GRC DSL's Using Groovy Language

Nibin G Varghese, AppStudio

Abstract

Java, and the Java platform with all its frameworks and libraries, has become a large eco-system for the software developer. The Java Virtual Machine (JVM) runs on every device from the smallest embedded chip to the largest mainframe. In this large eco-system of Java universe, the most important thing that has happened is the evolution of Groovy programming language. Groovy is a JVM based language which supports multiple paradigms such as dynamic programming, meta-programming, functional programming etc. As Groovy inherits many of the features from Java language, it improves the developer productivity by cutting down a lot of boilerplate code. Cutting down a lot of boiler plate code allows to express solutions in a more concise style of coding.

One of the benefits of Groovy is how its dynamic features support the development of Domain-Specific Languages(DSL) or "mini languages", which we can run directly on the JVM alongside other existing Java code. A domain-specific language (DSL) is a type of programming language or specification language in software development that is dedicated to a particular problem domain. As MetricStream works in the domain of GRC, the idea of developing DSL's for GRC domain will help our customer's in customizing the business logic to suit their needs. This is possible to do in Groovy language because of its powerful meta-programming features.

This paper will also include the demostration of a tool which show-cases the use of GRC DSL's for a fictional audit, compliance and issue management modules. The tool is developed as an independent effort which does not carry any dependency with any of MetricStream products and platform.

Keywords: *Java, Groovy, DSL, meta-programming, GRC*