




Automatic data backup



Sue Kayton
September 2019

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Backup methods

- **USB flash drive**
(beware static electricity!) 
- **External hard drive**
(take it off-site!) 
- **Cloud backup** 
(can be automatic)

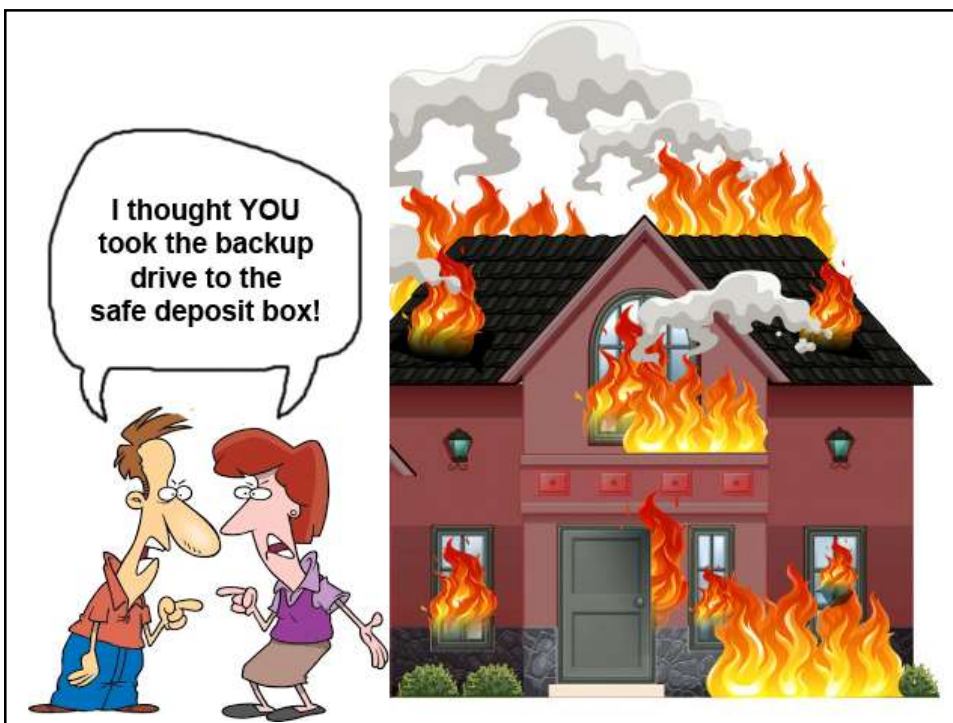
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Why back up off-site?



- Fire
- Theft
- Earthquake
- Roof leak
- Power surge

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Why back up automatically?

- You won't forget to do it
- Less hassle
- Never lose data again

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The Cloud – hundreds of hyper-scale computer centers

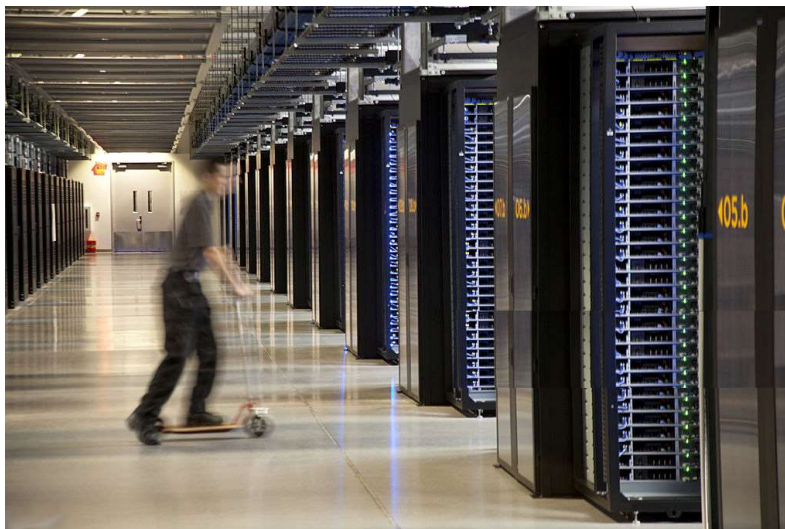


Server farm (data center)



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Inside a server farm



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What these servers do

- Store data
- Perform computations
- Back up data
- Control access to data
- Show you websites

