JAVA 8 DATE/TIME CLASS

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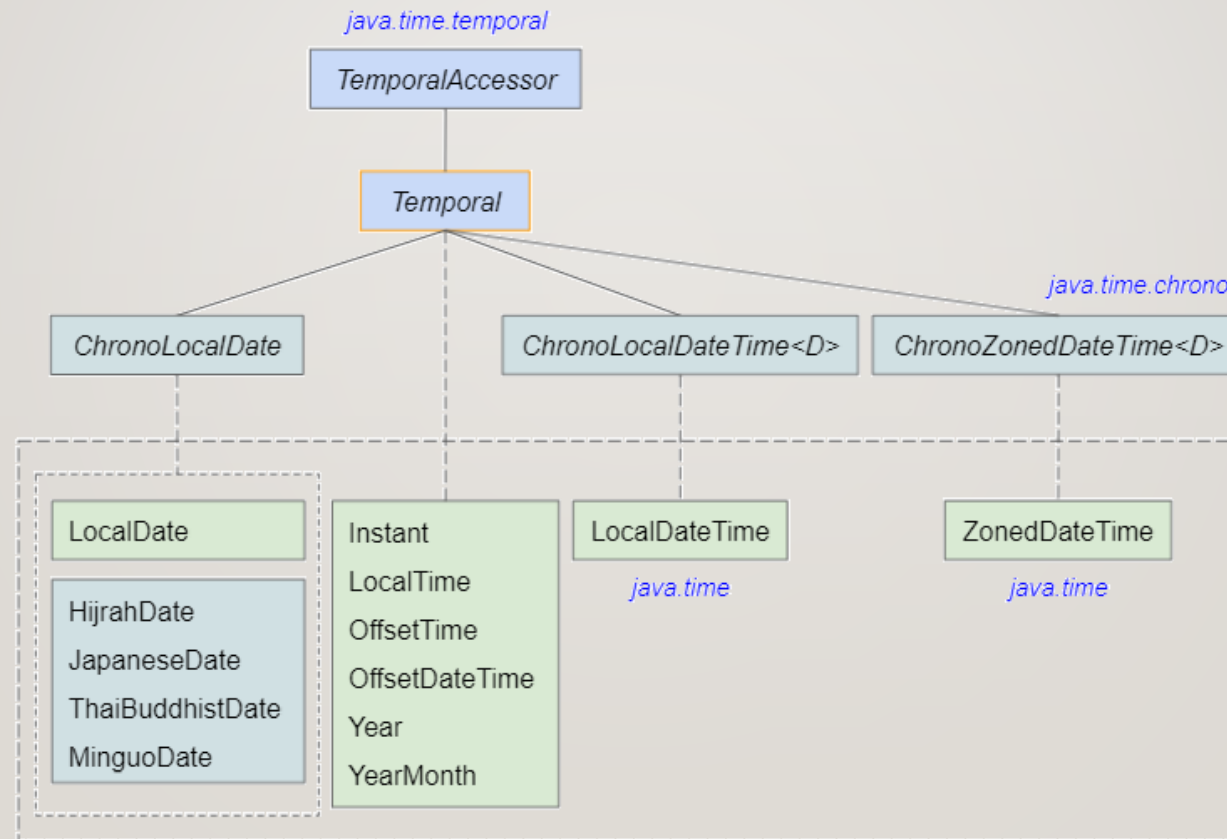
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JAVA DATE/TIME CLASS

- **Thread safety** – The *Date* and *Calendar* classes are not thread safe, leaving developers to deal with the headache of hard-to-debug concurrency issues and to write additional code to handle thread safety. On the contrary, the new *Date* and *Time* APIs introduced in Java 8 are immutable and thread safe, thus taking that concurrency headache away from developers.

- **API design and ease of understanding** – The *Date* and *Calendar* APIs are poorly designed with inadequate methods to perform day-to-day operations. The new *Date/Time* API is ISO-centric and follows consistent domain models for date, time, duration and periods. There are a wide variety of utility methods that support the most common operations.

- ***ZonedDate* and *Time*** – Developers had to write additional logic to handle time-zone logic with the old APIs, whereas with the new APIs, handling of time zone can be done with *Local* and *ZonedDate/Time* APIs.

HIERARCHY

PACKAGE CONTENTS

Java 8 packages for Date & Time

java.time	• Consists of major base classes • LocalDate, LocalTime, Instant, Duration
java.time.chrono	• Consists of generic API for non ISO Calendar Systems
java.time.temporal	• Contains temporal objects to find out specific date/time related like firstDay of month
java.time.format	• Classes for formatting and parsing date time objects
java.time.zone	• Classes for supporting different timezones

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MAIN CLASSES

- LocalDate
- LocalTime
- LocalDateTime
- DataTypeFormatter
- ZonedDateTime
- Period
- Duration
- Year/Month/YearMonth/MonthDay
- Temporal

LocalDate	**parse** (CharSequence text)
LocalDate	**parse** (CharSequence text, DateTimeFormatter formatter)

Accessor

int	getDayOfMonth ()
DayOfWeek	getDayOfWeek ()
int	getDayOfYear ()
Month	getMonth ()
int	getMonthValue ()
int	getYear ()

Other Public Methods

LocalDateTime	atStartOfDay ()
ZonedDateTime	atStartOfDay (ZoneId zone)
OffsetDateTime	atTime (OffsetTime time)
LocalDateTime	atTime (int hour, int minute)
LocalDateTime	atTime (int hour, int minute, int second)
LocalDateTime	atTime (int hour, int minute, int second, int nanoOfSecond)
LocalDate	minusDays (long daysToSubtract)
LocalDate	minusMonths (long monthsToSubtract)
LocalDate	minusWeeks (long weeksToSubtract)
LocalDate	minusYears (long yearsToSubtract)
LocalDate	plusDays (long daysToAdd)
LocalDate	plusMonths (long monthsToAdd)
LocalDate	plusWeeks (long weeksToAdd)
LocalDate	plusYears (long yearsToAdd)
LocalDate	withDayOfMonth (int dayOfMonth)
LocalDate	withDayOfYear (int dayOfYear)
LocalDate	withMonth (int month)
LocalDate	withYear (int year)

Object