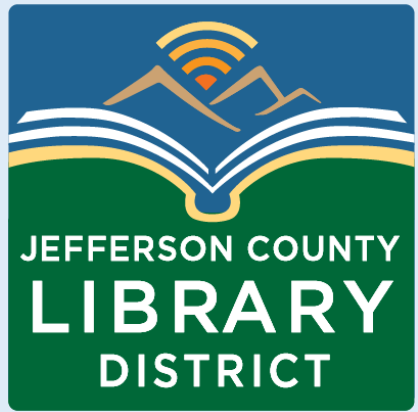


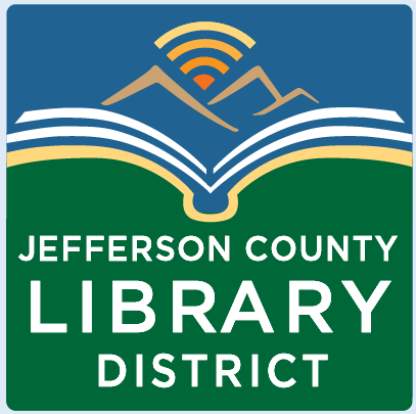
# Cybersecurity 101

Protect your computer Antivirus and Updates

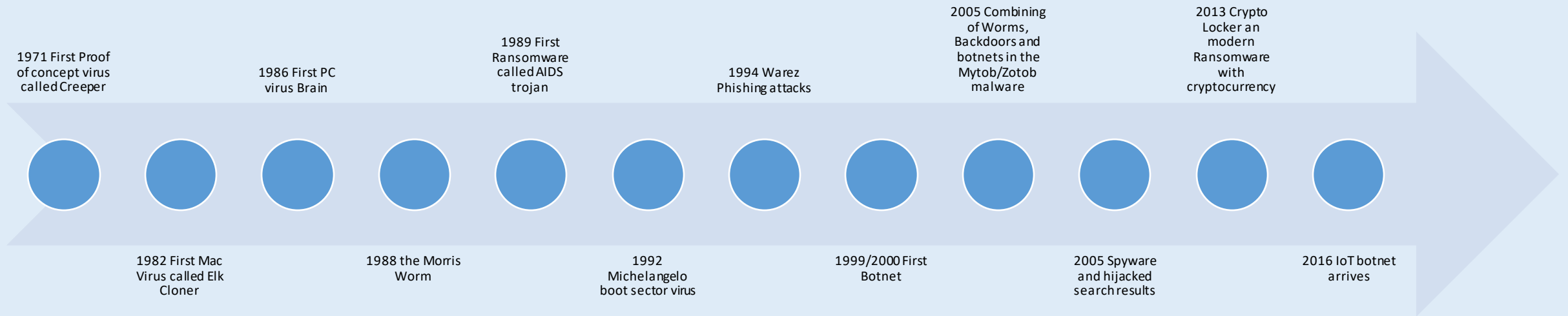


# Warm Up

- What operating system do you use?
- What is malware?
- Why is antivirus software important?
- Why is important to keep our software up-to-date?



# History of Computer Malware



<https://www.fortinet.com/blog/threat-research/evolution-of-malware>



# A change in Terms from Virus to Malware

- A **virus** cannot replicate without human interaction, whether clicking a link, opening an attachment, launching an application, or downloading a file.
- A **worm** does not require human interaction and can replicate on its own, tunnel deep into systems, and move between devices.
- Malware** is a generic term that encapsulates all threats—viruses, worms, botnets, [ransomware](#), etc.—anything malicious that is software-related.



# Antivirus software

- Antivirus is software that is designed to detect, protect against, and remove malware on a computer or mobile device. Originally, it was created to protect against computer viruses, but now it's more of a general term to describe software that uses a combination of advanced technologies to protect against a variety of threats, including [ransomware](#), spyware, and even never-before-seen [zero day attacks](#).
- Early antivirus programs would compare software file signatures against a list of known viruses to see if they matched, and if so, block them. Today, cybersecurity companies like Malwarebytes employ several different methods to **detect**, **block**, or **remove malware** from a device.

<https://www.malwarebytes.com/antivirus>

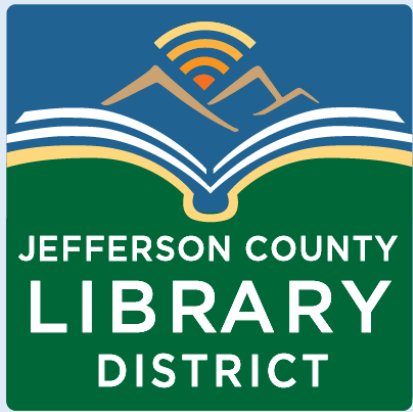


# How do you get Malware on your device?

Malware is overwhelmingly spread via email. By some counts, [94 percent](#) of it is delivered by email. Still, cybercriminals harness many methods to pull off a [malware attack](#). These are just some of their common tactics, some being combinations of one another.

