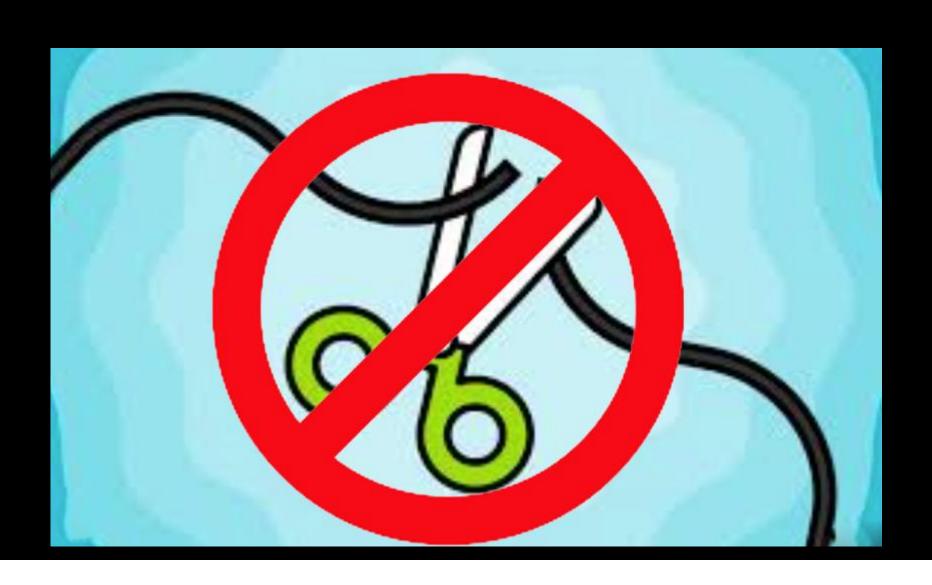
# The "Nuts and Bolts" of streaming

## In case you missed it, we are not cutting the cord at LBS.



- Streaming
- History
- Today
- Hardware (hands-on)
- What services to watch
- How to install apps on your device
  - Examples Hulu, Hoopla & Kanopy
- Getting good performance

### How did we get here?

First streaming media services

Computers with wired connections

Browsers and websites, such as NBC News

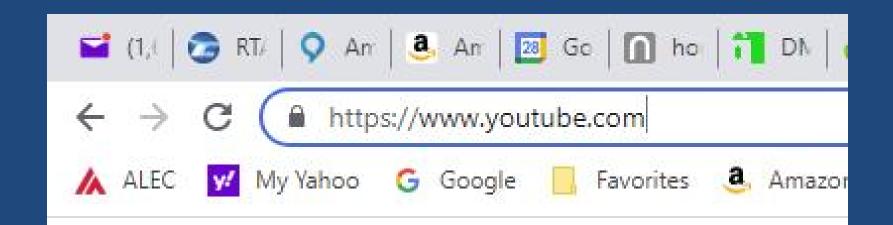
You can stream this way right now on your computer

The first streaming service was YouTube. It began in 2005.



