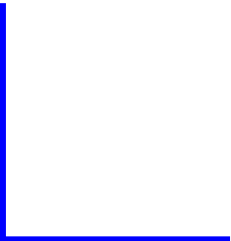# Cloud Infrastructure Lecture 1 Introduction

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Jan 18, 2017

Cloud Infrastructure

Students in this course will learn the concepts and methods of creating and managing cloud infrastructure.

Cloud Infrastructure

Enterprises must

    select vendors,
    define and create virtual infrastructure in those vendor systems,
    secure those assets from accidental and intentional damage,
    deploy IT systems and applications to those systems, t
    test and monitor the resulting virtual environments,
    manage performance and scale, and
    maintain and update those environments over time.

Cloud Infrastructure

This class will cover these topics through

    current literature,

    experimentation, and

    experience in creating and managing cloud infrastructure deployments.

Requirements

There is no required textbook.

There will be reading assigned from web, academic, and industry sources.

Additional online reading will be assigned.

An account at www.pythonanywhere.com is required. This costs $5/month.

An account at DigitalOcean will be required.
    This cost is variable, expect about $20/month. A personal computer running

Python and Chrome or Firefox is required.

Prequisites

This class will cover these topics through

    current literature,

    experimentation, and

    experience in creating and managing cloud infrastructure deployments.

Topics

Understanding cloud concepts
      IAAS, PAAS, SAAS, Economics
Survey of cloud assets
      Servers, Networking, Storage, Database, Platforms
Selecting a cloud vendor
      Amazon, Azure, Google, Linode, Digital Ocean, PA, CA
Deploying servers and containers
Building servers and containers
Securing and hardening assets
Setting up networking
Deploying software
Systems and application monitoring
Scaling issues and strategies
Maintenance and upgrading

Grading

20% Homework. Homework is not accepted late.
20% Midterm. Online, open handwritten notes.
20% Infrastructure project work done and tested.
40% Final exam. In class, open handwritten notes.

Letter Grades: 90% = A, 80% = B, 70% = C, etc.