http://www.egovframe.go.kr/wiki/doku.php?id=egovframework:rte2:brte:batch_core:batch_runner

# JobRunner

## Outline

Linking the outside execution module and JobLauncher, JobRunner requires implementation that fits the purpose. In eGovFramework, you can use the standard batch runners where the implemented JobRunners are available.

## Description

A total of three batch runners are available as follows:

- EgovBatchRunner: Used for Web, Java Application and other uniformly processed tasks.
- EgovCommandLineRunner: Used for the batch processes that are independently executed in outside programs (Windows: / Unix/Linux: crontab, etc.) or command prompt (Windows: bat / Unix/Linux: Shell).
- EgovSchedulerRunner: Used for regularly executed tasks that are uniformly processed.

Refer to the following for the functions that Batch Runner offers:

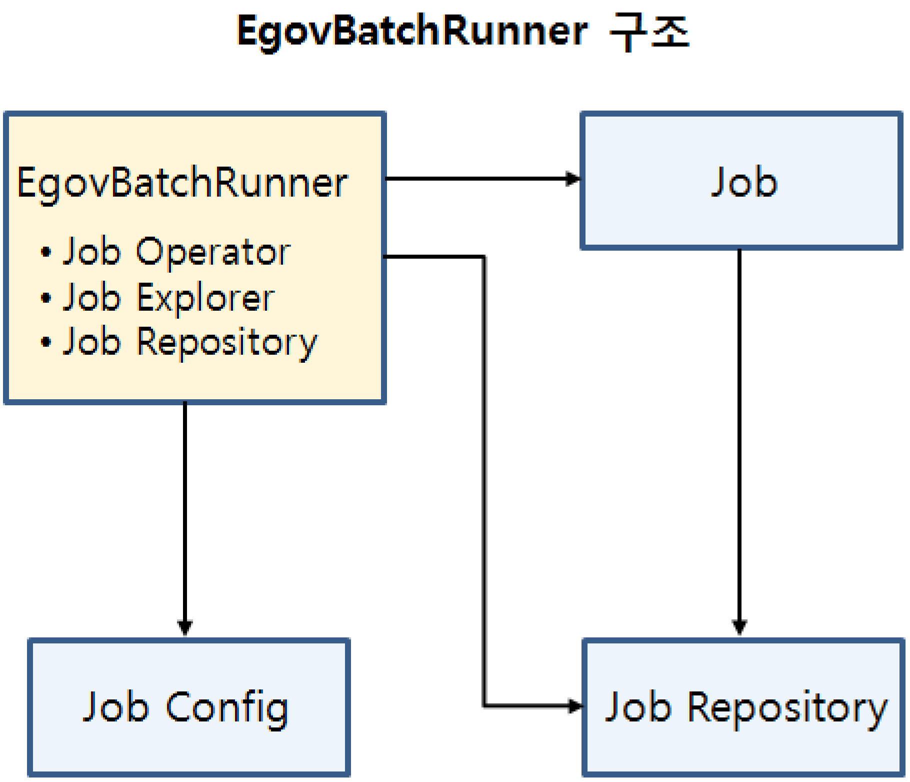
| Batch Runner | Java App Executed | Web Executed | Job Status Monitored | Scheduling | Command Prompt Supported |
|---|---|---|---|---|---|
| EgovBatchRunner | O | O | O | X | ▵ |
| EgovCommandLineRunner | O | X | O | X | O |
| EgovSchedulerRunner | O | O | X | O | ▵ |

✔ Additional implementation required to run command prompt in EgovBatchRunner or EgovSchedulerRunner.

### EgovBatchRunner

#### Structure

You can either execute or change status of Jobs registered in Job Config by using Job Operator and Job Explorer, thanks to EgovBatchRunner. With EgovBatchRunner, you can also access Job Repository.



