



CENGN's Cloud System Specialist program provides solid grounding in the essential concepts and hands-on skills required to work successfully in a cloud systems environment. Modules focus on: Linux and open source tools; containerization with Docker and Kubernetes; network configuration; cloud deployment with OpenStack. Participants perform multiple system-level configurations and learn how to install/manage applications through multiple methods.



Audience: New grads in IT and networking; new hires in software and cloud; software and network engineers



Delivery Mode: Self-paced online, with hands-on labs hosted on CENGN's multi-vendor cloud



Duration: 60-70 hours



Recommended Prerequisites: Moderate level of skill with networking, Linux, and virtualization

Course Objectives

Upon completion of this course, learners should be able to:

- Work with Linux filesystem and file processing commands
- Create and use SSH keys for remote access
- Work with distributed revision control systems
- Explain key container concepts
- Manage Docker containers
- Describe Kubernetes components and architecture
- Create a single-node Kubernetes cluster
- Work with standard Kubernetes objects
- Create basic configurations and security settings on an IP network
- Create networked VMs in OpenStack using Heat templates
- Deploy an application using multiple methodologies

Exam and Certification

Learners who complete the Cloud System Specialist training are ready for the CENGN Cloud System Specialist certification exam.

Those who complete the exam will receive a CCSS certification.

Course Content

Module 1: Linux

- Linux Review
- SSH
- Revision Control Systems
- File and stream processing
- Linux Package Management

Module 2: Docker & Kubernetes

- Containers and Namespaces
- Docker Containers and CLI
- Kubernetes History and Architecture
 - Nodes and Pods
- Installing Kubernetes
- Kubernetes Manifest Files
- Kubernetes Objects
 - Replication Controllers
 - Deployments
 - Services
- Labels and Selectors
- Troubleshooting Manifest Files

Module 3: Networking

- TCP/IP Review
- OSPF
- DNS
- NTP
- ACLs

Module 4: OpenStack & NFV

- Cloud Computing
- OpenStack Architecture and Concepts
- Deploy and Application
- OpenStack's Orchestration Service
- Creating a Heat Stack