Getting Started With Cloud Programming

Starting Simple

Getting Started

- Using a “public” cloud service provider

- There are many, the big ones used in this class:
- AWS (Amazon Web Services)
- Google Cloud
- Azure (Microsoft Cloud)
- IBM Cloud (BlueMix)

Getting Started

- Using a “public” cloud service provider

- Why “public” cloud service?
- (Don’t want this to be a distributed computing class. Available. Useful skills. Many services.)

- Why these?
- (Biggest, oldest, most services. Free. Different Approaches.)

Getting Started

- Using a “public” cloud service provider

- **<u>Caution:</u>**
- **The service you get for free is limited! More than enough for this class, but not “infinite”.**

- **Be very, very careful with your credentials!**

First Assignment

- Part 1:
- Need to start with a public cloud service provider
- IBM cloud (https://www.ibm.com/cloud/) is free, and gives you lots of service for free.
- Sign Up.

First Assignment

- Part 2:

Task: You are will create a cloud-based picture and associated information storage and retrieval system with a (local) web interface (UI)

Description:

One of the most common uses of "Clouds", is shared or backup storage. SaaS, with a friendly interface.
Your assignment is to provide a local interface to a cloud service that you will implement that will allow a user to upload a meta-information table "people.csv", a .csv (text) table followed by several individual pictures. Then the user may do queries that select some (or none) pictures, specified in the people table.

First Assignment

- Part 2:

Name	Salary	Room	Telnum	Picture	Keywords
Chris	100000	550	1000010	chris.jpg	Chris is very smart
Jason	99099	420		jason.jpg	Jason also smart
Someone	42000		1000011	someone.jpg	Who is this
Dave	1	525	-0		Doesn't seem too nice

First Assignment

- Part 2:

Which will look like (in the “people.csv”):

```
Chris,100000,550,1000010,chris.jpg, Chris is very smart
Jason,99099,420,,jason.jpg,Jason is too
…
```

First Assignment

- Part 2:

And your cloud-based "service" will allow a user to:

+ Search for Chris (Name) and show his picture on a web page.
+ Search for (display) all pictures where the salary is less than 99000.
+ Add a picture for Dave
+ Remove Dave
+ Change Jason's keywords to "Not so nice anymore"
+ Change Someone's salary
And similar…

First Assignment

- Part 2:

You may use any reasonable (non-hardcoded) implementation of the people table: Hashes, a SQL (or non-) table, or even a dictionary or array.

Pictures are binary entities stored on the cloud provider storage, in any manner you wish (files, DB tables, hashes, etc.).

You should handle conditions such as: missing data (fields, attributes), unavailable pictures, attempts to upload the same named picture twice, pictures that are of incorrect type ("dave.txt"), and similar.

Last

- End