for high availability. 🛡️

- **Installation**: Follow the wizard to install and configure roles/features. Restart if prompted.

- **2025 Update**: Windows Server 2025 improves role deployment with advanced customization options and Azure Arc integration for hybrid management.

Step 4: Set Up DHCP for IP Management 🖥️

Dynamic Host Configuration Protocol (DHCP) simplifies IP address allocation.

- **Install DHCP Role**: In Server Manager, add the **DHCP Server** role and authorize it.

- **Create a Scope**:

  - o Define an IP range (e.g., 192.168.1.10–192.168.1.100).

  - o Set the subnet mask (e.g., 255.255.255.0) and default gateway (e.g., 192.168.1.1).

  - o Configure DNS settings (e.g., sea-dc1.contoso.com) and lease duration (e.g., 8 days).

- **Exclusions**: Reserve IPs for static devices like printers.

- **Activate Scope**: Enable the scope to assign IPs dynamically.

- **Monitor**: Use **Address Pool** and **Address Leases** to track IP assignments. ✅
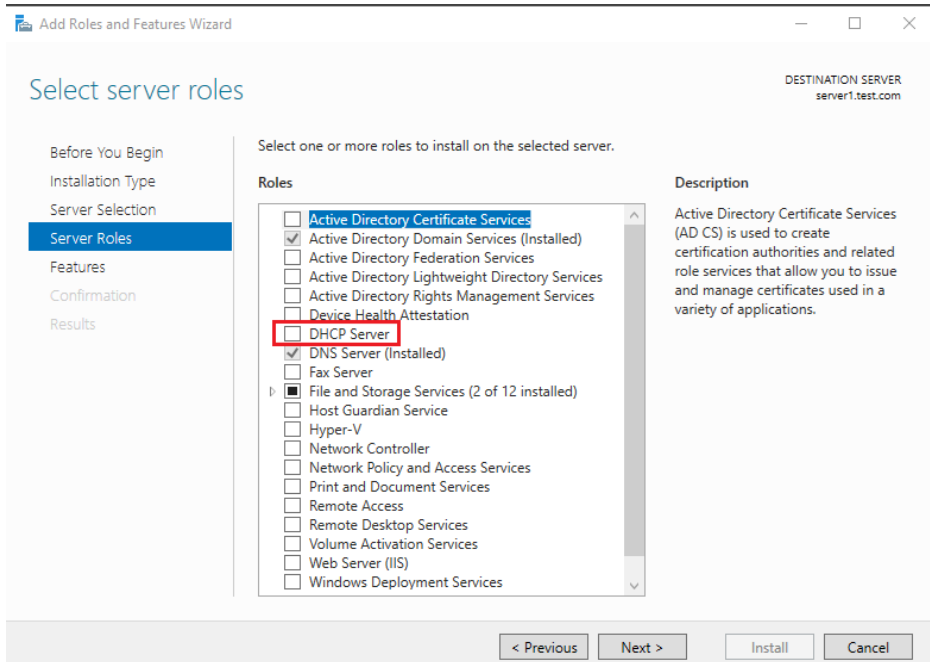

- **Best Practice**: Regularly review DHCP logs to prevent IP conflicts. Use **Windows Admin Center** for easier DHCP management.

Step 5: Configure DNS for Name Resolution 🌐

The Domain Name System (DNS) is critical for name resolution and Active Directory.

- **Install DNS Role**: Add the **DNS Server** role via Server Manager.

- **Create a Forward Lookup Zone**:

  - Set up a primary zone (e.g., bobsboots.com).

- o Enable **secure dynamic updates** to prevent unauthorized changes. 🔒

- **DNS Workflow**:

  - o A client queries a domain (e.g., host1.bobsboots.com).

  - o The DNS server resolves it via root name servers and authoritative servers, returning the IP address.

