

[OSGi Lab]

OSGi Asteroid Game

March 10, 2022

Introduction: In this assignment, we apply the OSGi component framework in the Asteroid game setting.

Objectives: The objective of this assignment is to get familiar with the OSGi framework, provide sufficient information to get started with CODA practice using OSGi, and appreciate the component-oriented features of the OSGi framework.

Classwork:

- Inspect the textbook example how to use the OSGi Declarative Services and BundleContext API, see Chapter 5 in [MSS13].
- Implement components from the Asteroids game using the OSGi framework, see [OSGiRec] for more details.
Use both Declarative Services and the BundleContext API. For example implement the move and enemy components.
- You can create your own project from scratch based on maven pax archetypes and the command line, see [OSGiPax].
Get familiar with the maven goals describes in the [readme.txt] file.
Note the that maven has to be setup with the `JAVA_HOME` environment variable that is pointing to **JDK version 1.8**.
- Inspect the [PaxAsteroids] example and use the Apache gogo shell to start and stop OSGi bundles.

Literature:

- [MSS13] P. Manickam, S. Sangeetha, and S.V. Subrahmanya. *Component-Oriented Development and Assembly: Paradigm, Principles, and Practice using Java*. Infosys Press. Taylor & Francis, 2013. [Link].