

# Quick Reference

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# Chapter 1. Dynamic Methods

## 1.1. div

### 1.1.1. Purpose

Divides an instance of `Days`, `Hours`, `Minutes`, `Months`, `Seconds`, `Weeks` or `Years` by an integer.

### 1.1.2. Examples

```
assert Years.THREE / 3 == Years.ONE
```

### 1.1.3. Description

Provides compatibility with Groovy's mathematical operators but is otherwise identical to the `dividedBy()` method in the Joda-Time API.

## 1.2. format

### 1.2.1. Purpose

Converts a `ReadableInstant` or `ReadablePartial` to a `String`

### 1.2.2. Examples

```
new DateTime().format("yyyy-MM-dd")
new LocalTime().format("HH:mm")
```

### 1.2.3. Description

Returns a `String` representation of the object according to the specified pattern. See "DateTimeFormat":<http://joda-time.sourceforge.net/api-release/org/joda/time/format/DateTimeFormat.html> for description of patterns. This is provided for compatibility with Groovy's enhancement to the `Date` class.

## 1.3. multiply

### 1.3.1. Purpose

Multiplies an instance of `Days`, `Hours`, `Minutes`, `Months`, `Seconds`, `Weeks` or `Years` by an integer.

### 1.3.2. Examples

```
assert Years.ONE * 3 == Years.THREE
```

### 1.3.3. Description

Provides compatibility with Groovy's mathematical operators but is otherwise identical to the `multipliedBy()` method in the Joda-Time API.

## 1.4. negative

### 1.4.1. Purpose

Negates an instance of `Days`, `Hours`, `Minutes`, `Months`, `Seconds`, `Weeks` or `Years`

### 1.4.2. Examples

```
assert -Years.THREE == Years.years(-3)
```

### 1.4.3. Description

Provides compatibility with Groovy's mathematical operators but is otherwise identical to the `negated()` method in the Joda-Time API.

## 1.5. next

### 1.5.1. Purpose

Increments a `ReadableInstant` or `ReadablePartial` instance allowing use in Groovy ranges.

### 1.5.2. Examples

```
def today = new LocalDate()
assert today.next() == today.plusDays(1)
```

### 1.5.3. Description

The increment is generally 1 day for compatibility with the `next` method Groovy adds to `java.util.Date` however since not all `ReadablePartial` implementations support days the following exceptions exist:

- `org.joda.time.LocalTime` and `org.joda.time.TimeOfDay` increment by hours.
- `org.joda.time.YearMonth` increments by months.

## 1.6. previous

### 1.6.1. Purpose

Decrements a `ReadableInstant` or `ReadablePartial` instance allowing use in Groovy ranges.

### 1.6.2. Examples

```
def today = new LocalDate()
assert today.previous() == today.minusDays(1)
```

### 1.6.3. Description

The increment is generally 1 day for compatibility with the `previous` method Groovy adds to `java.util.Date` however since not all `ReadablePartial` implementations support days the following exceptions exist:

- `org.joda.time.LocalTime` and `org.joda.time.TimeOfDay` decrement by hours.
- `org.joda.time.YearMonth` decrements by months.

## 1.7. step

### 1.7.1. Purpose

Overrides the standard `step` method on a `Range` to produce a date/time range using a different field for the increment.

### 1.7.2. Examples

```
def start = new LocalDate()
def end = new LocalDate().plusYears(1)
def range = start..end
assert range.step(DurationFieldType.months()).size() == 13
assert range.step(2, DurationFieldType.months()).size() == 7
```

### 1.7.3. Description

Four variations exist:

- `List step(DurationFieldType)`
- `List step(int, DurationFieldType)`
- `void step(DurationFieldType, Closure)`
- `void step(int, DurationFieldType, Closure)`

## 1.8. withCurrentMillisFixed

### 1.8.1. Purpose

Fixes the current time in the scope of a Closure.

### 1.8.2. Examples

```
DateTimeUtils.withCurrentMillisFixed(0L) {  
    assert DateTime.currentTimeMillis() == 0  
}  
assert DateTime.currentTimeMillis() != 0
```

### 1.8.3. Description

Allows tests to simulate the current time during the scope of a Closure. This uses the Joda-Time methods [setCurrentTimeMillis](#) and [setCurrentMillisSystem](#) before and after invoking the Closure.

## 1.9. withCurrentMillisOffset

### 1.9.1. Purpose

Offsets the current time in the scope of a Closure.

### 1.9.2. Examples

```
DateTimeUtils.withCurrentMillisOffset(1000) {  
    assert DateTime.currentTimeMillis() > System.currentTimeMillis()  
}
```

### 1.9.3. Description

Allows tests to simulate the current time during the scope of a Closure. This uses the Joda-Time methods [setCurrentTimeMillis](#) and [setCurrentMillisSystem](#) before and after invoking the Closure.