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Web services

Google

amazon

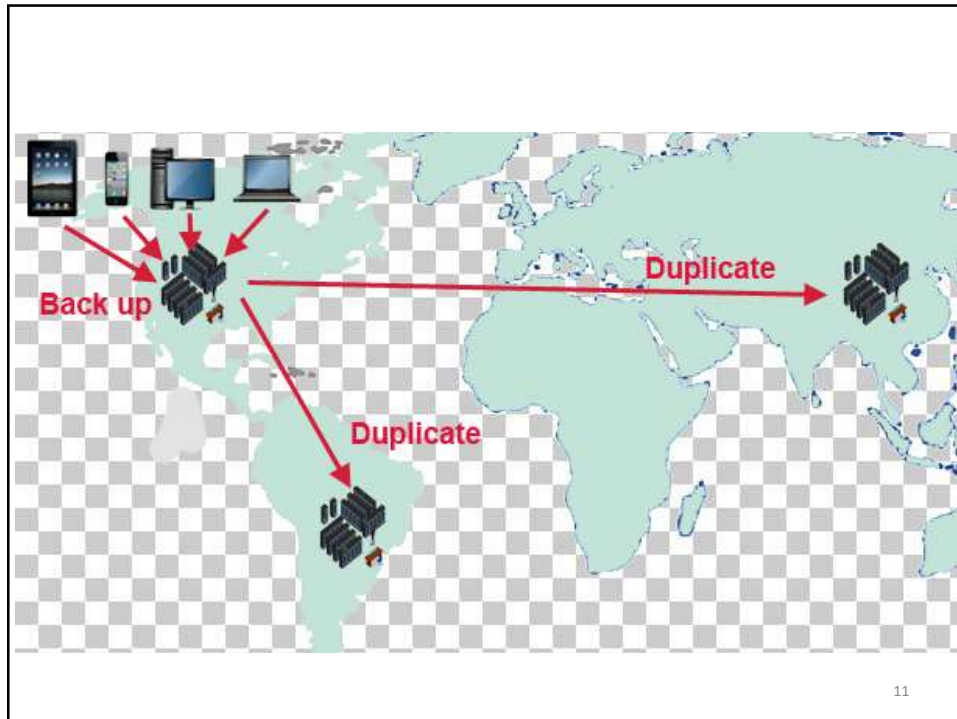

Microsoft


Dropbox

And a bit from


Apple

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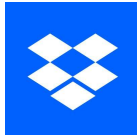


Features

- **Automatic data backup**
- **Automatic photo backup**
- **Share files**
- **Recover deleted files**

The Big Four

Google Drive (Google One)



Dropbox

Microsoft OneDrive



iCloud

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	Google Drive (Google One)	Dropbox	iCloud	OneDrive
Free data storage	15 GB	2 GB	5 GB	5 GB
Yearly cost	\$100 / 2TB	\$120 / 2TB	\$120 / 2 TB	\$70 / 1 TB
Number of devices synced for free	Unlimited	3	Unlimited	Unlimited
Unlimited free photo storage	√			
Choose folders to back up	√			
Shows backup progress	√			
Bonus features	Google Docs Google Sheets Google Slides	Text search	Back up contacts from iPhone	1TB included with Office 365

30-day “rewind”

- **Recover deleted files**
- **Kept for 30 days**
- **Up to 5 versions
(Dropbox) or 10 versions
(Google Drive)**

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Beware!

- **Keep your payment
information current
- credit cards expire!**
- **Write down your
passwords!**
- **Huge Outlook files won't
back up automatically**

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Google Backup and Sync (Google Drive)

- Built in to Android phones and tablets
- Available on Windows, Mac, iPhone, iPad
- Automatic backup of your files
- Synchronize data between computers
- Transfer data to new computer
- Access data from smartphone or tablet
- Access data from anywhere
- 15 GB free storage plus unlimited photos
- Pay for more space if needed
- Share data with family, friends or co-workers



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Google Drive

My Drive - Google Drive x +

drive.google.com/drive/my-drive

Drive

New

My Drive

Quick Access

Copy of junk.txt

You created in the past week

PTA ESSAY CONTEST

Edited in the past month by Jaliyah Norton

PTA computers.xls

You uploaded in the past week

Name	Owner	Last modified	File size
PACEroster.xls	me	Jun 10, 2017	455 KB
P8160563.JPG	me	Aug 16, 2019	921 KB
Laptop Read Me.docx	me	Feb 22, 2019	18 KB

