# Docker Swarm Application Essentials

**Duration: 1 Day**    **Course Code: CN110**    **Delivery Method: Company Event**

## Overview:

In this course, you'll learn what a containerized application looks like when orchestrated by Docker Swarm. We'll cover scheduling workloads across a cluster, networking stateless and stateful applications, provisioning dynamic configuration and persistent storage, and scaling highly available applications in this course intended to set a strong foundation in orchestration for all technical roles.

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

## Target Audience:

General technical audiences & IT professionals

## Prerequisites:

**Attendees should meet the following prerequisites:**

- CN100 course or equivalent experience
- Familiarity with the Bash shell
- Filesystem navigation and manipulation
- Command line text editors like vim or nano
- Common tooling like curl, wget and ping
- Familiarity with YAML and JSON notation
- CN100 - Docker Containerization Essentials

## Follow-on-Courses:
- CN212 - Mirantis Kubernetes Engine (MKE)
- CN254 - Mirantis Container Cloud (MCC) Bootcamp

## Content:

### Setting up and configuring a Swarm

- Operational priorities of container orchestration
- Containerized application architecture
- Swarm scheduling workflow ; task model
- Automatic failure mitigation
- Swarm installation ; advanced customization

### Deploying workloads on Swarm

- Defining workloads as services
- Scaling workloads
- Container scheduling control
- Rolling application updates and rollback
- Application healthchecks
- Application troubleshooting
- Deploying applications as Stacks

### Networking Swarm workloads

- Swarm service discovery and routing implementation
- Routing strategies for stateful and stateless workloads
- Swarm ingress traffic

### Provisioning dynamic configuration

- Application configuration design
- Environment variable management
- Configuration file management
- Provisioning sensitive information

### Provisioning persistent storage

- Storage backend architecture patterns
- NFS backed Swarms

### Monitoring Swarm

- What to monitor in production-grade Swarms
- Potential Swarm failure modes ; mitigations
- Swarm workload monitoring

## Additional Information:

**Lab Requirements:**
Laptop with WiFi connectivity Attendees should have the latest Chrome or Firefox installed, and a free account at strigo.io.

## Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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