### How did I watch YouTube back then?

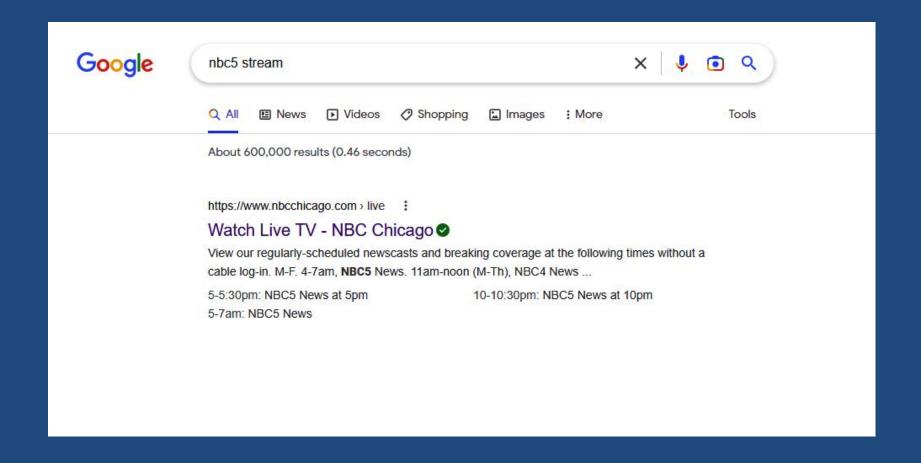




### How can I watch YouTube today?

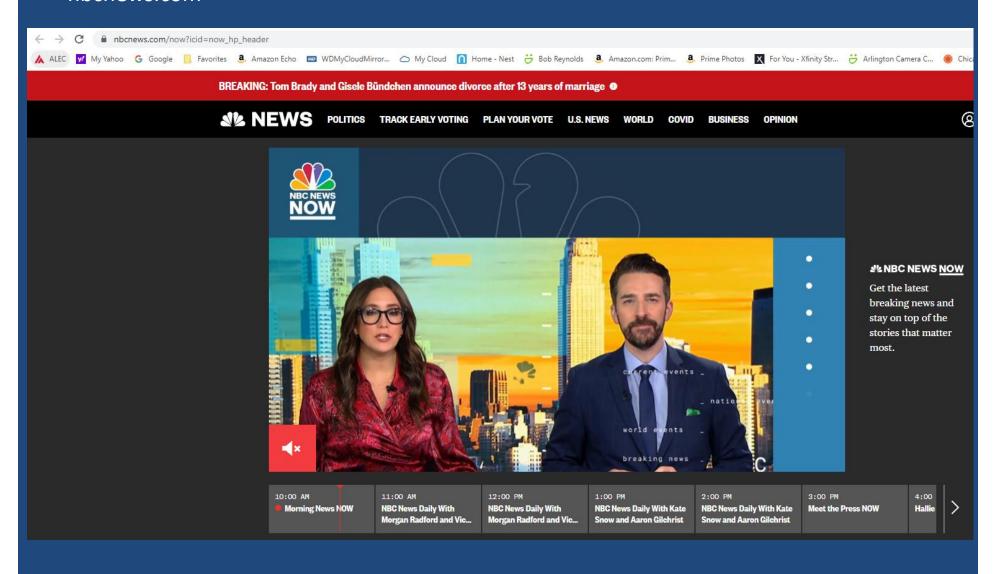


### One of the first things I streamed was NBC5 news.



### Free streaming today, on your computer.

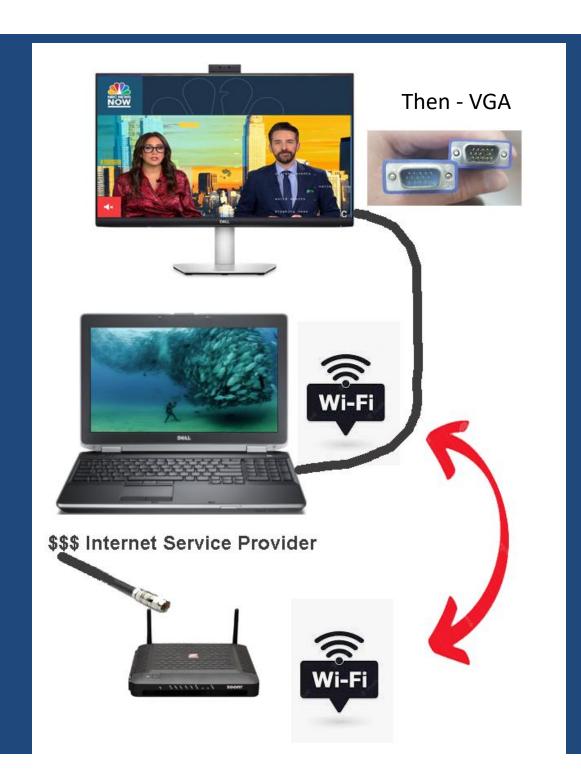
### nbcnews.com



NBC news is free.

Many others are free.

There are many streaming sites that require a subscription such as Netflix.





How do I find all of these sites on my computer, and how can I remember how to find them again?

And what about the subscription sites? I have a user ID and password for each. I can't remember them all and it's a pain to switch from one to the other and find the websites with all that https://gobbledy\_goop

Enter the first Roku.





The Roku device eliminated the need for the computer. It plugged into the back of your TV, out of sight. You did everything by remote.

All the website info was built in to the Roku. No more HTTPS:\

They had a partner, Netflix. There was even a dedicated Netflix button on the Roku remote.

Plus, once you set it up, your USER ID and password were internal to the Roku, so all you had to do was select Netflix, and off you went.

There was an app store so you could select other services besides Netflix, such as Crackle or Pluto TV.

### What happened next?

**Smart TVs!** 

Your TV now had Wifi, and the functions of the Roku were all built in.

This is about the time the U.S. went from analog TVs to digital TVs.

We transitioned from analog TVs with big picture tubes to flat-screen HDTVs.

Netflix and others partnered with TV mfrs. So that there was a NETFLIX button right on your TV remote.



With the Smart TV, I got all the access to Netflix and everything else already built in to my new TV.

I was able to throw the Roku away...

...and we all lived happily ever after.

End of story? Not quite.

My Vizio Smart TV is now 9 years old. The operator interface is clumsy and some apps are out-of-date.

A second Vizio TV from 2014 is also out-of-date and the operator interface is not the same from one TV to the other.

The return of the streaming device.

I've added Firesticks to all of my TVs – Smart & otherwise. The Firestick is less than \$50 and last year at Black Friday, they had them for \$20 and this summer they had a "Lightning Deal" for \$12.99.

### Hardware used to stream today

Roku Firestick Chromecast AppleTV

Antenna

### **Devices** (Thank you to the Barrington Library for this info)

#### Roku (\$29 - \$99)

There are currently six different streaming devices offered from Roku. The main concessions you will make with the lower priced options are the 4K video, dual-band wireless and Ethernet port, the remote will not be fully featured, and the device will not have expandable storage.

