# Initiation to Application Development in the OSGi Environment

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## Introduction

Encouraged by the success of paying services in mobile phones, ideas are being proposed for on-demand value added services for communicating equipment like telematics platforms in automobiles or access points in the home.

In order to master the software complexity of such platforms, industry opted for the definition of a standard execution environment called OSGi (Open Services Gateway initiative).

Trialog has a great deal of experience in using the OSGi environment in the domains of automobile, home networks, and industrial automation. Trialog now offers a training seminar based on five years of activities in the construction and use of OSGi in industrial environments.

## Course Objective

The two day seminar presents the context of the dynamic integration of services in communicating equipments through the use of the OSGi environment. The course details the following points:

- The life cycle of an execution platform and of its services
- The basics of the OSGi environment
- How to carry out development with OSGi (service or execution platform)

At the end of the course, each participant will leave with an *open source* OSGi environment which is immediately usable. (For the use of a *proprietary* OSGi environment, please contact us.)

## Participants

The seminar is targeted to system architects and developers.

## Prerequisites

A solid knowledge of the Java programming language is advised to benefit fully from the course.
Each participant must bring a personal laptop computer. This will permit everyone to leave the course with an OSGi open source environment which is immediately usable.

## Language

The course material is furnished in English.
The oral presentation is in English or French, depending on the participants.

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## Conditions

1500€ per person (lunches, coffee breaks, and course material included). Enrolment is definitive only after the receipt of the full payment. In order to insure the best instructional conditions, enrolment is limited to 8 participants per course. TRIALOG reserves the right to cancel the course if less than 3 participants are enrolled.

## Organisation

TRIALOG is an official instructional organisation registered under the French regulation N° 11 75 2079075.

## Course Agenda (Duration: 2 days)

The course consists of presentations of theory followed by practical exercises on platform development.

**Theory Presentations**

Introduction to Service Hosting

The OSGi framework
- Architecture of an OSGi framework
- Life cycle of the framework
- Life cycle of a service

OSGi services
- The Service Registry
- Standardised OSGi services
- Management of hardware peripherals through OSGi *Devices* and *Drivers*
- Security of the framework

Development and use of services
- Availability and dynamics of a service
- Design of a service
- Development constraints
- Study of common errors made by an OSGi service developer

Current OSGi offer
- Technology providers
- Products using OSGi

**Practical Exercises**

Installation of the development environment (Oscar, Knopflerfish)

Development of *bundles*
- Use of the Log service
- Recovery of Logs created by other bundles
- Use of the HTTP service
- Creation of a new services

Handling dynamic aspects of the framework
- Listening to System Events
- OSGi *Devices* and *Drivers*

Experiments on some common mistakes of an OSGi developer.

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