- **Man-in-the-browser attacks**
- **Exploiting security vulnerabilities**
- **Exploit kits**
- **Drive-by downloads**
- **Social engineering**

<https://us.norton.com/blog/malware/types-of-malware>



# Resources for selecting Antivirus software

A screenshot of the Consumer Reports website's "Antivirus Software" ratings page. The page is titled "Antivirus Software" and has tabs for "Overview", "Ratings", "Recommended", and "Buying Guide". The "Ratings" tab is active. Below the title, there are filter buttons for "Type", "Categories", "Price", "Brands", "Best For", "Features & Specs", and "Sort". A "VIEW COMPARE" button and a "CR RECOMMENDED" toggle are also visible. A notification box says "Change how you view our ratings & reliability. OK". The main content area is titled "FREE ANTI-MALWARE PROGRAMS (5)" and shows two products: "Kaspersky Security Cloud Free" with an overall score of 81 and "Avast Free Antivirus" with an overall score of 78. Each product has a "Shop" button and a "TEST RESULTS" table with columns for Protection, On Access, On Demand, Ease of Use, and Message Interface.

Consumer Reports

Find the Best...

Cars Home & Garden Appliances Electronics Babies Deals More +

Electronics & Computers / Computers & Internet / Antivirus Software / Antivirus For Windows Ratings

## Antivirus Software

Overview Ratings Recommended Buying Guide

Type Categories Price Brands Best For Features & Specs Sort Clear

VIEW COMPARE CR RECOMMENDED VIEW

Change how you view our ratings & reliability. OK

FREE ANTI-MALWARE PROGRAMS (5)

	PROTECTION	ON ACCESS	ON DEMAND	EASE OF USE	MESSAGE INTERFAC
<b>Kaspersky Security Cloud Free</b> OVERALL SCORE: 81	4 / 5	5 / 5	4 / 5	5 / 5	4 / 5
<b>Avast Free Antivirus</b> OVERALL SCORE: 78	5 / 5	5 / 5	5 / 5	4 / 5	4 / 5



# Antivirus for mobile devices

## Can Android devices get viruses?

Android devices are susceptible to all kinds of malware. Phishing, ransomware, Trojans, spyware, dangerous apps--there's a plethora of threats that can infect Android devices.

<https://www.malwarebytes.com/android-anti-virus>  
<https://www.pcmag.com/picks/the-best-android-anti-virus-apps>  
<https://www.mcafee.com/en-us/anti-virus/mobile.html>  
<https://www.pcworld.com/article/694614/best-free-antivirus-for-android.html>

## Can iPhones get viruses?

Although Apple has designed its iOS system to be pretty untouchable, it's still possible to get a virus on your iPhone.

The biggest way this can happen is through something called "jailbreaking," which is when you bypass the restrictions on the Apple operating system. You might do this to gain more control over your device, downloading any apps or programs from anywhere on the internet. It basically lets you do whatever you want with your iPhone.

<https://www.mcafee.com/learn/does-an-iphone-need-antivirus-software/>





# How does this relate to Updates

While installing anti-virus software is one of the easiest and most effective ways to protect your computer, it has its limitations.

Because it relies on signatures, anti-virus software can only detect malware that has known characteristics.

**It is important to keep these signatures up-to-date.** You will still be susceptible to malware that circulates before the anti-virus vendors add their signatures, so continue to take other safety precautions as well.

<https://www.cisa.gov/news-events/news/understanding-anti-virus-software>



# Updates for your computer or devices

- Updates help patch security flaws
- Software updates help protect your data
- Software updates help protect others
- Software updates may add new features

<https://us.norton.com/blog/how-to/the-importance-of-general-software-updates-and-patches>



# Areas to Update

- Antivirus software
- Operating system software (Windows, MacOS, iOS, Android)
- Third-party software (i.e. Microsoft Office, Zoom, Adobe Acrobat, etc.)

Updates can be found under Settings, System Preferences, or Help.

 **Jamie Pena**  
jpena@jclibrary.local

# Windows Update



**You're up to date**

Last checked: Today, 8:08 AM

Check for updates

Find a setting

- System
- Bluetooth & devices
- Network & internet
- Personalization
- Apps
- Accounts
- Time & language
- Gaming
- Accessibility
- Privacy & security
- Windows Update**

**2023-09 Cumulative Update Preview for Windows 11 Version 22H2 for x64-based Systems (KB5030310) is available.**

Download & install



## More options



Get the latest updates as soon as they're available

Be among the first to get the latest non-security updates, fixes, and improvements as they roll out. [Learn more](#)

