

DSL for Configuration Files Verification

Solved problem

CERN (*European Organization for Nuclear Research*) is one of the biggest research organizations in the world. It uses many scientific, industrial and custom built machines that are supervised/operated using SCADA (*Supervisory Control And Data Acquisition*) software. This software runs on variety of different computers, operating systems and environments, and **it is crucial to make sure that configuration files** used by the SCADA applications **are correct** and will not cause any problems.



Usage of SCADA applications at CERN.

Problem solution

In order to guarantee the correctness of configuration of SCADA applications, a **specialized domain specific language** (DSL) and a language **interpreter** were developed. The language allows programmers to describe how certain configuration files should look like, and the interpreter checks whether tested configuration files matches the template.

To make the use of the interpreter easy, it is **integrated with the Eclipse IDE** and it has its own editor and testing window.

```
'''print("Demo template!");'''
[general]
{exactlyOnce} pvss_path = "C:/PVSS/" || "/opt/PVSS"
proj_path = ''(value.toLowerCase().startsWith("c:/proj/"))''
[ui]
showActiveShapes = 0
checkADAuthIntervall = >= 60
```

Example template describing a simple configuration file.



BUILT ON
eclipse

Xtext

Used technologies.

The new language interpreter

