# GuruTeam offers the full portfolio of **Linux Foundation**™ Instructor-led courses

*both on and off-site*

*in Ireland and globally*

THE **LINUX** FOUNDATION
AUTHORIZED TRAINING
**PARTNER**

*Ireland's Only*
*Linux Foundation*™
*Authorized Training Partner*

**GURU**TEAM
*specialist ICT learning*

# Linux System Administration
## (LFCS CERTIFICATION)
### GTLFCS

**Course Description**
This official Linux Foundation™ instructor-led course, prepares the student to take the Linux Foundation Certified System Administrator® Certification (LFCS) exam, and will teach you everything you need to know to be an advanced systems administrator.

**You'll learn:**
- How to administer, configure and upgrade Linux systems running one of the three major Linux distribution families: Red Hat, SUSE, Debian/Ubuntu.
- How to master the tools and concepts you'll need to efficiently build and manage an enterprise Linux infrastructure.
- How to use state-of-the-art system administration techniques in real-life scenarios via practical labs.

**Exam**
One exam voucher will be included with your course fee. Exam is web proctored, on live Linux systems and can be taken anywhere you have reliable internet connectivity, certain other criteria apply.

**Duration**
4 days

**Target Audience**
IT Professionals with basic Linux knowledge who require the necessary skills and abilities to work as a professional Linux system administrator.

**Course Pre-Requisites**
Students should have basic knowledge of Linux and its most common utilities and text editors. See GuruTeam course: *Fundamentals of Linux (from the Linux Foundation) - GTLFS1*

**Course Content**
1. Introduction
2. Linux Filesystem Tree Layout
3. Processes
4. Package Management Systems
5. Package Installers
6. Partitioning and Formatting Disks
7. Linux Filesystems
8. RAID and LVM
9. Kernel Services and Configuration
10. User and Group Account Management
11. Networking
12. Firewalls
13. System Startup and Shutdown
14. Backup and Recovery Methods
15. Local System Security
16. Basic Troubleshooting and System Rescue

**Suggested Follow-on Courses**
To progress your Linux Foundation Certification, you can take the LFCE – Linux Foundation Certified Engineer™ exam preparation course: *Advanced Linux System Administration and Networking (LFCE CERTIFICATION) – GTLFCE*

# Advanced Linux System Administration and Networking
## (LFCE CERTIFICATION)
### GTLFCE

**Course Description**
This official Linux Foundation™ instructor-led course prepares the student to take the Linux Foundation Certified Engineer® (LFCE) exam. Whether you're looking for certification, or need training to help transition to Linux from other platforms, or you're just brushing up on these vital admin and networking skills, this course will teach you what you need to know.

**You'll learn:**
- How to design, deploy and maintain a network running under Linux.
- How to administer the network services.
- The skills to create and operate a network in any major Linux distribution.
- How to securely configure the network interfaces.
- How to deploy and configure file, web, email and name servers.

This course is designed to work with a wide range of Linux distributions, so you will be able to apply these concepts regardless of your distro.

**Exam**
One exam voucher will be included with your course fee. Exam is web proctored, on live Linux systems and can be taken anywhere you have reliable internet connectivity, certain other criteria apply.

**Duration**
4 Days

**Target Audience**
System administrators and IT professionals who need to gain a hands-on knowledge of Linux network configuration and services as well as related topics such as basic security and performance.

**Course Prerequisites**
Working knowledge of Linux Fundamentals and Linux System Administration. See GuruTeam courses *GTLFS1* and *GTLFCS.*

**Course Content**
1. Introduction
2. Linux Networking Concepts and Review
3. Network Configuration
4. Network Troubleshooting and Monitoring
5. Remote Access
6. Domain Name Service
7. HTTP Servers
8. Advanced HTTP Servers
9. Email Servers
10. File Sharing
11. Advanced Networking
12. HTTP Caching
13. Network File Systems
14. Introduction to Network Security
15. Firewalls
16. Virtualization Overview
17. High Availability
18. System log
19. Package Management

**Suggested Follow-on Courses**
See additional Linux courses on this brochure. You can also visit our website to see over 35 Linux related courses in our learning portfolio.

*Check our website for scheduled dates*
**www.GuruTeamIRL.com**

# Deploying and Managing Linux on Azure

## (MICROSOFT LINUX ON AZURE CERTIFICATION: MCSA)
### *GTLFLAZ*

## Course Description
This Deploying and Managing Linux on Azure training course is designed to bring Microsoft Professionals up to speed on deploying Linux on Azure. It contains a thorough introduction to Essential Linux System Administration, as well as discussing containers and virtualization. It goes into depth on administering Linux on Azure and use of the important tools required to maintain deployment.

