RX-M - Python for IaaS Automation

Code:	CN2-Python-IaaS
Length:	5 days
URL:	View Online

This intensive five day hands-on course is designed to provide technology staff with a start to finish introduction to Python application programming for infrastructure automation. Attendees will leave with a clear understanding of Python API features and how to code with a wide range of third party and vendor specific libraries for controlling cloud and virtualized infrastructure. Students will gain hands on experience with Python and systems applications in a best practices microservices/devops style environment. Upon completion of the course attendees will have the skills and information necessary to begin developing purpose built Python applications to integrate with and control infrastructure systems in an enterprise setting.

Skills Gained

- This course is designed to help technical staff unlock the power of Python in combination with the programmability of modern infrastructure.

Who Can Benefit

- IT and Devops staff, sysadmins and SREs

Prerequisites

- Each attendee will require the ability to run a 64 bit virtual machine (provided with the course). Attendees should havea strong technical background. Experience with cloud systems and some programming experience is beneficial but not required.

Course Details

Python for IaaS Automation

- Day 1 - Python

1. Python Overview (console I/O, data types, conditionals and loops)
2. Creating Programs (program structure, command line arguments)
3. Functions and Classes (functions, classes and methods)
4. Python I/O (disk and network I/O)

- Day 2 - Python and DevOps

1. Version control with Git (installing, configuring and using Git and GitHub)
2. Working with Git (working with branches and distributed code management on GitHub)
3. Writing Python automated tests
4. Travis CI

- Day 3 - Building Microservices with Python

1. Microservice overview

2. Build RESTful services in Python

3. Container packaging

4. Building high performance RPC services in Python

- Day 4 - Python Infrastructure Automation

1. Cloud systems and APIs

2. Working with AWS and Boto

3. Provisioning VPCs and Storage

4. Automating VSphere with pyVmomi

- Day 5 - Python and Network Systems

1. Python Networking Packages (telenetlib, pysnmp, TextFSM, paramiko, pexpect, netmiko)

2. Cisco IOS operations (ssh and ciscoconfparse)

3. VMware NSX operations (REST API and nsxramlclient)

4. Arista EOS operations (JSON RPC eAPI and pyeapi)