

Virtualization Setup and Configuration using VMware

Virtualization Concepts Overview

1. What is Virtualization?

- Virtualization is a technology that allows you to create multiple simulated environments or dedicated resources from a single, physical hardware system.
- It enables the efficient use of physical resources by running multiple virtual machines (VMs) on a single host machine.

2. What are Hypervisors?

- A **hypervisor** is a software that creates and manages virtual machines.
- It enables multiple operating systems to share a single hardware host while maintaining isolation between them.

3. Significance of Virtualization in IT Infrastructure

- **Cost Efficiency:** Reduces hardware costs by running multiple VMs on one physical server.
- **Resource Optimization:** Maximizes utilization of physical resources.
- **Scalability and Flexibility:** Easily scales up or down resources.
- **Improved Disaster Recovery:** Provides the ability to replicate and restore VMs efficiently.
- **Testing Environments:** Facilitates safe testing of applications or systems without affecting production.

Hypervisor Installation and Configuration

1. Types of Hypervisors

- **Type 1 (Bare Metal):** Installed directly on the physical server hardware (e.g., VMware ESXi, Microsoft Hyper-V).
- **Type 2 (Hosted):** Runs on an operating system as an application (e.g., VMware Workstation, Oracle VirtualBox).

2. Steps to Install a Type 1 Hypervisor

- Choose the hypervisor compatible with your hardware.
- Prepare the physical hardware (BIOS/UEFI configuration).
- Download the hypervisor installation ISO.
- Install the hypervisor via bootable media.
- Configure networking and management settings post-installation.

Hypervisor Usage and Advantages

1. Usage:

- Hosting multiple virtual machines.
- Creating isolated environments for testing and development.
- Running legacy systems alongside modern ones.

2. Advantages:

- Reduced hardware dependency.
- Energy and cost savings.
- Quick provisioning of new environments.
- Enhanced security through isolation.

Comparison: Hyper-V, VirtualBox, and VMware

Feature	Hyper-V	VirtualBox	VMware ESXi/Workstation
Type	Type 1 and Type 2	Type 2	Type 1 (ESXi) / Type 2 (Workstation)
Ease of Use	Integrated with Windows OS	Cross-platform	Professional-grade, requires learning curve
Performance	High for Windows environments	Moderate	High for enterprise workloads
Platform Support	Windows only	Windows, Linux, macOS	Cross-platform
Cost	Free with Windows Pro/Education	Free and Open-source	ESXi Free / Paid versions
Enterprise Features	Limited	None	Extensive features available

Downloading VMware Hypervisor (e.g., VMware ESXi)

Steps:

- 1. Visit VMware Official Website:**
 - URL: <https://www.vmware.com/>
- 2. Navigate to Products:**

- Hover over "Products" and click on **"VMware vSphere"**, which includes ESXi as a component.
 - 3. **Download VMware ESXi:**
 - Locate the **"Get Free Trial"** option or **"Download Free Version"** for VMware ESXi.
 - Create an account or log in to your VMware account to proceed.
 - 4. **Select Version:**
 - Select the latest version compatible with your hardware. VMware ESXi 8.0 is a common choice as of 2024.
 - 5. **Obtain License (if applicable):**
 - For free usage, VMware provides a license key upon registration.
 - For commercial use, purchase the required license.
-

Step-by-Step Installation Guide for VMware ESXi

Preparation:

- Download the ISO file.
 - Create a bootable USB drive using tools like Rufus or BalenaEtcher.
 - 1. **Boot the Server:**
 - Insert the bootable USB into your hardware.
 - Restart and boot from the USB (adjust BIOS settings if necessary).
 - 2. **Installation:**
 - Follow the on-screen prompts.
 - Accept the End User License Agreement (EULA).
 - Select the disk where ESXi will be installed.
 - 3. **Network Configuration:**
 - Configure the management network.
 - Assign a static IP address for accessibility.
 - 4. **Finalize Setup:**
 - After installation, access the ESXi interface via a web browser using the static IP address.
 - Login with the root credentials you created during installation.
-

Step by step to set up Vmware Hypervisor:



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VMware Blogs

<https://blogs.vmware.com> > workstation > 2024/05 > vm...