#### Amazon (\$37.99 - \$113.99)

Similar to Roku, you will get more features, including 4K and voice activation with the higher priced Fire TV Cube.

#### Apple TV 4K (\$149.99 - \$179.99)

This is best for people already in the Apple ecosystem and allows users to mirror their devices and content to the television seamlessly. For a reduced price you can get the Apple TV HD.

#### Google Chromecast (\$39 - \$69)

Similar to the Apple TV, this is a good option for people invested in the Google/Android ecosystem. Chromecast allows you to mirror your laptop or phone screen on the television. 4K is the main difference between Chromecast and Chromecast Ultra HD.

#### **Additional Devices**

If you have a game console, Smart TV, or Blu Ray player, it may support the apps listed below. These devices may not support all of the apps you subscribe to.

#### **Streaming Networks**

No matter the service, **TAKE ADVANTAGE OF TRIAL PERIODS!!!** (if they are offered ©)

Prices listed are monthly, except where an \* is shown to denote yearly pricing.

#### Acorn TV (\$7)

An offering of British television shows. It has been fairly popular in the United States and in our area, recently.

#### Amazon Prime Video (\$14.99)

Get access to original Amazon Prime content as well as IMDbTV. Prime Video is included if you purchase an Amazon Prime membership.

#### **Apple TV+ (\$7)**

Original and backlist content is available and the platform can support additional streaming services like HBO and Showtime.

### What services can you select?

Netflix

Hulu

**Amazon Prime** 

YouTube

Peacock

Pluto TV

Hoopla

Kanopy

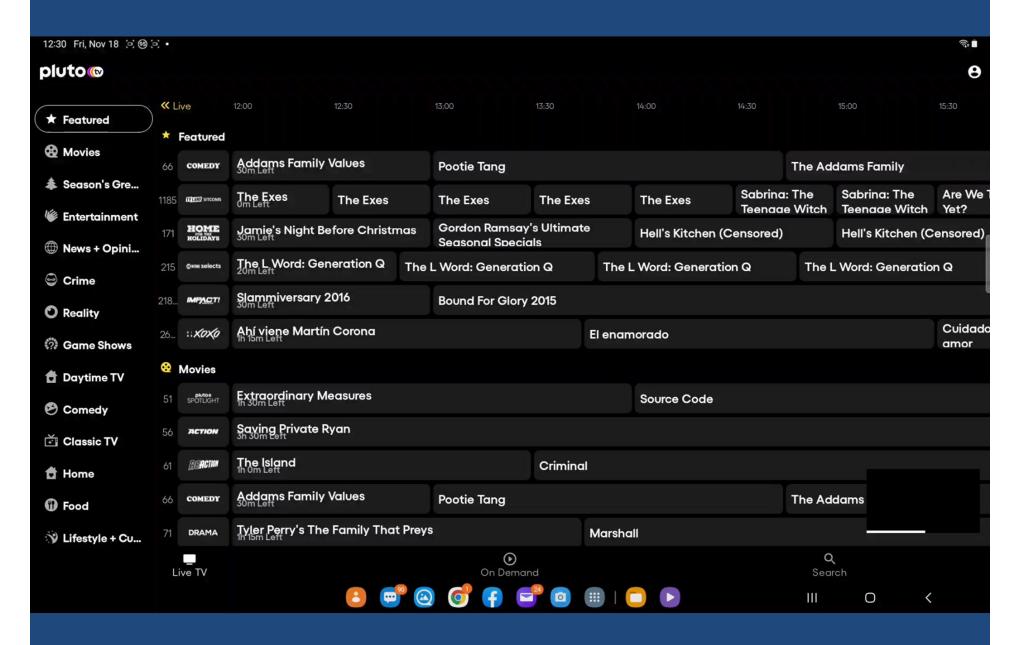
### Comparison of On Demand Services

	Netflix	Hulu	Amazon Prime Video	Disney Plus
Monthly base price	\$9.99	\$7.99	\$14.99	\$7.99
Free trial	No	Yes	Yes	No
Ads	No	Yes (No ads for \$12.99)	Prime content – No IMDBTV content - Yes	No
Individual profiles	Yes	Yes	Yes	Yes
Subscribers	203 mil	40 mil	150 mil	95 mil

Disney+ Bundle includes Hulu & ESPN+ for \$13.99



### Pluto TV



### Library Apps



- 5 titles per calendar month
- 72 hour loan period
- Documentaries,
   Independent
   Productions, Foreign
   Films



