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)

- Lectures
- Screenshots/Helps
  - SSH As root
- Assignment
  - Shell Script 1
  - Shell Script 2

Week 8 (Mar 1, 3)

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

TEST 2

Week Mar 7-13

SPRING BREAK

Week 9 (Mar 15, 17)

- Slides
- Reading
- Lectures
  - Review AWS
  - Infrastructure as Code
  - Terraform
- Screenshots/Helps
- Assignment

Week 10 (Mar 22, 24)
Week 11 (Mar 29,31)

- Slides
  - Ansible Roles
- Reading
- Lectures
  - Ansible Roles
  - Example of Roles
- Screenshots/Helps
- Assignment
  - Ansible 3

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
**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