PART I: What is Cloud Computing

What is Cloud Computing?

The 'cloud' is a metaphor for the Internet. Cloud computing is simply storing and accessing data and programs over the Internet instead of on your computer's hard drive; using software or data stored on your hard drive is <u>not</u> cloud computing – that's local storage.

Cloud Computing Advantages

- *Backup:* Storing photos or other important files in the cloud means that if your computer is stolen or damaged, your files are still safe and perfectly accessible.
- *Shared Access:* Working on a collaborative project? Do the work online (in the cloud) and give access permission to your colleagues. You can both work on the project at the same time, and never have version control problems.
- *Large File Transfer:* Files too large to email as an attachment can be saved to the cloud, and a link can simply be emailed to the recipient.
- *Online Software:* If you don't have a word processor, and want to create a document, cloud software is available for you to use, wherever you have Internet access.

Cloud Risks and Disadvantages

- *Security:* There is a risk that the files you've saved to the cloud could be hacked. Safeguarding accounts with a difficult-to-guess password is key.
- *Internet Reliance:* Since files saved solely to the cloud are on the Internet, you need connection to the Internet in order to access or update them.
- *Corporate Snooping:* Some companies that provide cloud services may access your data in order to better target you for advertising purposes.
- *Bankruptcy or Corporate Acquisition:* If the company you've stored your data with goes bankrupt, or is acquired by another company, what would happen to your data?

PART II: Popular Applications

Google Drive

To use Google Drive, you simply need a Google account. If you have a Gmail address, you already have access to Google Drive
You can access it from the **Google Apps** icon at the top right of your google.ca page. Click on the **Drive symbol** to begin. Alternately, download Google Drive to your computer – which saves your files locally as well as in the cloud. If you download Google Drive, the icon will appear in a PC task bar (bottom right) or Mac menu bar (top right).

- Provides 15 gigabytes of free storage with an account

Online Software:

- Provides free online software: Google Docs for word processing, Google Sheets as an Excel alternative, and Google Slides for presentations, and some other options. These make up a simplified Office suite
- Excellent for collaborative projects: simply Share (top right) from an open document or other file, and give colleagues access by inputting their emails.
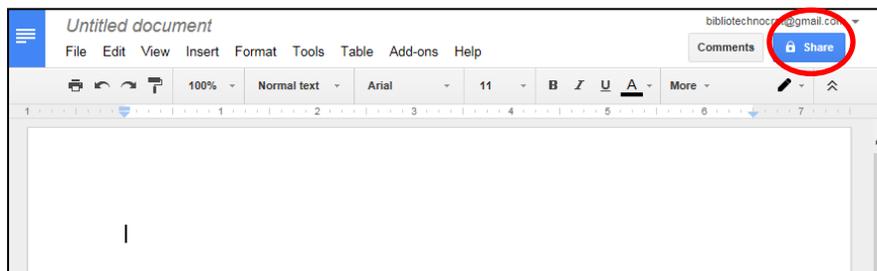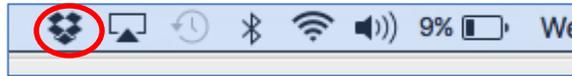

Online Backup:

- Great for online backup. Any kind of file can be stored, but it may need to be downloaded before it can be edited. This is because the software available in the Drive is Google software – if you want to open and edit a Word document, doing so in Google Drive will translate the document from Word to Google Docs.
- Beware that for files saved in a Google software format (like Google Docs), you need to be online to access them
- If you download Google Drive (not just use it on the net) you have the option of selectively syncing which files will be stored both locally and in the cloud. This is great because if you are short of memory in your computer, you can back up material to Google Drive thus freeing up space on your device. To do so, click on the overflow menu (the **three dots**, circled) and choose **Preferences**. Then select which files you'd like stored locally as well as in the cloud.
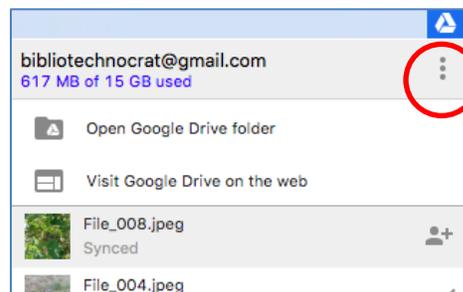
Dropbox

A very popular cloud solution is Dropbox. Sign up for a free account at www.dropbox.com and download the software. Dropbox will be added as if it was an additional hard drive in your Finder or File Explorer; you can save files directly to that location. You'll also get a Dropbox icon on your desktop (PC) or at the upper right of your screen (Mac).

