



EXPERT



NSOS

INTRODUCING

**DG NSOS**


**SECURE OPERATING SYSTEM  
TRAINING PROGRAM**

Specialized program from beginning to advanced levels. Learn all the fundamental concepts with hands-on instructions that will let you combat the hackers.

# A SEAT OF LEARNING THAT IS MORE THAN JUST A PLACE OF ACADEMIC VALUE

Knowledge and success come hand in hand. When people seek knowledge, they often aim to thrive and prosper, whatever their goals.

We deliver knowledge and technical know-how in a different way. Easy to follow, easy to understand and easy to put into practice. Attributes that make our students stand apart from others.

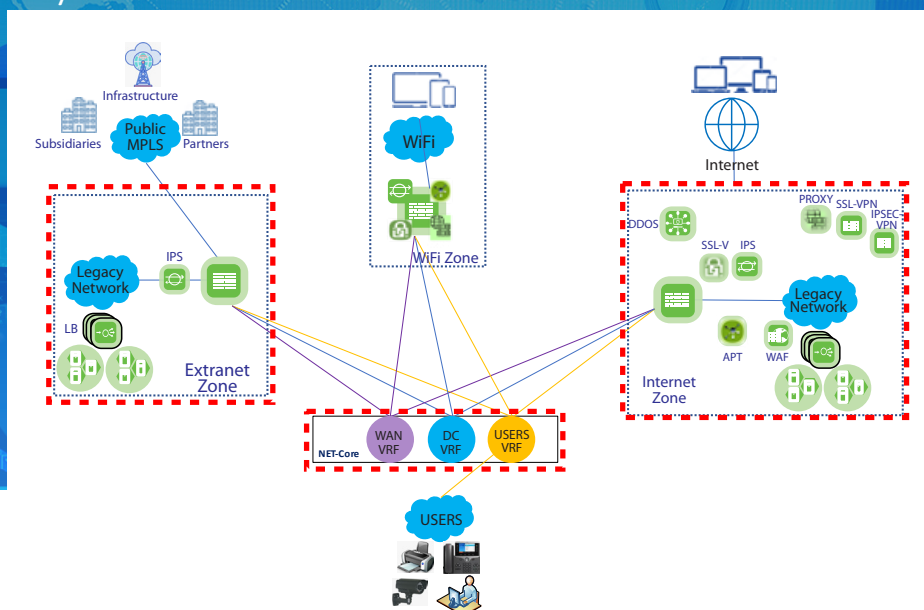


DG Academy is the place to realize such aspirations. Here, students and industry professionals can get first rate information and technological know-how focused on IT, telecom and cybersecurity.

# LEARN, PRACTICE, REPEAT. ANYWHERE. AND ON ANY DEVICE.

DGACADEMY training material which includes lecture and 'Hands on Lab' (HOL) manuals are available online through secure LMS in electronic format. All enrolled students and industry professionals are entitled to have free access to these course materials for one year. All training contents are protected by copy rights and intellectual property rights.

DGACADEMY HOL is a state-of-the-art secure cloud hosted infrastructure where students and industry professionals practice course lab manuals, from anywhere, on any device and on any scheduled time frames.







## DG NSOS Introduction

DG NSOS is a secure operating system based on Linux Kernel, NSOS is a modular OS and currently offering 4 types which are NSOS for servers, workstations, mobile devices, IoT and all other electronic devices including military and defense equipment.

DG NSOS R&D team has developed its own GUI and CLI based user interfaces, developed all system services, application and very advance and fully customizable special features which are needed for any professional and secure operating system.

DG NSOS is highly scalable and robust OS which is built for Telco and Data Center in mind, its secure by design and does not need any additional security hardening and assessment.

DG NSOS is available based on support subscription with affordable price, free community, academic and developers versions, free trail licenses, yearly NFR licenses for partners, quarterly and emergency patches from its own secure cloud repositories.

DG NSOS Customer Portal is fully equipped with professional online documents, admin guides, configuration guides and startup guides, support ticket and knowledge base digital library repositories available for everyone. Software and download center with links to download all files. Hardware support matrix tool is available to check customer hardware compatibility including CPU chip compatibility.

