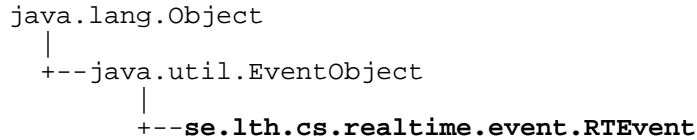


Class RTEvent



public abstract class **RTEvent**
extends java.util.EventObject

The base class of real-time, i.e. time-stamped, events. Every `RTEvent` comes from a source object referred to in the `EventObject` base class. Additional IDs, such as sequential numbers or the kind of event within a certain type, are expected to be defined in subclasses together with other user attributes. The time stamp is, however, fundamental to real-time systems as a mean to denote the freshness of the data. It is therefore an attribute here and the motivation for this class.

The source object, often run in another thread, is not supposed to keep any reference to the event after posting it, thus methods of this class should not need to be synchronized.

There is a `ticker` attribute referring to a time-base, which can be given to the constructor. This is for special computers or special applications; if you do not know that you need it, simply ignore it and the default `System.currentTimeMillis()` will be used as the actual ticker. However, obtaining the time via `getMillis` or `getSeconds` will make your code portable to such special applications.

Field Summary	
<code>protected se.lth.cs.realtime.Timebase</code>	ticker The time-base relating number of ticks to real time.
<code>protected long</code>	timestamp The time stamp of this event, in number of (system dependent) ticks.
Fields inherited from class java.util.EventObject	
<code>source</code>	

Constructor Summary

RTEvent ()

Constructs an RTEvent object with the current thread as source and a timestamp from the current system time.

RTEvent (long ts)

Constructs an RTEvent object with the current thread as source and with the specified time stamp.

RTEvent (java.lang.Object source)

Constructs an RTEvent object with the specified source object and a timestamp from the current system time.

RTEvent (java.lang.Object source, long ts)

Constructs an RTEvent object with the specified source object and time stamp.

RTEvent (java.lang.Object source, long ts, se.lth.cs.realtime.Timebase timebase)

Constructs an RTEvent object with the specified source object and time-stamp with respect to the specified time-base.

Method Summary

long	getMillis () Returns the event's time stamp in number of milli-seconds.
long	getNanos () Return the sub-milli part of the time-stamp, if any.
double	getSeconds () Returns the creation-time (or supplied time-stamp= of this event.
long	getTicks () Returns the event's time stamp.
se.lth.cs.realtime.Timebase	getTimebase () Obtains the time-base relating (possibly locally counted) ticks or seconds to real time.
protected java.lang.String	paramString () Return a string representation of the attributes/state of this object.
java.lang.String	toString () Gives a string representation of the event object.

Methods inherited from class java.util.EventObject

getSource

Methods inherited from class java.lang.Object

clone, equals, finalize, getClass, hashCode, notify, notifyAll, wait, wait, wait

Field Detail

timestamp

protected long **timestamp**

The time stamp of this event, in number of (system dependent) ticks.

ticker

protected se.lth.cs.realtime.Timebase **ticker**

The time-base relating number of ticks to real time.

Constructor Detail

RTEvent

public **RTEvent**()

Constructs an `RTEvent` object with the current thread as source and a timestamp from the current system time.

Parameters:

`source` - The object where the event originated.
`ts` - The time from which the event originates.

Comment for exam: Other constructors not needed in exam!!

Method Detail

getTicks

public long **getTicks**()

Returns the event's time stamp. Use the other get-time methods to make the management of time portable, e.g. `getSeconds()`.

Returns:

the time in number of (system dependent) ticks.

getSeconds

public double **getSeconds**()

Returns the creation-time (or supplied time-stamp= of this event.

Returns:

the time-stamp expressed in seconds.

getMillis

public long **getMillis**()

Returns the event's time stamp in number of milli-seconds. The returned value is compliant with `System.currentTimeMillis()`.

Returns:

the time-stamp expressed in milli-seconds.

Comment for exam: Other methods not needed in exam!!

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