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JSF 2 + Quartz 2 Example

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Posted on July 27, 2012 , Last modified : August 29, 2012

 By [mkyong](#)

In this tutorial, we show you how to run a Quartz job during JSF web application via `QuartzInitializerListener` listener class in Quartz library. This solution is not only works with JSF 2, the concept is applicable on almost all standard Java web application.

Tools Used :

1. JSF 2.1.11
2. Quartz 2.1.5
3. Maven 3
4. Eclipse 4.2
5. Tomcat 7

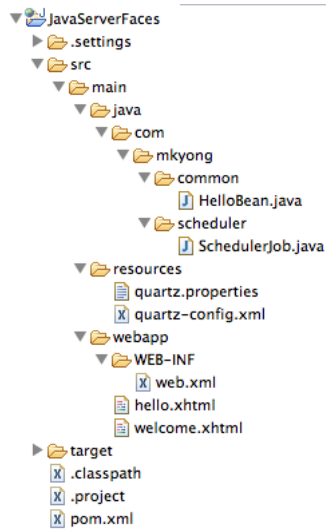
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The previous [JSF 2.0 hello world example](#) is reused, and we will enhance it to support Quartz job via `QuartzInitializerListener` listener class.

P.S This tutorial is only focus on Quartz integration, for JSF, please read above JSF hello world example.

1. Project Folder

Review the final project directory structure.


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2. Dependencies

To deploy on Tomcat, you need many JSF dependencies. Read XML comments for detail.

File : pom.xml

```

<dependencies>
...
    <!-- JSF 2 Libraries -->
    <dependency>
        <groupId>com.sun.faces</groupId>
        <artifactId>jsf-api</artifactId>
        <version>2.1.11</version>
    </dependency>
    <dependency>
        <groupId>com.sun.faces</groupId>
        <artifactId>jsf-impl</artifactId>
        <version>2.1.11</version>
    </dependency>

    <dependency>
        <groupId>javax.servlet</groupId>
        <artifactId>jstl</artifactId>
        <version>1.2</version>
    </dependency>

    <dependency>
        <groupId>javax.servlet</groupId>
        <artifactId>servlet-api</artifactId>
        <version>2.5</version>
    </dependency>

    <dependency>
        <groupId>javax.servlet.jsp</groupId>
        <artifactId>jsp-api</artifactId>
        <version>2.1</version>
    </dependency>

    <!-- Tomcat 6 need this -->
    <dependency>
        <groupId>com.sun.el</groupId>
        <artifactId>el-ri</artifactId>
        <version>1.0</version>
    </dependency>

    <!-- Quartz scheduler framework -->
    <dependency>
        <groupId>org.quartz-scheduler</groupId>
        <artifactId>quartz</artifactId>
        <version>2.1.5</version>
    </dependency>

    <!-- Quartz need transaction -->
    <dependency>
        <groupId>javax.transaction</groupId>
        <artifactId>jta</artifactId>
        <version>1.1</version>
    </dependency>
...

```



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3. Quartz Job

Create a Quartz job class. This class is going to schedule and run later.

File : SchedulerJob.java

```

package com.mkyong.scheduler;

import org.quartz.Job;
import org.quartz.JobExecutionContext;
import org.quartz.JobExecutionException;

```

```
public class SchedulerJob implements Job {

    @Override
    public void execute(JobExecutionContext context)
        throws JobExecutionException {

        System.out.println("JSF 2 + Quartz 2 example");

    }

}
```

4. Quartz Configuration

Create `quartz.properties` and `quartz-config.xml`, put it in resources "folder" (Maven structure), for non-Maven project, make sure it can be locate at project classpath.

File : `quartz.properties` – Configure Quartz instance and read the settings from `quartz-config.xml`

```
org.quartz.scheduler.instanceName = MyScheduler
org.quartz.threadPool.threadCount = 3
org.quartz.jobStore.class = org.quartz.simpl.RAMJobStore
org.quartz.plugin.jobInitializer.class = org.quartz.plugins.xml.XMLSchedulingDataProcessorPlugin
org.quartz.plugin.jobInitializer.fileName = quartz-config.xml
org.quartz.plugin.jobInitializer.failOnFileNotFound = true
```

File : `quartz-config.xml` – Configure trigger to run `com.mkyong.scheduler.SchedulerJob`

```
<?xml version="1.0" encoding="UTF-8"?>

<job-scheduling-data
  xmlns="http://www.quartz-scheduler.org/xml/JobSchedulingData"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.quartz-scheduler.org/xml/JobSchedulingData
http://www.quartz-scheduler.org/xml/job_scheduling_data_1_8.xsd"
  version="1.8">

  <schedule>
    <job>
      <name>AJob</name>
      <group>AGroup</group>
      <description>Print a welcome message</description>
      <job-class>com.mkyong.scheduler.SchedulerJob</job-class>
    </job>

    <trigger>
      <cron>
        <name>dummyTriggerName</name>
        <job-name>AJob</job-name>
        <job-group>AGroup</job-group>
        <!-- It will run every 5 seconds -->
        <cron-expression>0/5 * * * * ?</cron-expression>
      </cron>
    </trigger>
  </schedule>
</job-scheduling-data>
```

Note

For detail explanation, please read this [Quartz configuration reference](#) article.

