

Applying Key Operators in the Parallel Flux Class: Case Study ex5 (Part 1)

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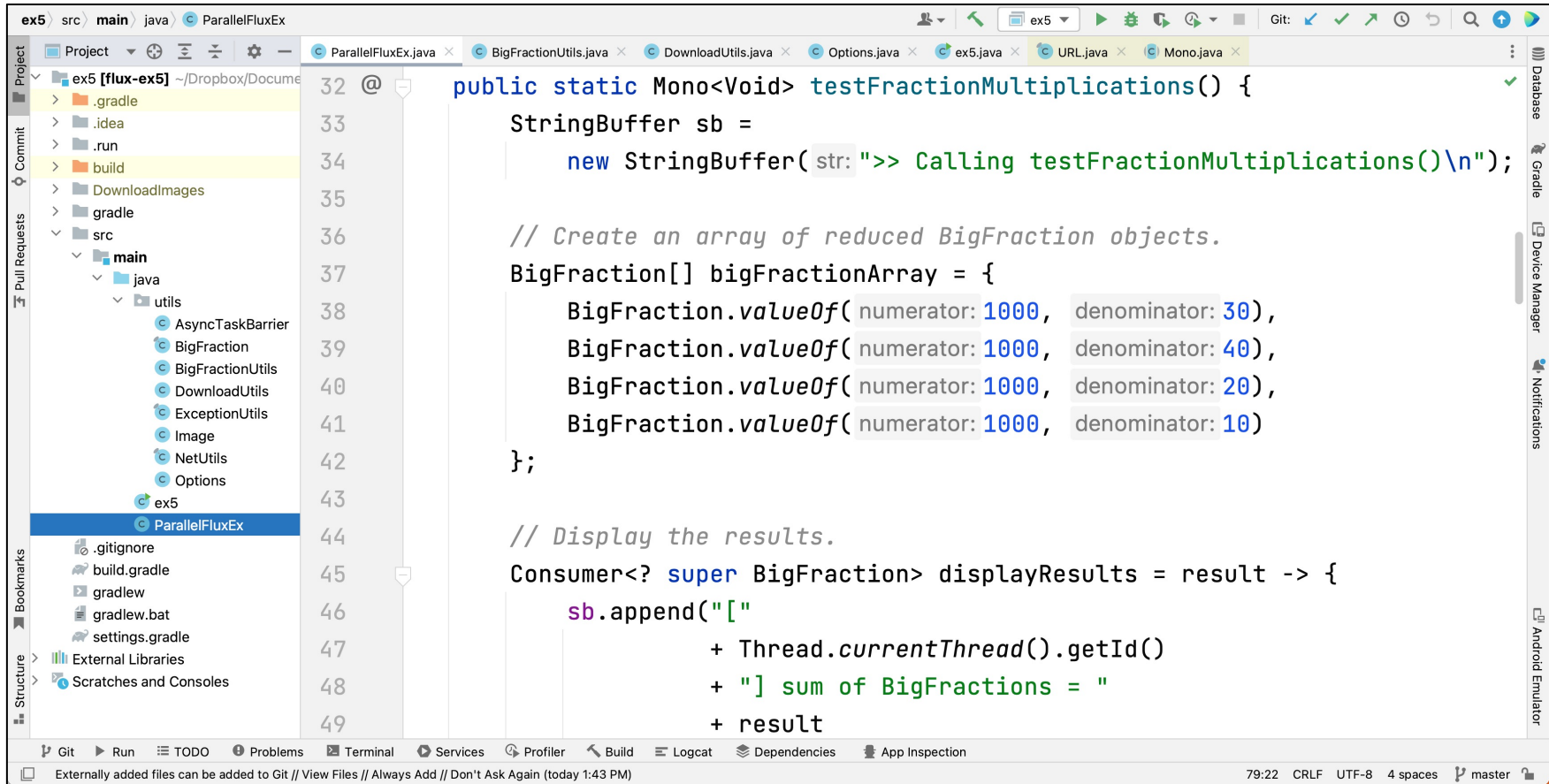
Learning Objectives in this Part of the Lesson

- Part 1 of case study ex5 shows how to multiply & add big fractions asynchronously & concurrently using Project Reactor Flux operators (e.g., `fromArray()` & `parallel()`) & `ParallelFlux` operators, (e.g., `runOn()`, `map()`, & `reduce()`), & the `Schedulers.parallel()` thread pool

```
return Flux
    .fromArray(bigFractionArray)
    .parallel()
    .runOn
        (Schedulers.parallel())
    .map(bf -> bf
        .multiply(sBigReducedFrac))
    .reduce(BigFraction::add)
    .doOnSuccess(displayResults)
    .then();
```

Applying Key Operators in the ParallelFlux Class to ex5

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The screenshot shows an IDE window with the file `ParallelFluxEx.java` open. The code defines a static method `testFractionMultiplications()` that creates an array of `BigFraction` objects and displays their sum.

```
32 @
33 public static Mono<Void> testFractionMultiplications() {
34     StringBuffer sb =
35         new StringBuffer(str: ">> Calling testFractionMultiplications()\n");
36
37     // Create an array of reduced BigFraction objects.
38     BigFraction[] bigFractionArray = {
39         BigFraction.valueOf(numerator: 1000, denominator: 30),
40         BigFraction.valueOf(numerator: 1000, denominator: 40),
41         BigFraction.valueOf(numerator: 1000, denominator: 20),
42         BigFraction.valueOf(numerator: 1000, denominator: 10)
43     };
44
45     // Display the results.
46     Consumer<? super BigFraction> displayResults = result -> {
47         sb.append("[ "
48             + Thread.currentThread().getId()
49             + " ] sum of BigFractions = "
50             + result
```

See github.com/douglasraigschmidt/LiveLessons/tree/master/Reactive/flux/ex5

End of Applying Key Operators in the ParallelFlux Class: Case Study ex5 (Part 2)