- **2025 Update**: Windows Server 2025 introduces **LDAP client** support (via KB5029250) and **channel binding audit** events (3074/3075) for enhanced DNS security.
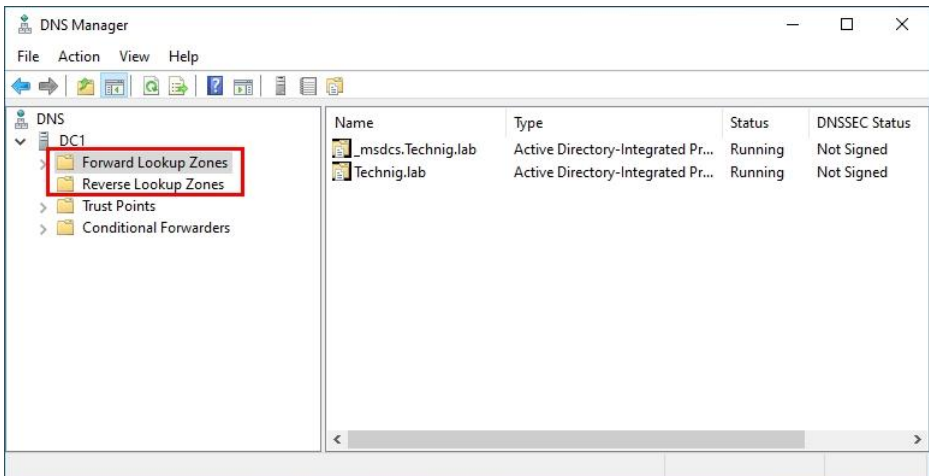

- **Pro Tip**: Host your domain internally for full control or use a provider like GoDaddy for external hosting. Test DNS resolution with nslookup.

Step 6: Manage Users with Active Directory 👥

Active Directory (AD) is Microsoft's directory service for user and resource management.

- **Access AD**: Go to **Tools** > **Active Directory Users and Computers**.

- **Organize with OUs**:
  - Create Organizational Units (e.g., Oslo > IT, Sales) to structure users by department or role.
  - Move users from the default **Users** container to relevant OUs. 📁

- **Create a User**:
  - Add a user (e.g., James Kirk, kirkj@contoso.com).
  - Set a password and options like "User must change password at next logon" or "Password never expires" for service accounts.
  - Configure logon hours, computer restrictions, or account expiry for temps. ⏰

- **Create Groups**:
  - Create a security group (e.g., Oslo IT Support, domain local).
  - Add users (e.g., Jane, Kirk, Bruno) to the group. 👥

- **Assign Permissions**:

o   Create a folder (e.g., "Data"), right-click > **Properties** >
Security, and grant the group (e.g., Oslo IT Support)
permissions like full control. 📋
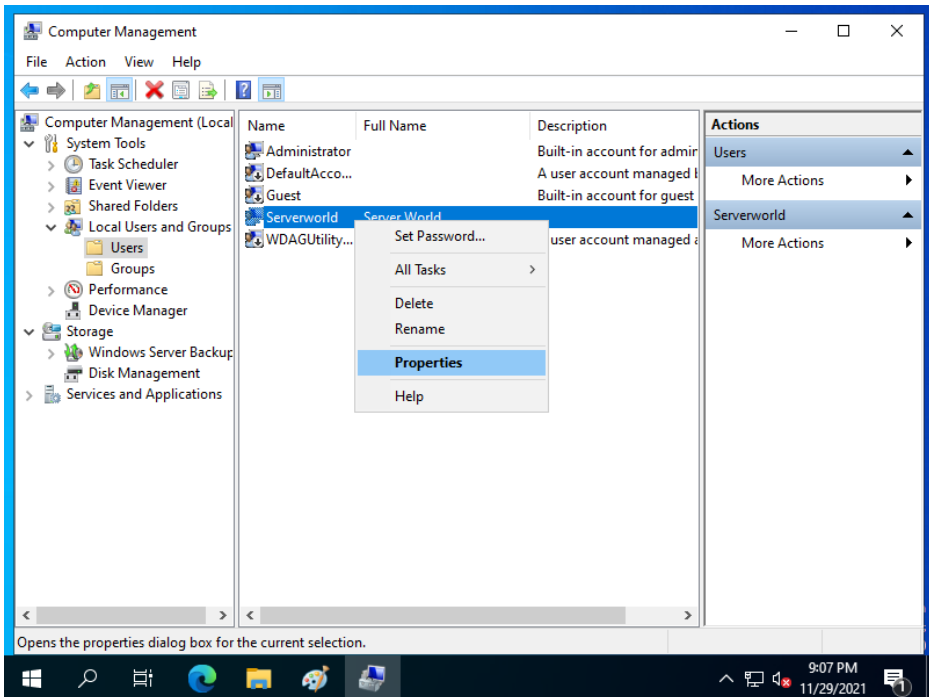
- **2025 Update**: Windows Server 2025 introduces **Delegated Managed Service Accounts (dMSAs)**, automating password management for service accounts.