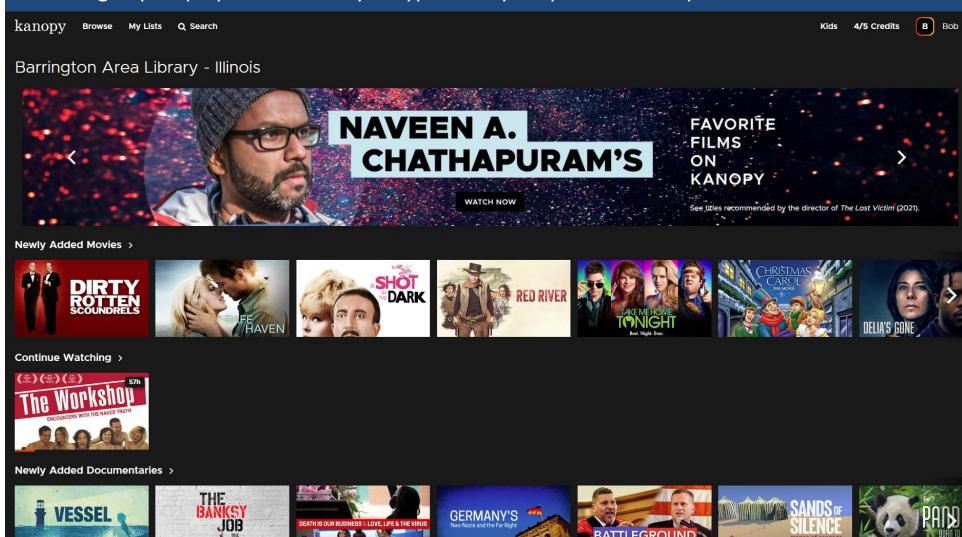
- 10 titles per calendar month
- 72 hour loan period
- Selection of movies and TV shows
- Access to CuriosityStream



### Kanopy

Stream up to 5 titles per month. Requires library card.

If you have a Google account, you can use it to create your UserID & use your Google Password Initial sign up displays a code that you type in on your phone or computer.





Free with Barrington Library card

Install like any other app

"Binge Pass" allows viewing Curiosity Stream content

When you sign up, you will have to go to your computer or phone and enter a code and your library card number and create an account.



#### Barrington Area Library (IL)

### My hoopla









You can borrow 10 more titles this month.

