

Session 7: The Cloud

Tech Skills 101: Driver's Ed for the Digital World

David Shamlin
OLLI Fall 2025

Agenda

- “Catch up” from last week: Cookies, Private Browsing, and the Dark Web
- The Cloud
 - Definition of “cloud technology”
 - Commercial vs consumer clouds
 - Key consumer cloud features

Definition of *Cookie*

From wikipedia.org:

An HTTP *cookie* (also called web cookie, Internet cookie, browser cookie, or simply cookie) is a small block of data created by a web server while a user is browsing a website and placed on the user's computer or other device by the user's web browser. Cookies are placed on the device used to access a website, and more than one cookie may be placed on a user's device during a session.

Cookies serve useful and sometimes essential functions on the web. They enable web servers to store stateful information (such as items added in the shopping cart in an online store) on the user's device or to track the user's browsing activity (including clicking particular buttons, logging in, or recording which pages were visited in the past). They can also be used to save information that the user previously entered into form fields, such as names, addresses, passwords, and payment card numbers for subsequent use.

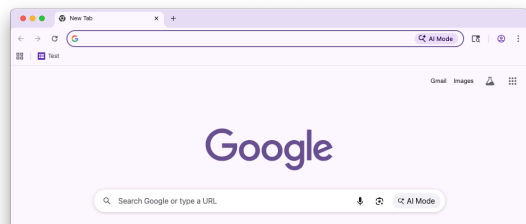
Examples:

av-timezone	America/New_York
csm-hit	tb:s-M6XQHR0B3T548ZJE02PH 1760965558625&t:1760965559766&adb:adblk_no
i18n-prefs	USD
lc-main	en_US
session-token	b+iYdts4XRFV5TD7RsVUPyK6ZQtJZDLsUkkagDgoTJNVwdBKtFlgOaMCwy33KB122EYcaFUS1oGX4

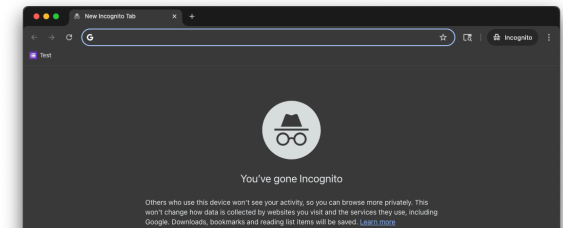
Private Browsing Mode

- Browsers save some info when we use them
 - Cookies
 - History of sites/pages you visit and search queries you make
 - Large files (a.k.a. “cached files”; eg, images and videos)
- You can use a browser’s “private browsing” feature to prevent your browser from saving the above types of data
- Private browsing mode inhibits others who you share your device with from seeing your browsing activity; it **does not** increase your privacy to others on the internet who may be “watching” (e.g., the sites you visit, your ISP, “bad guys” trying to scam or hack you)
- **Note:** Google Chrome calls this “incognito mode” / “incognito windows”

Regular window



Private window



Where is the dark web?

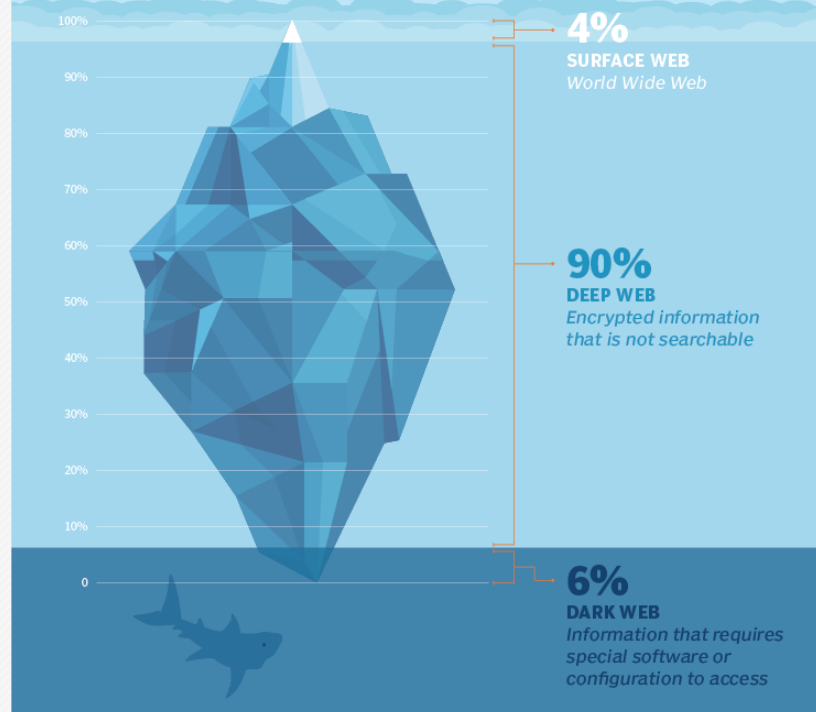



ILLUSTRATION: NEVRYAD/ADOBESTOCK

©2019 TECHTARGET. ALL RIGHTS RESERVED. 