### How to Configure

In order to use EgovBatchRunner, you need to define JobOperator, JobExplorer and JobRepository in the XML file and define JobLauncher and JobRegistry to generate JobOperator.

```
<bean id="jobOperator"
        class="org.springframework.batch.core.launch.support.SimpleJobOperator"
        p:jobLauncher-ref="jobLauncher" p:jobExplorer-ref="jobExplorer"
        p:jobRepository-ref="jobRepository" p:jobRegistry-ref="jobRegistry" />

<bean id="jobLauncher"
        class="org.springframework.batch.core.launch.support.SimpleJobLauncher">
        <property name="jobRepository" ref="jobRepository" />
</bean>

<bean id="jobRepository"
        class="org.springframework.batch.core.repository.support.JobRepositoryFactoryBean"
        p:dataSource-ref="egov.dataSource" p:transactionManager-ref="transactionManager"
        p:lobHandler-ref="lobHandler" />

<bean id="jobExplorer"
        class="org.springframework.batch.core.explore.support.JobExplorerFactoryBean"
        p:dataSource-ref="egov.dataSource" />

<bean id="jobRegistry"
        class="org.springframework.batch.core.configuration.support.MapJobRegistry" />
```

JobOperator, JobExplorer and JobRepository are to be transferred to the generator of EgovBatchRunner, as follows:

```
<bean id="jobBatchRunner" class="egovframework.brte.core.launch.support.EgovBatchRunner">
        <constructor-arg ref="jobOperator" />
        <constructor-arg ref="jobExplorer" />
        <constructor-arg ref="jobRepository" />
</bean>
```

### Functions

Based upon some key methods provided by Job Operator and Job Explorer, EgovBatchRunner provides Job Config with reference to job name, commencement of jobs, re-start and stop. Job Repository does not provide its own methods, but allows access to Job Repository object.

| Title of Method | Description | Parameter |
|---|---|---|
| start | Commences Job using the title of Jobs and Job Parameters. Note that Job Parameter should have values unique to it contrary to Job Parameters. | Title of Job, Job Parameter |
| restart | Re-starts jobs stopped or concluded using the execution ID. | Execution ID of Job |
| stop | Stops execution of job using Execution ID. | Execution ID of Job |

### How to generate Job Parameter

You can use one of the following methods to generate Job Parameter in the form of strings for use in EgovBatchRunner.

| Title of Method | Description | Parameter |
|---|---|---|
| createUniqueJobParameters | Using Timestamp, you can generate a string of Job Parameter that has values unitue to it. | N/A |
| addJobParameter | Using addJobParameter, you can add another string of Job Parameter to the existing Job Parameter. | Variables to existing Job Parameters, Title(Key) of Job Parameters to be added, value, etc. |

Refer to the following for how Job Parameter is created:

1. By simply generating Job Parameter, Timestamp becomes unique to it.
2. Add a Job Parameter entitled “inputFile” and assign ”/egovframework/batch/data/inputs/csvData.csv”.

```
String jobParameters = egovBatchRunner.createUniqueJobParameters();

jobParameters = egovBatchRunner.addJobParameter(jobParameters, "inputFile",
"/egovframework/batch/data/inputs/csvData.csv");
```

You can use JobParameters in XML. See Job Parameters for more details.

