

Example of COBOL using Java classes to get date and time zone information

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The following is an example of a COBOL program that returns information about a date and time using the `java.util.GregorianCalendar` and other related classes. You can save this file as `calendar.cbl` and the compile and run it as follows:

```
iscc calendar.cbl
java CALENDAR
```

Getting information about Jan 26, 2010

```
ERA: 1
YEAR: 2010
MONTH: 0
WEEK_OF_YEAR: 5
WEEK_OF_MONTH: 5
DATE: 26
DAY_OF_MONTH: 26
DAY_OF_YEAR: 26
DAY_OF_WEEK: 3
DAY_OF_WEEK_IN_MONTH: 4
AM_PM: 1
HOUR: 2
HOUR_OF_DAY: 14
MINUTE: 54
SECOND: 55
MILLISECOND: 115
ZONE_OFFSET: -8
DST_OFFSET: 0
```

The following is based on the example at

<http://java.sun.com/javase/6/docs/api/java/util/GregorianCalendar.html>

```
program-id. calendar.
configuration section.
repository.
    class JTimeZone          as "java.util.TimeZone"
    class JStringArray      as "java.lang.String[]"
    class JSimpleTimeZone   as "java.util.SimpleTimeZone"
    class JCalendar         as "java.util.Calendar"
    class JGregorianCalendar as "java.util.GregorianCalendar"
.

data division.
working-storage section.

77 ids          object reference JStringArray.
77 pdt          object reference JSimpleTimeZone.
```

```

77 calendar          object reference JGregorianCalendar.
77 zone-offset       signed-long.
77 dst-offset        signed-long.
procedure division.
main.
* get the supported ids for GMT-8 (Pacific Standard Time)
  set ids to JTimeZone:>getAvailableIDs(-28800000).
  if ids:>length = 0 then stop run.

* create a Pacific Standard Time time zone
  set pdt to JSimpleTimeZone:>new(-28800000, ids(0)).

* set up rules for daylight savings time
pdt:>setStartRule(JCalendar:>MARCH, 8, JCalendar:>SUNDAY,
  7200000).
pdt:>setEndRule(JCalendar:>NOVEMBER, 1, JCalendar:>SUNDAY,
  7200000).

* create a GregorianCalendar
  set calendar to JGregorianCalendar:>new(pdt).

  display "Getting information about Jan 26, 2010".
  calendar:>set(2010, 0, 26).
  display "ERA: " calendar:>get(JCalendar:>ERA).
  display "YEAR: " calendar:>get(JCalendar:>YEAR).
  display "MONTH: " calendar:>get(JCalendar:>MONTH).
  display "WEEK_OF_YEAR: "
    calendar:>get(JCalendar:>WEEK_OF_YEAR).
  display "WEEK_OF_MONTH: "
    calendar:>get(JCalendar:>WEEK_OF_MONTH).
  display "DATE: " calendar:>get(JCalendar:>DATE).
  display "DAY_OF_MONTH: "
    calendar:>get(JCalendar:>DAY_OF_MONTH).
  display "DAY_OF_YEAR: "
    calendar:>get(JCalendar:>DAY_OF_YEAR).
  display "DAY_OF_WEEK: "
    calendar:>get(JCalendar:>DAY_OF_WEEK).
  display "DAY_OF_WEEK_IN_MONTH: "
    calendar:>get(JCalendar:>DAY_OF_WEEK_IN_MONTH).
  display "AM_PM: " calendar:>get(JCalendar:>AM_PM).
  display "HOUR: " calendar:>get(JCalendar:>HOUR).
  display "HOUR_OF_DAY: "
    calendar:>get(JCalendar:>HOUR_OF_DAY).
  display "MINUTE: " calendar:>get(JCalendar:>MINUTE).
  display "SECOND: " calendar:>get(JCalendar:>SECOND).
  display "MILLISECOND: "
    calendar:>get(JCalendar:>MILLISECOND).
  set zone-offset to calendar:>get(JCalendar:>ZONE_OFFSET).
  divide zone-offset by 3600000 giving zone-offset.
  display "ZONE_OFFSET: " zone-offset.
  set dst-offset to calendar:>get(JCalendar:>DST_OFFSET).
  divide dst-offset by 3600000 giving dst-offset.
  display "DST_OFFSET: " dst-offset.

```

stop run.