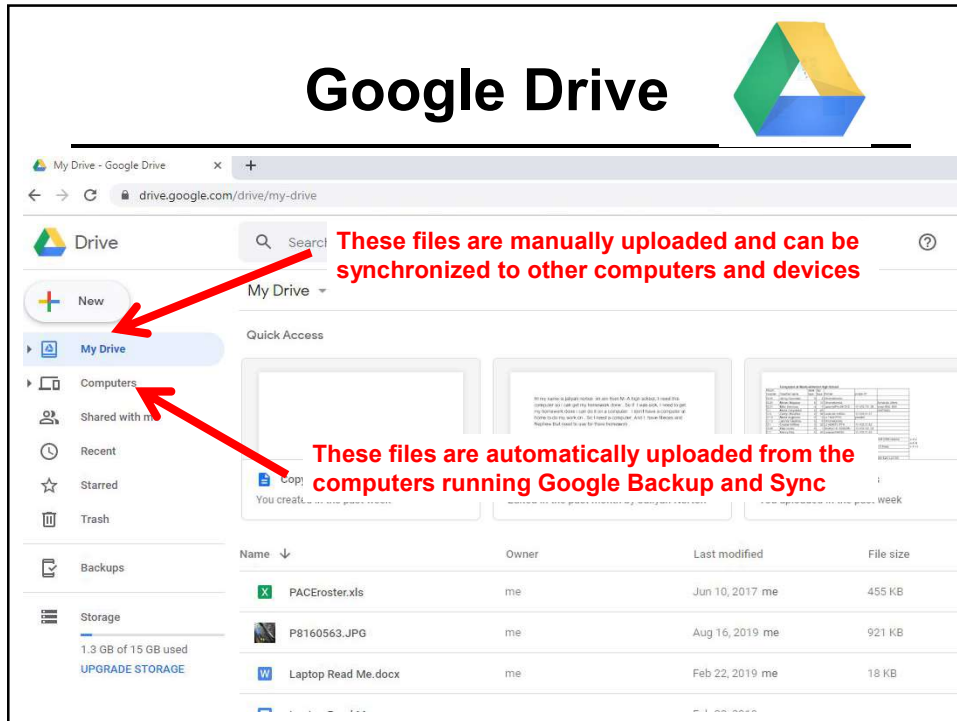
Backups

Storage

1.3 GB of 15 GB used

[UPGRADE STORAGE](#)