VMware Workstation Pro: Now Available Free for Personal ...

May 13, 2024 — Fusion Pro and Workstation Pro will now have two license models. We now provide a Free Personal Use or a Paid Commercial Use subscription for our Pro apps.

[Workstation 16](#) · [Announcing VMware...](#) · [Workstation Tech Preview 2023](#) · [Updates](#)



Uptodown

<https://vmware-player.en.uptodown.com> > windows > d...

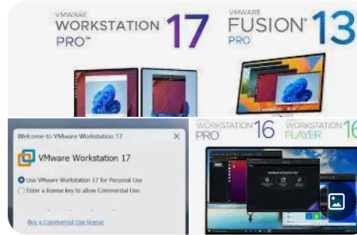
17.6.0 Build 24238078 - VMware Workstation Pro

Download the latest version of **VMware Workstation Pro** for Windows. Virtualize other



VMware Workstation

System software



VMware Workstation Pro is a hosted hypervisor that runs on x64 versions of Windows and Linux operating systems. It enables users to set up virtual machines on a single physical machine and use them simultaneously along with the host machine. [Wikipedia](#)

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Run Windows, Linux and other virtual machines with VMware Workstation Pro for Windows and Linux or VMware Fusion for Mac, the industry standard desktop hypervisors.

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DQ09 ABEND USING INTERNAL SECURITY WITH LU13427 APPLIED

Broadcom Licensing Maintenance Notification (Thursday Sep 19, 630PM PDT - Friday Sep 20, 130AM PDT)

RACHECK VIOLATION RESULTS IN SOC TSSKERNL AFTER LU13433

INVALID CALCULATION OF SUPPLEMENTAL

Response Matrix:

VMware Product	Version	Running On	CVE	CVSSv3	Severity	Fixed Version	Workarounds	Additional Documentation
Workstation	17.x	Any	CVE-2024-22270	7.1	Important	17.5.2	None	None
Fusion	13.x	OS X	CVE-2024-22270	7.1	Important	13.5.2	None	None

4. References:

Fixed Version(s) and Release Notes:

Workstation Pro 17.5.2

Downloads and Documentation

<https://support.broadcom.com/group/ecx/productdownloads?subfamily=VMware%20Workstation%20Pro>

<https://docs.vmware.com/en/VMware-Workstation-Pro/17.5.2/m/vmware-workstation-1752-pro-release-notes/index.html>

Fusion 13.5.2

Downloads and Documentation

<https://support.broadcom.com/group/ecx/productdownloads?subfamily=VMware%20Fusion>

<https://docs.vmware.com/en/VMware-Fusion/13.5.2/m/vmware-fusion-1352-release-notes/index.html>

Mitre CVE Dictionary Links:

<https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2024-22267>

<https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2024-22268>

<https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2024-22269>

<https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2024-22270>

FIRST CVSSv3 Calculator:

CVE-2024-22267: <https://www.first.org/cvss/calculator/3.1#CVSS:3.1/AV:L/AC:L/PR:N/UI:N/S:C/C:H/I:N/A:H>

CVE-2024-22268: <https://www.first.org/cvss/calculator/3.1#CVSS:3.1/AV:L/AC:L/PR:N/UI:N/S:C/C:H/I:N/A:H>

CVE-2024-22269: <https://www.first.org/cvss/calculator/3.1#CVSS:3.1/AV:L/AC:L/PR:N/UI:N/S:C/C:H/I:N/A:N>

CVE-2024-22270: <https://www.first.org/cvss/calculator/3.1#CVSS:3.1/AV:L/AC:L/PR:N/UI:N/S:C/C:H/I:N/A:N>

