Integration

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Here are a few ideas to integrate **GPars** into your projects.

Grape

Integration using *Grape* is very straightforward:

Grape Setup

```
@Grab(group='org.codehaus.gpars', module='gpars', version='1.2.1')
```

Snapshots

Getting Snapshots

```
@GrabResolver(name='gpars', root='http://snapshots.repository.codehaus.org/',
m2Compatible=true)
@Grab(group='org.codehaus.gpars', module='gpars', version='1.3-SNAPSHOT')
```

Grape config (optional)

GPars optionally relies on a couple of third-party libraries. Most of them reside in the *central maven repository*, however, the *Netty* lib resides in the *JBoss* repository only.

To leverage the (prototype) remoting capabilities, you either need to use the *GrabResolver* annotation (since Groovy 1.7):

Grape Configuration

```
@GrabResolver(name='jboss', root='http://repository.jboss.org/maven2/')
```

or make sure your **grapeConfig.xml** file contains all the necessary *maven* repositories:

grapeConfig.xml

```
    <!-- based on http://groovy.codehaus.org/Grape#Grape-CustomizeIvysettings -->
    <ivysettings>
      <settings defaultResolver="downloadGrapes"/>
      <resolvers>
        <chain name="downloadGrapes">
          <filesystem name="cachedGrapes">
            <ivy pattern="${user.home}/.groovy/grapes/[organisation]/[module]/ivy-
[revision].xml"/>
            <artifact
pattern="${user.home}/.groovy/grapes/[organisation]/[module]/[type]s/[artifact]-
[revision].[ext]"/>
          </filesystem>
          <!-- todo add 'endorsed groovy extensions' resolver here -->
          <filesystem name="m2local" m2compatible="true">
            <artifact
pattern="${user.home}/.m2/repository/[organisation]/[module]/[revision]/[module]-
[revision].[ext]" />
          </filesystem>
          <ibiblio name="ibiblio" m2compatible="true"/>
          <ibiblio name="codehaus" root="http://repository.codehaus.org/"
m2compatible="true"/>
          <ibiblio name="jboss" root="http://repository.jboss.org/maven2/"
m2compatible="true"/><!-- added by me -->
          <ibiblio name="java.net2" root="http://download.java.net/maven/2/"
m2compatible="true"/>
          <!-- <ibiblio name="codehaus.snapshot"
root="http://snapshots.repository.codehaus.org/" m2compatible="true"/> --><!-- Enable for
GPars snapshots -->
        </chain>
      </resolvers>
    </ivysettings>
```

Gradle

GPars was stored in the *central maven repository* at http://repo1.maven.org/maven2/org/codehaus/gpars/ and was also in the Codehaus *maven repository* at http://repository.codehaus.org/org/codehaus/gpars/gpars/.

To include **GPars** in your project, add either of the following repositories and also the dependency into your project:

Gradle

```
repositories {
    mavenCentral()
    //add repositories for optional dependencies
    maven{url 'http://repository.jboss.org/maven2/'}
}

dependencies {
    compile "org.codehaus.gpars:gpars:1.2.1"
}
```

Snapshots

Another Approach

```
repositories {
    maven{url 'http://snapshots.repository.codehaus.org/'}
    //add repositories for optional dependencies
    maven{url 'http://repository.jboss.org/maven2/'}
}
dependencies {
    compile "org.codehaus.gpars:gpars:1.3-SNAPSHOT"
}
```

Maven

To include **GPars** in your project, add the following (optional) repositories and dependencies into your project:

Maven Configuration

```
<repositories>
    <repository>
        <id>jboss</id>
        <url>http://repository.jboss.org/maven2/</url>
    </repository>
</repositories>

<dependencies>
    <dependency>
        <groupId>org.codehaus.gpars</groupId>
        <artifactId>gpars</artifactId>
        <version>1.2.1</version>
    </dependency>
</dependencies>
```

Sample *Maven*-based Java API demo project

You may also like a stand-alone maven-based **Java** API sample project showing how to use **GPars** from **Java** and how to integrate **GPars** with *Maven*.

And the same sample project is available for the SNAPSHOT release.

Maven Setup

```
<repositories>
    <repository>
        <id>jboss</id>
        <url>http://repository.jboss.org/maven2/</url>
    </repository>
    <repository>
        <id>codehaus.snapshots</id>
        <url>http://snapshots.repository.codehaus.org</url>
    </repository>
</repositories>

<dependencies>
    <dependency>
        <groupId>org.codehaus.gpars</groupId>
        <artifactId>gpars</artifactId>
        <version>1.3-SNAPSHOT</version>
    </dependency>
</dependencies>
```

Grails

Grails since 1.2

Leveraging the built-in dependency management you can instead of installing the plugins update the BuildConfig.groovy file accordingly:

Grails Setup

```
repositories {
    mavenCentral()
    //  maven{url 'http://snapshots.repository.codehaus.org'}  //enable if using
*GPars* snapshots
    maven{url 'http://repository.jboss.org/maven2/'}
}
dependencies {
    build 'org.codehaus.gpars:gpars:1.2.1'
}
```

Griffon

Using the Griffon built-in dependency management:

Griffon Configuration

```
griffon.project.dependency.resolution = {
    inherits "global"

    default dependencies
        repositories {
            griffonHome()
            mavenCentral()
        }
        dependencies {
            runtime org.codehaus.gpars:gpars:1.2.1
        }
    }
}
```

You may also consider using the plugins to enable **GPars** for older Griffon versions.

Dependencies

GPars itself depends on a couple of libraries from the *maven central repository*. Check out the **GPars** public pom:

GPars Dependencies

```xml
<?xml version="1.0" encoding="UTF-8"?>
<project xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/xsd/maven-4.0.0.xsd" xmlns="http://maven.apache.org/POM/4.0.0"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <modelVersion>4.0.0</modelVersion>
  <groupId>org.codehaus.gpars</groupId>
  <artifactId>gpars</artifactId>
  <version>1.2.1</version>
  <name>GPars</name>
  <description>The Groovy and Java high-level concurrency library offering actors,
dataflow, CSP, agents, parallel collections, fork/join and more</description>
  <url>http://gpars.codehaus.org</url>
  <inceptionYear>2009</inceptionYear>
  <licenses>
    <license>
      <name>The Apache Software License, Version 2.0</name>
      <url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
      <distribution>repo</distribution>
    </license>
  </licenses>
  <dependencies>

    <dependency>
      <groupId>org.multiverse</groupId>
      <artifactId>multiverse-core</artifactId>
      <version>0.7.0</version>
      <scope>compile</scope>
    </dependency>

    <dependency>
      <groupId>org.codehaus.jcsp</groupId>
      <artifactId>jcsp</artifactId>
      <version>1.1-rc5</version>
      <scope>compile</scope>
      <optional>true</optional>
    </dependency>

    <dependency>
      <groupId>org.codehaus.jsr166-mirror</groupId>
      <artifactId>jsr166y</artifactId>
```

```xml
        <version>1.7.0</version>
        <scope>compile</scope>
      </dependency>

      <dependency>
        <groupId>org.codehaus.groovy</groupId>
        <artifactId>groovy-all</artifactId>
        <version>2.1.9</version>
        <scope>compile</scope>
        <optional>true</optional>
      </dependency>

      <dependency>
        <groupId>org.jboss.netty</groupId>
        <artifactId>netty</artifactId>
        <version>3.2.9.Final</version>
        <scope>compile</scope>
        <optional>true</optional>
      </dependency>
    </dependencies>
  </project>
```

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