Off



Pause updates

Pause for 1 week



Update history



Advanced options

Delivery optimization, optional updates, active hours, other update settings

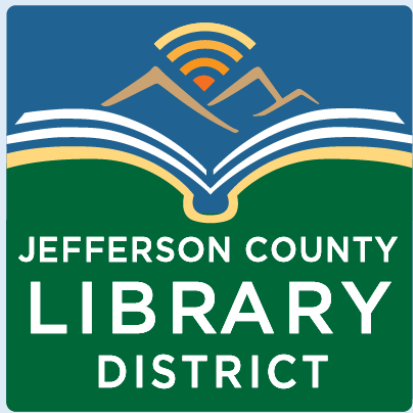


## For Microsoft Windows Updates:

Go to **Settings – Windows Update – Check for Updates.**

**Note:** under **Advanced Options**, select **Receive updates for other Microsoft products.**

<https://tinyurl.com/JCLMSUpdates>

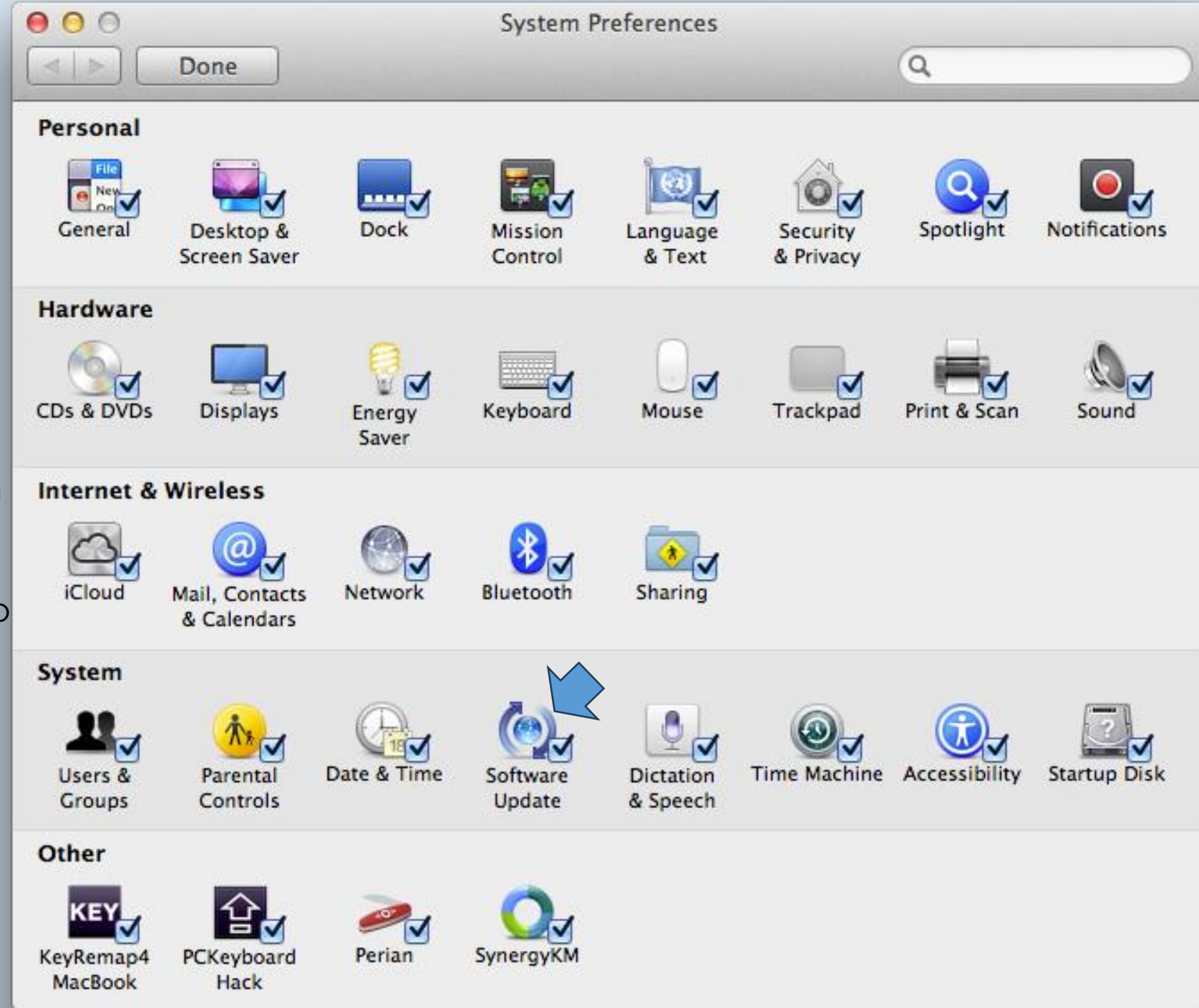


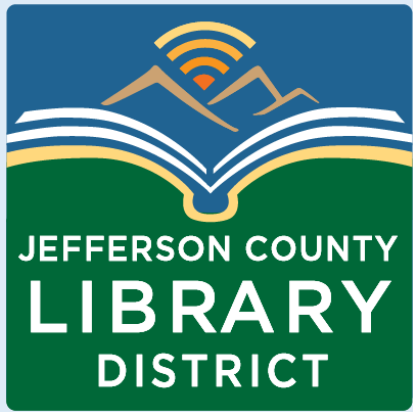
For Apple laptops and computers.

Updates can be found under **System Preferences**.