DG NSOS is supporting community with professional and certification training programs for beginner and advance users, all training and professional certifications are provided by DGACADEMY.



## Welcome to DG ACADEMY «DG NSOS Secure Operating System Training Program: From Beginners to Advance».

DG NSOS - Secure Operating System is a training program designed to teach students the core understanding of Linux Operating System from Foundation level to Expert level, Linux System Administration, Virtualization and Cloud Computing, Security Admins, Ethical Hackers and VAPT, Linux System Internals, Architecture and Kernel, exploit development and execution, Optimization and Troubleshooting skills and techniques

The main objective of program is to instill all Linux skills from foundation to intermediate and expert level of all domain, enabling student to demonstrate these skills in real-world scenarios.

In this training program, student will gain the expertise to effectively diagnose and fix common and complex Linux server configuration and administrations issues, Tools for monitoring system performance, and learn techniques for optimizing Linux performance and to apply those skills in production environment.

Join Us! Get the opportunity to learn from this comprehensive course.

‘INNOVATION’  
IS OUR DEFINING CHARACTERISTIC.  
AND IT MAKES ALL THE DIFFERENCE.

<b>Course Name</b>	DG NSOS - Secure Operating System
<b>Course Code</b>	DGSEC401
<b>Outcome</b>	Linux Foundation, Linux Expert, Operating System Architecture, System Internals, Linux Kernel, Kernel Programing, Linux Kernel Exploitation and Exploit Development, Linux Optimization and Troubleshooting, Linux distribution
<b>Course Outline</b>	<p>Module 1: Linux Foundation to Advance Program</p> <p>Module 2: Linux Expert Program for System Administration</p> <p>Module 3: Linux Expert Program for Virtualization and Cloud Computing</p> <p>Module 4: Linux Expert Program for Security Admins, Ethical Hackers and VAPT Engineers</p> <p>Module 5: Deep Dive Linux System Internals, Architecture and Kernel</p> <p>Module 6: Linux advance system hacking techniques, exploit development and execution</p> <p>Module 7: Linux advance Optimization and Troubleshooting skills and techniques</p>
<b>Practice Lab</b>	Full access on DG-HOL Hand on Labs to practice all real-world scenarios taught by lectures
<b>Length</b>	100 hours
<b>Days</b>	4 Tracks – Full Day, Evening, Weekend, Customize
<b>Price</b>	3000 US\$ - Promotional and Group discount is available on request
<b>Level</b>	Beginners to Advance and Expert
<b>Language</b>	English, Arabic, Urdu, Hindi
<b>Course Type</b>	Instructor-led onsite and online, recorded, on-demand
<b>Associated Certificate</b>	DG Certified NSOS Professional – DGCP-SEC401
<b>Target Audience</b>	<ul style="list-style-type: none"> <li>• Students and Professionals with no previous experience or background in Cyber Security</li> <li>• Career Change to Cyber Security and Linux Core OS</li> <li>• Linux System Admins</li> <li>• Principal Linux Administrator\Lead Linux Administrator</li> <li>• Senior Linux System admin</li> <li>• Linux Solution Architect</li> <li>• Linux Security Engineer\Consultant</li> <li>• Lead Linux Read\Blue Team</li> <li>• Linux VAPT Expert</li> <li>• Linux SOC engineer L1, L2 and L3</li> </ul>

## DG NSOS SECURE OPERATING SYSTEM TRAINING PROGRAM

### Linux Foundation to Advanced Program

- Introduction of Linux using RHEL and KALI Distros.
- Installation and Configuration of RedHat & Kali.
- Get Familiar with GUI, Commands and Shell environments.
- Configure and Manage users, groups and user security policies.
- Configure and Manage Networks and Storage.
- Install and update software packages.

This course does not need any prerequisite and experience from student, its design to teach all required core understanding skills with hands-on labs practice of Linux Operating Systems using RHEL and KALI Distros, taking student from foundation level and instilling all advanced topics.

