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:
- IBM Cloud (BlueMix)
- Azure (Microsoft Cloud)
- AWS (Amazon Web Services)

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

- **Caution:**
- **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
Abhishek	100000	550	20202020	abhishek.jpg	Abhishek is almost done and very smart
Jees	99099	420		jees.jpg	Jees is too
Jason	99901		1000011	jason.jpg	Is smart and hard working
Dave	1	525	-0		Doesn't seem too nice

First Assignment

- Part 2:

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

Abhishek,100000,550,20202020,abhishek.jpg,Abhishek is almost done and very smart
Jees,99099,420,,jees.jpg,Jees is too
…

First Assignment

- Part 2:

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

+ Search for Jason (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 Jees'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