**Note:** Updates are smaller updates to the current OS. Upgrades are newer versions of the MacOS.

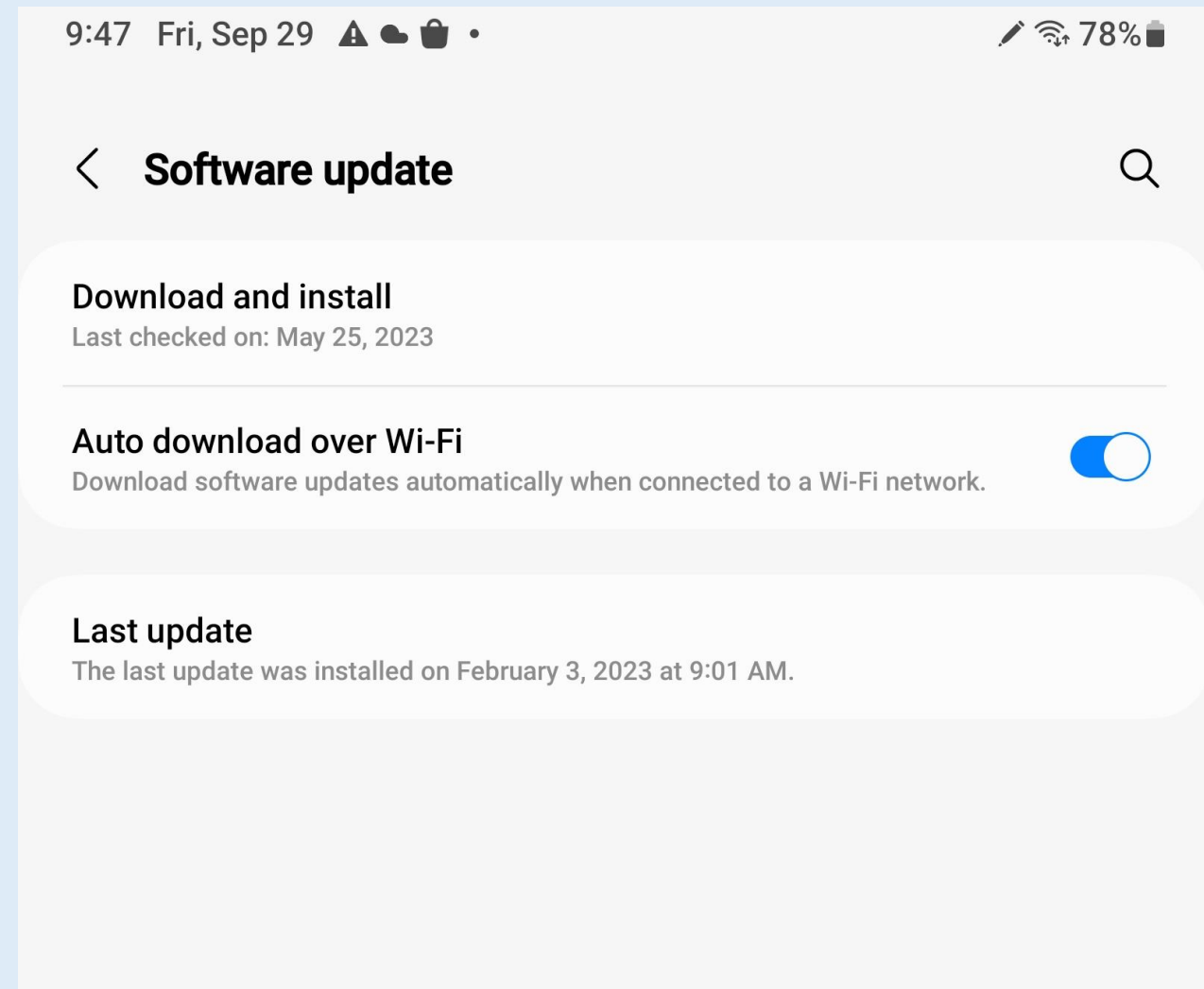
<https://support.apple.com/en-us/HT201541>



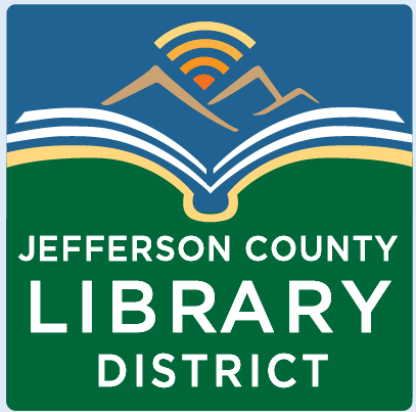


## Android updates:

- Open your device's Settings app.
- Tap System and then System update.
- You'll find your update status. Follow any steps on the screen.



<https://support.google.com/android/answer/7680439?hl=en>



# iDevice Updates

## Update your iPhone or iPad:

1. Go to **Settings – General - Software Update.**

2. If you see more than one software update option available, choose the one that you want to install.

3. Tap Install Now or Download and Install.

<https://support.apple.com/en-us/HT204204>

< General Software Update

Automatic Updates On >



This update provides important bug fixes and security updates and is recommended for all users.