#### Recommended For You



■ Television

Coroner - Season

1

Claire Goose



∩ Audiobook
Secluded Cabin
Sleeps Six
Lisa Unger

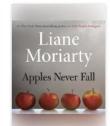


Audiobook

After We Were

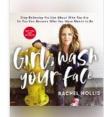
Stolen

Brooke Beyfuss



∩ AudiobookApples Never Fall

Liane Moriarty



Ω Audiobook
Girl, Wash Your
Face
Rachel Hollis



< >

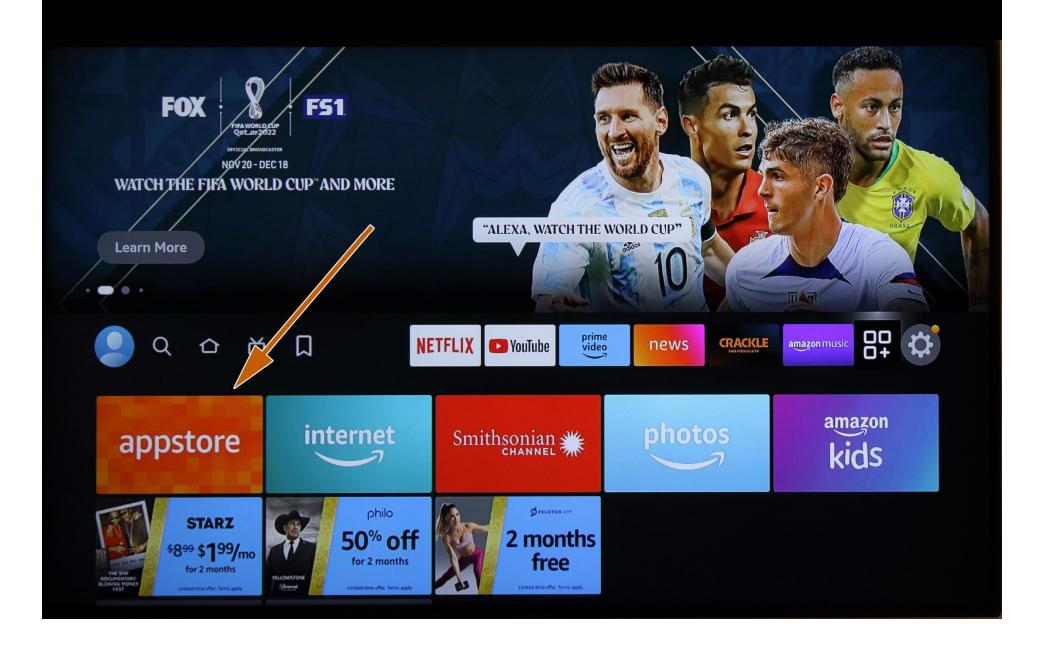
∩ Audiobook
 Unfu\*k Yourself

Gary John Bishop





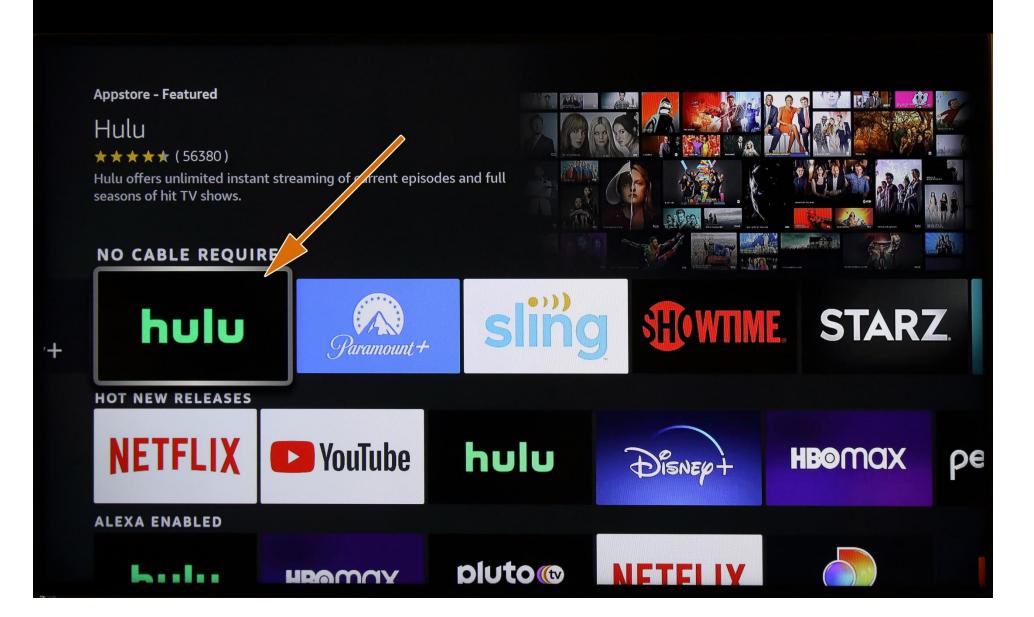
### Installing a new app (Fire TV stick)



### Popular apps like Hulu and Netflix are easy to find



### Click on your desired new app



### Hulu

★★★★ (56380) Guidance Suggested

Hulu offers unlimited instant streaming of current episodes and full seasons of hit TV shows.

Developer: HULU

Works With: Fire TV Remote, Game Controller

Supported Languages: English



Download 2

You own it

#### FEATURED CONTENT IN THIS APP













#### **TRAILERS & SCREENSHOTS**













- **Groundbreaking Originals**
- Add Live TV and get 75+ channels, with Unlimited DVR
- Plans start at \$7.99/mo

SIGN UP NOW

LOG IN

If you have any questions, visit help.hulu.com.





















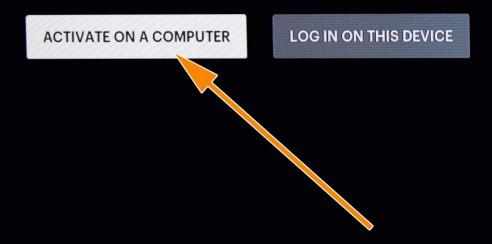






### Log in

Choose how you'd like to log in on this device. If you have a longer email address or password, it may be easier to activate your device using a computer.

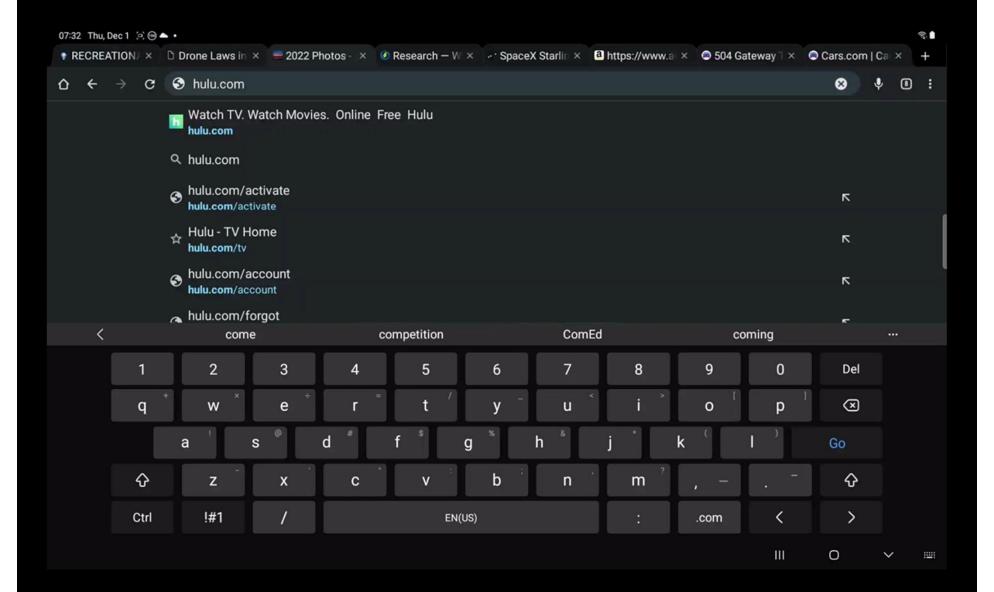


Use the link below to go online and log in. This screen will refresh when completed.

