

# CSE 384 : Systems and Network Programming

Course Introduction

Syracuse University

# Environment Setup: Install VirtualBox

- Download virtual box 6.x: <https://www.virtualbox.org/>
  - A Hosted (type 2) Hypervisor – VMM (virtual machine monitor)
    - creates and manages virtualized *guest* machines
    -

## VirtualBox

### Welcome to VirtualBox.org!

VirtualBox is a powerful x86 and AMD64/Intel64 [virtualization](#) product for enterprise as well as home use. Not only is VirtualBox an extremely feature rich, high performance product for enterprise customers, it is also the only professional solution that is freely available as Open Source Software under the terms of the GNU General Public License (GPL) version 2. See "[About VirtualBox](#)" for an introduction.

Presently, VirtualBox runs on Windows, Linux, Macintosh, and Solaris hosts and supports a large number of [guest operating systems](#) including but not limited to Windows (NT 4.0, 2000, XP, Server 2003, Vista, Windows 7, Windows 8, Windows 10), DOS/Windows 3.x, Linux (2.4, 2.6, 3.x and 4.x), Solaris and OpenSolaris, OS/2, and OpenBSD.

VirtualBox is being actively developed with frequent releases and has an ever growing list of features, supported guest operating systems and platforms it runs on. VirtualBox is a community effort backed by a dedicated company: everyone is encouraged to contribute while Oracle ensures the product always meets professional quality criteria.



#### Hot picks:

- Pre-built virtual machines for developers at [Oracle Tech Network](#)
- **Hyperbox** Open-source Virtual Infrastructure Manager [project site](#)
- **phpVirtualBox** AJAX web interface [project site](#)

# Environment setup: download for windows


- Select windows host
  - Download and run the installer
    - Select of the default options

## VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

If you're looking for the latest VirtualBox 5.2 packages, see [VirtualBox 5.2 builds](#). Please also use version 5.2 this has been discontinued in 6.0. Version 5.2 will remain supported until July 2020.

## VirtualBox 6.1.0 platform packages

- 
- [Windows hosts](#)
  - [OS X hosts](#)
  - [Linux distributions](#)
  - [Solaris hosts](#)

The binaries are released under the terms of the GPL version 2.

See the [changelog](#) for what has changed.

You might want to compare the checksums to verify the integrity of downloaded packages. *The SHA256 che algorithm must be treated as insecure!*

- [SHA256 checksums, MD5 checksums](#)

**Note:** After upgrading VirtualBox it is recommended to upgrade the guest additions as well.

## VirtualBox 6.1.0 Oracle VM VirtualBox Extension Pack

- [All supported platforms](#)

# Environment setup: VM folder: Preferences

The image shows the Oracle VM VirtualBox Manager interface. On the left, there is a list of virtual machines: CSE-Win10-1809-Education, CSE-Win10-1809-Education\_1, and Mint 19.1. The main area displays a 'Welcome to VirtualBox!' message. A red circle highlights the 'Preferences' button in the top toolbar. A red arrow points from this circle to the 'VirtualBox - Preferences' dialog box. In the dialog box, the 'General' tab is selected, and the 'Default Machine Folder' is set to 'C:\Users\jmwcor\Desktop\virtual\_machines\cse384'. The 'VRDP Authentication Library' is set to 'VBoxAuth'. The dialog box has 'OK' and 'Cancel' buttons at the bottom.

# Create a VM (guest)


? ×

← Create Virtual Machine

**Name and operating system**

Name:

Machine Folder:

Type:  

Version:

**Memory size**

4096 MB

4 MB 32768 MB

**Hard disk**

Do not add a virtual hard disk

Create a virtual hard disk now

Use an existing virtual hard disk file

# Download Mint Linux Distribution

Download link: <https://linuxmint.com/download.php>

Home **Download** Project About Links

Linux Mint 19.3 LMDE 3 All versions Documentation

## Download Linux Mint 19.3 Tricia

### Information

Our latest release is Linux Mint 19.3, codename "Tricia".

[Read the documentation](#)  
[Read the release notes](#)

Choose your favorite edition below. If you're not sure which one is right for you, "Cinnamon 64-bit edition" is the most popular.

### Download links

	EDITION		
Cinnamon	<a href="#">32-bit</a>	<a href="#">64-bit</a>	An edition featuring the Cinnamon desktop
MATE	<a href="#">32-bit</a>	<a href="#">64-bit</a>	An edition featuring the MATE desktop
Xfce	<a href="#">32-bit</a>	<a href="#">64-bit</a>	An edition featuring the Xfce desktop

- A derivative Ubuntu.
  - Why use Mint?
- It's popular, well known and so ways easier

# Course Objectives

- Become familiar with Unix system/paradigm
  - Unix environment
    - Basic Commands, general familiarity with shells