For information on the security content of Apple software updates, please visit this website:

<https://support.apple.com/kb/HT201222>

Download and Install

ALSO AVAILABLE

 Upgrade to iOS 17 >

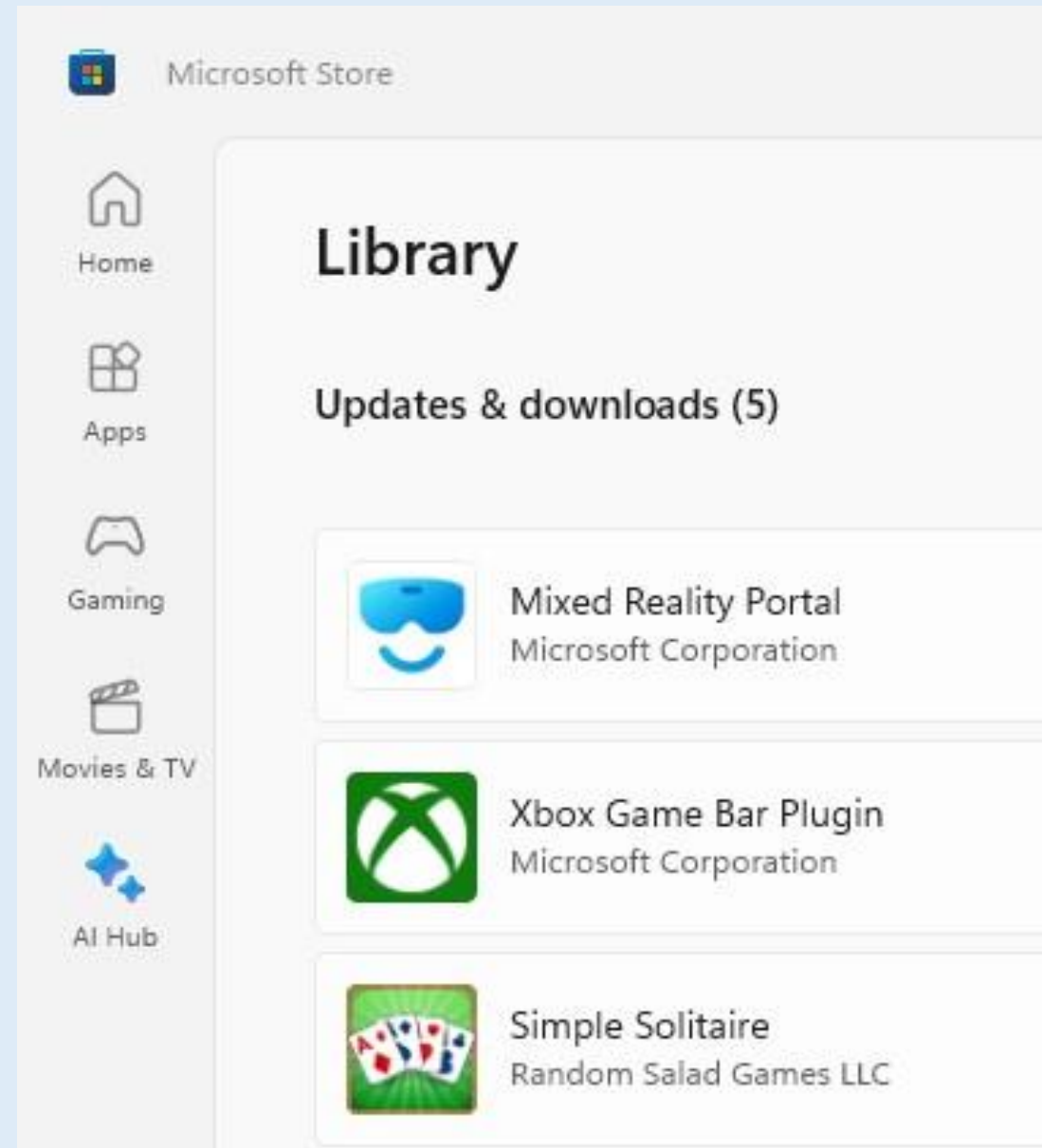


# Windows App Updates

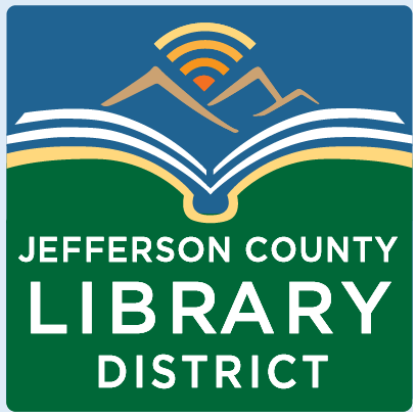
Microsoft Windows applications can be updated via the Microsoft Windows Store.

Non-Microsoft applications will need to be updated individually.

Updates can usually be found under Help.