Google Drive



My Drive - Google Drive

drive.google.com/drive/my-drive

Drive Search

My Drive

New

My Drive

Computers

Shared with me

Recent

Starred

Trash

Backups

Storage

1.3 GB of 15 GB used

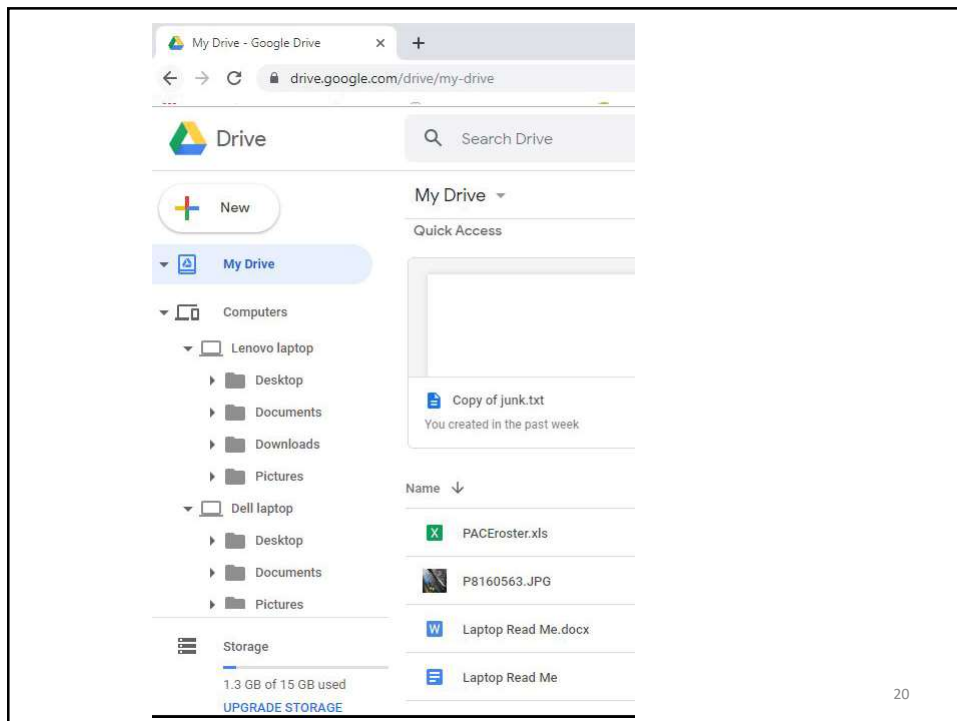
UPGRADE STORAGE

Quick Access

Copy!

You created...

Name	Owner	Last modified	File size
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Laptop Read Me.docx	me	Feb 22, 2019	18 KB



My Drive - Google Drive

drive.google.com/drive/my-drive

Drive Search Drive

New

My Drive

Computers

- Lenovo laptop
 - Desktop
 - Documents
 - Downloads
 - Pictures
- Dell laptop
 - Desktop
 - Documents
 - Pictures

Storage

1.3 GB of 15 GB used

UPGRADE STORAGE

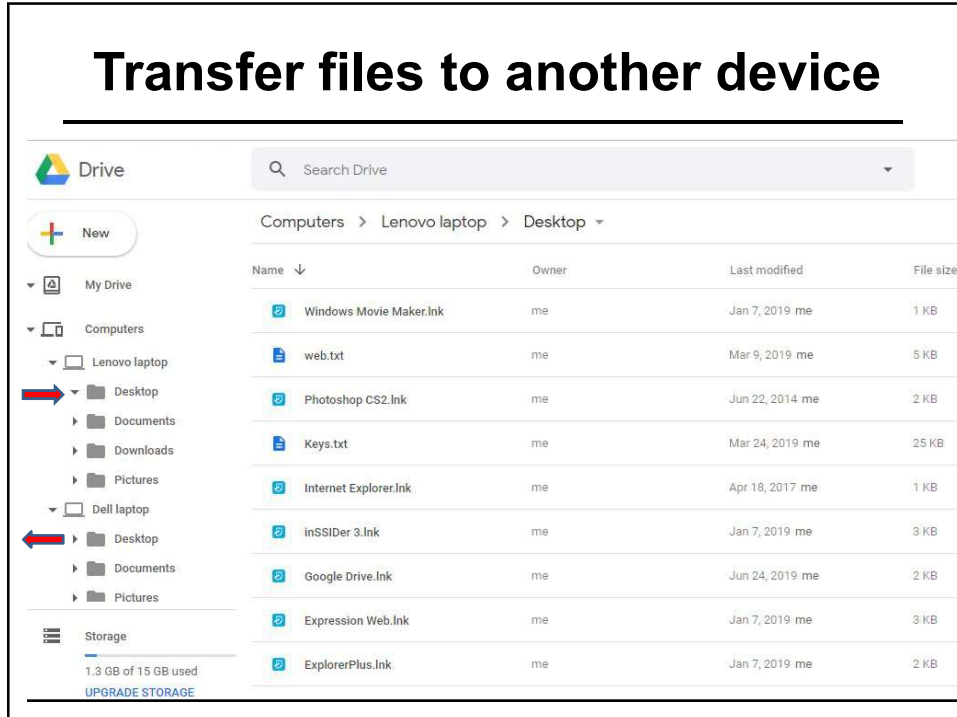
Quick Access

Copy of junk.txt

You created in the past week

Name
PACEroster.xls
P8160563.JPG
Laptop Read Me.docx
Laptop Read Me

Transfer files to another device



The screenshot shows the Google Drive web interface. The left sidebar shows the navigation pane with 'Computers' expanded to show two laptops: 'Lenovo laptop' and 'Dell laptop'. Both 'Desktop' folders are highlighted with red arrows. The main area shows a breadcrumb path: 'Computers > Lenovo laptop > Desktop'. Below this is a table of files:

