Publication date : 03/21/2025

Course : Docker: Application design, testing and deployment

ENI certification - RS6425

Practical course - 4d - 28h00 - Ref. DKR

Price : 2650 CHF E.T.

4,7 / 5

NEW

On completion of this course, you'll be able to use Docker to design, test and deploy containerized applications. You'll master image and container management, network and volume configuration, and orchestration with Docker Swarm. You'll learn how to secure your environments and apply best practices for efficient production deployment. This course will enable you to optimize your application management and collaborate effectively with DevOps and infrastructure teams.

Teaching objectives

At the end of the training, the participant will be able to:

- Configure Docker on different operating systems using Docker Desktop or Docker Engine
- Using images, registers and containers with the Docker command line
- Designing and building custom images with Dockerfile
- Chain containers with Compose to deploy complete application environments
- Configure networks and volumes for data exchange and storage
- Orchestrating clustered containers with Docker Swarm
- Implement an effective security strategy for a reliable application environment

Intended audience

Developers working on microservices applications encapsulated in Docker containers, system and network administrators and technicians managing these containers.

Prerequisites

Basic knowledge of a programming language and Linux/Windows system principles.

PARTICIPANTS

Developers working on microservices applications encapsulated in Docker containers, system and network administrators and technicians managing these containers.

PREREQUISITES

Basic knowledge of a programming language and Linux/Windows system principles.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant’s academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they’ve developed.

Certification

La certification ENI « Concevoir, tester et déployer des applications avec Docker » est incluse lors de l'inscription à cette formation. Accessible en ligne 24h/24, l'évaluation chronométrée (1h30) comprend des cas pratiques et un QCM/QCU. Les cas pratiques, reproduisant un environnement de travail réaliste, ont une pondération cinq fois supérieure aux questions QCM/QCU. Le score obtenu sur 1000 détermine le niveau atteint : opérationnel (500 à 700 points) ou avancé (701 à 1000 points). La certification est obtenue dès 500 points et valide les compétences en conception, test et déploiement d'applications conteneurisées avec Docker. Les résultats sont disponibles immédiatement après l'épreuve, et le certificat est envoyé par e-mail. Enregistrée sous le numéro RS6425 au Répertoire Spécifique de France Compétences, cette certification atteste de la maîtrise de Docker pour le développement et le déploiement d'applications en environnement conteneurisé. Lien vers la fiche France compétence : https://www.francecompetences.fr/recherche/rs/6425/

Course schedule

1 Introduction to Docker

- Virtualization and containerization concepts
- Introduction to Docker: architecture and components.
- Installing Docker Desktop and Docker Engine on Windows/Linux.
- Getting started with Docker: running a first container.

Exercise

Install and configure Docker on Windows and Linux.

2 Image and container management

- Use of Docker Hub and private registries.
- Container management commands: run, ps, logs, stop, restart, rm.
- Image management: pull, build, tag, push.

Exercise

Deploy a simple application with an existing Docker image.

3 Custom image creation and Docker Compose

- Dockerfile structure.
- Docker image optimization.
- Manage environment variables and secrets.
- Introduction to Docker Compose.
- Structure of a docker-compose.yaml file.
- Definition of services, networks and volumes.

Exercise

Create and optimize a customized Docker image and deploy a multi-container application.

TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

4 Network, volume and orchestration management with Swarm

- Docker network management: bridge, host, overlay.
- Configure volumes and bind mounts.
- Data persistence in Docker.
- Principles and implementation of a Swarm cluster.
- Manage Docker services and stacks.
- Scalability mechanisms and load balancing.

Exercise
Set up persistent storage and a suitable network architecture. Create a Docker Swarm cluster and deploy a scalable application.

5 Docker security and best practices

- Best security practices for containers and images.
- Configuring the Docker daemon for secure execution.
- User rights and access management.
- Best practices for deploying Docker in production.
- Summary and feedback.

Exercise
Implementation of a security strategy with privilege restriction and container auditing. Q&A and training summary.

6 ENI certification

- Examination procedures.
- Personalized advice

Dates and locations

REMOTE CLASS
2026 : 31 Mar., 26 May, 13 Oct., 24 Nov.