

## **ONLINE COURSE: Introduction to Network Operations Course: UNIX/Linux, Networking, Virtualization and DNS**

### **About this online course**

This online course is targeted at novice UNIX/Linux users pursuing careers in Network or System Administration. The course is being provided by the [Internet Society](#) (ISOC). The course is practically oriented and guides the trainee step by step on how to install and setup a working server, connect it to the Internet and then run a DNS Server in a Virtualized environment. The techniques covered in the course are applicable in real world environments. All that is needed to take the course is a PC or Laptop with a modern browser running an operating system supported by [VirtualBox](#), an Internet connection, and dedicated time to complete the course.

### **Objectives of the Course**

The objectives of the online course are to increase the technical skill levels among upcoming Network and System Engineers in Africa. The topics and concepts covered in the course include:

- How to install a UNIX Operating System in a Virtual environment
- Networking concepts – IPv4 and IPv6
- How to install 3rd party software on a UNIX or Linux platform using Software management tools
- How to work on the UNIX/Linux shell
- How to edit files in UNIX and Linux and create simple scripts
- How to build and activate a caching DNS Server and
- Understanding the role of DNS in the Internet

The course is taught using the FreeBSD operating system with several examples and comparisons given for Ubuntu Linux. Trainees who complete the course will be comfortable with working in both UNIX and Linux environments. The course teaches open standards and contains several links and references to [Request for Comments](#) (RFCs) as published by the [Internet Engineering Task Force](#) (IETF)

### **Course Structure**

The course is divided into the following 9 modules:

1. Module 1a - Introduction to Unix, Linux and Virtualization
2. Module 1b - FreeBSD Installation
3. Module 2 – Networking Overview (IPv4 and IPv6)
4. Module 3 – How to install 3<sup>rd</sup> party software
5. Module 4 - Working with the Unix/Linux Shell
6. Module 5 - Editing with ViM
7. Module 6 - Introduction to Shell Scripting
8. Module 7a - DNS Fundamentals
9. Module 7b – The Domain Name System (DNS)

The course can be completed in 1 week of dedicated time or over 4 weeks. The course is moderated by an expert moderator. Following completion of the course, the student will receive a Certificate of Completion and be eligible to take more advanced courses in the future.

[Network Operator Groups](#) (NOGs) and [National Research and Education Networks](#) (NRENs) in Africa are encouraged to invite their engineers to participate in the online course.

For more information, please contact your local NOG or NREN.