Name	Owner	Last modified	File size
Windows Movie Maker.Ink	me	Jan 7, 2019 me	1 KB
web.txt	me	Mar 9, 2019 me	5 KB
Photoshop CS2.Ink	me	Jun 22, 2014 me	2 KB
Keys.txt	me	Mar 24, 2019 me	25 KB
Internet Explorer.Ink	me	Apr 18, 2017 me	1 KB
inSSIDer 3.Ink	me	Jan 7, 2019 me	3 KB
Google Drive.Ink	me	Jun 24, 2019 me	2 KB
Expression Web.Ink	me	Jan 7, 2019 me	3 KB
ExplorerPlus.Ink	me	Jan 7, 2019 me	2 KB

At the bottom left, the storage status is shown as '1.3 GB of 15 GB used' with a link to 'UPGRADE STORAGE'.

Google Drive



- Excellent tutorial from C-net including how to install Google Backup and Sync

<https://www.cnet.com/how-to/get-started-with-googles-backup-and-sync-app/>

- Excellent tutorial from HowToGeek

<https://www.howtogeek.com/228989/how-to-use-the-desktop-google-drive-app/>

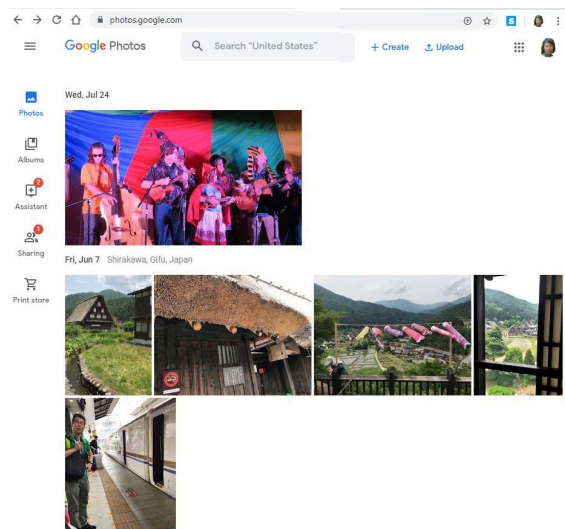
Google Photos



- Built in to Android phones and tablets
- Available for Windows, Mac, iPhone, iPad
- Automatic backup of your photos
- Unlimited free storage
- Share photos with family, friends and co-workers
- Tag photos to create albums
- Edit and rename photos
- Flat file structure – listed by date

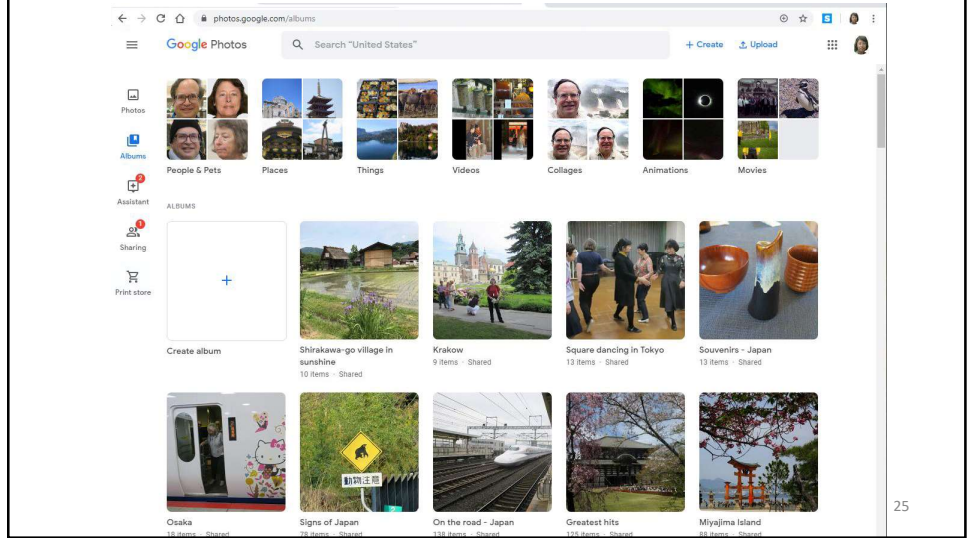
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Google Photos