### Module 1

#### Lab Scenarios

- Install Configure and Manage (ICM) Linux OS (RedHat & Kali)
- Practice Labs to have full hands-on experience on how to install, configure and manage Linux OS (RedHat & Kali)
- Practice Labs to configure and manage all services, application and systems

#### JOB ROLE

- Linux System Administrator
- Linux System Engineer
- Red Hat Linux, Admin/Engineer

#### INDUSTRY ALIGNMENT



#### JOB MARKET VALUE

6000\$ - 8000\$

## DG NSOS SECURE OPERATING SYSTEM TRAINING PROGRAM

### Linux Expert Program for System Administration

- **Configure and Manage System services, daemons and Drivers.**
- **Configure and Manage DNS Server.**
- **Configure and Manage Email Server.**
- **Configure and Manage Web Server.**
- **Configure and Manage Database Server.**
- **Configure and Manage bash scripts, conditionals and control structures.**
- **Access network-attached storage.**
- **Configure link aggregation and bridging.**
- **Manage Network security and SELinux security.**
- **Configure the shell environment.**
- **Patch Management.**

This is an expert level training course, moving student from advance level to expert level by teaching advance core topics of Linux System administration with all system and Data center server applications with real world complex scenarios.

### Module 2

#### Lab Scenarios

- Advanced Practice Labs to have full hands-on experience on how to configure and manage Linux OS (RedHat & Kali) all services, application and systems
- Practice Labs to configure and manage DNS, Email, Web and Databases with real world examples

#### JOB ROLE

- Senior Linux System Administrator
- Systems Administrator Linux/Windows
- Senior Linux System Engineer
- Linux Systems Manager

#### INDUSTRY ALIGNMENT



#### JOB MARKET VALUE

10,000\$ - 12,000\$



**DG NSOS SECURE OPERATING SYSTEM TRAINING PROGRAM**

**Linux Expert Program for Virtualization and Cloud Computing**

- Install, configure and Manage Red Hat Virtualization.
- Configure and Manage data centers, clusters, user accounts and roles.
- Design, scale, Configure and Manage Virtualization infrastructure.
- Configure and Manage Red Hat Virtualization networks and storage.
- Deploy, manage and Migrate virtual machines and images.
- Patch and upgrade Red Hat Virtualization, Back up and restore.
- Introduction to Red Hat OpenStack Platform.
- Configure and Manage OpenStack networking and resources.
- Configure and Manage OpenStack application projects in a multitenant cloud.
- Automate customized cloud application launches and placement.

This course is designed to teach students the expert level core understanding of RHEL Linux virtualization and cloud computing platform. Red Hat Virtualization and OpenStack Platform is very matured and stable Telco and Data center grid capability, this course will make students stand out of crowd.

**Module 3**

**Lab Scenarios**

- Install Configure and Manage (ICM) Red Hat OpenStack Platform
- Practice Labs to have full hands-on experience on how to install, configure and manage Red Hat OpenStack Platform
- Practice Labs to configure and manage full stack OpenStack

**JOB ROLE**

- Linux Cloud Engineer
- Linux Sr Cloud Engineer / Sr Site Reliability Engineer

**INDUSTRY ALIGNMENT**



**JOB MARKET VALUE**

**10,000\$ - 12,000\$**

**DG NSOS SECURE OPERATING SYSTEM TRAINING PROGRAM**

**Linux Expert Program for Security Admins, Ethical Hackers and VAPT Engineers**

- **Securing Red Hat Enterprise Linux.**
- **Security hardening for Red Hat Enterprise Linux.**
- **Using SELinux and Securing networks in RedHat.**
- **Configuring firewalls and packet filters in RedHat.**
- **Deep dive into VAPT concepts, methodology and report writing.**
- **Mastering Kali Linux.**
- **Mastering Metasploit.**

Although it is true that most hackers prefer Linux operating systems, many advanced attacks occur in Microsoft Windows in plain sight. Linux is an easy target for hackers because it is an open-source system. This course will teach student, how to Security hardening Linux, how Linux is vulnerable of exploits, how to perform VAPT on Linux OS?