# Chapter 2. Tags

## 2.1. joda:dateField

### 2.1.1. Purpose

Renders an HTML5 *date* input for *Joda-Time* properties

### 2.1.2. Examples

```
<joda:dateField name="myProperty" value="${new LocalDate()}" />
<joda:dateField name="myProperty" value="${myBean.myProperty}" />
```

### 2.1.3. Description

The value should be a *ReadableInstant* or *ReadablePartial* that supports at least the *year*, *monthOfYear* and *dayOfMonth* fields and will be formatted correctly for the input type.

## 2.2. joda:datePicker

### 2.2.1. Purpose

Renders a date picker input for *Joda-Time* properties in a similar way to the standard `g:datePicker` tag

### 2.2.2. Examples

```
<joda:datePicker name="myDate" value="${new LocalDate()}" noSelection="['':'-Choose-']"/>
<joda:datePicker name="myDate" value="${new LocalDate()}" years="${1930..1970}"/>
<joda:datePicker name="myDate" value="${new LocalDate()}" years="[1930, 1940, 1950, 1960, 1970]"/>
```

### 2.2.3. Description

This tag is based on the default *g:datePicker* tag and exhibits very similar functionality. However, it is designed to be used with *Joda-Time* properties. All the attributes are as-per *g:datePicker* except that 'value' and 'default' will expect either a [ReadablePartial](#) or [ReadableInstant](#) instance or a String in *ISO8601* date/time format (such a String can be a partial representation depending on the precision attribute).

## 2.3. joda:dateTimePicker

### 2.3.1. Purpose

Renders a date/time picker input for *Joda-Time* properties in a similar way to the standard `g:datePicker` tag

### 2.3.2. Examples

```
<joda:dateTimePicker name="myDate" value="${new DateTime()}" noSelection="['':'-Choose-']"/>
<joda:dateTimePicker name="myDate" value="${new DateTime()}" precision="second"
years="${1930..1970}"/>
<joda:dateTimePicker name="myDate" value="${new DateTime()}" years="[1930, 1940, 1950,
1960, 1970]"/>
```

### 2.3.3. Description

This tag is based on the default `g:datePicker` tag and exhibits very similar functionality. However, it is designed to be used with *Joda-Time* properties. All the attributes are as-per `g:datePicker` except that 'value' and 'default' will expect either a [DateTime](#) or [LocalDateTime](#) instance or a String in *ISO8601* date/time format (such a String can be a partial representation depending on the precision attribute). The other difference from `g:datePicker` is that the 'second' precision is supported (although like `g:datePicker` the tag uses 'minute' as the default precision).

## 2.4. joda:dateTimeZoneSelect

### 2.4.1. Purpose

This tag renders a select for [DateTimeZone](#) values. It is very similar to the standard `g:timeZoneSelect` tag.

### 2.4.2. Examples

```
<joda:dateTimeZoneSelect name="myField" value="${myValue}" />
```

### 2.4.3. Description

#### Attributes

- **name** - The name for the backing form field (as per `g:textField` and other standard tags)
- **id** (optional) - The *id* for the backing form field. Defaults to the same as *name*
- **value** (optional) - The currently selected [DateTimeZone](#) value. Defaults to `DateTimeZone.getDefault()`



## 2.5. joda:datetimeField

### 2.5.1. Purpose

Renders an HTML5 *datetime* input for *Joda-Time* properties

### 2.5.2. Examples

```
<joda:datetimeField name="myProperty" value="${new DateTime()}" />
<joda:datetimeField name="myProperty" value="${myBean.myProperty}" />
```

#### Description

The value should be a *ReadableInstant* and will be formatted correctly for the input type.

## 2.6. joda:datetimeLocalField

### 2.6.1. Purpose

Renders an HTML5 *datetime-local* input for *Joda-Time* properties

### 2.6.2. Examples

```
<joda:datetimeLocalField name="myProperty" value="${new LocalDateTime()}" />
<joda:datetimeLocalField name="myProperty" value="${myBean.myProperty}" />
```

#### 2.6.3. Description

The value should be a *ReadableInstant* or *ReadablePartial* that supports at least the *year*, *monthOfYear*, *dayOfMonth*, *hourOfDay* and *minuteOfHour* fields and will be formatted correctly for the input type.

include::tags/format.adoc[]

## 2.7. joda:formatPeriod

### 2.7.1. Purpose

This tag renders a [Duration](#) or [Period](#) value.

### 2.7.2. Examples

```
<joda:formatPeriod value="${myValue}" />
<joda:formatPeriod value="${myValue}" fields="days,hours,minutes" />
```

## 2.7.3. Description

### Attributes

- **value** (required) - The value to format which can be a **Period** or **Duration** instance.
- **fields** (optional) - A comma separated list of the fields to provide input elements for. Valid values are "years", "months", "weeks", "days", "hours", "minutes", "seconds" and "millis" with the default being "hours,minutes,seconds"

Values are normalized using the *fields* specified according to the rules in [Period.normalizedStandard](#) although the tag will also silently drop *years* and *months* from the *value* if they are not contained in the specified *fields* as otherwise an **UnsupportedOperationException** would be thrown by Joda-Time.