Step 1: Log in online by going to hulu.com/activate

Step 2: Enter activation code when prompted

CR9HWR9



Who's watching?

### MR. LB Shores

+ New Profile

News

My Stuff Hubs



#### **TV FOR YOU**



The Laughter & Secrets of Lo...
Not Rated • Award Shows & Events, N...



Welcome to Chippendales



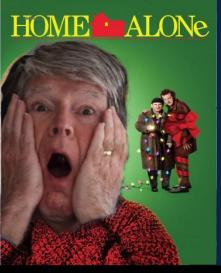
Andor



Y: The Last Man

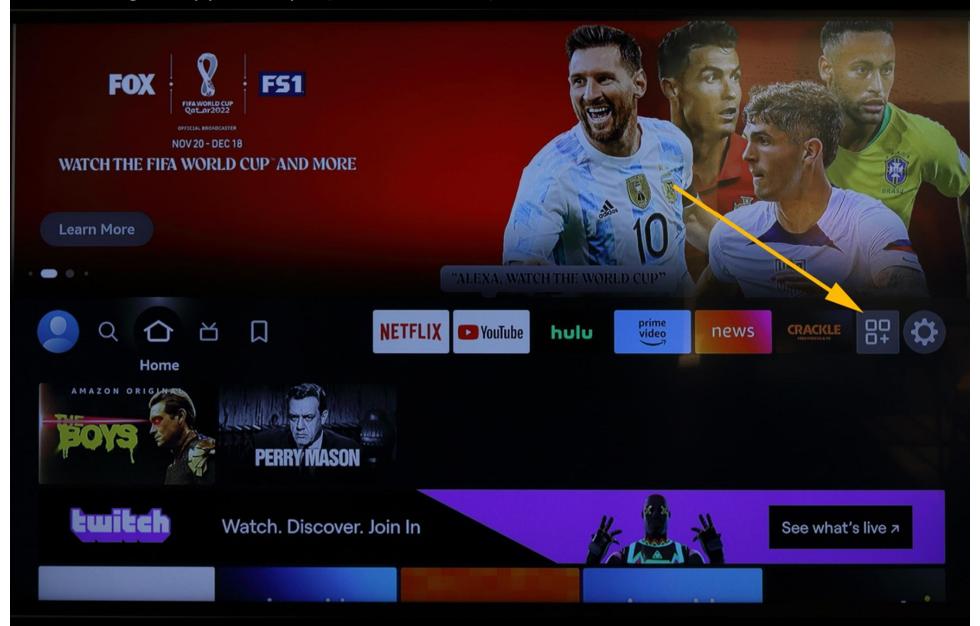
#### **MOVIES FOR YOU**







#### Installing Kanopy or Hoopla (Fire TV, Firestick)





#### Amazon Appstore

Press (a) to manage Amazon Appstore

#### YOUR APPS AND CHANNELS

appstore

YouTube.com

internet



photos

OFFERS ON FIRE TV



**STARZ** 





Play games like you stream movies | A luna

Learn more

Q Search

**App Library** 

**Featured** 

Games

**All Categories** 

Q Press SELECT to search











Movies and Tv

Sports and Fitness

News

Games

**Workout Guides** 

#### Press and hold (1) to voice search

- Q Kano
- Q Kanopy
- Q Kanopy App
- Q Kanon
- Q Kanoon

Kanopy

#### Kanopy

★★★★★ (5387)

Stream thousands of films for free without ads mrough your library, including hours of kids shows and movies. Sign up with your library car...

**APPS & GAMES** 

kanopy

biblio<sup>†</sup>



**SEARCH IN APPS** 





amazon music

**MOVIES AND TV** 





### Kanopy

★★★★ (5387) Guidance Suggested

Stream thousands of films for free without ads through your library, including hours of kids shows and movies. Sign up with your library card and start watching now.

Developer: Kanopy

Works With: Fire TV Remote, Game Controller

Supported Languages: English



Downloading...

