Welcome to SDN and NFV - Foundations

Where did this technology shift come from? The enterprise IT space has made a dramatic shift with Web-scale IT, virtualization, DevOps, open source software and decomposing IT applications into smaller components to enable scaling. These same concepts are now moving into the network provider space and are the foundation for leveraging SDN and NFV. This foundations module will focus on understanding the new software paradigm, virtualization, DevOps, open source culture and application development approach.

Intended Audience

The course is intended for all that are interested in understanding the foundational concepts underlying SDN and NFV.

Objectives

After completing this course, the student will be able to:

- Describe the power of software and the impact of virtualization
- Explain the concept of a Virtual Machine
- Define cloud computing and list its five key attributes
- DIscuss the concepts of DevOps, open source software and Web-scale application development
- Differentiate between traditional service definition and cloud orchestration
- Relate the benefits of OpenStack

What You Can Expect

- Self-Paced Duration: 1 HOUR

Outline

1. **Virtualization and Cloud Computing**
   - 1.1 Define-in-Nine: Virtualization
   - 1.2 Define-in-Nine: Cloud Computing
   - 1.3 Key attributes of Cloud Computing
   - 1.4 Virtual Machines (VM)
   - 1.5 Containers
2. **A New Approach to Software**
   - 2.1 The shift towards software
   - 2.2 Open Source software
   - 2.3 Define-in-Nine: DevOps
   - 2.4 Decomposing application software for rapid scaling
   - 2.5 Bringing it together to achieve web-scale solutions
   - 2.6 Example: Web server
3. **Cloud Orchestration**
   - 3.1 On-demand Cloud services
   - 3.2 Define-in-Nine: Orchestration
   - 3.3 Inter-Cloud
   - 3.4 Creating flexible networks
   - 3.5 OpenStack