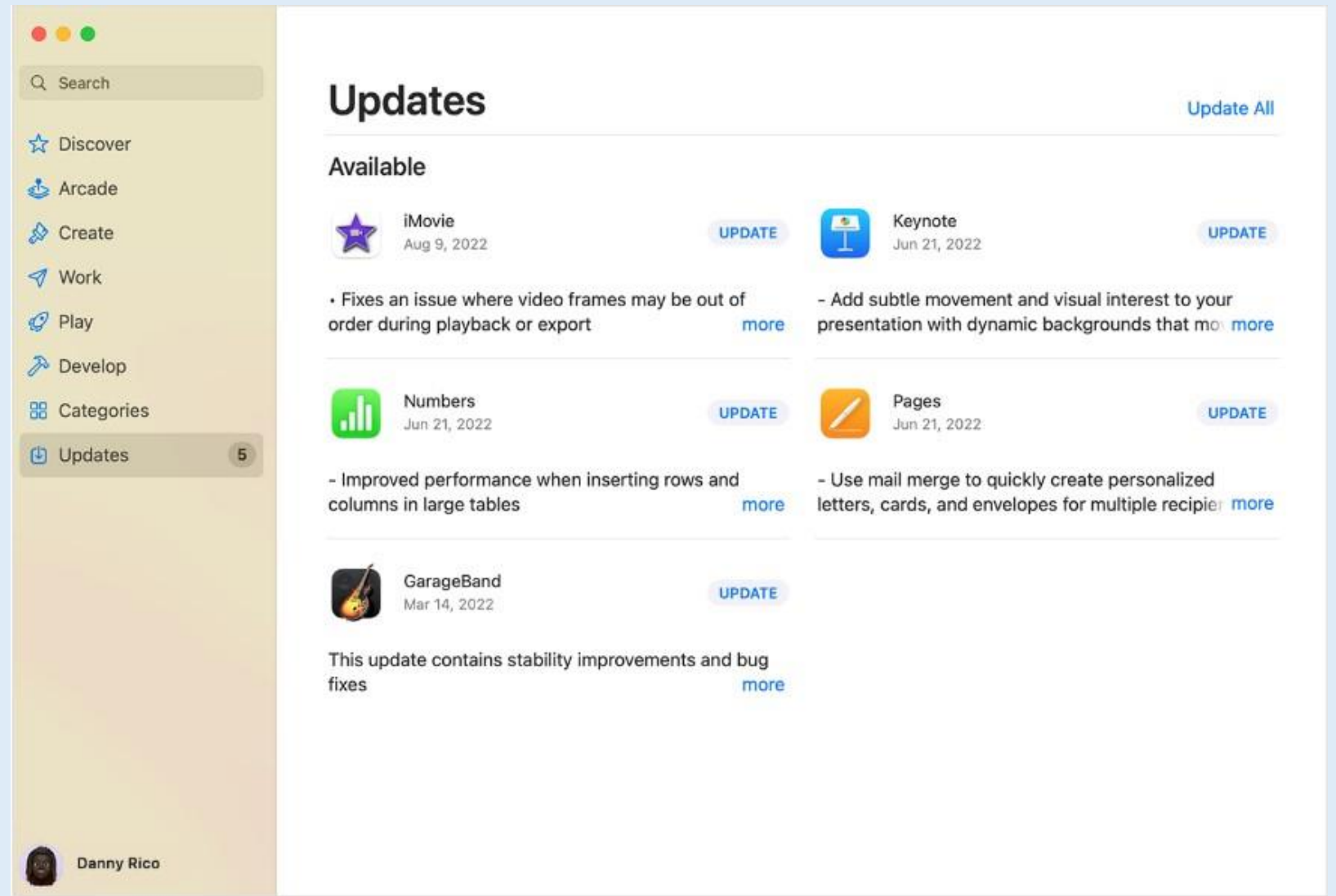




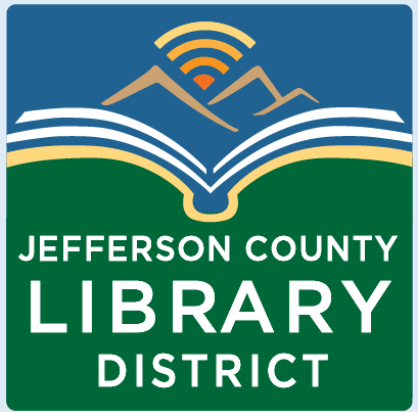
## Mac App updates

### How to manually update apps on your Mac

- Open the App Store.
- In the sidebar, click Updates.
- Click Update next to an app to update only that app, or click Update All.



