IT 3110: Systems Automation

Spring 2021 Schedule

Resources

- **CIT VM Farm**
  - [Create VM and connect from osx/Linux](#)
  - [Manage VMs with CLI instead of Web](#)
  - [Connect to vm from Linux host](#)
- **AWS**
  - [Create AWS Educate Account](#)
  - [Create EC2 instance](#)
  - [Connect EC2 instance](#)
- **Software**
  - If you are using windows to connect to your vm, you might need the following:
    - [Putty](#)
    - [TightVNC](#)
  - If you have a newer version of windows 10 and have installed the linux subsystem, you can just ssh from the command line like you do in OSX and Linux.

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**Week 1 (Jan 11,13)**

- **Slides**
  - [DHCP Slides](#)
- **Readings**
- **Lectures**
  - [DHCP Lecture](#)
  - [Bionic Networking](#)
  - [Wireshark DHCP Capture](#)
- **Screenshots/Helps**
  - [DHCP Dynamic](#)
  - [DHCP Fixed](#)
  - [DHCP Dynamic Client](#)
- **Assignment**
  - [Hosts](#)

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**Week 2 (Jan 20)**

- **Slides**
  - [NFS Slides](#)
  - [PXE Boot](#)
  - [Kickstart](#)
- **Reading**
- **Lectures**
- **Screenshots/Helps**
  - [NFS How To](#)
  - [kickstart](#)
  - [tftp and Netboot](#)
- **Assignment**
  - [DHCP](#)

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**Week 3 (Jan 25, 27)**

- **Slides**
  - [Diskless](#)
Week 4 (Feb 1, 3)

** EXAM 1 **

- Slides
- Reading
- Lectures
- Screenshots/Helps
  - Review
  - Capture image fog video old video
  - Deploy image fog video
- Assignment
  - DHCP 2 - netboot/kickstart
  - Diskless Boot
  - FOG

Week 5 (Feb 8,10)

- Slides
  - Shell 1
  - StdOut
  - StdIn
  - Command Execution
  - Variables
- Reading
  - Shell review
  - stdout review
  - stdin review
  - executing commands
- Lectures
  - Sample files
- Screenshots/Helps
- Assignment
  - Bash on Windows

Week 6 (Feb 17)

- NO CLASS FEB 15

- Slides
  - Logic
  - Sed/Awk

- Reading
  - Variables
  - Shell logic and arithmetic
  - A better one on logic
  - Recommended on brackets
  - AWK , SED - Read 7.10- 7.11
Week 7 (Feb 22,24)

- Slides
  - Regex
  - Shell Features
- Reading
  - Additional Scripting
  - Shell Speed
  - Shell troubleshooting
- Lectures
- Screenshots/Helps
- Assignment
  - Shell Script 3
  - Regex

Week 8 (Mar 1, 3)

- Slides
- Reading
  - Quick Shell
  - Troubleshooting
- Lectures
- Screenshots/Helps
  - Sample scripting exam
  - Sample solution other
- Assignment
  - Shell Script 4
  - Shell Script 5

TEST 2

Week Mar 7-13

SPRING BREAK

Week 9 (Mar 15,17)

- Slides
  - Terraform
  - Terraform2
  - Terraform3
- Reading
  - Read chapter 2 in “Terraform up and running 2nd edition” found on Oreilly (safarionline) from library.dixie.edu website.
- Lectures
  - Review AWS
  - Infrastructure as Code
  - Terraform
Week 10 (Mar 22,24)

- Slides
  - Automation with Ansible
  - Ansible Playbooks
  - Ansible Playbooks 2

- Reading
  - Ansible variables

- Lectures
  - Configuration management with Ansible

- Screenshots/Helps

- Assignment
  - Ansible 1
  - Ansible 2

Week 11 (Mar 29,31)

- Slides
  - Ansible Roles
  - Ansible Advanced stuff

- Reading

- Lectures
  - Ansible Roles
  - Example of Roles

- Screenshots/Helps

- Assignment
  - Ansible 3

Terraform and Ansible Exam

Week 12 ( Apr 5,7)

- Slides
  - Python

- Reading

- Lectures
  - Python video slide lecture

- Screenshots/Helps
  - Python example

- Assignment
  - Python
Week 13 (Apr 12,14)

- Slides
  - Salt
- Reading
  - Salt states
  - Basic usage
  - More complex states
- Lectures
  - Installing saltstack
- Screenshots/Helps
- Assignment
  - Salt 1

Week 14 (Apr 19,21)

- Reading
- Lectures
  - Salt 1
  - Salt 2
- Screenshots/Helps
  - Salt example file
- Assignment
  - Salt 2
  - Salt 3

Week 15 (Apr 26,28)

- SALT
- REVIEW
- EXAM