### How to Use

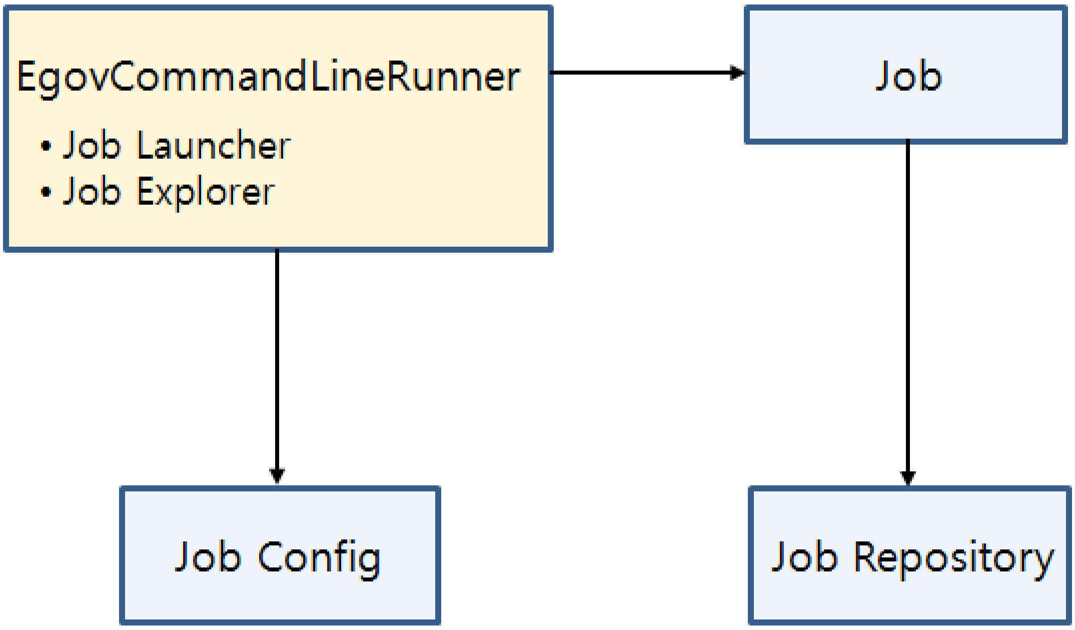
EgovBatchRunner Examples

## EgovCommandLineRunner

### Structure

You can execute Jobs registered in Job Config by using Job Launcher and Job Explorer, thanks to EgovCommandLineRunner.

EgovCommandLineRunner 구조



### Functions

In EgovCommandLineRunner, you are to use the method Start to get a Job started. Parameters are as follows. Note that the parameters Job Path and Job Identifier are not optional:

| Parameter | Description |
|---|---|
| Job Path | XML that features context information required for execution of Job. |
| Job Identifier | Title of Job or Execution ID of Job |
| Parameters | Job Parameter |
| Option | Execution Option |

With no execution options set, you can get a Job started on an immediate basis, or else the option(s) come(s) into play before a Job gets started. Refer to the following for the execution options available and how to designate job identifiers accordingly:

| Execution Option | Description | Job Identifier |
|---|---|---|
| 미지정 | Gets a Job started. | Title of Job |
| -restart | Re-starts jobs stopped or concluded, if feasible. | Execution ID of Job |
| -stop | Stops a Job being executed. | Execution ID of Job |
| -next | Changes JobParameter for a Job being executed. | Execution ID of Job |
| -abandon | Change the status of a Job for “ABANDONED” | Execution ID of Job |

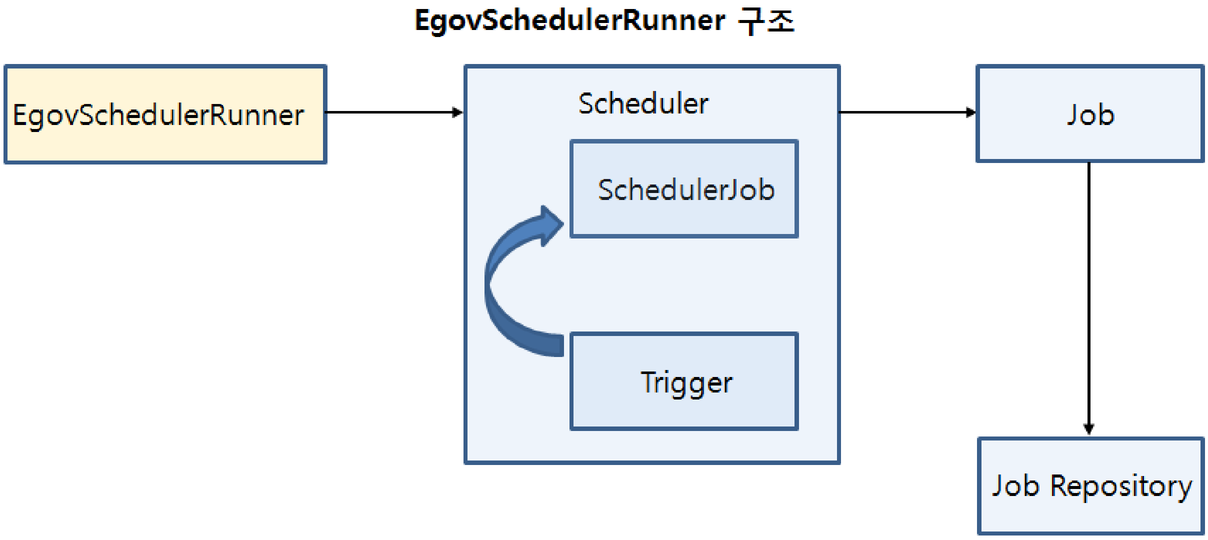
### How to Use

EgovCommandLineRunner example using Batch Template

### EgovSchedulerRunner

#### Structure

Contrary to the conventional Batch Runner, EgovSchedulerRunner runs Scheduler to cause a Job to be executed in a pre-determined period and interval. Refer to [Scheduling Service]() for how to use and configure Quartz that Scheduler uses.



#### How to Configure and Use

[EgovSchedulerRunner example using Batch Template]()