VMware Workstation Pro

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Product News

Alert Number	Title	Type	Published Date
VCDSA24280	VMSA-2024-0010: VMware Workstation and Fusion updates address multiple security vulnerabilities (CVE-2024-22267, CVE-2024-22268, CVE-2024-22269, CVE-2024-22270)	Security Advisories	14-May-2024

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VMware Workstation Pro 17.0 for Windows

VMware Workstation Pro 17.0 for Personal Use (Windows)

Release	Release Level Info	Language
17.6	522390	English
17.5.2	520448	English
17.5.1	520407	English
17.5	520406	English
17.0.2	520405	English

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520448

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VMware Workstation Pro for Personal Use (For Windows)

Release 17.5.2

Release Level Info 520448

File Name	Last Updated	SHA2	MD5
VMware Workstation Pro for Windows			
VMware-workstation-full-17.5.2-23775571.exe(518.26 MB)	May 10, 2024 11.06AM	2c3a40993a450dc9a059563d07664fc0fb85ae398a57d22b1b4bf0e602417bf7	c0a0353c1dade2089b55ce04ca942964
Build Number: 23775571			

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Windows Server 2019 | Microsoft Evaluation Center

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Create a New
Virtual Machine



Open a Virtual
Machine



Connect to a
Remote Server

New Virtual Machine Wizard

Select a Guest Operating System

Which operating system will be installed on this virtual machine?

Guest operating system

☒ Microsoft Windows

☐ Linux

☐ VMware ESX

☐ Other

Version

Windows Server 2019

Help

< Back

Next >

Cancel

New Virtual Machine Wizard

Name the Virtual Machine

What name would you like to use for this virtual machine?

Virtual machine name:

