



DEVORE  
TECHNOLOGIES

# ACISTK: ACI Integration and OpenStack

## Prerequisites

The level of knowledge that you are expected to have before attending this course are:

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

## Course Objectives

After this course, you should be able to understand:

- 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.

## 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

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- 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

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

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