**CUSTOMERS ALSO BOUGHT** 

hoopla





ARROW

W

**TRAILERS & SCREENSHOTS** 

Stream thoughtfu

Enlay films at home

Discover new

Search titles, cast



Borrowed

Now Playing

Favorites

Audiohooks

Movies

Television

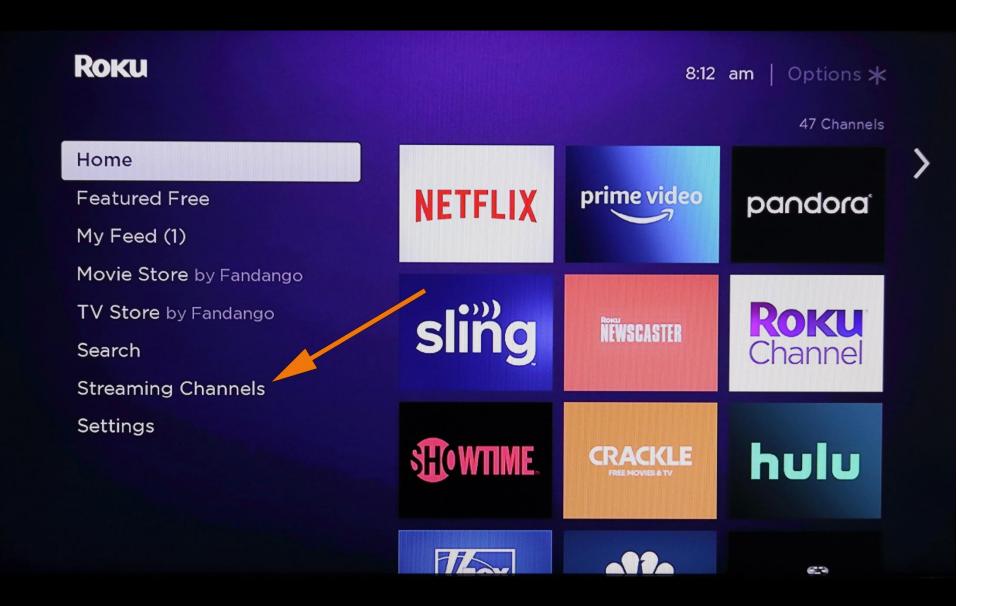
Settings

# Borrowed

You can borrow 9 more titles this month.

No borrowed titles

## Installing a new app (Roku)



TUNE IN

FILMRISE

#### **Streaming Channels**

Settings

Home

Featured Free

My Feed (1)

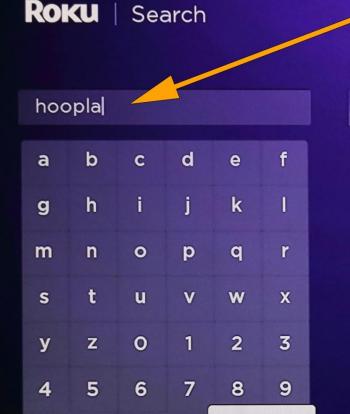
Movie Store by Fandango

TV Store by Fandango

Search







X

8:15 am | Options \*

Search for 'hoopla'

25+ Results

強 hoopla

- ☐ The Adventures of Annie & Ben (2015-present)
- Hoopla Halloween (Pt. 4) (2020)
- ☐ Hoopla Halloween
- ☐ HooplaKidz Lab Simple Science
- ☐ HooplaKidz
- Hoopla Halloween (Pt. 6) (2022)
- ☐ Hoopla Holidays Christmas Songs for Kidz
- Hoopla Halloween (Pt. 5) (2020)
- ☐ HooplaKidz en Español
- HooplaKidz Favorite Nursery Rhymes (Vol. 1)



- Add channel
- View screenshots

★★★☆5,398 ratings Version 7.0 | Mar 25, 2020 Content Rated Developer: Midwest Tape LLC hoopla is a groundbreaking digital media service offered by your local public library that allows you to stream movies and television episodes to your TV for free with no waiting. We have thousands of titles to choose from, with more being added daily.





#### Welcome to hoopla!

Before we begin, make sure you have a hoopla account. Don't have one? Sign up for one by visiting the link below.

https://www.hoopladigital.com

Next

#### Link your hoopla account

Please go to the "Link a Streaming Device" section under settings on your hoopla

Android or iOS app or visit https://www.hoopladigital.com/link on your browser and enter

the code below to link this TV with your hoopla account.

F2G3

Verifying link...



Borrowed

**Favorites** 

History

Movies

**Television** 

Search

Settings

Borrowed Titles
You can borrow 10 more titles this month.

You don't have anything currently borrowed. If you did, it would be shown here.

# Getting good performance from your Streaming Device



# Getting good performance from your Streaming Device



# Streaming speed and signal quality

Wifi is a radio wave

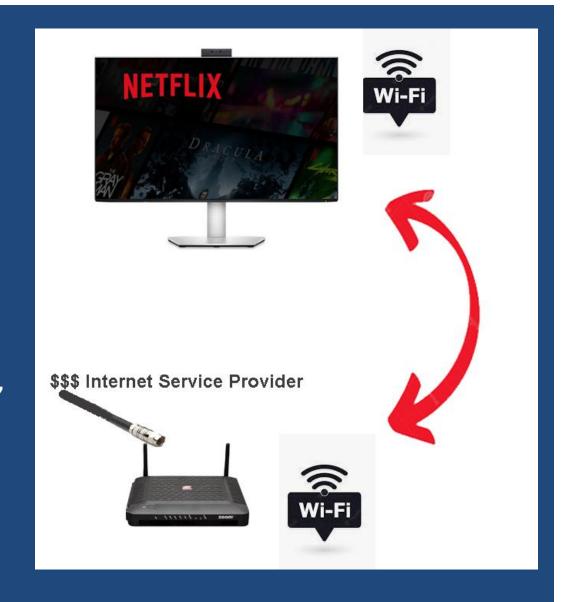
RF interference

It is impacted by other signals (your neighbors' wifi, your Nest thermostat)