Windows Server 2019



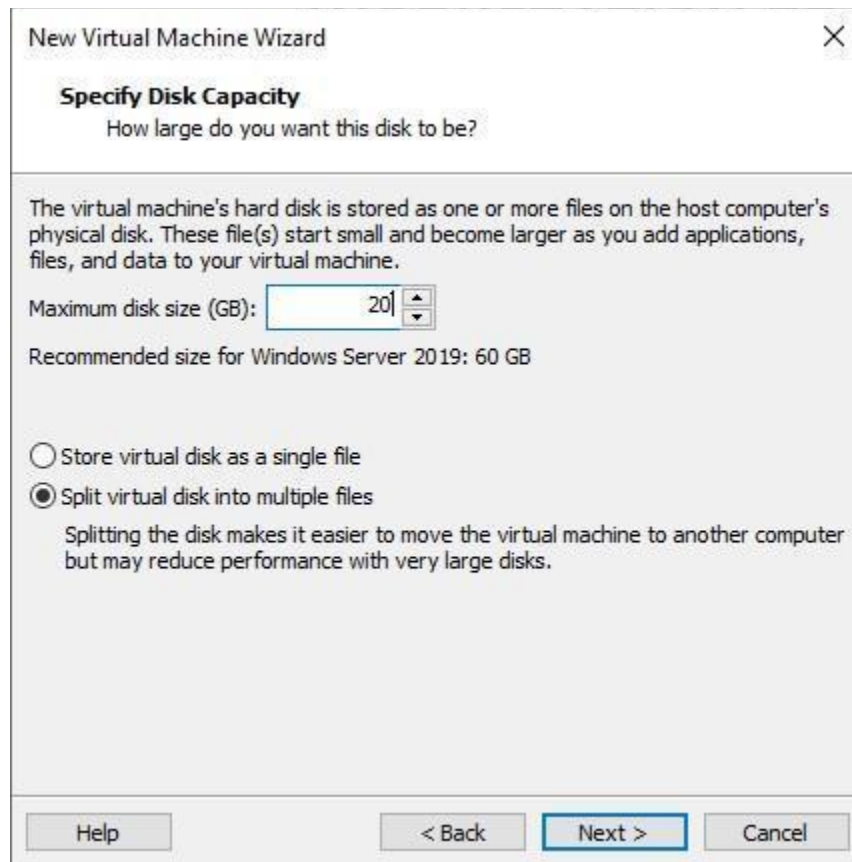
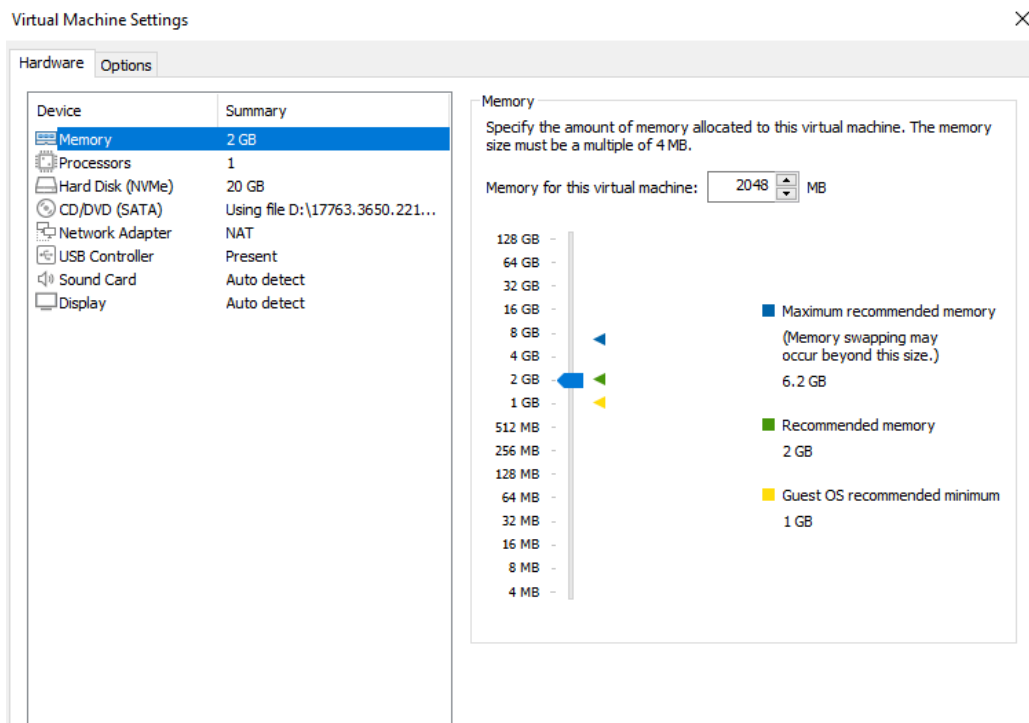
Windows Server 2019

