

Using the Timer Service

Applications that model business work flows often rely on timed notifications. The timer service of the enterprise bean container enables you to schedule timed notifications for all types of enterprise beans except for stateful session beans. You can schedule a timed notification to occur according to a calendar schedule, at a specific time, after a duration of time, or at timed intervals. For example, you could set timers to go off at 10:30 a.m. on May 23, in 30 days, or every 12 hours.

Enterprise bean timers are either **programmable timers** or **automatic timers**. Programmable timers are set by explicitly calling one of the timer creation methods of the `TimerService` interface. Automatic timers are created upon the successful deployment of an enterprise bean that contains a method annotated with the `java.ejb.Schedule` or `java.ejb.Schedules` annotations.

Creating Calendar-Based Timer Expressions

Timers can be set according to a calendar-based schedule, expressed using a syntax similar to the UNIX `cron` utility. Both programmable and automatic timers can use calendar-based timer expressions. [Table 16-1](#) shows the calendar-based timer attributes.

Table 16-1 Calendar-Based Timer Attributes

Attribute	Description	Allowable Values	Default Value	Examples
second	One or more seconds within a minute	0 to 59	0	second="30"
minute	One or more minutes within an hour	0 to 59	0	minute="15"
hour	One or more hours within a day	0 to 23	0	hour="13"
dayOfWeek	One or more days within a week	0 to 7 (both 0 and 7 refer to Sunday) Sun, Mon, Tue, Wed, Thu, Fri, Sat	*	dayOfWeek="3" dayOfWeek="Mon"
dayOfMonth	One or more days within a month	1 to 31 -7 to -1 (a negative number means the <i>n</i> th day or days before the end of the month)	*	dayOfMonth="15" dayOfMonth="-3" dayOfMonth="Last" dayOfMonth="2nd Fri"