## 2.7.4. Configuration

Default fields can be set in **Config.groovy** using the key `jodatime.periodpicker.default.fields`

# 2.8. joda:inputPattern

## 2.8.1. Purpose

This tag outputs the expected input pattern for a given type. It can be used for example to output a label to go alongside a text field or to configure a rich input control such as the <http://grails.org/plugin/grails-ui> `gui:datePicker` tag[Grails UI].

## 2.8.2. Examples

```
<joda:inputPattern/>
<joda:inputPattern type="org.joda.time.LocalDate"/>
<joda:inputPattern locale="fr"/>
```

## 2.8.3. Description

### Attributes

- **type** (optional) - The type to output the pattern for. Can be a **Class** or the class name. Defaults to *DateTime*
- **locale** (optional) - The locale for the pattern. Can be a **Locale** object or an ISO locale string such as "en\_GB". Defaults to current request locale

# 2.9. joda:monthField

## 2.9.1. Purpose

Renders an HTML5 *month* input for *Joda-Time* properties

## 2.9.2. Examples

```
<joda:monthField name="myProperty" value="${new LocalDate()}" />
<joda:monthField name="myProperty" value="${myBean.myProperty}" />
```

## 2.9.3. Description

The value should be a *ReadableInstant* or *ReadablePartial* that supports the *year* and *monthOfYear* fields and will be formatted correctly for the input type.

# 2.10. joda:periodPicker

## 2.10.1. Purpose

This tag renders an input control for a [Duration](#) or [Period](#) value.

## 2.10.2. Examples

```
<joda:periodPicker name="myField" value="${myValue}" />
<joda:periodPicker name="myField" value="${myValue}" fields="days,hours,minutes" />
```

## 2.10.3. Description

### Attributes

- **name** - The name for the backing form field (as per [g:textField](#) and other standard tags)
- **id** (optional) - The *id* for the backing form field. Defaults to the same as *name*
- **value** (optional) - The currently selected value which can be a [Period](#) or [Duration](#) instance. Defaults to `new Period()`
- **fields** (optional) - A comma separated list of the fields to provide input elements for. Valid values are "years", "months", "weeks", "days", "hours", "minutes", "seconds" and "millis" with the default being "hours,minutes,seconds"

### Configuration

Default fields can be set in [Config.groovy](#) using the key `jodatime.periodpicker.default.fields`

### Internationalization

Labels for each field can be overridden in [messages.properties](#) using the keys `org.joda.time.DurationFieldType.hours`, `org.joda.time.DurationFieldType.minutes` and so on.

## 2.11. joda:time

### 2.11.1. Purpose

This tag outputs an HTML5 `<time>` tag with a correctly formatted `datetime` attribute.

### 2.11.2. Examples

```
<joda:time value="${new LocalDate()}" />
<!-- output: <time datetime="2011-11-03">03-Nov-2011</time> -->

<joda:time value="${new DateTime()}" />
<!-- output: <time datetime="2011-11-03T17:25+00:00">03-Nov-2011 17:25:00</time> -->

<joda:time value="${new LocalDate()}" pubdate="" />
<!-- output: <time datetime="2011-11-03" pubdate="">03-Nov-2011</time> -->

<joda:time value="${new LocalDate()}"><joda:format value="${it}" pattern="d
MMMM"/></joda:time>
<!-- output: <time datetime="2011-11-03">3 November</time> -->

<joda:time value="${new LocalDate()}" var="theDate"><joda:format value="${theDate}"
pattern="d MMMM"/></joda:time>
<!-- output: <time datetime="2011-11-03">3 November</time> -->
```

### 2.11.3. Description

If the tag has a body then the `value` attribute is passed to it (see example above). If the body is omitted then the value is formatted as per the `joda:format` tag. If the `value` attribute is omitted then the current `DateTime` is used. If the `value` attribute is `null` then the tag outputs nothing.

#### Attributes

- `value` (optional) - An instance of `ReadablePartial` or `ReadableInstant` or defaults to `new DateTime()`
- `var` (optional) - A name for the variable that is passed to the tag body. Defaults to `it`

## 2.12. joda:timeField

### 2.12.1. Purpose

Renders an HTML5 *time* input for *Joda-Time* properties

### 2.12.2. Examples

```
<joda:timeField name="myProperty" value="${new LocalTime()}" />
<joda:timeField name="myProperty" value="${myBean.myProperty}" />
```

### 2.12.3. Description

The value should be a *ReadableInstant* or *ReadablePartial* that supports at least the *hourOfDay* and *minuteOfHour* fields and will be formatted correctly for the input type.

## 2.13. joda:weekField

### 2.13.1. Purpose

Renders an HTML5 *week* input for *Joda-Time* properties

### 2.13.2. Examples

```
<joda:weekField name="myProperty" value="${new LocalDate()}" />
<joda:weekField name="myProperty" value="${myBean.myProperty}" />
```

### 2.13.3. Description

The value should be a *ReadableInstant* or *ReadablePartial* that supports the *year* and *weekyear* fields and will be formatted correctly for the input type.