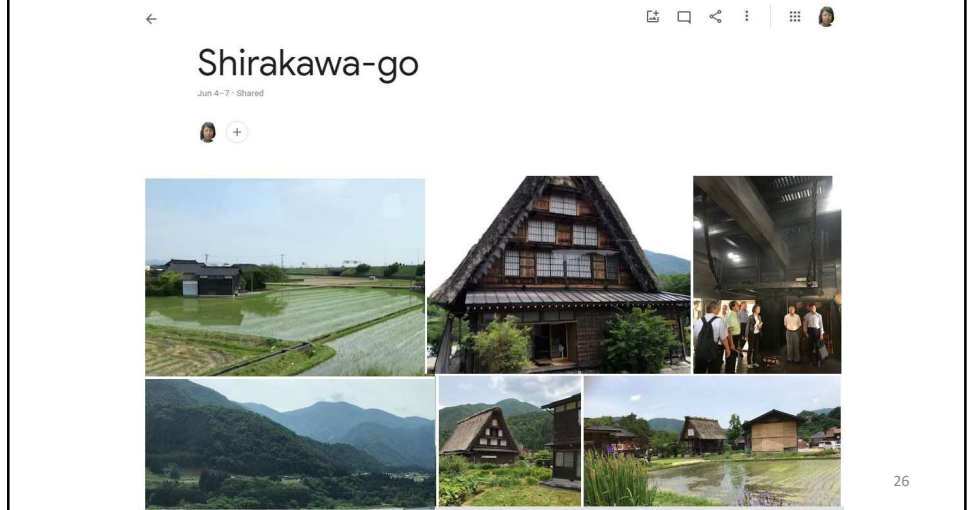


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Google Photos (in album view mode)



Google Photos Organize album

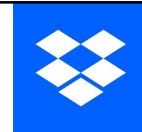


Google Photos

edit and share



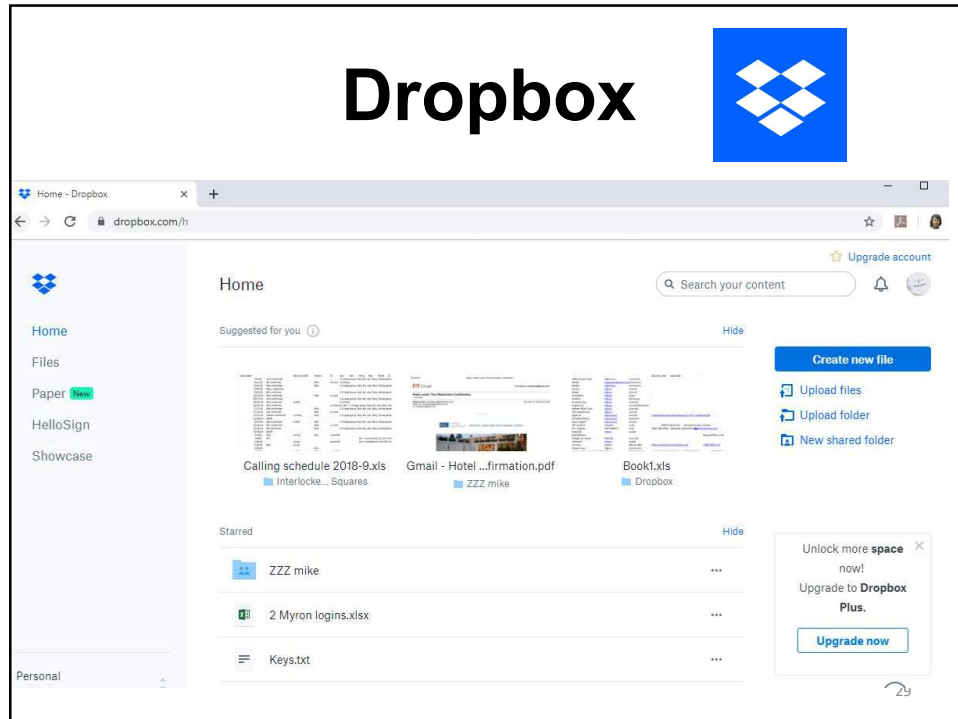
Dropbox



**Available for Windows, Android,
Mac, iPhone, iPad**

**Features in Dropbox personal
edition**

[https://www.dropbox.com/individual/
plans-comparison](https://www.dropbox.com/individual/plans-comparison)



iCloud

- **Built in to iPhones**
- **Not available for Android**
- **Not recommended for Windows computers**
- **Designed to back up iPhones and iPads**

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