What is the Cloud and why would I use it?

- **What:** using computer resources (CPU/RAM and/or Storage) owned and managed by a company like Apple, Google, or Microsoft
 - It's like *leasing* a house/car instead of *purchasing*
 - Note: **cloud storage** is often used by consumers's independent of **cloud computing**
- **Why**
 - Keep data **synchronized** across multiple personal device
 - Backups
 - Share data (e.g., pictures) with friends/family *without making copies* of the data
 - Create/edit your documents from *any browser on any computer*
 - Allow others to *collaboratively* edit your documents
 - Reduced cost 

Example

- MacBook Air: \$1,100
- HP Chromebook + 200GB cloud storage Storage
 - Two years: \$322
 - Five years: \$430

Definition of Cloud Computing

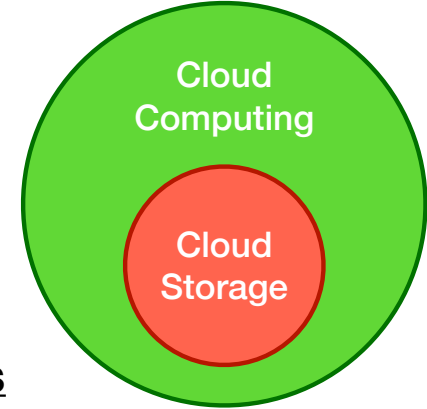
from [Wikipedia](#)

The *on-demand availability* of computer system resources, especially data storage (cloud storage) and computing power, *without direct active management by the user*. Large clouds often have functions *distributed over multiple locations, each of which is a data center*. Cloud computing relies on *sharing of resources* to achieve coherence and typically uses a *pay-as-you-go model*, which can help in reducing capital expenses but may also lead to unexpected operating expenses for users.

Essential Characteristics

1. On-demand self-service
2. Broad network access
3. Resource pooling
4. Rapid elasticity
5. Measured service

Reference: [The NIST Definition of Cloud Computing](#)



Leading Cloud Providers

Cloud Provider	Consumer Cloud	Commercial Cloud
Amazon		Amazon Web Services (AWS)
Apple	iCloud	
Google	Google Workspace	Google Cloud Platform (GCP)
Microsoft	Microsoft 365	Azure

Advantages

1. Democratized access via reduced hardware costs
2. Easier maintenance
3. Versatility
4. Reliability
5. Disaster recovery

Disadvantages

1. Internet dependent
2. Vendor lock-in
3. Loss of control over data
4. Less control over maintenance
5. More appealing hacking target