5. Integrate Quartz

This is where the integration happened. Declared `org.quartz.ee.servlet.QuartzInitializerListener` as listener class in `web.xml` file.

File : `web.xml`



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```
<?xml version="1.0" encoding="UTF-8"?>
<web-app ...>

    <listener>
        <listener-class>
            org.quartz.ee.servlet.QuartzInitializerListener
        </listener-class>
    </listener>

</web-app>
```

6. Demo

During project start up, Quartz is started and run the scheduled job every 5 seconds.

```
Jul 26, 2012 3:32:18 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler [ "http-bio-8080" ]
Jul 26, 2012 3:32:18 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler [ "ajp-bio-8009" ]
Jul 26, 2012 3:32:18 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 3591 ms
JSF 2 + Quartz 2 example
JSF 2 + Quartz 2 example
JSF 2 + Quartz 2 example
```

Download Source Code

Download it – [JSF-Quartz-Example.zip](#) (25 kb)

References

1. [Quartz 2 scheduler tutorial](#)
2. [Quartz configuration reference](#)
3. [JSF 2.0 hello world example](#)
4. [XMLSchedulingDataProcessorPlugin JavaDoc](#)
5. [Good Quartz scheduler job example](#)

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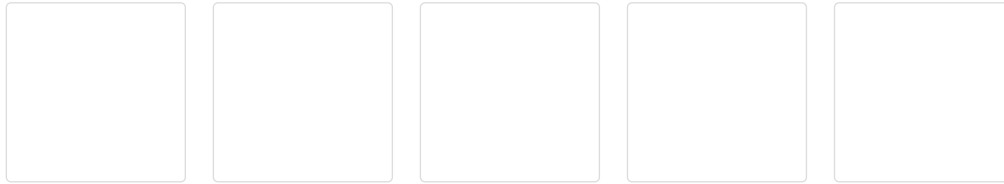
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**Diego** · 2 years ago

Hi mkyong,

I have problem to integrate JSF 2 + Quartz + JBoss Seam(CDI).

I made your example ok, however in my application the @Injected is null. How i get the instancia the object injected ?

Because the quartz this out of the cycle CDI or JSF2. How can I solve this problem?

^ | ▾ · Reply · Share ›

**minhbxn** · 3 years ago

when I declared org.quartz.ee.servlet.QuartzInitializerListener as listener class in web.xml file and I run my project and I received 404. Help me!

^ | ▾ · Reply · Share ›

**Roger Keays** · 3 years ago

Well that doesn't have much to do with JSF. Try solving the problem of access to the FacesContext from a Quartz job for a more interesting article!

^ | ▾ · Reply · Share ›

**afa** → Roger Keays · 2 years ago

Hey Friends ,

Me too , I have same errors like that , when I run my application :

```
org.quartz.SchedulerException: ThreadPool class not specified.
at org.quartz.impl.StdSchedulerFactory.instantiate(StdSchedulerFactory.java:789)
at org.quartz.impl.StdSchedulerFactory.getScheduler(StdSchedulerFactory.java:1465)
at org.quartz.ee.servlet.QuartzInitializerListener.contextInitialized(QuartzInitializerListener.java:152)
at org.apache.catalina.core.StandardContext.listenerStart(StandardContext.java:4779)
at org.apache.catalina.core.StandardContext.startInternal(StandardContext.java:5273)
at org.apache.catalina.util.LifecycleBase.start(LifecycleBase.java:150)
at org.apache.catalina.core.ContainerBase$StartChild.call(ContainerBase.java:1566)
at org.apache.catalina.core.ContainerBase$StartChild.call(ContainerBase.java:1556)
at java.util.concurrent.FutureTask$Sync.innerRun(FutureTask.java:334)
at java.util.concurrent.FutureTask.run(FutureTask.java:166)
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1110)
at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:603)
```

at java.lang.Thread.run(Thread.java:722)

can anyone tell me , fram what this problem coming,???????????????,

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Luiz — Thank you! Solved my problem!

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Fly — Hi Mkyong,Thanks a lot for this short but efficient post : Now, everything is OK on my laptop...Regards.Fly:o)

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Rey — hey i just tried you example but for me its not working...when i am running i am getting the exception WARNING: No mapping found for ...

servlet-api-2.5.jar – jar not loaded

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ff — in case if someone is not using Maven...do you think what will be soultion???

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