Python for Network Automation

Course Summary

Objective

The objective of this class is to develop skills with Python that can detangle network operations.

Audience

This class is not recommended for those who have not before worked with Python.

Topics

- Paramiko
- Netmiko
- NAPALM
- Automating Ethernet and IP
- Automating Routing
- Automating HA
- Automating Dynamic DNS

Prerequisite

- Python Basics
- Advanced Python

Duration

Five Days
Python for Network Automation

Course Outline

I. **Paramiko**
   A. DOCS: http://docs.paramiko.org/en/2.4/
   B. Channel
   C. Client
   D. Message
   E. Packetizer
   F. Transport
   G. Authentication & keys
   H. SSH agents
   I. Host keys / known_hosts files
   J. Key handling
   K. Parent key class
   L. DSA (DSS)
   M. RSA
   N. ECDSA
   O. Ed25519
   P. GSS-API authentication
   Q. GSS-API key exchange
   R. Other primary functions
   S. Configuration
   T. ProxyCommand support
   U. Server implementation
   V. SFTP
   W. Miscellany
   X. Buffered pipes
   Y. Buffered files
   Z. Cross-platform pipe implementations
   AA. Exceptions

II. **Netmiko**
   A. BaseConnection

III. **NAPALM**
   A. Installation
   B. Tutorials
   C. Validating deployments
   D. Supported Devices
   E. Command Line Tool
   F. NetworkDriver
   G. YANG
   H. napalm-logs
   I. Integrations

IV. **Automating Ethernet and IP**
   A. STP
   B. Trunking
      1. VLAN
      2. VXLAN
   C. Port Channeling
   D. ARP

V. **Automating Routing**
   A. BGP
   B. OSPF

VI. **Automating HA**
   A. HSRP
   B. VRRP
   C. GLBP

VII. **Automating Dynamic DNS**
    A. DNS Primary / Secondary
    B. Naming standards

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