## Accreditation
Get Microsoft Linux on Azure Certified. To get Microsoft's MCSA: Linux on Azure certification, you must pass the Linux Foundation Certified System Administrator exam in addition to Microsoft's Implementing Microsoft Azure Infrastructure Solutions exam.
- Step 1: Pass the Linux Foundation Certified System Administrator exam
- Step 2: Pass the 70-533 Implementing Microsoft Azure Infrastructure Solutions exam from Microsoft

## Duration
4 Days

## Target Audience
This Deploying and Managing Linux on Azure learning course is designed for Microsoft professionals who want to learn enough about Linux to manage and deploy it in Azure Cloud. It also targets Linux professionals who want to get familiar with Azure and how to deploy and manage Linux in Azure environments.

## Course Pre-Requisites
No previous experience with Azure is required – this course is accessible to Linux professionals as well as Microsoft professionals and therefore does not have specific requirements regarding Microsoft knowledge.

## Course Content

1. **Getting started, Linux and Azure Fundamentals**
   - Getting started with Azure
   - Deploying a Linux instance
   - Linux and Open Source Fundamentals
   - Working with shells
   - Users, Groups and Permissions
   - Configuring sudo
   - Managing software in Linux
   - Working with GIT

2. **Advanced Linux System Administration**
   - Managing Storage
   - Managing Networking
   - Working with Systemd
   - Monitoring System Logs
   - Integrating Active Directory
   - Securing Linux with Mandatory Access Control

3. **Working with Containers on Linux**
   - Understanding the Need for Containers
   - Understanding Container Components
   - Comparing Container Technologies
   - Creating and Running Docker Containers
   - Understanding Docker Networking
   - Orchestrating Containers
   - Using Docker Compose
   - Using Docker Machine
   - Using Docker VM Extension
   - Managing Azure Container Services
   - Working with Docker on Azure

4. **Deploying Linux in Azure**
   - Understanding Deployment Options
   - Using Azure Resource Manager
   - Creating Virtual Machine Images
   - Using Azure Virtual Machine Agent
   - Using Azure Virtual Machine Extensions

5. **Automation and Orchestration**
   - Understanding Devops and Automation
   - Using Cloud-init
   - Using Ansible
   - Using Salt
   - Using Puppet
   - Using Chef

6. **Monitoring and Troubleshooting**
   - Troubleshooting Linux
   - Introduction to Nagios
   - Introduction to Zabbix
   - Monitoring and Troubleshooting in Azure

## Why Azure?
By the Numbers
- Azure is growing rapidly, and 40% of the virtual machines in Azure run Linux
- Companies are adopting Azure: Azure revenue grew by more than 120% last quarter.
- The number of "cloud services" jobs mentioning Azure has quadrupled in the last two years, double the growth rate of AWS.
- Salaries for certified Azure cloud engineers start around $100k.
- The Fortune 500 want Azure skills and can't hire enough talent.

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# Kubernetes Administration
## (CERTIFIED KUBERNETES ADMINISTRATOR)
### GTLFK

## Course Description
This instructor-led Kubernetes Administration Certification training course covers the core concepts typically used to build and administer a Kubernetes cluster in production, using vendor-independent tools.

We build a cluster, determine network configuration, grow the cluster, deploy applications and configure the storage, security and other objects necessary for typical use. This Kubernetes training course offers exposure to the many skills necessary to administer Kubernetes in a production environment.

This course does not focus on one vendor's tools. Most courses are vendor-locked. We use kubeadm to deploy the cluster and focus on tools that would work on anyone's Kubernetes cluster.

## You'll learn:
In this Kubernetes Administration training course, you will learn how to install and configure a production-grade Kubernetes cluster, from network configuration to upgrades to making deployments available via services. Also handle the ongoing tasks necessary for Kubernetes Administration.

## Topics include:
- Installation of a multi-node Kubernetes cluster using kubeadm, and how to grow a cluster.
- Choosing and implementing cluster networking.
- Various methods of application lifecycle management, including scaling, updates and roll-backs.
- Configuring security both for the cluster as well as containers.
- Managing storage available to containers.
- Learn monitoring, logging and trouble-shooting of containers and the cluster.
- Configure scheduling and affinity of container deployments.
- Use Helm and Charts to automate application deployment.

- Understand Federation for fault-tolerance and higher availability.

## Target Audience
This course is suitable for anyone who wants to learn the skills necessary to build and administer a Kubernetes cluster.

## Course Pre-Requisites
Students should have an understanding of Linux Administration skills, comfortable using the command line. Must be able to edit files using a command-line text editor.