Step 7: Apply Group Policy 🛠️

Group Policy centralizes user and computer configuration management.

- **Access**: In Server Manager, go to **Tools** > **Group Policy Management**.

- **Create a GPO**:

    o Right-click an OU (e.g., IT) and create a GPO (e.g., IT GPO).

    o Edit settings under **Computer Configuration** or **User Configuration** > **Policies** > **Administrative Templates**.

    o Example: Disable Control Panel access or restrict display settings. 🔒

- **Apply GPO**: Link the GPO to an OU to enforce settings.
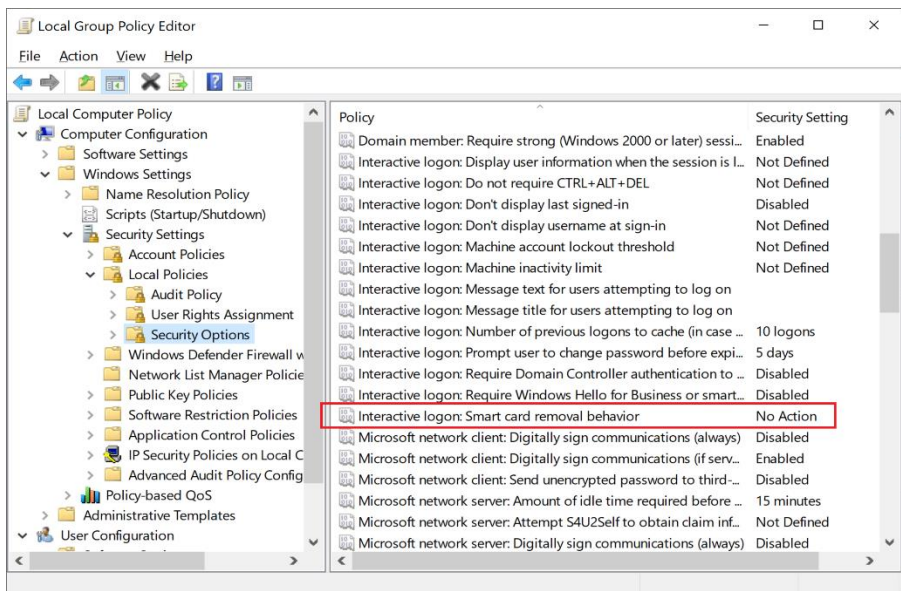
2025 Update: Windows Server 2025 enhances Group Policy with better Azure integration, allowing policies to be applied across hybrid environments via Azure Arc.

