

Explication du fonctionnement de l'interface IEngineRunner et des classes associees

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Version francaise

L'interface IEngineRunner permet de definir un moteur d'execution generique pour un traitement structure en plusieurs etapes (steps). L'implementation EquityEngineRunner orchestre l'execution de ces etapes de maniere dynamique a partir d'un plan d'execution.

1. Classe Launcher :

- Initialise le contexte Spring (AnnotationConfigApplicationContext)
- Recupere les beans Spring (SparkSession, EngineRunner, etc.)
- Execute le moteur via engineRunner.runEngine(...)

2. Classe EquityEngineRunner (implemente IEngineRunner) :

- Injecte les dependances Spring necessaires (ApplicationContext, SparkContext, etc.)
 - Construit dynamiquement la configuration d'execution via la methode getRunConfigurationEngine(...)
- Enchaîne les steps dans l'ordre defini, avec nom, type et parametres.

3. getRunConfigurationEngine(...):

- Cree dynamiquement une instance Step pour chaque etape configuree
- Renseigne nom, type, moteur, parametres
- Regroupe les etapes dans une Map<String, List<Step>> injectee dans le bean principal Run

The `IEngineRunner` interface defines a generic execution engine to process structured workflows composed of multiple steps. The `EquityEngineRunner` class implements this logic and dynamically orchestrates the configured steps.

1. Launcher class:

- Initializes the Spring context (`AnnotationConfigApplicationContext`)
- Retrieves Spring-managed beans (`SparkSession`, `EngineRunner`, etc.)
- Calls `engineRunner.runEngine(...)` to trigger the workflow

2. `EquityEngineRunner` class (implements `IEngineRunner`):

- Uses Spring dependency injection (`ApplicationContext`, `SparkContext`, etc.)
- Builds the execution configuration via `getRunConfigurationEngine(...)`
- Dynamically chains the steps with name, type, and parameters

3. `getRunConfigurationEngine(...)`:

- Iterates over configured steps and creates dynamic `Step` instances
- Populates name, engine, type, and parameters
- Organizes steps into a `Map<String, List<Step>>` structure, then injects it into the main `Run` bean

```

5      public Object getRunConfigurationEngine(String engineIn, String typeEngineIn) {
11          allStepOrdered.forEach(( String engine, Map<String, Map<...>> byLetter) ->
18              byLetter.forEach(( String typeEngine, Map<String, Class<...>> values) -> {
23
24                  for (Map.Entry<String, Class<AbstractStep>> entry : values.entrySet()
125                      String stepName = entry.getKey();
126                      Step step = new Step();
127                      step.setStepName(stepName);
128                      step.setEngineName(engine);
129                      step.setEngineType(typeEngine);
130                      //TODO add params
131                      step.setParams(null);
132                      steps.add(step);
133                      System.out.println("stepName: " + stepName + ", Value: " + entry.getValue());
134                  }
135                  stepsMap.put(typeEngine, steps);
136                  stepsConfMap.put(engine, stepsMap);
137              }
138          });
139      }
140
141      });
142
143      run.setStepsConfMap(stepsConfMap);
144
145      return run;
146  }
147
148  private StepExecutionException lookupStepExecutionException(Throwable e) { 2 usages

```

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```
EquityEngineRunner.java x
package com.sgcib.equity.datalab.runner;

import ...

@Component
public class EquityEngineRunner implements IEngineRunner<Run, AbstractRecord> {

    private static final Logger LOGGER = LoggerFactory.getLogger(EquityEngineRunner.class); 2 usages

    @Autowired
    private ApplicationContext ctx;

    @Autowired
    private ApplicationEventPublisher eventPublisher;

    @Autowired
    private SparkContext sparkContext;

    /*@Autowired
    private MapAccumulator mapAccumulator;*/

    @Autowired
    private EngineContext engineContext;

    @Override 1 usage
    public void runEngine(Run run, Dataset<AbstractRecord> dataset) throws Exception {
        Map<String, Map<String, List<String>>> stageMap = run.getStageConfMap();
    }
}
```

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EquityEngineRunner.java

Launcher.java x

```
public class Launcher {
    public static void main(String[] args) throws Exception {

        //CommonAppConfig.setPropertypath(propertyFile);
        //LOGGER.info("Starting with configuration file" + propertyFile + " and workflow file "
        //Build Spring context
        AnnotationConfigApplicationContext ctx = new AnnotationConfigApplicationContext(CommonApp
        ctx.registerShutdownHook();

        SparkSession sparkSession = ctx.getBean(SparkSession.class);

        //Run engine
        EngineRunner equityRunner = ctx.getBean(EngineRunner.class);

        try {
            equityRunner.runEngine(engine, typeEngine);
            LOGGER.info("End of the run with success.");
        } finally {
            ctx.close();
            sparkSession.stop();
        }
    }
}
```

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46

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