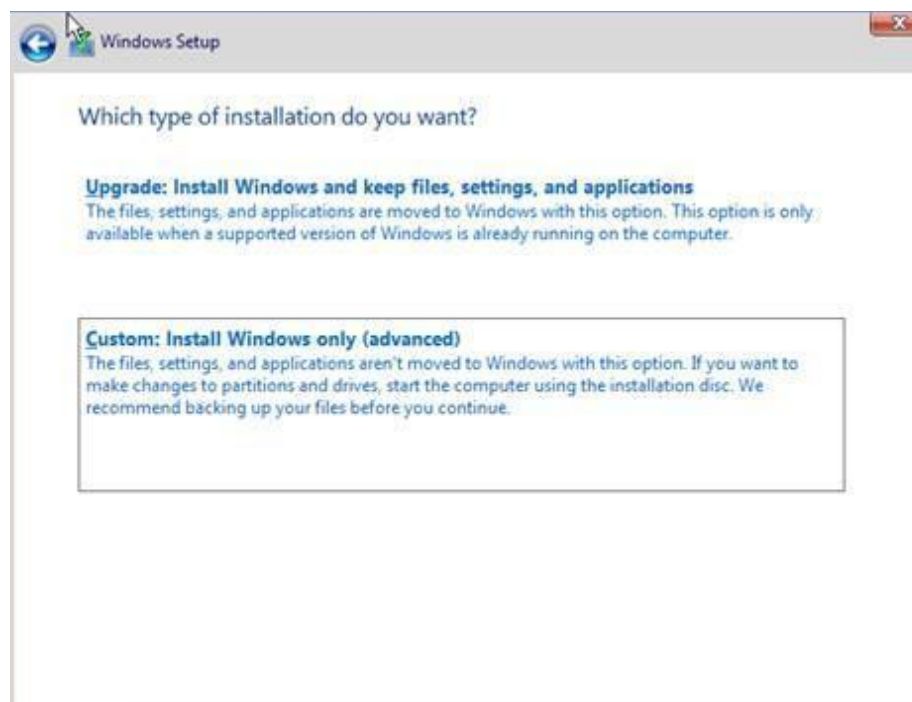
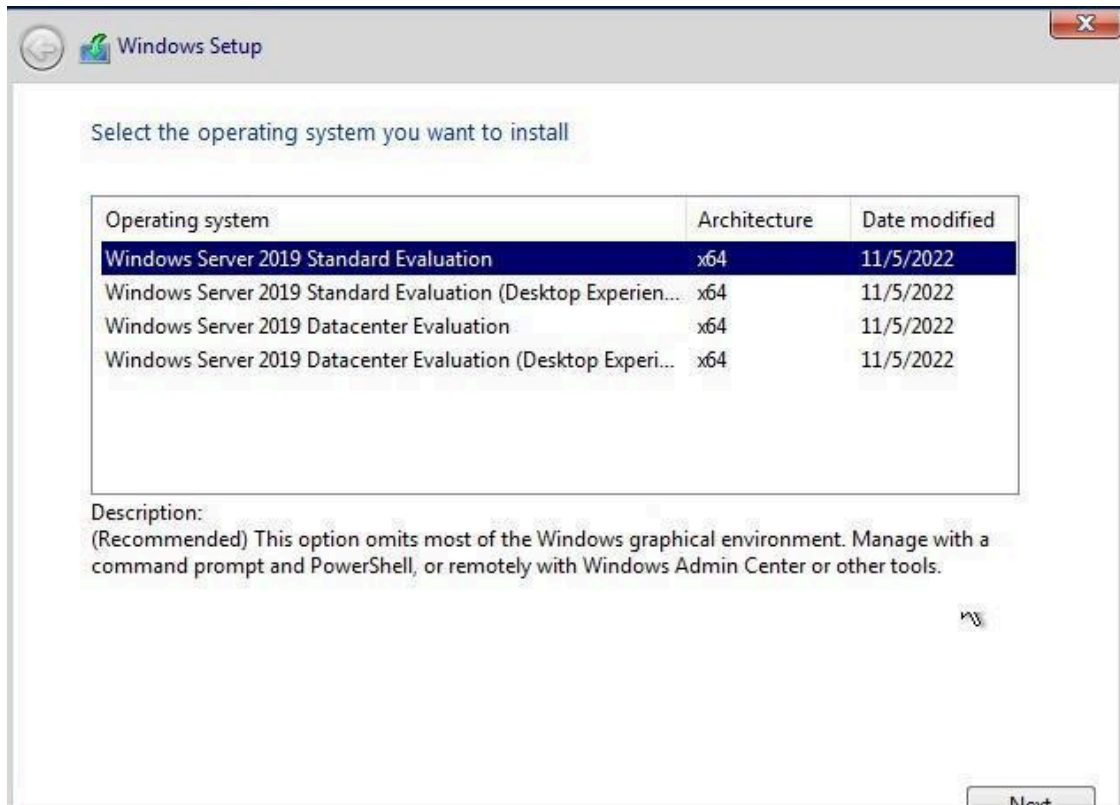


Power on this virtual machine



Edit virtual machine settings





Customize settings

Type a password for the built-in administrator account that you can use to sign in to this computer.

User name

Administrator

Password

Reenter password