- **Pro Tip**: Use Group Policy to streamline configurations stored in the registry (e.g., HKEY_CURRENT_USER). Test policies in a lab before deployment. 💡

Step 8: Monitor with Event Viewer 📋

The **Event Viewer** helps you monitor and troubleshoot server activity.
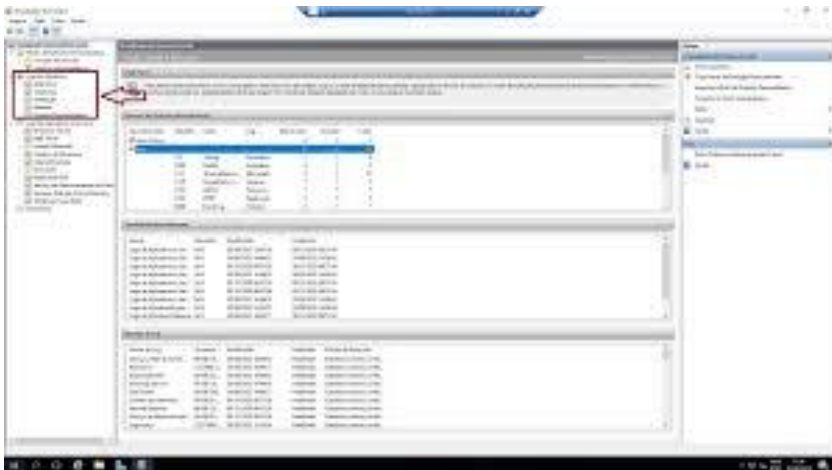
- **Access**: Go to **Tools** > **Event Viewer** in Server Manager.
- **Key Logs**:
  - **Security Log**: Monitor failed logins to detect potential security threats. 🚨
  - **Application Log**: Review errors (e.g., app crashes) and search event IDs online for solutions.

- o **System Log**: Track system issues or forwarded events from other servers. 🖥️

- **2025 Update**: Windows Server 2025 improves event logging with **SMB hardening** features, including protections against brute force and man-in-the-middle attacks.

Pro Tip: Set up alerts for critical events and use Microsoft's support pages to resolve error codes. 🔍

Step 9: Explore Learning Resources 📚

To deepen your Windows Server expertise:

- **Microsoft Azure**: Spin up a free trial to practice, but shut down servers to avoid charges. ☁️

- **Download Windows Server**: Get a trial of **Windows Server 2022** from the Microsoft Evaluation Center. Windows Server 2025 is available via the Windows Server Insider Program.

- **Documentation**: Visit **learn.microsoft.com** for tutorials on installation, configuration, and AZ-800 certification prep.

- **Books**: Explore titles like *Windows Server 2025 Administration Fundamentals* or *Mastering Windows Server 2022* on Amazon for in-depth learning.

- **Pro Tip**: Combine on-premises skills with Azure expertise to excel in hybrid environments. 🚀

What's New in Windows Server 2025

Windows Server 2025, released November 1, 2024, builds on Windows Server 2022 with significant enhancements:

- **Performance**: Up to 60% more storage IOPS with NVMe compared to 2022.

- **Security**:

    - **SMB over QUIC** for secure file sharing over the internet.

    - Hardened firewall defaults and protections against brute force, relay, and spoofing attacks.

- **Hybrid Cloud**: Improved **Azure Arc** integration for seamless multi-cloud and on-premises management.

- **Scalability**: Enhanced support for scaling up (more resources per server) and scaling out (more servers).

- **Known Issues**: Be cautious of automatic upgrades to 2025 (KB5044284) in environments using third-party patch management tools. Use Group Policy to control upgrades.

- **Recommendation**: Test Windows Server 2025 in a lab before upgrading, as some OEM/retail licenses may not activate post-upgrade.

Conclusion

Mastering **Windows Server 2022** equips you with essential skills for managing modern IT infrastructures. From configuring networking and roles to leveraging Active Directory, Group Policy, and Event Viewer, this crash course covers the core competencies needed to excel. With

Windows Server 2025 now available, staying updated ensures you're ready for hybrid, secure, and high-performance environments. Practice these steps in a lab, explore Microsoft's resources, and take your IT career to the next level! ☀️

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