**Module 4**

**Lab Scenarios**

- Advanced Practice Labs to have full hands-on experience on how to secure Linux OS (RedHat & Kali).
- Practice Labs to security harden and Lock down Linux servers
- Advance Practice Labs to master Kali Linux with all important hacking tools

**JOB ROLE**

- Linux Security Engineer (VAPT)
- Linux Cyber Security Professional

**INDUSTRY ALIGNMENT**



**JOB MARKET VALUE**

**8000\$ - 10,000\$**

**DG NSOS SECURE OPERATING SYSTEM TRAINING PROGRAM**

**Deep Dive Linux System Internals, Architecture and Kernel**

- Introduction to the Linux Kernel.
- Process Management and Scheduling.
- System Calls.
- Kernel Data Structures.
- Interrupts and Interrupt Handlers.
- Bottom Halves and Deferring Work.
- Linux Kernel Synchronization and Methods.
- Timers and Time Management.
- Memory Management.
- The Virtual Filesystem.
- The Block I/O Layer.
- The Process Address Space.
- The Page Cache and Page Writeback.
- Devices and Modules.
- Debugging.
- Portability.

This course will instill very low level skills and knowledge of Linux core, student will be able to demonstrate his skills by writing its own Linux Distro, able to debug Linux OS on Kernal and services level.

**Module 5**

**Lab Scenarios**

- Advanced Practice Labs to have full hands-on experience on Linux low level systems and kernal

**JOB ROLE**

- Linux Kernel Engineer
- Linux Systems Engineer

**INDUSTRY ALIGNMENT**



**JOB MARKET VALUE**

**12,000\$ - 14,000\$**

**DG NSOS SECURE OPERATING SYSTEM TRAINING PROGRAM**

**Linux advanced system hacking techniques, exploit development and execution**

- Introduction to Kernel Exploits.
- Setting up the debugging environment.
- Privilege escalation.
- Arbitrary read/write primitives.
- Kernel memory addressing disclosures.
- read/write primitives.
- Out of bounds (OOB) access vulnerabilities.
- Integer vulnerabilities.
- Kernel stack overflows.
- Heap vulnerabilities.
- Kernel return-oriented programming (ROP).
- Supervisor Mode Execution Protection / Access Protection / Kernel Page Table Isolation bypasses.

This course is designed to teach advance Linux Kernel, its vulnerabilities, write exploits and execute to hack into Linux systems and compromise.

Students will learn advanced hacking techniques to attack Linux systems.

**Module 6**

**Lab Scenarios**

- Advanced Practice Labs to have full hands-on experience to master Linux exploit development and execution.
- Linux System hacking techniques through kernel exploitations

**JOB ROLE**

- Linux Incident Response Investigator
- Linux Senior Penetration Tester

**INDUSTRY ALIGNMENT**



**JOB MARKET VALUE**

**12,000\$ - 14,000\$**

**DG NSOS SECURE OPERATING SYSTEM TRAINING PROGRAM**

**Linux advanced Optimization and Troubleshooting skills and techniques**

- **Troubleshooting Best Practices.**
- **Linux troubleshooting: methods and tools for diagnostics.**
- **System Access Troubleshooting.**
- **File System Troubleshooting.**
- **System Administration Troubleshooting.**
- **Backup, System Recovery and Disaster Recovery.**
- **Linux Performance Optimization: Tools and Techniques.**

This is an expert level very specialized training course that prepare student to diagnose and resolve Linux Systems issues, also performance optimization.

**Module 7**

**Lab Scenarios**

- Advanced Practice Labs to have full hands-on experience to master Linux Performance Optimization:
- Tools for monitoring system performance
- Techniques for optimizing Linux performance

**JOB ROLE**

- Linux Technical Support Executive
- Linux System Operations Engineer
- Linux Principal Engineer

**INDUSTRY ALIGNMENT**



**JOB MARKET VALUE**

**12,000\$ - 14,000\$**





## Join our DG NSOS SECURE OPERATING SYSTEM TRAINING PROGRAM

[dgacademy.diginfo.net](http://dgacademy.diginfo.net) | A product of DIGINFO