Distance from the source

Walls, floors, metal

Data sent over the air is not as fast as data sent by wire



### Speedtest.net



Desktop computer (wired)



Desktop computer (wifi)

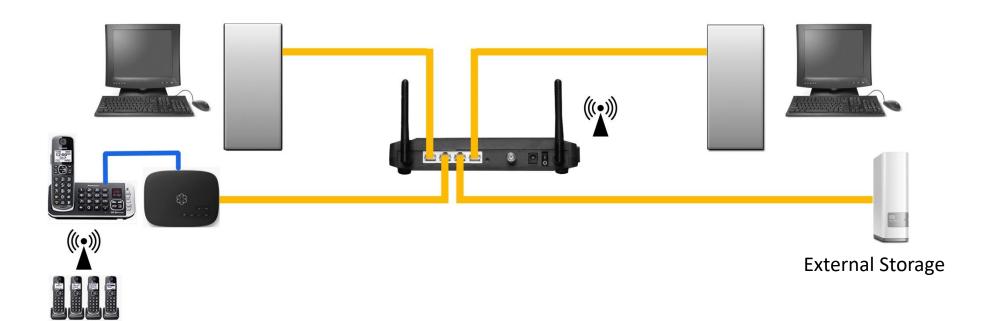
I got the same results on my phone, my tablet and in other rooms when I used wifi

# Speeds required

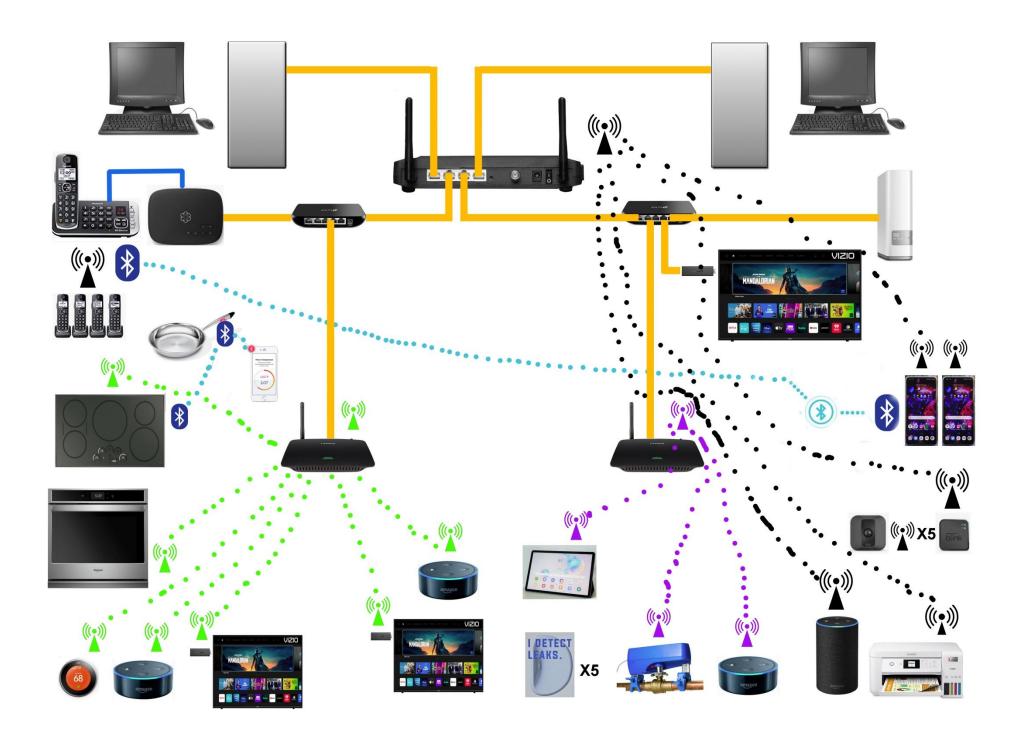
4K UHD	25.0 mbps	4096 x 2160	16x9 (Widescreen)	
Full HD 1080i	6.0 mbps	1920 X 1080	16x9 (Widescreen)	
HD 720p	3.0 mbps	1280 X 720	16x9 (Widescreen)	
SD 480i	2.0 mbps	720 X 480	4x3	

#### A wired connection works best









#### Here is the Internet service we are being provided

Plan	Download speeds	Upload speeds	Starting price	Allconnect scor
Connect	75 Mbps	10 Mbps	\$30.00/mo.*	2.94/5
Connect More	200 Mbps	10 Mbps	\$40.00/mo.*	2.96/5
Fast	300 Mbps	10 Mbps	\$55.00/mo.	3.31/5
Superfast	800 Mbps	20 Mbps	\$70.00/mo.	3.58/5
Ultrafast	900 Mbps	20 Mbps	\$75.00/mo.	3.60/5
Gigabit Extra	1,200 Mbps	35 Mbps	\$80.00/mo.	3.59/5
Gigabit Pro	6,000 Mbps	6,000 Mbps	\$299.95/mo.	3.95/5

Do not expect 200 Mbps via wifi

Is this fast enough?