- Free 2 gigabytes of storage, but more can be acquired by referring other users to their service (500 MB per successful referral). Alternatively, you can purchase more space for a monthly fee (currently $12.99 per month).

Online Backup:
- Dropbox has a file structure setup, just like File Explorer or Finder, so it's easy to use and navigate.
- Many people use the Dropbox directory as an additional drive – one that automatically backs up to the cloud whenever Internet service is available.
- Because it acts as an additional drive, dragging a file there will actually move it, not copy it
- Dropbox keeps your file on your local drive in addition to the online backup.
- You can selectively sync files in Dropbox, so that they are only stored in Dropbox – freeing up memory space on your machine. To do this, click on your desktop access point, and then click on the gear icon. Select **Preferences** then access the **Account** tab. Under **Selective Sync**, click on **Change Settings** and choose which files will be saved to Dropbox only.

File Sharing:
- It's very easy to share large files. Just save to the Dropbox directory, then right-click on the filename and click **Share Dropbox Link**. This puts a link onto your clipboard; open your email, paste the link into your message, and send. The recipient just clicks on the link to access the file.
  - You can also click on the desktop access point for Dropbox, and mouse over the file you want to share. Click **Share Link**.
  - Alternately, mouse over the file in the online version of Dropbox and click Invite people to collaborate. This allows people to edit the file collaboratively. Enter the email address of the recipient and you're done.
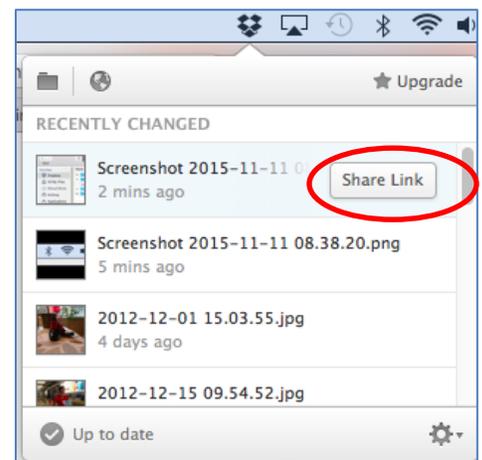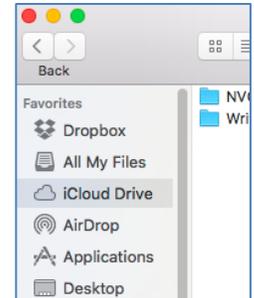

ICloud:
iCloud is an Apple product best used to integrate Apple apps and devices. Enabling iCloud is easy on your Apple device – just access iCloud in settings, and enter your Apple ID. Using the iCloud page in Settings, you can determine which items you'll

allow to sync to the cloud.

- Free 5 GB of storage; more can be purchased (50 GB is currently $1.29 a month)

iCloud Drive - Backup:

- iCloud Drive can be accessed from your Finder. It's easy to save files though you need to be mindful of creating a file structure so you can keep your files organized. If your computer is damaged or stolen, the files saved to iCloud are still available.
- Unlike Dropbox or Google Drive, you cannot selectively sync files. This means your files are saved both locally, and in the cloud – so you're still using your local memory – iCloud is only acting as a backup, not a primary storage place.

Application Syncing:

iCloud works really well to sync the content of various apps between all your Apple devices. If I update my calendar in my iPad with a new appointment, the calendars in my iPhone and Mac laptop are automatically updated also. Similarly, if I input a new contact to my iPhone, that contact is available in my iPad and my Mac.
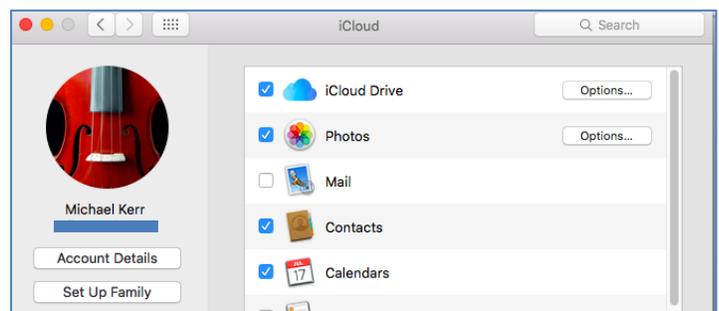
- To sync apps, click on the Apple symbol (top left) of your computer and select **System Preferences**. Click on **iCloud**.
- Simply check which apps you'd like to allow access to iCloud
- You'll also need to enable iCloud in your other Apple devices. This is done through the Settings options on each device – just tap the **gear icon** to get to your settings, and then select **iCloud**. Tap all the apps you'd like to share information through the cloud

