ACI Integration and OpenStack (ACISTK)

Modality: Virtual Classroom

Duration: 3 Days

CLC: 36 Units

About this course:

ACI Integration and OpenStack (ACISTK) is a 3-day course providing an introduction to ACI, OpenStack and the tools needed for proper integration. This course will educate the students about ACI integration with OpenStack and will include hands-on labs, which will reinforce the concepts covered. Students are expected to have a basic understanding of ACI Architecture, be familiar with OpenStack, have fundamental Linux skills, and a working understanding of general networking, subnets, and VLANs. This course will help you understand OpenStack concepts, OpenStack System Architecture and Components, ACI Design, Architecture, and Concepts, plus much more. View our IT course outline with course objectives detailed below.

Course Objective:

Upon completing this course, the learner will be able to meet these overall objectives:

- OpenStack Concepts, design, and implementation.
- OpenStack System Architecture and Components
- OpenStack network architecture
- ACI Design, Architecture and Concepts
- Understand Opflex implementation with Openstack.
- Integration of ACI with OpenStack networking.

Audience:

The primary audience for this course is as follows:

- Data Center Engineers
- Network Engineers
- System Administrators

Prerequisite:

The level of knowledge and skills that the learner should have before attending this course are as follows:

- Basic understanding of ACI Architecture
- Familiarity with OpenStack
- Basic skills using Linux
- Understanding of VLANs, subnets, and general networking.

Course Outline:

Module 1: ACI Architecture

- ACI Overview
- ACI Components
- ACI Policy Model
- APIC Features and purpose
- OpFlex Protocol

Module 2: ACI Fabric

- ACI Fabric Operation
- ACI Policy
- Virtual Machine Integration
- Fabric Forwarding
- External L2/L3 Connectivity

Module 3: OpenStack Overview

- Cloud definition
- DevOps requirements
- OpenStack history
- OpenStack design
- OpenStack adoption

Module 4: OpenStack Architecture

- OpenStack Architecture
- Primary Project In OpenStack
- OpenStack and ACI integration

Module 5: OpenStack Networking

- Neutron basics
- ML design
- Plugin architecture
- Open virtual switch
- NXoS integration
- Network design

Module 6: ACI Integration

- ML2 Plugin Overview
- Plugin Components
- Mapping Group Based Policy to APIC
- Virtual environment Integration
- Connecting to other networks

- Network address translation
- sNAT
- Floating IP addresses
- Host Networking

Module 7: Group-Based Policy (GBP) for OpenStack

- GBP design
- GBP Plugin
- GBP implementation

Lab Outline

- Lab 1: APIC Exploration
- Lab 2: Setup of OpenStack
- Lab 3: GBP Plugin Setup and Operations (CentOS/Kilo)