TC 362 - Server Administration

Course Description

Web Server Administration will be a primer on building and deploying modern web servers. The course will be focused on Linux-based web servers and content will cover everything from basic shell commands to deploying Ruby on Rails applications. Students will also be exposed to professional tools like Git and learn how to operate within a larger development group.

Course Requirements

- TC 331
- CAS 205
- Recommended: TC 349 or TC 361
- Open to students in the Department of Telecommunication, Information Studies and Media or in the Information and Communication Technology for Development Specialization.

What To Expect

- Computer time: **100%**
- Programming experience: **No** (some scripting will be covered)
- Server experience: **Helpful, not required**
- Computer proficiency: **High**

Covered Topics

- Basics of the Unix shell
- Linux servers and distributions
- Web servers (Apache, NGINX)
- Managing databases (MySQL)
- Hosting websites
- Hosting and deploying web applications
- Server security
- Cloud infrastructure
- Other special topics

Instructor

Jeff Siarto (siartoje@msu.edu)
Twitter: @jsiarto
Office: Virtual (Skype ID: jsiarto)
Hours: By appointment

Required Materials

- Book: No dead trees here—this class is online
- A Rackspace account
- A GitHub account
- You will also need to get Git setup on your computer (Mac, Windows, Linux)

Assignments

Screencasts: Most of the weekly lessons will be delivered in Screencast format—consider this your "lecture" and take notes where appropriate. I'll also provide a rough outline of the material, any additional reading you need to complete and a list of key points and concepts from the lesson.

Labs: Each week there will be one primary lab project. This work will be hands-on, command-slinging server admin and will amount to 70% of your final grade.

Final Project: 30% of your final grade will be a final project. This will be a full-featured server build out ready to host websites and web applications.

Late Work

Late assignment lose 20% each day they are not turned in. If you have a special circumstance or are struggling with the class, please let me know as early as possible so that I can help you.

Grading

- 70% Weekly "Lab" Assignments
- 30% Final Project

Final grade distributions are based on class performance, in past classes a 4.0 typically has required an overall score of 92-94%.

Tentative Schedule

Welcome (1/8-1/14) - Class setup and accounts
Week 1: (1/15-1/21) - Introduction
Week 2: (1/22-1/28) - Working in the shell (1)
Week 3: (1/29-2/4) - Working in the shell (2)
Week 4: (2/5-2/11) - Users and permission structure
Week 5: (2/12-2/18) - Linux distributions
Week 6: (2/19-2/25) - Basic web server (1)
Week 7: (2/26-3/4) - Basic web server (2)
Week 8: (3/5-3/11) - (No class, spring break)
Week 9: (3/12-3/18) - Server security
Week 10: (3/19-3/25) - MySQL and Database management (1)
Week 11: (3/26-4/1) - Deploying web applications (Rails) (1)
Week 12: (4/2-4/8) - Deploying web applications (Rails) (2)
Week 13: (4/9-4/15) - Performance
Week 14 (4/16-4/22) - Final Project
Week 14: (4/23-4/29) (Last day of class is 4/26, final due on 5/3) - Final Project