Servers and Heroku "101"

CS 196 – 25 DotStar [Lecture M1]

So… What is a server?

A network has two types of computers, a **server** and a **client.**

The client is a computer that any computer that is accessing resources from a server

The server is a computer or device on a network that manages and shares resources. Two examples are:

- File Server: A storage device that stores files, any user on the network can store files on the server
- Print Server: Manages one or more printers
- Database Server: Manages database queries
- Web Server: Deliver webpages

The Cloud is often used as a buzzword, and may sound complicated, but it is simply a *network of servers that electronic devices can communicate with*.

Storing files and applications in the cloud is very efficient as they do not need to be installed on a device, but can be accessed as long as one has internet connection. Cloud based services include

- Email
- Facebook integration
- Files on Dropbox
- Google Docs
- Numerous Web apps

So why does this matter?

You can store files and databases on servers, so that apps and websites that you developed can be accessed and updated at any time. Many services exist to develop servers, such as: AWS, Heroku, Azure, Digital Ocean, and many more.

Why are we using Heroku?

Heroku offers **Platform as a Service (PaaS)**, which provides an environment where one can just push code and engage in some simple configuration in order to get a running application.

One of the advantages of Heroku, aside from the aforementioned point, is its excellent free services. In order to get started with it (in node.js, for databases), you'll want to:

1. Download the Heroku toolbar, which will let you use git commands
2. Run the following commands:

```
$ git clone https://github.com/heroku/node-js-getting-started.git
$ cd node-js-getting-started
$ heroku create
$ git push heroku master
$ heroku open
```

And just like that, the app has been deployed.

Setting up a Heroku server for things other than node.js is very similar.

Visit https://devcenter.heroku.com/start. It has various tutorials, including Java, Ruby, Python, and PHP.

Here are a couple of basic guides to setting up different types of servers:

Node.js: http://www.hongkiat.com/blog/node-js-server-side-javascript/

Python: https://docs.python.org/2/howto/webservers.html

Ruby: http://www.tuxradar.com/content/code-project-create-web-server-ruby -