## Accreditation
This course is excellent preparation for the **Certified Kubernetes Administrator (CKA)** exam.

## Duration 4 days

## About the Certified Kubernetes Administrator (CKA) Program
The Certified Kubernetes Administrator (CKA) program was **created by the Cloud Native Computing Foundation (CNCF), in collaboration with The Linux Foundation**, to help develop the Kubernetes ecosystem.

As the fourth highest velocity open source project, Kubernetes use is exploding. The Cloud Native Computing Foundation is committed to growing the community of Kubernetes Administrators, thereby allowing continued growth across the broad set of companies and organizations that are using Kubernetes.

Certification is a key step in that process, allowing certified administrators to quickly establish their credibility and value in the job market, and also allowing companies to more quickly hire high-quality teams to support their growth.

## About the CKA Exam
The online exam consists of a set of performance-based items (problems) to be solved in a command line running Version 1.10.2 and candidates have 3 hours to complete the tasks. Exam is strongly recommended.

## Course Content

1. **Introduction**
   - Linux Foundation Training & Certifications
   - Laboratory Exercises, Solutions and Resources
   - Distribution Details
   - Labs

2. **Basics of Kubernetes**
   - Define Kubernetes
   - Meaning of Kubernetes
   - Adoption
   - Project Governance
   - Labs

3. **Installation and Configuration**
   - Getting Started With Kubernetes
   - Minikube
   - kubeadmin
   - More Installation Tools
   - Labs

4. **Kubernetes Architecture**
   - Kubernetes Architecture
   - Networking
   - Other Cluster Systems
   - Labs

5. **APIs and Access**
   - API Access
   - Working with First Pod
   - Kubectl and API
   - Swagger and OpenAPI
   - Labs

6. **Managing State with Deployments**
   - Deployment Overview
   - Managing Deployment States
   - Deployments and Replica Sets
   - Labels
   - Labs

7. **Services**
   - Overview
   - Accessing Services
   - DNS
   - Labs

8. **Volumes and Data**
   - Volumes Overview
   - Volumes
   - Persistent Volumes
   - Secrets

   - ConfigMaps
   - Labs

9. **Ingress**
   - Overview
   - Ingress Controller
   - Ingress Rules
   - Labs

10. **API Objects**
    - API Objects
    - The v1 Group
    - API Resources
    - RBAC APIs
    - Labs

11. **Scheduling**
    - Overview
    - Scheduler
    - Policies
    - Affinity Rules
    - Taints and Tolerations
    - Labs

12. **Logging & Troubleshooting**
    - Overview
    - Monitoring
    - Logging
    - Troubleshooting
    - Labs

13. **Custom Resource Definition**
    - Overview
    - Third-Party Resources
    - Custom Resources
    - Labs

14. **Kubernetes Federation**
    - Overview
    - Federation
    - Using Cluster API
    - Labs

15. **Helm**
    - Overview
    - Helm
    - Using Helm
    - Labs

16. **Security**
    - Overview
    - Accessing the API
    - Authentication and Authorization
    - Admission Controller
    - Pod Policies
    - Network Policies
    - Labs

*Check our website for scheduled dates*

**www.GuruTeamIRL.com**

# ENTERPRISE IT & LINUX SYSTEM ADMINISTRATION

## Linux System Administration (4 days)
LFCS CERTIFICATION  *GTLFCS*
See page 2 of this brochure for details.

## Advanced Linux System Administration and Networking
(4 days) LFCE CERTIFICATION  *GTLFCE*
See page 2 of this brochure for details.

## NEW Deploying and Managing Linux on Azure (4 days)
*MICROSOFT CERTIFIED SYSTEMS ADMINISTRATOR  GTLFLAZ*
See page 3 of this brochure for details.

## NEW Kubernetes Administration (4 days)
*CERTIFIED KUBERNETES ADMINISTRATOR  GTLFK*
See page 4 of this brochure for details.

> *Excellent trainer, really knew his stuff. He sets the gold standard for trainers, would be great if all trainers were like him.*
>
> April 2017

## Fundamentals of Linux  *GTLFS1*
This course will give you a good working knowledge of Linux, from both a graphical and command line perspective, allowing you to easily navigate through any of the major Linux distributions.

## Essentials of OpenStack Administration COA  *GTLFCOA*
This course prepares you for the "Certified OpenStack Administrator" exam from the OpenStack Foundation™. You will learn everything about creating and managing private and public clouds.

## NEW Advanced OpenStack Administration  *GTLFAO*
Learn about internals of various vendor specific OpenStack distributions and their installations and setups from engineers who have contributed to OpenStack releases, deployed and configured several OpenStack distributions and have combined their knowledge in producing this course. For developers, deployers, and troubleshooters.