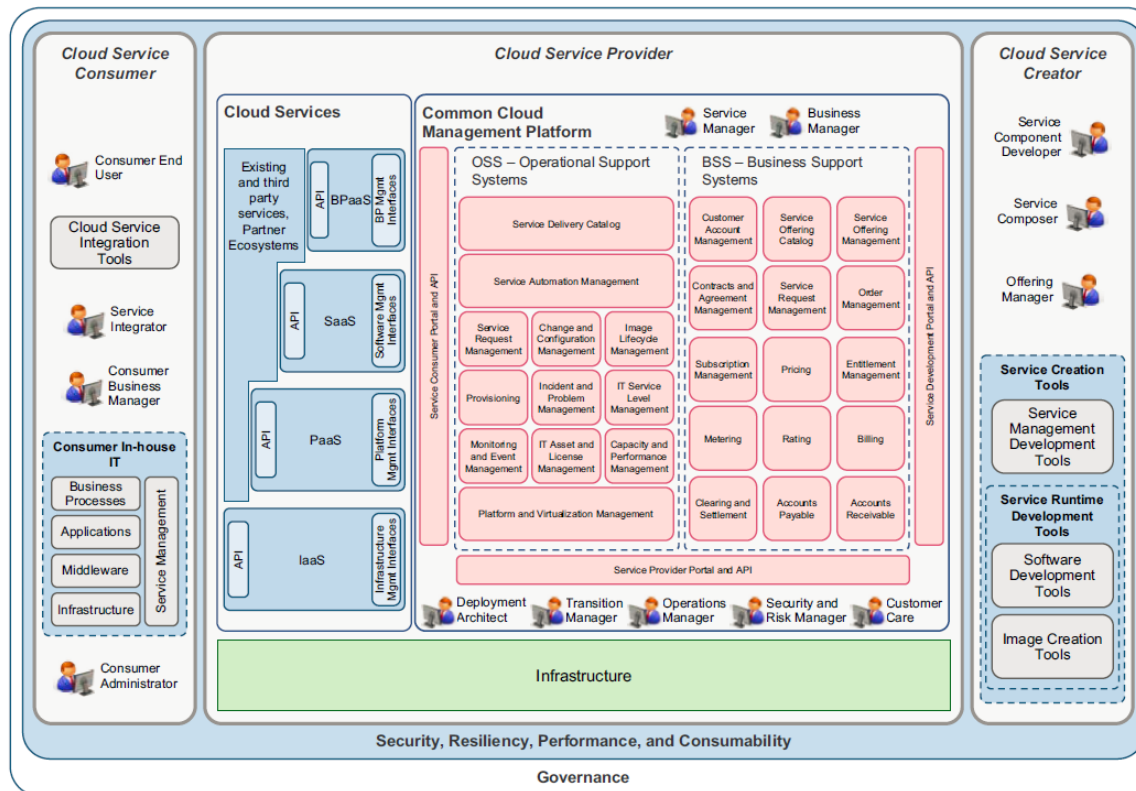
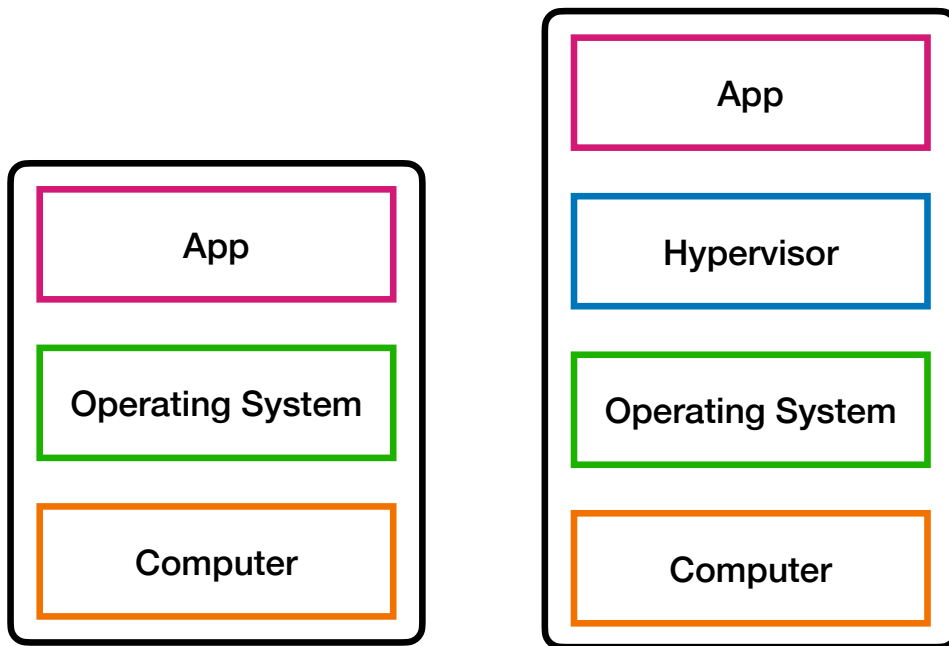
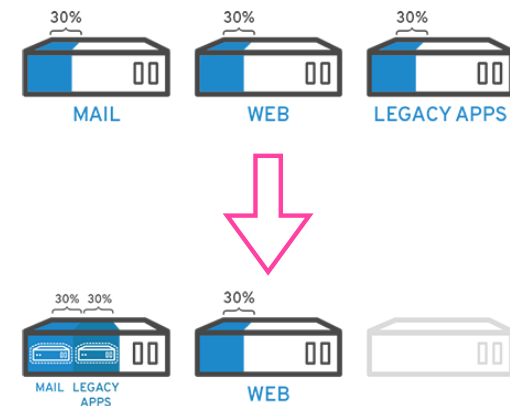


Figure 2 IBM CCRA architecture overview

Virtualization



Virtualization create multiple virtual computers (a.k.a. **virtual machines** or **VMs**) on a single physical machine. These virtual machines can access all the parts of the physical machine, including the computer's CPU, memory and storage.



Each virtual machine runs on its own operating system and functions like a completely separate machine—even though it's sharing the resources of one physical computer. This is the key feature of virtualization: a single physical machine running multiple tasks simultaneously on different virtual machines, instead of several computers each running a single task.

Definition of Cloud Storage

Cloud storage is a model of computer data storage in which data, said to be “[in] the cloud”, is stored remotely [...] and is accessible to users over [...] the Internet. The physical storage spans multiple servers (sometimes in multiple locations), and the physical environment is [...] owned and managed by a cloud computing provider. These cloud storage providers are responsible for keeping the data available and accessible, and the physical environment secured, protected, and running. People [...] lease storage capacity from the providers to store [...] data.

— [Wikipedia](#)

Syncing

- **Definition:** Sync is a shortcut for synchronization, which means data is consistent and accessible on two or more devices. When you synchronize files, such as images and videos, they become readily accessible on multiple devices.