<https://support.apple.com/guide/app-store/update-apps-fir9b01adda3/mac>



# App Updates

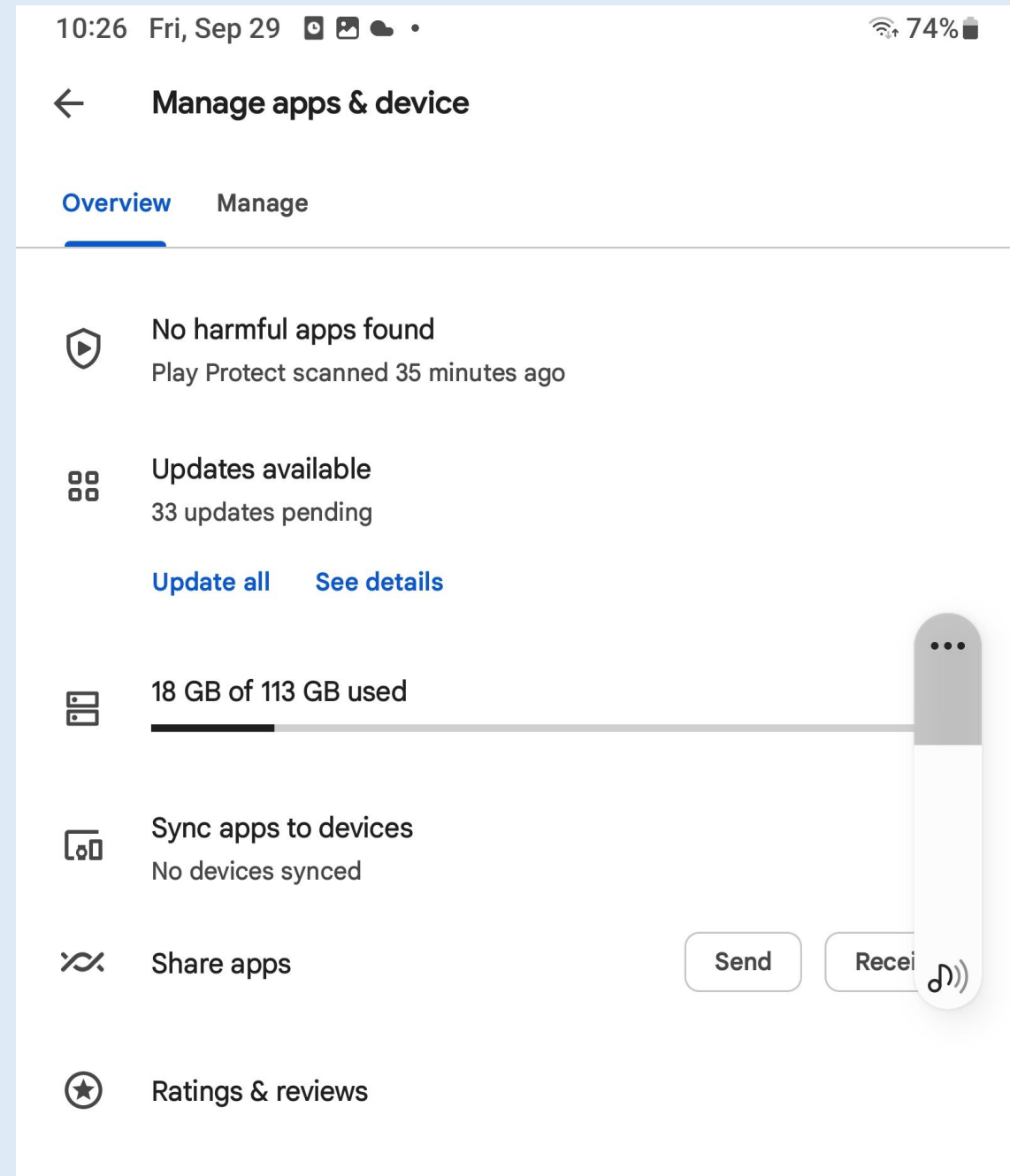
## Android app updates:

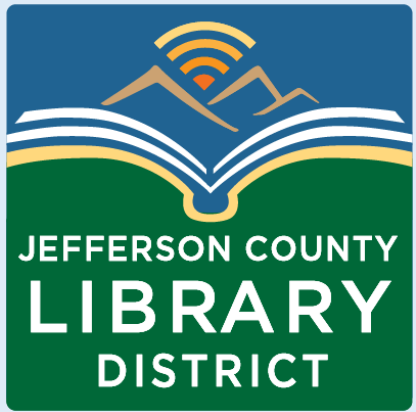


[This Photo](#) by Unknown author is licensed under [CC BY-SA](#).

- Open the Google Play Store app.
- At the top right, tap the profile icon.
- Tap Manage apps & device. Apps with an update available are labeled "Update available."
- Tap Update.