## Linux Security  *GTLFS3*
Learn about the many risks and threats that exist, how to use best practices and other open-source tools to mitigate or counteract those threats, and teach you what you need to know to detect and recover from those attacks that do happen.

## High Availability Linux Architecture  *GTLFS4*
Uptime is critical, learn about the concepts and tools you need to maintain an extremely high level of availability for your Linux servers, even under heavy load as well as how to ensure that your servers stand up under even the most intense pressure.

## Linux Performance Tuning  *GTLFS5*
This course will teach you the appropriate tools, subsystems, and techniques you need to get the best possible performance out of Linux. You will learn all the tools and techniques you need to keep your Linux systems running at optimal levels.

## Linux Enterprise Automation  *GTLFS6*
Learn about Automation which lets you minimize costs by reducing manual operations, helping to ensure compliance across the data centre, standardizing your software infrastructure and accelerating deployments for your bare-metal & cloud infrastructures.

## Open Source Virtualization  *GTLFS8*
Learn KVM from the ground up with a focus on QEMU and libvirt, as well as Xen. By the end of this course, you will understand how these and other related open source components can be assembled to create a virtual IT infrastructure.

## Software Defined Networking with OpenDaylight  *GTLFSDNO*
Learn about SDN, OpenDaylight, Tools such as mininet and wireshark and Applications using OpenDaylight APIs and much more.

*We can build a custom course for you, both on and off-site* **www.GuruTeamIRL.com**

# LINUX PROGRAMMING AND DEVELOPMENT TRAINING

## Introduction to Linux, Open Source Development & GIT  *GTLF1*
This course will introduce you to the world of Linux development and a comprehensive understanding of GIT. This course will give you the background and training you need to start working with both Linux and GIT.

## Developing Applications for Linux  *GTLF2*
Learn how to develop applications for the Linux environment. In this course, you'll get hands-on experience with the necessary tools and methods for Linux application development and learn about the features and techniques that are unique to Linux.

## Linux Kernel Internals and Development  *GTLF3*
Learn how to develop for the Linux kernel. In this course you'll learn how Linux is architected, the basic methods for developing on the kernel, and how to efficiently work with the Linux developer community.

## Developing Linux Device Drivers  *GTLF4*
Learn how to develop device drivers for Linux systems. This course will teach you about the different types of Linux device drivers as well as the appropriate APIs and methods through which devices interface with the kernel.

## NEW Developing Embedded Linux Device Drivers  *GTLFD8*
This course is specifically designed to show experienced programmers how to develop device drivers for Linux systems, and give them a basic understanding and familiarity with the Linux kernel.

## Linux Kernel Debugging and Security  *GTLF5*
Learn the methods and internal infrastructure of the Linux kernel. This course focuses on the important tools used for debugging and monitoring the kernel, and how security features are implemented and controlled.

## Embedded Linux Development  *GTLF6*
This course will give you the step-by-step framework for developing an embedded Linux product. You'll learn the methods used to adapt the Linux kernel and user-space libraries and utilities to particular embedded environments, such as those in use in consumer electronics, military, medical, industrial, and auto industries.

## Embedded Linux Development with Yocto Project  *GTLFDY*
Learn how to build a repeatable embedded target using the Yocto Project.

## Inside Android: Intro to Android Internals  *GTLF7*
Get a hands-on tour of the internals of the popular Android operating system for mobile and other devices. This course will teach you the ins and outs of the Android anatomy, with a focus on hands-on experience.

*GuruTeam are specialists in delivering learning, mentoring and consultancy services in Cloud, Linux, Big Data, DevOps, Kubernetes, Blockchain, IoT, Security, GDPR, Architecture, Software and Web Development Technologies.*

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Courses are designed to work with a wide range of Linux distributions, so you will be able to apply these concepts regardless of your distro.

Those who attend each entire course will receive a digital Certificate of Course Completion from the Linux Foundation™

Courses can be delivered both on and off-site.

We can build a custom course for you – just contact our team.
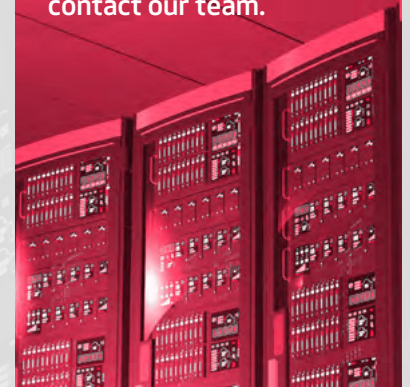
*" Extremely happy with the level of expertise of the instructor and the way the course was delivered. Would highly recommend. "*

April 2018

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