

The `ZonedDateTime` class represents a date and a time with time zone information. While creating an instance of `ZonedDateTime`, we need to provide a `ZoneId`. The `ZoneId` is an identifier used to represent different zones. Before we proceed towards `ZonedDateTime`, let's look at `ZoneId` briefly.

The below example shows how to get a `ZoneId` for a given Zone.

```
1 import java.time.ZoneId;
2 import java.util.Set;
3
4 class DateTimeDemo {
5     public static void main(String args[]) {
6
7         //Fetching the Zoneid for given Zone.
8         ZoneId zoneId = ZoneId.of("America/Marigot");
9         System.out.println("Zone Id " + zoneId);
10
11        //Fetching a Set of all Zoneids
12        Set<String> zoneIdList = ZoneId.getAvailableZoneIds();
13
14        for (String zone : zoneIdList) {
15            System.out.println(zone);
16        }
17    }
18 }
```

1) Creating a `ZonedDateTime` instance#

We can create a `ZonedDateTime` instance using the `now()` or `of()` methods.

Below is an example, to show how to create a `ZonedDateTime` object.

```
1 import java.time.ZoneId;
2 import java.time.ZonedDateTime;
3
4 class DateTimeDemo {
5     public static void main(String args[]) {
6
7         // Fetching the current TimeZone
8         ZonedDateTime zonedDateTime = ZonedDateTime.now();
9         System.out.println(zonedDateTime);
10        // fetching the ZoneId for Canada/Atlantic
11        ZoneId zoneId = ZoneId.of("Canada/Atlantic");
12
13        zonedDateTime =
14            ZonedDateTime.of(2020, 10, 15, 23, 45, 59, 1234, zoneId);
15        System.out.println(zonedDateTime);
16    }
17 }
```

2) Fetching Date and Time of a `ZonedDateTime`#

We can fetch the date and time fields of a `ZonedDateTime` instance using one of the following methods:

- `getYear()`
- `getMonth()`
- `getDayOfMonth()`
- `getDayOfWeek()`
- `getDayOfYear()`
- `getHour()`
- `getMinute()`
- `getSecond()`
- `getNano()`

The example below shows the usage of all these methods.

```
1 import java.time.DayOfWeek;
2 import java.time.Month;
3 import java.time.ZonedDateTime;
4
5 class DateTimeDemo {
6     public static void main(String args[]) {
7
8         ZonedDateTime zonedDateTime = ZonedDateTime.now();
9
10        int year = zonedDateTime.getYear();
11        System.out.println("Year is: " + year);
12
13        Month month = zonedDateTime.getMonth();
14        System.out.println("Month is: " + year);
15
16        int dayOfMonth = zonedDateTime.getDayOfMonth();
17        System.out.println("Day Of Month is: " + dayOfMonth);
18
19        DayOfWeek dayOfWeek = zonedDateTime.getDayOfWeek();
20        System.out.println("Day of week is: " + dayOfWeek);
21
22        int dayOfYear = zonedDateTime.getDayOfYear();
23        System.out.println("Day of year is: " + dayOfYear);
24
25        int hour = zonedDateTime.getHour();
26        System.out.println("Hour is: " + hour);
27
28        int minute = zonedDateTime.getMinute();
```

3) Modifying date and time.#

The `ZonedDateTime` class contains a set of methods used for modifying the date and time. Some of these methods are:

- `plusYears()`
- `plusMonths()`
- `plusDays()`
- `plusHours()`
- `plusMinutes()`
- `plusSeconds()`
- `plusNanos()`
- `minusYears()`
- `minusMonths()`
- `minusDays()`
- `minusHours()`
- `minusMinutes()`
- `minusSeconds()`
- `minusNanos()`

The example given below shows the usage of all these methods.

```
1 import java.time.ZonedDateTime;
2
3 class DateTimeDemo {
4
5     public static void main(String args[]) {
6
7         ZonedDateTime zonedDateTime = ZonedDateTime.now();
8
9         System.out.println("Date after adding Year is: " + zonedDateTime.plusYears(1));
10
11        System.out.println("Date after adding Month is: " + zonedDateTime.plusMonths(1));
12
13        System.out.println("Date after adding days is: " + zonedDateTime.plusDays(15));
14
15        System.out.println("Date after adding hours is: " + zonedDateTime.plusHours(15));
16
17        System.out.println("Date after adding minutes is: " + zonedDateTime.plusMinutes(1));
18
19        System.out.println("Date after adding seconds is: " + zonedDateTime.plusSeconds(15));
20
21        System.out.println("Date after adding nanoseconds is: " + zonedDateTime.plusNanos(15));
22
23        System.out.println("Date after subtracting Year is: " + zonedDateTime.minusYears(1));
24
25        System.out.println("Date after subtracting Month is: " + zonedDateTime.minusMonths(1));
26
27        System.out.println("Date after subtracting days is: " + zonedDateTime.minusDays(15));
28    }
```