<https://support.google.com/googleplay/answer/113412?hl=en>





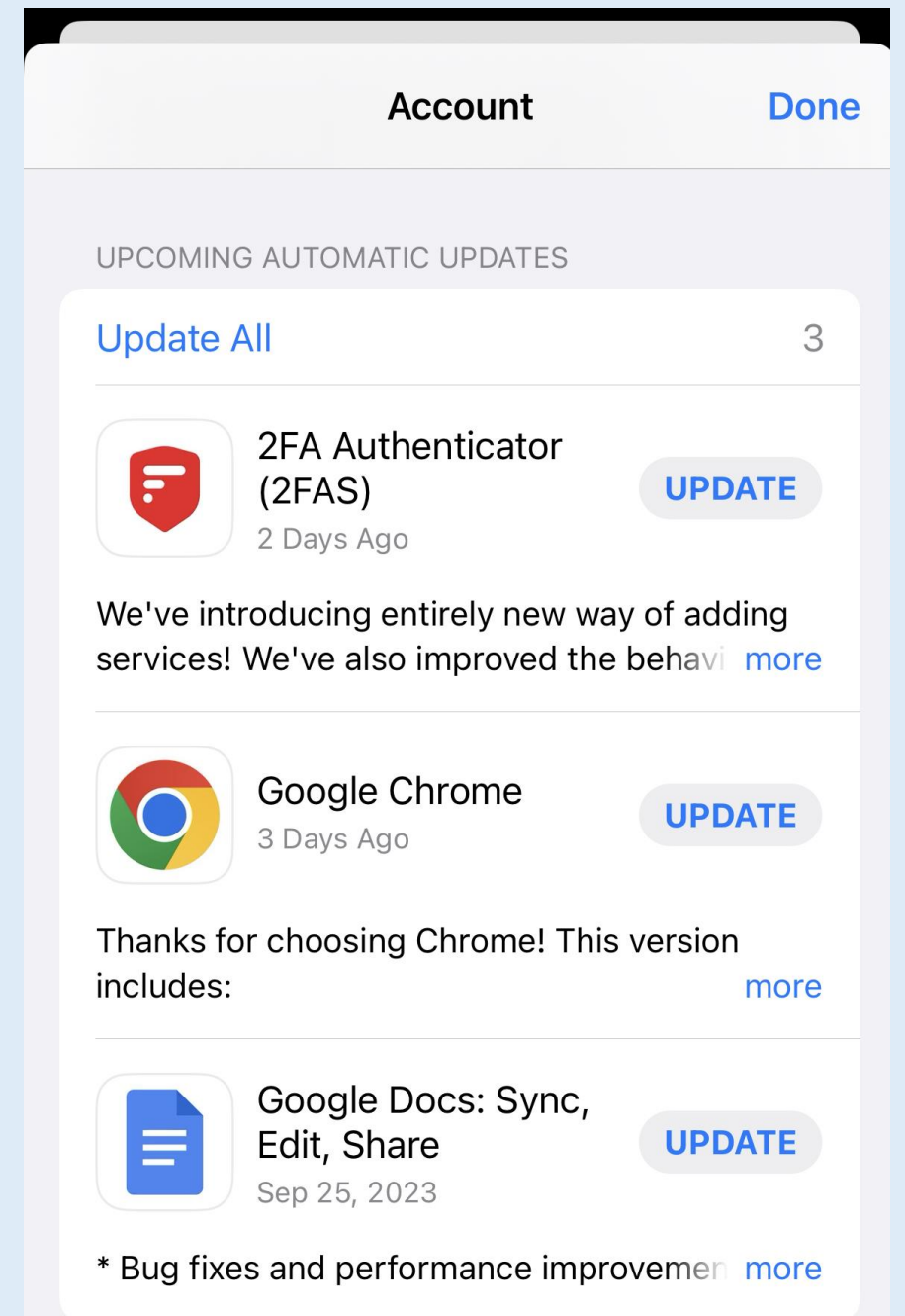
# iOS App Updates

## Update iPhone apps manually

Apps downloaded from the App Store are automatically updated by default. But if there's an issue, you can update an app manually.

- Open the App Store.
- Tap your profile icon at the top of the screen.
- Scroll to see pending updates and release notes. Tap Update next to an app or tap Update All.

<https://support.apple.com/en-us/HT202180>





# Resources: Antivirus Reviews

**Consumer Reports** – search "Antivirus software". *Free with your library card.*

**CNET:** <https://www.cnet.com/tech/services-and-software/best-antivirus/>

**PCMag:** <https://www.pcmag.com/picks/the-best-antivirus-protection>

**Forbes:** <https://www.forbes.com/advisor/business/software/best-antivirus-software/>



# Resources: System Updates

**Microsoft Windows (Desktop and laptop computers)**

<https://tinyurl.com/JCLMSUpdates>

**MacOS (Apple desktop and laptop computers)**

<https://support.apple.com/en-us/HT201541>

**Android (smartphones and tablets)**

<https://support.google.com/android/answer/7680439?hl=en>

**IOS (iPhones, iPads)**

<https://support.apple.com/en-us/HT204204>



# Resources: App Updates

**Microsoft Windows apps (Desktop and laptop computers)**

<https://tinyurl.com/JCLMSApps>

**MacOS apps (Apple desktop and laptop computers)**

<https://support.apple.com/guide/app-store/update-apps-fir9b01adda3/mac>

**Android apps (Smartphones and tablets)**

<https://support.google.com/googleplay/answer/113412?hl=en>

**iOS apps (iPhones, iPads)**

<https://support.apple.com/en-us/HT202180>



# Next Class

## Backing Up Your Data

**Date:** Friday, October 6

**Time:** 2:30 – 4:00 pm

We'll look at how to create backups – on your computer and external devices.