Find my iPhone:

This is a popular app that allows you to use the cloud to locate your Apple devices – should they go missing.

- First, you need to make sure the app is cloud enabled. Do this through the settings > iCloud process – the same as for syncing apps
- If your iPhone (or other device) is lost, sign in to www.icloud.com from any computer and enter your Apple ID. Click on the "Find My iPhone" icon
- A map comes up showing where the device is. You can
  - force it to emit a sound (so if it is under the sofa, you'll find it)

- set it to lost mode which allows you to enter a number you can be reached at if the device is found, or
- Erase the data, so if it has been stolen, at least the contents won't be accessible to the thief
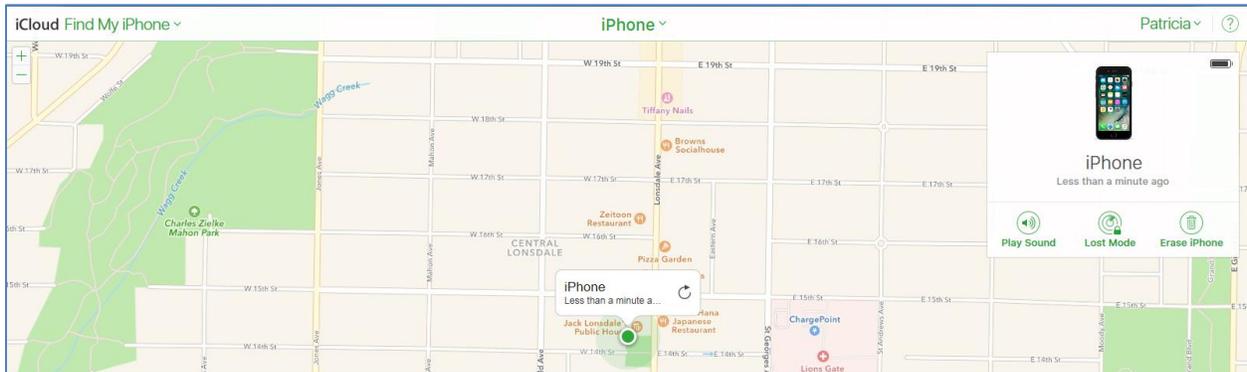
PART III: Learn More
There are lots of resources to explore.

Library Resources
Google North Vancouver City Library, or type nvcl.ca in the URL bar
- Click on **Using the Library**, then on **Research & Learn**. Scroll to **Intro to Cloud Computing**, then click on **Class Resources**. Explore the options!
- Try a tutorial on Lynda.com, accessible for free on the library website: **www.nvcl.ca/databases** > **Lynda.com**. Type "Google Drive," "Dropbox," or "iCloud" into the search bar and try a class.
- Safari Books Online (you'll need to input your library card number and password if you're doing this from home): **www.nvcl.ca/databases** > **Safari Books Online**. Look for "Cloud Computing", "Google Drive", Dropbox, iCloud, or flickr.
- Look for books on the third floor at **Row 26**, 006.78
- Set an appointment with a Tech Connect staff member by emailing techconnect@cnv.org or calling 604 982 3941

Other Resources
- **GCF Learn Free:**
  - Google Drive: http://www.gcflearnfree.org/usingthecloud/googledriveanddocs
  - OneDrive: http://www.gcflearnfree.org/usingthecloud/onedrive
- **David A. Cox on YouTube:**
  - Dropbox in 5 Minutes: https://www.youtube.com/watch?v=zjSFC6pPkyk
  - iCloud & Dropbox: https://www.youtube.com/watch?v=HuXJegv1jAg